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**PROCEEDING OF  
THE FIRST INTERNATIONAL CONFERENCE OF THE ASIA  
AND PACIFIC ISLANDS RURAL ADVISORY SERVICES  
(APIRAS) & THE FIFTH CONGRESS OF EXTENSION AND  
EDUCATION IN AGRICULTURE AND NATURAL  
RESOURCES MANAGEMENT:**

*“Facilitating Information and Innovations for  
Empowering Family Farmers”*

**2-4 September, 2014, University of Zanjan, Iran**

**Organized by**  
Iranian Agricultural Extension and Education Association  
(IAEEA) and  
University of Zanjan

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## PREFACE

Rural households, particularly small scale farmers, in the world face complex challenges such as environmental crises, food insecurity, rural livelihood insecurity, hunger and poverty. The United Nations at its 66th session of the General Assembly has declared the year 2014 as the International Year of Family Farming (IYFF) to invite the collaboration of different international and national institutions as well as farmers' organizations and non-governmental organizations to raise the profile of family farming and smallholder farming. The purpose is to focus world attention on the substantial role of this farming in managing the above challenges, through repositioning its status at the centre of agricultural, environmental and social policies. This requires a wide range of discussion and collaborations at the national, regional and global levels to cope with these challenges. Among different strategies to support family farmers, agricultural and extension education and rural advisory services have tried to facilitate and network innovations for and among these farmers as well as to build their social capacities in order to enhance their livelihoods, increase food security and conserve natural resources. The majority of farmers in the developing world produce in small scale family farms either individually, or through partnership or collectively. They are much more vulnerable to the mentioned challenges above than any other types of farming and they need the much more support of agricultural extension and rural advisory services. The theme of this conference has been defined to be "Facilitating Information and Innovations for Empowering Family Farmers". This international conference has provided an opportunity for the participants to share their knowledge and experiences regarding rural development and extension approaches to support these farmers in order to manage their challenges. The aims of the conference are:

- To promote dialogue and exchange of practical and theoretical experiences on the situation of extension and education and RASs systems related to food security, sustainability of family farmers' livelihoods and sustainable natural resources management
- To understand challenges and required strategies and approaches of extension education and RASs systems for food security, the sustainability of family farmers' livelihoods, and sustainable natural resources management
- To enhance the status and role of extension education and RASs systems for empowering farmers, cooperatives and producer organizations



- Identification, documentation and sharing lessons learned and successful experiences of the role of producer organizations, private sector, NGOs and government in extension education and RASs systems, particularly for providing their services to small scale family farmers
- To provide advocacy for taking the attention of policy makers, managers, and scholars to redefine the status of family farming in agricultural development main policies
- To analyze local, national and international strategies for supporting family farming

The profession of agricultural extension in Iran has over six decades of experience in agricultural and rural development. Agricultural extension and education as an academic discipline of agricultural higher education has also half a century of experience in Iran. For developing approaches in this field, nine national seminars and four congresses have been organized in the last 30 years. The Iranian Agricultural Extension and Education Association (IAEEA) was established in 1994 as a non-profit professional organization to facilitate communication among its members to develop this profession. The IAEEA has already organized four national congresses with the collaboration of one of the Iranian universities. An innovation for organizing this event is that this is the first time the IAEEA and the University of Zanjan have organized an international conference in this field. The University of Zanjan with its international membership in the APIRAS (West Asia sub-region center) has had a great contribution to facilitate organizing this international event. We appreciate the contribution and support of international and national partners, particularly the Agriculture Bank of Iran; the Global Forum for Rural Advisory Services (GFRAS); the Asia and Pacific Islands Rural Advisory Services (APIRAS); World Rural Forum (WRF); International Year of Family Farming 2014; Food and Agriculture Organization (FAO); United Nations Development Program (UNDP); Asia-Pacific Rural and Agricultural Credit Association (APRACA); Access Agriculture; Wageningen University; Ministry of Science, Research and Technology; World Agricultural Heritage Foundation; the University of Tehran; Iranian Ministry of Jihad-e-Agriculture; Iranian Ministry of Cooperatives, Labour and Social Welfare; Forests, Range & Watershed Management Organization; and Agricultural Research, Education and Extension Organization.

I am so grateful to Dr. Mohsen Afsharchi, the President of University of Zanjan; Dr. Ali Asadi and Dr. Hosseininia, the Presidents of the IAEEA; the IAEEA Steering Committee members; the Academic members of the Agricultural Extension, Communication and Rural Development Department in University of Zanjan; and the UN, UNDP and FAO representatives in Iran for their support and participation in this conference.

I would like to express my appreciation to the distinguished participants, founders of the IAEEA, academia, practitioners, students and other professionals interested to this field who accepted our invitation to participate in this conference, particularly those who contributed through submitting their research, theoretical, philosophical, or application focused abstracts and papers. Following calls for abstract and paper submission electronically, 635 abstracts from 24 countries in 7 topics / tracks were received, of which 570 abstract were accepted after a double-blind peer review process. Then 400 full papers were received to be sent for review, of which 357, including 293 Persian and 64 English full papers were accepted. This English version proceeding includes 394 English abstracts of both Persian and English papers.

My thanks also goes to the members of the scientific and organizing committees for dedicating their time for participating in numerous coordinating sessions, and 90 professional reviewers from inside and outside of Iran for their accurate reviews. I would like also to thank the secretary office members, Ms Elham Ahmadifard, Mr. Mehdi Ghasemi, Mr. Amirhossein Hajavi, Mr Saeed Khodayari, Ms Sohaila Fathi, Mr Ebrahim Daneshvari for their contacts with participants, managing website, receiving papers and preparing the proceeding; as well as all the personnel of the University of Zanzan who had a contribution in this conference.

We hope this international conference has provided an opportunity for the participants to share their knowledge and experiences regarding rural development and extension approaches to support family farming.

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## **A Systemic Development Theory Revisited: A farmer's son reflects**

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What we actually 'do' in this world – our behaviours and practices – are essentially expressions of the way that we 'view' the world about us. Such worldviews, or epistemes, reflect deeply held cognitive beliefs and value assumptions about such matters as the nature of nature, the nature of knowing, and the nature of human nature. They are the source of our prejudices and our ethics as well as of the conceptual frameworks that we use to make sense of our everyday experiences. Our personal worldviews are both shaped by and, in turn, influenced by the prevailing culture of the societies of which we are part. Surprisingly, given the significance of worldviews to the way that we live our everyday lives, we remain remarkably ignorant of the actual epistemic characteristics of our worldviews and are thus unaware of the cognitive challenges that we face when we are confronted by unfamiliar situations where the perspectives that we hold are inadequate to cope with these new demands. It is the need to increase the appreciation and transformation of prevailing societal worldviews that represents the single most significant impediment to *facilitating information and innovations for empowering family farmers*. Naturally the need for such epistemic transformation is as relevant to farmers themselves and to the whole range of those who provide agricultural services - from policymakers and regulators, researchers and traders through to extension agents and farm advisors – to the citizenry at large. The argument presented here is that from time to time, and under particular circumstances, epistemic transformations do occur in agriculture which have very significant impacts, both negative as well as positive, on all stakeholders. Drawing on both personal lifetime and professional experiences and on ideas and concepts from a broad literature, the author re-visits A Wave Theory of Agricultural Development, which he first generated two decades ago, to illustrate this argument. He will discuss implications of this theory for extension, education, research, policy and most significantly, for social discourse which is set within a context of the quest for the sustainable well-being of farming families.

**Key words:** empowerment, epistemic transformation, wave theory, worldviews

**Money isn't everything: social capital in the distribution and use of farmer training videos**

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A lack of content has limited ICT's ability to train farmers on sustainable agriculture and natural resource management. Farmer-to-farmer video can improve farmers' ecological knowledge and trigger change, but how to broaden video's impact beyond project mode? To support agricultural extension in developing countries, a new knowledge broker called Access Agriculture was created to facilitate local language translations of videos and physical distribution of DVDs via existing social networks. Drawing on examples of mass distribution of agricultural training videos in Benin, Mali, Uganda and Bangladesh, the paper explores the challenges and opportunities of an open system, non-project approach in scaling-up farmer training.

**Keywords:** information and communication technologies (ICTs); agricultural extension; farmer-to-farmer video; social capital; entrepreneurship; innovation brokers



## **Culture, Agriculture and Innovation for Sustainable Development**

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The memory of agriculture and associated civilizations is carried by landscapes, seeds, plants, animals and by farmers' knowledge and technologies, but also by oral traditions, languages, arts, rituals, culinary traditions, and unique forms of social organization. Together, these elements are integral parts of the living agricultural systems and associated cultures. In many countries unique agricultural systems and landscapes have been created, shaped and maintained by generations of farmers, herders and fisher-folks based on diverse ecosystems and their interactions, using locally adapted, distinctive and often ingenious combinations of management practices and techniques. The traditional agriculture is often considered 'backward', doomed to be phased out during the past fifty years of agricultural modernization. However, numerous Agricultural Heritage Systems around the world have proven their robustness and resiliency and have passed the test of time. They offer solutions for present and future generations and environmental sustainability. They contain a wealth of biological resources, knowledge systems and management practices that can help to ensure food security and quality of life for humanity and to cope with challenges of today and tomorrow. Building on generations of accumulated knowledge and experience, these ingenious agri-“cultural” systems reflect the evolution of humanity and its profound harmony with nature. They have resulted not only in outstanding aesthetic beauty, maintenance of globally significant agricultural biodiversity, resilient ecosystems and valuable cultural inheritance but, above all, in the sustained provision of multiple goods and services, food and livelihood security and quality of life for the most poor and remote communities. Such agricultural, forestry, fishery and agro-silvo-pastoral systems can be found in particular, in highly populated regions or in areas where the population has, for various reasons, had to establish complex and innovative land-use and management practices, for example, due to geographic isolation, fragile ecosystems, political marginalization, limited natural resources, and/or extreme climatic conditions.

Indeed, the myriad of our agricultural heritage and particularly, the Globally Important Agricultural Heritage Systems (GIAHS) represent a unique sub-set of traditional agricultural systems, which exemplify customary use of globally significant agricultural biodiversity and merit to be recognized as a heritage of

mankind. GIAHS are defined as: Remarkable land use systems and landscapes which are rich in globally significant biological diversity evolving from the co-adaptation of a community with its environment and its needs and aspirations for sustainable development (FAO 2002).

The Globally Important Agricultural Heritage Systems (GIAHS) deserve recognition and safeguarding, because of their landscape and associated cultural values but also for their invaluable contribution to local livelihoods and food security, indigenous knowledge and conservation of biodiversity. Not only does our agricultural heritage carry the accumulated wisdom and memory of the past, they are also building blocks and essential foundation for our future in a rapidly changing world.

Up to this date, some 27 GIAHS of which 8 in China, have been recognized in 12 countries. GIAHS designation goes beyond the mere identification of interesting agricultural systems and their transformation into attractive snapshots of aesthetic landscapes. As has been demonstrated in China and elsewhere, people take pride in the value given to their heritage and are extremely proud when the system they have nurtured is singled out as a GIAHS. This pride is capable of bringing innovations that has roots in past but flourish and bear fruit for the future. Examples are numerous both in developed and developing countries and in Giahs sites.



## **Tailoring Agricultural Extension Services for Family Farmers**

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National agriculture research and extension systems are facing many challenges and opportunities, today, particularly in the developing world. Serious limitations in planning and organization and management of research and extension institutions as well as in technology transfer and extension and rural advisory strategies have been identified through several analyses and assessments, including the U.N. Food and Agriculture Organization, the Global Forum on Agricultural Research (GFAR)<sup>1</sup> and the more recently established Global Forum on Rural and Advisory Services (GFRAS). These systems also are often under-resourced and use outdated ways of providing services to small-scale family farmers.

The majority of the world's 500 million family farmers need to expand their understanding of markets and economic opportunities to achieve success in managing their farms as sustainable and profitable businesses. Many farmers will need to move from a sole focus on production for home consumption to producing for their neighbors and urban dwellers. And while farmers tend to be innovative and entrepreneurial, they often lack the know-how to reach markets and improve incomes on their own. They need advice and services tailored to their specific needs. A new reality is that in some countries there are smallholder women farmers -who de facto or de jure are responsible for the decisions made on farm or there are women who represent the majority of on-farm workers.

Extension can be an important link to ensure that small farmers' demands are the focus of rural development initiatives and to improve productivity and food security sustainably. But a sound agricultural innovation system for farmers requires a combination of diverse extension services schemes that mobilize a variety of methods to reach, advise, educate and provide other social services for capacity building of smallholders.

Increasingly, extension and rural advisory services are offered by both public and private initiatives. Support to producer organizations is also required so they can play a central and active role in shaping extension and research institutions – and are a provider of services themselves at times.

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<sup>1</sup> GCARD Roadmap. 2010

## **Study of the Profile of Iranian Agricultural and Natural Resources Graduates**

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The aim of this study was to identify the structural features of the 14 branches of agricultural and natural resources of four different levels: diploma, B Sc., M Sc. and Ph. D. For this purpose, the available statistical data of the graduates in all of the 14 branches of studies during the 1996-2000 academic years in all national agricultural and natural resources colleges and universities were analyzed. These data were then compared with the data of a pyramid structured on the basis of previous studies and experts' suggestions. The differences between the two sets of data were considerable. This was mainly due to the increased enrollments of students at the B Sc. level during the 1990s without any consideration for the national market demand for the graduates in each area of specialization. Therefore, it is important to have adequate knowledge of the national needs for each branch of agricultural and natural resources specialization, before allowing student enrollment. This would reduce the rate of unemployment among the agricultural graduates.

**Key Words:** Agricultural and Natural Resources Higher Education, Pyramid of Graduates in Agriculture, Unemployment among the Agricultural Graduates



## **Agricultural Extension Education in Iran**

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The extension service is fundamentally an educational activity, based on training, self – help and cooperation through the participation of the people involved. This school of education was originally adopted in the process of agricultural development in Iran and its fate can be basically classified into five main stages, as follow:

- The Stage of Establishment,
- The Stage of Educational Involvement,
- The Stage of Social involvement,
- The Stage of Technical involvement, and
- The Stage of Reorganization and Unification.

As such, the objective of this section is to analyze briefly, these historical stages.

In first stage of its development, this school proved its efficiency and effectiveness in disseminating the new applicable knowledge and skills among rural farmers throughout the country. Because of such positive and successful consequences, the government authorities gradually began to make use of the extension service in non – educational activities. This could be thought of, as the basic source of deviation of the extension service from its original goal, which in fact was planned to be centralized on education for action. Because of such a deviation, the extension service in Iran has burdened serious social and technical involvements with negative consequences in its past 60 years of its life. Meanwhile, because of the trial – and-error experiences, the authorities have come to realize that the Extension Education School could be considered as the most appropriate approach, not only to the agricultural development, but also to the development of the other fields, and especially in the field of rural development. Thus, at the present decade, the extension education service in Iran, in addition to agriculture, has been taken as an approach for the development of forests and ranges, watershed and fisheries management and also in rural handicrafts and rural development as well as cooperative societies. As such, laws and regulations have been made to establish the extension service branches in the related ministries and institutes and recently, in some non- governmental organizations for rural development.

But, the Extension Educational School, as a vital approach to the national development, has nowadays reached a crossroads of the formal conventional government extension system ( as mentioned so far) and the informal participatory

system which has been practiced in the past 30 years by the Ministry of Jihad Sazandegi and in recent years, by the Ministry of Agricultural Jihad . Time and efforts are needed to evaluate and recognize the efficiency and effectiveness of the two systems, i. e., the formal recognized – unified conventional system, and the informal participatory system of the Extension Education.



## **Fundamental doctrines of Extension education & Sustainable development**

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The meaning of doctrine is a body of instructions, or guidelines having application for introducing or cognitive understanding of a goal oriented approach. Indeed doctrine is for presenting a system of thought. Doctrines can be scientific, policy oriented, and philosophical. The need for understanding and designing a doctrine is to present a frame work related to the foundation of a fundamental approach to a given goal. Based on a defined doctrine one can design and prepare a strategic plan. The goal of this article is to introduce several doctrines related to Extension education and Sustainable development. Comprehensive approach for preparing this article has been thinking, analysis, synthesis, understanding outcomes clarification of values, and defining components of a goal oriented approach. Some of the doctrines presented in this article are: Extension education, Integrated approach, Documentations, Honesty, Social development, and Sustainable development. In order to understand the foundation of each doctrine, the related concepts such as Substance, Originality, Factors, Nature, Truthfulness, Content, Concepts, Special practices, , Endorsing resources, freedom to choose Position, Guidelines, Methods, Social status, Usefulness, Organization and Outputs have been explained. The foundation of each doctrine is similar but the concepts of them are different .Each doctrine can be systemic and, systematic, with a sigma of relations. The meaning of sustainable development is the ability of individuals for using Production resources, Human capital, and social capital, in such a way that the health, capacity, productivity of such resources can be preserved for all people, other living systems and for the next generations. Management of Human and production resources must be placed and implemented by using the characteristics introduced in each doctrines and future designed doctrines. Based on these doctrines the strategic activities of education, extension, research, developments and policy makings can be implemented.

Key words: Doctrine, Substance, Nature, Extension education, Wisdom, sustainable development

### **Family Farming System in Iran and Europe (Family Farming Finance Approach in Banking System)**

**Dr. Mohammad Talebi**

Bank Keshavarzi (Agriculture Bank of Iran) Chairman and CEO

Since the United Nations named 2014 "The International Year of Family Farming" and all related institutions and entities have developed their 2014 objectives, plans and initiatives, the author, while elaborating on family farming (FF) definition, concepts and issues based on internationally accepted standards and frameworks, intends to describe similar experiences in other countries with an emphasis on models adopted in European Union and then compares the features with those of Iranian family farming to formulate applicable findings. Given the expected challenges in family farming all over the world, the author will eventually focus on the role of banking system in dealing with obstacles and challenges, as well as the support and finance approaches.

It is to be noted that based on the latest FAO statistics, out of more than 570 million farms all around the world, more than 500 million farms, accounting for 56 percent of the world agricultural products, are run through family farming system. The important point highlighted in this article is the fact that the origin of Iranian agriculture has been based on family farming although it has gone through significant changes. The study of such changes can be taken into consideration to introduce a proper family farming finance model by the Iranian banking system.

**Key Words:** Family Farming (FF), FF in Europe, FF in Iran, Family Farming Finance, Banking System, Bank Keshavarzi



## **Need for Paradigmatic Transformation of Iranian Higher Agricultural Education System: Agricultural Innovation System Perspective**

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Iranian Higher Agricultural Education System (HAES) has been seriously challenged under the influence of strong and intertwined socio-economic and environmental forces, the direction of its development being in sharp contradiction with the real needs of sustainable rural/agricultural development. There are concrete evidences indicating the system is facing a serious all-rounded crisis. During the coming years, the system will be challenged even more to transform its role in relationship to the evolving national food, agricultural, environmental and rural development issues. If successful, agriculture colleges will emerge as an important venue for scholars and stakeholders to address some of the most complex and urgent problems facing the society. Failure to respond to the changes affecting agriculture, environment, and education will place many aspects of the HAES in risk. Providing a short review of the turning points of its historical development, this paper discusses the current constrains, challenges and problematic situation of the system and makes suggestion for prospective areas of improvement, reform and transformative changes.

In regard to the complicated/unsustainable nature of the current situation and complex factors behind its creation, a broader theoretical framework related to paradigmatic transformation of AHES in international level by considering the relevancy/generalizability of its concepts, policies, approaches, models, trends, and experiences to the unique characteristic of Iranian context, will be used.

Considering the broadness, depth, nature, interconnectedness and complexity of the present problematic situation, a systemic approach, more specifically, Agricultural Innovation System (AIS), and agricultural workforce system will be applied to consider the synergetic potentialities of relevant actors in the paradigmatic transformation process. This paper attempts to introduce a discourse through a participatory/collective dialogue among academics, policy-makers, planners and practitioners to emphasize the importance and urgency of the current situation and find solutions for current and emerging problems.

**Keywords:** Higher Agricultural Education System, Agricultural Innovation System, Paradigmatic Change

**Empowering Resource-Poor Family Farmers to Enhance  
Agricultural Productivity by Facilitating Means of  
Communication in Post-Taliban Afghanistan**

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Agriculture dominates the Afghan economy and provides employment opportunities and livelihoods for about 80% of the population. Subsistence agriculture provides close to half the national income and ensures food security by producing the basic food requirements for the family. Agriculture is dominant way of life in rural Afghanistan, which is, home to the majority of the poor of Afghanistan. It is estimated that half the rural population, who provides food, is below the \$1 per day poverty line despite the massive infusion of money from poppy production. The agricultural sector in Afghanistan has suffered a major decline that has been accompanied by a distortion of traditional agricultural practices, and has produced a large group of vulnerable rural poor. Central to facilitating the sustainable development of agriculture is agricultural extension and research. Agricultural Extension services form the foundation of any initiative aimed at stimulating, supporting and enabling progress in the sector, and subsequently contributing to the development of Afghanistan as a whole. One of the major obstacles to agricultural development in Afghanistan is the limited access of farmers to necessary agricultural skills, information and technology. To regenerate the rural economy in Afghanistan and alleviate poverty we need to rehabilitate the agricultural sector, and more specifically the functioning of Afghanistan's agricultural extension system. The fact that only 1.3% of Afghan farmers took advantage of advisory and extension services in 2007 must make Afghanistan the country with the least available agricultural extension service globally. To address this problem a strong and dynamic extension service need to be established. In designing and delivering an extension service the following factors need to be considered. To facilitate the establishment of an effective extension service farmers' access to extension and communicative media must be enhanced. The extremely limited access of farmers' to roads and markets must be addressed in the structuring of extension services. The low levels of literacy and education will shape the modalities by which extension



services are communicated (in addition to the types of communicative media available). This paper will present the strategy of Ministry of Agriculture how to tackle the issue in such a way to target family farmers and enhancement of small and medium farmers in Afghanistan.

**Key Words:** Empowering, Resource-Poor, Family Farmers, Agricultural Productivity, Communication, Post-Taliban Afghanistan

## **Evaluating Extension Activities with Bennett's Hierarchy Evaluation Model**

**Mohammad Chizari**

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Evaluation is an upfront activity in the design or planning phase of a program. Program evaluation is an essential organizational practice in agricultural extension activities. In a time of continued reduction in government funding, Extension professionals are challenged more than ever to document outcomes of programs and address stakeholder demands for accountability. Evaluation questions that address the “so what” issue are connected to outcomes and costs, and ultimately justify the value of Extension programs to public good.

Evidence of extension's effectiveness can help decision makers improve services to clientele. Without clear criteria, evidence of program accomplishments won't indicate the success of extension program. During the past three decades, the practice of evaluation has evolved as a discipline with new definitions, methods, approaches, and applications to diverse subjects and settings.

Bennett's hierarchy has been used for almost 35 years in Cooperative Extension. Educators continue to relate well to this hierarchy in evaluating their Extension programs. Extension specialists and program managers should use Bennett's hierarchy evaluation model when they conduct training/workshops relative to costs and benefits associated with evaluating an Extension program. The goal of this article is to discuss the importance of evaluation and to emphasize on using Bennett's hierarchy model in evaluating extension programs.

**Keywords:** Evaluation model, Bennett's hierarchy, Agricultural extension.



**Track 1: Role of agricultural extension and RASs  
systems in food security and sustainability of  
family farmers' livelihoods**





## **Plantain/Banana Production Principles in Africa: A General Overview**

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African plantain/banana fruits destined for Europe, Asia and the American export markets are subject to standard good agricultural practices and other value chain approaches such as Banavac bag packaging. A need therefore exists for stakeholder's human capacity development in Tropical Africa plantain/banana (*Musa* spp.) productivity. Tropical African farmers are most affected by climatic changes as well as income generation that affect productivity. Basic principles of plantain/banana fruit crop production are therefore presented, together with practical techniques relating to cultural practices from plant establishment to harvesting/storage for African farmers and other clients for human capacity enhancements. The crops are discussed within the framework of production systems. Specified African crops are discussed, especially of temperate exotic fruit crops produced in warm tropical Africa as model crops. This article presentation contains a reference appendix that serves both as a general textbook and a field reference manual.

**Key Words:** Plantain, Banana, Production, Principles, Tropical Africa

## **Enhancing the potential of family farming for poverty reduction and food security through gender-sensitive rural advisory services**

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Family farming has the capacity to contribute effectively and significantly to poverty reduction and food security. It relies mostly on family members whose capacities, opportunities and constraints are greatly determined by their gender and age. These characteristics also define the roles and responsibilities of women and men in the farming activities, their decision-making power and productive efficiency. The effectiveness of family farming has an important gender dimension as women have less access to productive assets, resources, services and economic opportunities. This gender gap is determined by intra-household dynamics and is aggravated by a changing agricultural and rural landscape where increasing migration, climatic conditions, and new actors pose serious challenges to the family farm, its sustainability and enhancement of livelihoods. In this setting, failing to address such inequalities comes at the cost of lower productivity and perpetuating rural poverty with consequences for not only the agricultural economy but also family livelihoods and societies at large. Agricultural extension and rural advisory services (RAS) can play an important role in addressing gender inequalities to achieve the productive and long-term success of family farming. However, extension and RAS programs have been often falling short of expectations to design and implement relevant and demand-driven services to help rural women and men to achieve food security and generate more income. This paper has three objectives. The first is to review literature and document gender-differentiated barriers in access to extension and RAS and the challenges of effectively targeting women family farmers when delivering these services. Secondly, to apply the women's economic empowerment theoretical framework to assess case studies and identify good practice models of extension and rural advisory services that have been successful in responding to women farmers' specific requirements and in supporting their economic empowerment. Finally, the paper will provide policy level recommendations for the design and provision of demand-driven and gender-sensitive extension and rural advisory services for improved food security and reduction of poverty.

**Key Words:** family farming, food security, gender inequalities, gender-sensitive RAS, women's economic empowerment



## **Perceptions of rural youth from farming families of North Eastern India towards agriculture**

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Agriculture contribution to Indian GDP is only 4%, but has been the mainstay for majority of the population of India. Of late the percentage of people involved in agriculture has declined drastically from 70% to 52%. Rapid decline in the participation of youth in agriculture was the major factor attributed for this decline. In the current study, an attempt is made to analyze the perceptions of the rural youth from Assam State of North Eastern India towards agriculture. The study was conducted in Kamrup rural district of Assam. Hundred male youth between 15-30 age, and belonging to farming families were selected as respondents. Only mere 35 per cent respondents perceived agriculture as their future profession. Remaining respondents (65%) perceived that they will choose some other profession for their livelihood in the future. Out of the 65% having negative perception 36 per cent were currently working as cultivators or agriculture laborers. But they tend to remain in their present occupation only for a few more years. The poor income and productivity, lack of value for agriculture produce, uncertainty associated with weather, climate and pest, lack of social prestige, unavailability of bride for farmers were the chief constraints perceived by the respondents in farming. Abundance of construction labor in the nearby cities was the reason for the poor perception of agriculture. Many youth especially moderately educated youth considered agriculture as a temporary foothold till they get a better job in the cities. Study also revealed a major finding that majority of the educated unemployed youth were unwilling to work in field and tends to remain unemployed than being a farmer. The paper highlights the concern to food security of the country due to non-participation of youth in agriculture.

**Key Words:** Youth, North East India, Farming, Perception

## **Current Situation and Importance of the Family Farming in Agriculture of Turkey**

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As is known by United Nations (UN) in 2014 was declared the year of family farming all over the world. For many years, small-scale farms and family farming holdings as a general trend, with negative affects took place on the agenda .In fact, all countries with national agricultural policy, agricultural structure tried to take measures to correct. Turkey was dominated by the same understanding. Agriculture contribution to Turkish GDP is around 9% and 23% of the employment in the country. For that reason agriculture is still important sector for socio-economic aspects. In Turkey there is 23 million ha of agricultural land and about 3 million farm holdings. Average farm size is 5.9 ha. As it can be seen the average of farm holding size is very low. In this study, current situation of farming family and small scale farm holdings matters will be discussed for the advantages and disadvantages aspects in Turkish agriculture.

**Key Words:** Family farming, small-scale farms, Turkey



## **Importance, Needs and Capacities of Family Farming and Small-Scale Farming Systems: Three Case Studies from South Lebanon**

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More than 60 % of agricultural holdings in South Lebanon are small holder individual farms generally operating as family farms as either full time or part-time work. A high proportion of these is managed by women, which is culturally, a very satisfying income-generating-at home activity. In addition, disabled people, a very vulnerable group, are easily integrated into these activities. The major constraints encountered are lack of target-oriented policies, lack of ICT and weakness, if not absence, of an appropriate marketing infrastructure mainly credit, storage facilities and farmers' markets. Three family farmers profiles are analyzed to reach the conclusion that family farms, with what they represent socially and economically, are entitled and should be playing a major role in the global food security and the preservation of the environment as well as the diversity of the species in the rural areas especially under the prevailing climate change and severe land degradation. Many recommendations are presented mainly policy support, introduction of ICT and creation of farmers' markets.

### **Role of agriculture extension in access to agro-ecosystems health(Case study: agro-ecosystems in Birjand region)**

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The most important prerequisite to achieve a sustainable agriculture and health of agro-ecosystems is including both an insight and knowledge of sustainable agriculture in farms and applying it by farmers. This issue is categorized as one of organizational and social domains of agricultural activities. Agriculture extension is deemed as one of the main parameters in organizational and social domains of agricultural activities that directly and indirectly affects the access to agro-ecosystems health. Consequently, a research was made in 2012 to assess the role of agriculture extension indicator in health of agro-ecosystems in Birjand region during 1991 and 2011. The results indicated a rising trend of this indicator from early period of the study till its climax in 2005. Additionally, the indicator showed a correlation rate of 0.721\*\*, 0.634\*\*, 0.668\*\*, and 0.656\*\* with the indicators of water use efficiency improvement, the use of appropriate technologies, the yield, and use of cultural and biological control, respectively, during separate studies.

**Keywords:** agro-ecosystem health, Sustainable agriculture, extension, indicator, yield



## **Housewives opinions' toward deterrent barriers and facilitator factors on fish consumption (the case of Zanjan city)**

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The people's nutritional status is used as a very important indicator by nutritional science experts' for community health assessment. Due to having easy digestibility protein, vitamins, minerals and Omega-3 fats, fish plays an important role in human health. So the fish has called the health food by nutrition science professionals and they have recommended taking at least two times a week to prevent the incidence of cardiovascular diseases. However, the amount of fish consumption is very limited in the food cart family and its' reasons should be explored by scientific methods. There for this descriptive - survey research was conducted to achieve housewives opinions' toward deterrent barriers and facilitating factors on fish consumption in Zanjan city. The data collection instrument was a questionnaire. Its' validity was verified by referring to a group of academic experts. In order to measure the reliability of the questionnaire, Cronbach's Alpha coefficient was calculated for the main scales of the questionnaire (deterrent barriers = 0.85 and facilitator factors = 0.91). This research statistical sample consists of 120 people who were selected randomly. The results revealed that the most important preventive factors for fish consumption in Zanjan city were categorized in three factors namely access and quality problems, economic problems and issues related to fish cook, and also facilitator factors were categorized in double case, promotion of fish Cook and fish consumption and support, training and processing services.

**Key words:** ◉ Advisory service, fish, aquatics, Housewives, Zanjan

### **Analyzing the impact of Farmer Field School Projects on Knowledge and Actions of Apple and Pear Farmers regarding Pesticide Use Safety, in the East Azerbaijan Province**

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Considering safety practices for the use of synthesized pesticides for pest control in agriculture is one of the main health and ethical concerns that affects the health of farmers. On account of this, Farmer Field School approach is to improve farmers' knowledge and actions consistent with scientific principles and indigenous experiences. This descriptive- exploratory study aimed to investigate the impact of FFS projects on farmers' safety knowledge and actions when they use pesticides. The statistical population of the study consisted of apple and pear farmers in four districts of Ghuneymarkazi, Mishabeshomali, Sarajuyesharghi and Gheshlage markazi in Shabestar, Marand, Maraghe and Ahar Townships, covered and uncovered by the projects. A sample of 260 farmers was randomly selected using a multi-stage sampling technique and was structurally interviewed. The content validity of the questionnaires was reviewed by a panel of faculty members and agricultural experts. A pilot study was conducted to establish the reliability of the instrument and the Cronbach's alpha coefficients for the main constructs of the questionnaire were calculated between 0.6 and 0.9). The results indicated that on average, farmers' knowledge about complying safety principles during using pesticides was at a high level, but because of the FFS projects, the knowledge of participant farmers was more than the non-participants. Farmers' safety actions were lower than their knowledge and the participants complied safety actions more than the non-participants.

**Key Words:** Safety, spraying, Knowledge, Action, Farmer Field Schools



## **Analysis of Factors Affecting on Tendency of the Rural Youth of Ilam for Employment in Agricultural Section**

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The purpose of this study is to investigate tendency of the rural youth toward agricultural employment, so by prediction of their behavior of selection or non-selection of this job as a career, realistic planning can be carried out in the fields of agricultural and rural development and rural youth employment programs. The purpose of this study is an applied one and is of causal-relative research type and its methodology is of survey type. The statistical population of this study are all the rural youth aged 15 to 24 who are living in rural areas of Ilam city (N =3562) from which using Cochran formula for sample volume determination and random sampling, a sample with probability proportionate to the size of 350 individuals was selected. To collect data from this statistical sample, closed questions questionnaire was used. To determine the formal validity of the instrument, the expert panel was used. Also, to determine the questionnaire reliability, Cronbach's alpha coefficient was calculated which was acceptable for the present study ( $\alpha = 0.84$ ). The results of this study showed that the overall tendencies of the rural youth are moderate. Also, based on regression analysis, the most important variables affecting on the rural youth tendencies toward employment in agricultural careers (the dependent variable) are respectively as follows: their knowledge of the agricultural areas of occupation, family income from agricultural production, the level of government support for the rural youth employment in agricultural section. In total, these variables explain %66.5 of dependent variable variance of the study.

**Key words:** Agriculture, Employment, Tendency

## **Explain the status of knowledge, attitude and behavior Vegetable Farmers towards organic farming (Case Study: Bavi city in Khuzestan Province)**

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Demographic crisis on the one hand, and excessive use of pesticides and chemical fertilizers to dispel their nutritional needs on the other, were caused move traditional agriculture the Organic Farming for sustainable development. The purpose of this study was to explain the status of knowledge, attitude and behavior vegetable farmers towards organic farming in Bavi city in Khuzestan Province. The research method was descriptive - correlational. Statistical population of the study consisted of Vegetable Farmers in Bavi city (N=140). sample size was determined by using the table of Morgan (n=103). The sample was selected *randomly*. Research tools was a made questionnaire. The questionnaire's validity was confirmed by a panel of Agricultural extension and education experts. Its reliability was conducted and confirmed using Cronbach's alpha for knowledge ( $\alpha=0/89$ ), attitude  $\alpha=0/77$  and behavior ( $\alpha=0/68$ ). Data were analyzed by using SPSSwin<sub>16</sub>. The findings showed that, Respondents knowledge towards organic farming was low and their attitudes was negative and behavior are too the passive. Between agricultural work experience and attitudes ( $p=0/05$ ) and knowledge ( $p=0/01$ ) was a positive and significant correlation. Between knowledge, attitude and behavior towards organic farming) was a positive and significant correlation ( $p=0/01$ ). *Results of regression analyzes indicate that* attitude variables, work experience and the amount of agricultural land were explain 42% knowledge. Behavior and knowledge variables were explain 40% changes in attitude. Knowledge, attitude and the amount of agricultural land were explain 39% changes in behavior.

**Keywords:** Organic agriculture, Vegetable farmers Bavi city, Attitude, Behavior



## **Identify factors affecting the willingness of farmers to insure crops, Case study: East Azerbaijan Province**

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Population growth and consumption of crops and livestock production has become more pronounced the importance of the agricultural sector with all its associated sub-sectors including agriculture and livestock. It can be said that agricultural insurance is insurance that can help managers to secure their investment. Due to the importance of agricultural insurance, this study introduces agricultural insurance role and investigate its effect on factors affecting farmers' willingness of East Azerbaijan province that is one of the major poles of agricultural sector although there has not many researches in this field despite its importance. The study was applied research and data collection practices and its implementation is field and has been used questionnaires. That is, the research is a descriptive-survey research. Populations of statistic of this study are agriculture insured and uninsured farmers in East Azerbaijan province in 2011-2012. For data analysis is used from SPSS 13 software. The present study tests showed there are significance relation between factors such as farming education, farmer age, training and agricultural extension, the amount of premiums paid by farmers , getting record of compensation by farmers and farmers' awareness of the goals and benefits insurance in different levels. Abstracts for presentations of papers and convening of discussion panels should be between 200 and 350 words and should include introduction/ justification of the paper, purpose, theoretical framework/ methodology, results, conclusion and implications. Please use Times New Roman 10 regular font with single space.

**Key Words:** Agricultural insurance, willingness, East Azerbaijan, factor analysis

### **Effect of extension and advisory services on rural women tend to home businesses (Case study: Razan county)**

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Home business is one of the best fields of women's economic activity and is considered as an important strategy for job creation worldwide, particularly for rural women. Nonetheless many barriers avoid addressing rural women to these businesses. The main aim of this study was to analyze the barriers for trends of rural women and girls to home businesses. The statistical population of this study was rural women that are over 18 years of Razan county, Hamedan province. 187 people were studied randomly according to Cochran formula. The most important data collection tool was a questionnaire that its validity was confirmed by panel of experts the reliability was tested by Cronbach's alpha coefficient. According to results of factor analysis, barriers to rural women tend to establish home businesses were classified in six factors that are: social and cultural, infrastructure and finance, personality, support, domestic and training. Social and cultural factors as the most important factor was introduced.

**Key Words:** Effect of extension and advisory services, rural women, Barriers, Home businesses, Razan County



## **An Analysis of Factors Affecting Empowerment of Rural Women in Order to Achieve Sustainable Development**

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No doubt in rural communities, particularly rural women and the determining role in the development of a sustainable are responsible. But some believe that a particular attention to women in achieving sustainable rural development, is essential to poverty alleviation efforts in the field can be enough, but experience shows that researchers in addition to the poverty, addressing development of women, are necessary for achieving sustainable development is statement under the United Nations until the women out of the turntable have been developed, so unable develop time and will remain the primary. Therefore, rural women empowerment should be able with the availability of appropriate counseling to express their demands of increasingly achieve the goals of human life and the blessings of the land and shall enjoy equal opportunities of. Accordingly, it is necessary opportunities and threats, and weaknesses and strength empowerment of rural women are to be properly identified and that management is, be provided. Research, rapid rural assessment methods based on RRA and SWOT model county of Kermanshah on rural women, was conducted and aimed has been analysis of factors Affecting on empowerment of rural women in order to achieve sustainable development. According to research results in order to obtain proper opportunities by strengthening the strengths and overcome weaknesses, as well as enhance strengths and reduce weaknesses in order to eliminate threats recommendations are presented.

**Key Words:** empowerment, rural women, sustainable development

## **Factors Affecting Consumers' Knowledge about Organic Food Products in Tabriz City**

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Industrial agriculture despite from increasing agricultural products and solving food shortages in many countries, especially in developed ones and the developing world, has created new problems in the field of agricultural ecosystems. The contamination of water, food and soil; disturbance in the biological balance of ecosystems and the occurrence of malnutrition due to reduced food quality in humans and animals, are some of the most important problems of this system. These issues especially in the developed countries caused the cultivation system change toward organic agriculture producing. Since the knowledge about target consumers and their attitude towards these produces is the first step in production and consumption planning for the safe food products, the aim of this study is to investigate factors affecting consumers' knowledge about safe food products in Tabriz City. A survey of 102 respondents was conducted during 2013, between the households, whom were chosen randomly. A multiple regression model, was applied to determine Affecting factors of our purpose. According to results, consumers who had higher education and higher personal health criteria index, besides those with higher trends in environmentally friendly, had higher knowledge of safe foods. Individuals who had got people suffered from special disease in their family significantly showed having higher knowledge of organic food products. A suitable advertisement, holding up training courses for the all educational levels, and briefly arising societies knowledge sustainability, safer food producing and environmental issues are suggested by the study.

**Key Words:** Knowledge, Organic food products, Tabriz



## **Indigenous knowledge in rural development and sustainable agriculture**

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Today, the need for the knowledge that the holistic and comprehensive. Indigenous knowledge, contrary to the official knowledge and expertise that extreme, with the understanding of the nature of relations between components as all sides of the planet's natural forces better teaches us and pave the way for dealing with the smooth nature. Wrong beliefs of the society, particularly among academics and graduates of local knowledge, but inefficient. This belief is the biggest obstacle in the path of benefiting from the valuable cultural treasure in the development process. Indigenous knowledge as the knowledge that experience a few thousand years, at the time to act is embedded in the rural development is very important. Agricultural Science now need to its original position, namely the traditional agriculture with regard to the system that we can achieve sustainable development. Indigenous knowledge and official in the field of a griculture and rural development in order to meet the needs of developing a complementary any good for each other.

**Key word:** sustainable development, traditional agriculture

## **Effective factors in increasing crop yield and approaches for extension agents**

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Nowadays, demand for food is increasing as a result of population growth. Thus, we must increase crop production. Improving crop yield per unit area is one of the main factors which increased crop production. Increasing crop yield per unit area is strongly related with knowledge, expertise and skills of farmers. Extensional methods make desired changes in knowledge and skills used by farmers. In other words, the main way to upgrade farmer's knowledge and skills is the use of extensional methods. In this study, based on the available resources about agronomy and agricultural extension and education, the effects of different factors in increasing crop yield were reviewed. This study follows a descriptive-analytical method and uses a library-documentary technique for the information gathering. The result shows that agricultural extension and education can help better water management and fertilizer use by farmers. In addition, it can also help to introduce high yielding varieties with tolerance to biotic and abiotic stresses, encourage farmers to use various farming systems such as intercropping and crop rotation and present farm mechanization services to farmers. As a result of these factors, crop yield per unit area and its productivity increase. Based on recognized factors about crop yield improvement, the related approaches will be presented to extension agents.

**Keywords:** crop productivity, extension, intercropping, stress, yield



## **Comparative Analysis of Current and Favorable Goals of Extension System of Sustainable Water Resources Management for Date Palm Growers in Khuzestan Province**

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Iran is one of the most arid and semiarid countries in the world and water resources are more restrictive than the global average. Agriculture by using more than 70 percent of all water resources is the predominant consumer of water that has played a major role in feeding people. Date palm is the most important horticultural crops in Khuzestan province that has strategic value in the region and in the country's food security and exports. The reduction in rainfall in recent years and reducing agricultural water resources in this region has caused problems for date palm growers. Due to limited water resources quality and quantity, it is necessary to reform strategies and technologies to increase water use efficiency. To obtain this goal, agricultural extension systems as a training and notification mechanism can play a key role to timely notification and enhance managerial ability of farmers. Nowadays, it is certain that agricultural extension will be effective, when it be operating within a system. The main elements of extension system are goals, target groups, methods, organizations, professionals and the arrangements. Studies showed that traditional extension system have not been sufficiently effective in water resources management extension. The purpose of this research was identifying favorable goals of water resources management extension system for date palm growers in Khuzestan province of Iran. The population of experts in this study are included all agricultural extension experts (N=130) of agricultural-Jihad Organization and the agricultural-Jihad management of Khuzestan Province. A survey study was applied as a methodology of research work. Data were collected using a structured questionnaire. For determining the validity of questionnaire, the face and content validity was used. Cronbach's alpha was used to measure reliability of the instrument which was showed the instrument reliability. The results of this study indicated favorable goals of water resources management extension system for date palm growers in Khuzestan province that are respectively Increased awareness of the amount of water needed for Date Palm growers, in various stages of growth, enhance public awareness in the field of efficient use of agricultural water in Date palm growers, entrepreneurial spirit, innovation and empowerment of the professional producers of dates about the water resource management.

**Key Words:** Favorable goals, Water Resources Management, Date palm growers

## **The impact of agricultural extension programs in creating a desire among farmers to organic production case( study Abyek city of Qazvin Province)**

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One of the main economic resources of farmers in rural areas and affecting the social lives of individuals. Besides given the consequences of population growth, urbanization and agricultural predicted increasing need for the importance of promoting organic products are redoubled. Because **Baydtvjh** the sustainable development of agricultural growth on the one hand and the needs of the food supply, and on the other to maintain stable production. It also should be noted that in various ways to promote the dissemination of new ideas, methods and addresses may be directly impacted the production of organic products. How to promote organic production and its success is dependent on the delivery of extension programs to farmers. The general aim of this study was to establish the role of extension programs tend to produce organic farming among farmers, (case study city Abyek) is. Abyek city is a survey of all farmers, using Morgan, 203 of them were selected. The main instrument was a questionnaire whose validity by faculty members of the Department of Agricultural Extension and Education Research Center of Qazvin confirm its reliability was calculated using Cronbach's alpha coefficient(0.76 percent).Data analysis was performed using the software 20SPSS. The results showed that the majority (59%) were farmer's attitude of extension programs to provide new methods for the production of organic products. Results of the comparison showed that the promotion programs towards organic production Advocates the extension classes associated with the time period between one and five percent organic farming and cultivation methods, there are significant differences. The results of the stepwise multiple regression showed that the variables of the study variables, and methods of providing promotional practices common to know about organic agriculture and the negative impacts of agriculture, education, and method and organic farming techniques approximately 46% of the variance in overall program of creating a desire among farmers to produce organic agriculture can explain.

**Keywords:** promotion, organic products, sustainability



## **The Review of Necessities, Contexts and Agricultural Extension Demand-Driven Development Process, an Alternative to the Traditional Approach to Agricultural Extension in the Third Millennium**

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Mission of extension as a development trustee and tool, is poverty alleviation throughout the rural communities. Unfortunately, the implementation of yield increasing policies and technology transfer were the higher priority in recent decades. There are two important reasons for extension inefficiency: the underestimation of farmer's expectations, the low adoption of agricultural appropriate technologies by poor and small farmers and the neglecting environmental issues. It is assumed that farm yield increasing and productivity will develop agriculture and rural communities in the second millennium. In the past, the investment in agricultural extension revolved around offering extension services on the part of state sectors by an exclusive approach. In recent years, extension agents think more than ever that it is worthwhile to appreciate the opportunities available for reinforcement the market of extension services as improving the demand for agricultural service and information. Hence it is essential to search for new extension approaches which are more efficient, effective, and responsive to different and heterogeneous groups of farmers. Demand-driven extension approach would ensure farmer's profit and real need for agricultural development. This paper examines analytical method and documentary-study the necessity, characteristics and description of demand-driven extension development process in the current age.

**Key words:** agriculture extension, demand-driven extension, market-driven

**Investigation of the Social-economic Impacts of the Networking for Funds of Microfinance for Rural Women in the Marvdasht Township from the Viewpoint of the experts of the ministry of Jihad-e-Agriculture**

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Basically, there is a strong connection between poverty, development and the status of women. Given the effective role of the rural women in the agricultural and rural development, it is essential to program for their more effective intervention. Women, now, are not the mere passive receivers of welfare contributions, but they are the active introducers of the social and economic changes and are able to change their own and the rural households' lives as well. Despite the macro-policy making and planning, many of programs the reality indicate lack of access of small owners and producers to financial resources, which has a negative effect on employment, income, production, supply of the agricultural products and social equality. Micro-financing is the strategy given for resolution of the problem by the world and Iran. For removing the limitations for development of activities of the micro-credit funds for rural women, the protecting fund of developing activities was formed. The aim of the present article is investigation of socio-economic impacts of the networking for funds of microfinance for rural women in Marvdasht Township from the viewpoint of the experts of the ministry of Jihad-e-Agriculture. The method is the exploratory mixed method. The phases consist of interview, extraction of indexes and generalization of data using questionnaire. Results indicate that the plan has the most impact on the development of training and the promotion of entrepreneurship, and the less impact on the role of public sector.

**Key Words:** Micro-credit, Micro-financing, Protecting Fund of Developing Activities



## **Agricultural extension, an effective strategy in improving food security in rural communities**

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One of the most important human needs is benefiting from desirable food sources. Unfortunately, the majority of which approximately one-quarter of the world's population living in developing countries are suffering from chronic malnutrition. Protein and calorie deficiency is a major cause of child mortality in developing countries and threatening the lives of the most vulnerable section of society. Food security when achieved that all people have access to enough, healthy and nutritious food in terms of quality and quantity and they can provide an active and healthy life through their food needs and priorities. In Iran, although level of dietary energy consumption per capita is relatively desirable, but 2/7 million people, equivalent to 4 percent of the population are suffering from malnutrition. However, in many cases, malnutrition is not due to low income, but because of the lack of knowledge of the principles of nutrition. Indeed, the quality of every nation food is in direct correlation with health issues and nutrition awareness level as well as economic strength and food habits of people. Rural section with a significant percentage of the population and playing a central role in the production and economic growth, because of lack of an appropriate level of education and awareness on nutrition, lack of adequate access to information resources and some socio – cultural issues, in terms of nutrition and food security have an inappropriate situation than urban sections, that there is a need for more attention to this subject in rural sector. Agricultural extension and education can play a central role in this context that using different educational and informing strategies, can improve the knowledge, skills and attitude of this group. According to the importance of subject, this paper attempt to analyze the role of agriculture extension and education to improve food security in the rural communities.

**Key Words:** Food Security, Nutrition, Agricultural Extension and Education, Rural Communities

## **Optimal strategy for rural development and food security implementations**

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Continuous food security as the primary objective of development policies and access to adequate food ,health and nutrition has always been one of the major infrastructure development and nurturing of future generations has been confirm country. Sustainable food security requires an adequate supply of food at the macro level and distribution in order to achieve all that is. The rural development strategy is to improve the economic life, social and environmental development of rural residents identified as one of the important strategies and strategies to improve food security in rural communities is considered it does not happen until the rural development and food security, agricultural development and improved food security is another strategy that harm will and prospects 1404 Distance to achieve sustainable food security will therefore examine the role of rural development, improving food security as one of the twentieth century and one of the most important requirements is of great importance. The purpose of this study and documental approach to the study deals with the review of literature in library and finally to enhance food security higher rural community rural development planners and managers will provide suggestions to improve the situation.

**Keywords:** Food Security, Strategy, Rural Development



## **Factors Influencing Social Participation of Rural Women in Asara, Alborz Province**

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The purpose of this study is to analyze factors influencing social participation of rural women in Asara, Alborz province. The descriptive-correlation method was used for this study .The statistical population includes all rural women who inhabit in Asara and older than 15 years old (N= 2810). A sample of 120 rural women was selected by using of proportional random sampling method. The content validity of the questionnaire was assessed by a panel of experts. Cronbach's alpha was used to measure reliability of social participation of rural women that which was 0/86. Rural women's social participation was assessed in formal and informal dimension and the findings shown that social participation of 57% of rural women were in intermediate and low level .the findings revealed that age, level of rural women literacy, level of father/husband literacy, agricultural experience, level of using information resources and communication channels and participation in agriculture have been positively and significantly correlated with level of rural women's social participation and the result of multiple regression shown that variables of level of women literacy, level of father/husband literacy and level of using information resources and communication channels could explain 42% of the variation in the level of rural women's social participation .

**Key Words:** Alborz Province, Rural Women, Social Participation

**investigation of Farm school about integrated pest management of wheat project's function to increase the farmers' knowledge level, in hamidie's regional of Khuzestan province with regard to food security**

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According the growing consumer demand for healthy and high quality food and an increasing trend of pesticide application and increasing environmental and health effects of pesticides, it is felt that is necessary to reduce pesticide. In this regard Pest control can reduce the amount of pesticide. In fact, integrated product management is kind of cultivation strategy, that farmers are sought to protect and improve the environment and along economic benefit, thought to produce healthy food and this provide the context to achieve food security. The purpose of this study was to investigation of Farm school about integrated pest management of wheat project's function to increase the farmers' knowledge level, in hamidie's regional of Khuzestan province with regard to food security. Research method of this study was survey research. Total population of those who, 50 persons of farmers of hamidie's regional which was attended in Integrated Pest Management Plan by the school farm method. Data were collected by questionnaire and interview. validity of it was confirmed by expert views and reliability of its questions were confirmed by Pilot study and Cronbach's alpha for variables of Farmers' knowledge before Period, Farmers' knowledge after Period, Obstacles to implementation of IPM plan in farm school, Advantages of farm school were Respectively: 0/71, 0/68, 0/79 and 0/85. The impact of the pest management's farm school project on increasing farmers' knowledge in three stages: diagnosis of wheat's pest, control of wheat's pest and Struggle with wheat's pest was investigated. The results showed that the level of farmers' knowledge in three stages, diagnosis, control and Struggle with wheat's pest has increased.

**Keywords:** Farm school, wheat pest management, Food Security, Hamidiyeh



## **Effect of training- promoting the improvement of knowledge, attitudes and behavior wheat farmers with regard to food security, Case study: the Northern Khuzestan province**

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Undoubtedly the most important part in the food security is agriculture sector and this great responsibility is on the shoulders of producers in this sector. The important point is that before anything producer's knowledge should be increased until necessary changes in their behavior and attitude occur subsequently. In this regard, one of the ways to increase farmers' knowledge is Hold training courses about the food security. The statistical population of the study included 25,435 of wheat farmers in three regions of Shoushtar, Dezful and Shoosh Cities in the North of Khuzestan province. The statistical sample size was estimated 379 of farmers based on Takmn Table and Finally 237 questionnaires were collected. Method of sampling in this study was simple random. In order to determining of questionnaire validity opinions of Khuzestan Ramin Agriculture and Natural Resources, University faculty, supervisors, engineers, wheat and wheat farmers was used Guttman scale used (range 0-10) respectively. To determine the reliability of the measurement instrument, Cronbach's alpha test for the 30 questionnaires that were completed in Branch Using SPSSwin16 software was used alpha levels were within acceptable limits. After completion of the questionnaire, the questionnaire was designed to describe data encryption and data analysis was performed using statistical software SPSS win16. The results showed that the farmers of the class associated with the quantity of classes are associated with health product Also according to the results of the investigation to attend training - not promotional in knowledge, attitudes and behavior of farmers in food security, create a significant difference.

**Keywords:** training knowledge advocacy, food security, wheat, Khuzestan

### **Developing a conceptual model of factor influencing family farmers' quality of life**

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Social development in rural communities has a close relation with the structure of farming systems. Less attention to the quality of life of farmers in this section, in addition to undermine the agricultural sector has different consequences such as immigration, marginalization, loss of social capital and increased crime. Family farmers are (form) a large part of the farmers of the country, thus their quality of life in all dimensions including economic, social, environmental, psychological and physical health, should be considered. Levels of public quality of life of this farmers is measurable through the evaluation of their living conditions in association with poverty, nutrition, health, housing, employment, education, leisure, etc. This study aimed to design a conceptual model of factor influencing family farmers' quality of life. The model designed using method of documental review based on national and international research, models and theories presented about quality of life. The review results due to different views on quality of life caused focusing primarily on clarification of the concept of dependent variable Accordingly the quality of life, has been defined with dimensions consist of: individual characteristics (physical and mental health), subjective well-being (subjective satisfaction), social, economic, and environmental dimensions. Since the purpose of this study was to design a conceptual model of factors influencing the quality of life of family farmers, after studying theories and related studies, independent variables were identified that include: background variables (age, gender, level of education), social capital (structural status, network status (Bonding, Bridging, Linking) and the purpose of action (expressive and instrumental), religious and ethnic affiliations. It is noteworthy that, the identified conceptual model in this study, need to be tested among family farmers so it could be confirmed as an applied and native model.

**Keywords:** quality of life, model design, family farmer



## **Meta-analysis of the components used to measure rural women's empowerment**

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Rural women with having half of the population of the village and made up a third of rural labor force, are formed one of most influential social groups in village life. Rural women power assessment and planning to empower them is one of the important concerns of rural women. In the process of empowerment of rural women, measure of women's empowerment is a major issue. Several studies have been conducted regard empowerment of rural women in the country. However the problem there is that the results of these studies generally have not been summarized and prioritized. So, this study aims to summarize and prioritize the components used to assess rural women's empowerment. Meta-analysis used in this study. The present research papers published over the last ten years formed the population of this study. The results of the meta-analysis showed that a total of 59 components were used to measure empowerment. Results also showed that components including income (f=14), sense of independence (f=13), sense of competence (f=11), saving (f=10), participation in religious and social activities (f=10), and participation in decision-making (f=10), according to frequency, have formed the most important components used to measure empowerment of rural women.

**Key Words:** Rural women, empowerment, employment, development

### **Investigation of Factors influencing livestock insurance adoption development (case study: Sagez township)**

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Agricultural producers have always encountered with the damages of Natural disasters and their economical life is encountered with the serious risks. Livestock sector, as one of the main sub-sector of agriculture sector, despite a special place in most villages of our country, such as the other agricultural activities, is one of the most risky economic activities due to uncontrollable conditions. In this case, livestock and agricultural products insurance, is inevitable as principal strategies to decrease economical risks and encouraging the investment motivations in livestock and agricultural sector. The population of this research included all Ziviyeh rural district ranchers of Sagez Township, that a sample of 120 was selected by using random sampling from 4 villages. Data was collected by using a survey method and questionnaire was the main instrument. The descriptive results showed that the average age of respondent was 49.47 years. Also, the results showed that the majority of ranchers were traditionally (82 %) ranch and 81 % of respondent was agreed with insurance adoption. The inferential analyses results using structural equations modeling showed that factors such as age and income had a negative and significant effect, while other factors such as level of education, awareness, satisfaction and trust to insurance had a positive and significant effect on livestock insurance adoption development.

**Key Words:** Insurance, Livestock, Adoption, Sagez Township



## **Watermelon farmer's attitude and behaviour towards sustainable agriculture in Joveyn County**

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The main purpose of this study was to investigate Attitude and behavior of Watermelon farmer towards sustainable agriculture. The statistical population of the study was farmers who Cultivation watermelon of Jovein County in Khorasan Razavi province in 2011-2012 Crop year. The sample included 200 farmer using Cochran table for sample size. Data were gathered through Likert- type Scale to measure attitude and behavior towards sustainable agriculture... Validity was confirmed. Cronbach alpha was calculated to measure reliability of items of questionnaire ( $\alpha = 0.89 - 0.87$ ) which showed a highly satisfactory level of consistency. Data were analyzed using SPSS version 21. Results showed that farmers had a positive attitude towards sustainable agriculture. Also, results indicated that farmers had a negative behavior towards sustainable agriculture. It was found that, Distance to service center, Number of household members, back background of Cultivation of Watermelon have Negative correlation with attitude towards sustainable agriculture. Also, Results showed that Distance to service center has positive correlation with behavior. Abstracts for presentations of papers and convening of discussion panels should be between 200 and 350 words and should include introduction/ justification of the paper, purpose, theoretical framework/ methodology, results, conclusion and implications. Please use Times New Roman 10 regular font with single space.

**Key Words:** Behavior, attitude, sustainable agriculture

## **Analyzing factors influencing in social-economic and environmental vulnerability of wheat farmers in Khorasan Razavi province**

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This study have been done to identify factors affecting in social-economic and environmental vulnerability of wheat farmers in Khorasan Razavi province from expert's viewpoint. Statistical sample was 20 persons of faculty and experts in the field of wheat which they were selected using of method purposive sampling. In order to collect data was selected by employed semi-structured and oral interview. Data analysis was accomplished by using Nvivo8 software. After reviewing the preliminary studies and data analysis, components of socio - economic and environmental vulnerabilities were extracted. The findings indicated that the most important factors affecting in environmental vulnerability were climate and drought. Optimal management of the farm (in the cultivation, maintenance and harvest) was a major factor in social vulnerability and product prices and supply inputs were the most important factors in economic vulnerability.

**Key Words:** environmental factors, socio – economic, vulnerability, wheat farmers



## **Role of agricultural extension to improve social-ecological resilience of farm households under climate and environmental disasters**

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Climate and environmental changes highlight the need for responses and activities which improve the flexibility of social-ecological systems. In striving to understand and mitigate the vicissitudes presented by disasters, new paradigms that include social-ecological resilience theory have been incorporated by researchers into studies of sustainability. Resilience is viewed as an important way for persisting and adapting to possible changes. The concept of resilience in social-ecological systems provides the context for growing systems and improving their functions through learning and self-organization. The adverse impacts of climate and environmental disasters especially can be seen on rural communities and marginalized groups, who are dependent on the natural resources for their livelihood. It can increase poverty and migration among these groups. Planning for building resilience is based on a long-term vision that requires to cooperation of policy- and decision-makers in the public and private sectors. In this direction, agricultural extension services is clearly an important player in any effort to increase community's adaptive capacity and resilience to the synergistic impacts of global and environmental changes. Therefore, the aim of this archival and library study was responding to this question that what are the attributes of such an agricultural extension system to build capacity for resilience? In this direction, after analyzing the capacity of agricultural extension in Iran to build resilience, the necessity for revision of agricultural extension system and some principals and practical solutions about definition, objectives, thinking, management systems and structure of this system were provided.

**Key Words:** Agricultural extension, Climate and environmental disasters, Social-ecological resilience

## **Exploring the challenges and problems facing aquaculture industry and the need for Extension Services**

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Despite the short history of aquaculture industry in Iran, it has had a rapid growth in the last decade, which has mainly been due to the high potential of aquaculture in this country rather than only because of the growing utilization of technical skills. Undoubtedly, the significant gap between the current and potential capacities of fisheries implies the constraints and problems that threaten fisheries in this country. The aim of this study was to examine the challenges and problems facing the aquaculture Industry. On account of the existing studies, challenges of the aquaculture industry are lack of sufficient technical knowledge, lack of training and practical extension programs, lack of enough support from governmental organizations, and weak market of fish. This shows the necessity of providing appropriate extension programs for human and social capacity building of aquaculture farmers to be able to manage the complex challenges of this industry.

**Key Words:** aquaculture, challenges, knowledge, solutions



## **Factors affecting ability of agricultural University students for employment from the perspective of members of the agricultural advisory and development service companies**

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Responsibility to needs of the community to the agricultural products is possible only with the transition from traditional agriculture and using appropriate technologies. Low cost make use of the car in front of the use of the work force, quality and desirable products obtained from the operation and management easy machinery, the partial mechanization of farming has been inseparable. The purpose of this paper reviews effective factors of optimal condition of agricultural mechanization in the region. The data and information needed in this study were obtained by random sampling and with the completion of a questionnaire which its validity by views of the Group of experts agricultural and its reliability has been measured to Cronbach's alpha. The data was analyzed by SPSS software. Results of the study showed that between variables Farmers education, type and amount of equipment ownership, numbers of family, acreage, yield, frequency participation in extension, communication, social satisfaction, technical expertise and optimal use of available machinery and degree of mechanization farming units there was a significant positive relationship. Between ages with the farm mechanization units was established significant inverse relationship. Results of multiple regression analysis showed that 80 percent of the dependent variable changes by the independent variables includes extension classes, technical skills, increasing the minimum size of parts and components between units crop was forecast.

**Key Words:** agricultural mechanization †extension † development agricultural

**Investigating the role of the education, extension and advisory services for optimal operation of pressurized irrigation systems in downstream lands of Sattarkhan's Dam in Ahar**

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Sattarkhan's Dam was established in Ahar on the Aharchai River in 2001. Its capacity is 135 million cubic meters, and currently provides 2,700 hectares of downstream lands with irrigation water. Towards optimal use of pressurized irrigation systems in downstream lands, and with the aim of the present study was to assess the status and the role of advisory services, education, and extension. Following information is required for operation of pressurized irrigation systems, 203 completed questionnaires were collected in 2012. Results of regression analysis showed that family size, hesitancy, lack of proper water supply, the maintenance cost of the system, water pricing and factors such as education and extension of social and technical factors, trust in government organizations, membership in rural production cooperatives and management and environmental factors can damage the operation of pressurized irrigation systems affect. Thus In order to proper utilization of pressurized irrigation systems, Trust making government organizations, providing consulting services, education and empowerment of operators and create or activate rural production cooperatives is recommended.

**Key Words:** Education, extension and advisory services, Operators education, Pressurized irrigation



## **Analysis of the role of agricultural credits on the productivity of peasant farming system**

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One of the elements of a traditional agricultural in our country is Peasant farming system. This makeup of agricultural land, not only of belonging to Iran, and Nowadays it has become a major obstacle to agricultural development. However, Peasant farming is important peasant operation to create socio-economic development. This system makes up large part of the Shattered Land and Low extent and despite having a lot of problems, still peasant farming are responsible relatively high contribution in rural livelihood development and rural economy and agriculture. Micro credit (microfinance) is one of the strategies for creating new job opportunities, especially self-employment activities, to tackle poverty and empower people in the system. This study aimed to analyze the role of micro-credit in agricultural productivity is peasant farming systems. In this library study have been investigated description of peasant farming systems in Iran before and after land reform, the importance and its role in reducing poverty and increasing the impact of micro-credits granted in capita income in these systems. The results showed that of peasant agriculture as a fact should not be overlooked, because grows much of the agricultural labor force and a larger area and also serve a large part of the agricultural production. Micro credits has a significant role in increasing agricultural productivity, peasant and income of economic. Provided that this loans is not to be used for purchase of consumer goods and to be used for employment and income.

**Keywords:** Micro-credit, peasant farming, productivity

## **Role of Agricultural Extension and Education in Rural Women's Empowerment and its Importance in Food Security and Rural Development**

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Rural communities as the main food producer, have a key role in food security. Rural women are one of effective groups in villages that their contribution, is higher than men, in work forces in third world countries, because of traditional production structure livelihoods with low income, and the type of labor relations in this structure. Rural women always been one of the most underprivileged strata in access to resources and use of the opportunities development. Therefore, have to provide necessary information and training to rural women in order to increase the quality and quantity of production, make empowerment and decrease deprivation of them. Meanwhile, agricultural extension as an educational system can play a key role. The main objective of agricultural extension system is make positive changes in people's information, skills, insights and attitudes and it is obvious that women are considered the one of the main audiences of the extension program as well as men. Considering the importance of topic, this review study via review is aimed at investigating the role of agricultural extension and education in empowerment rural women in food security and rural development. Studies indicated that agricultural extension system can play significant role in achieving food security and development of rural communities through identifying the obstacles and constraints faced rural women and providing the useful training to them in order to empower women in different dimensions of their lives, development of social- management skills, access to appropriate technology and production resources in rural development and agricultural extension programs. Accordingly, it is primarily necessary be provided suitable context to empower women with attention to multiple roles and various and new responsibilities of women in public and private rural arena for earning valuable resources.

**Key Words:** Rural women Empowerment, Food Security, Agricultural Extension and Education



## **investigated the position of the cooperative employment and employment in rural women Golestan province**

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Today rural women due to compile economic and social role in ordering a family economy and that could be as motive arm village development area each region. Unfortunately considering the fact that half the population of women resident in informing rural but the amount of employment and their participation in social activities to economic men limited one of the most important solution to enhance employment and the presence of women in rural communities of women organizations and cooperative. Golestan province due to existence of variety in suitable climate and the structure of agriculture and handicrafts can be seen an increase in attendance of women in rural employment and rural employment are based on statistics published the amount of participation of women rural 16. 9 percent of the 361 cooperative also has been recorded 8 special cooperative rural women with one thousand and eight hundred members are issued a. Dr. Ray Arvidson while following the destruction of the importance of role of women in rural communities to study on the role companies in cooperative employment and entrepreneurship rural women with Survey research through observation and interview questionnaire and the use of the tool in two cooperative company inspired by rural women and diaphanous silks were paid based on the findings achieved it was clear most important challenges lack of support material and spiritual of cooperatives and social cultural barriers caused the decrease in participation of women in cooperatives that it caused the decrease in entrepreneurship and building powerful. Of the most important procedures to enhance the cooperative women in employment and entrepreneurship can be suitable to invest, presented to propaganda advantages of the presence in cooperative educations and also to Extension acquaintance with the principles of cooperative management and correct

Keywords: Cooperatives, women's rural, Empowerment, Entrepreneurship, education Extension

### **Effect of education – extension in improving farmers' knowledge west in the Azerbaijan Province regarding soil management**

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This research influence educational – extensional improving farmers' knowledge of soil management and land towards the West Azarbaijan province. The population for this study consisted of farmers in west Azerbaijan province. Sample using a multi-stage cluster sampling method was determined as the statistical sample. The population of Krejcie and Morgan table to determine the sample size used. 200 farmers have been set accordingly. The aim of the present study, the applicability of the study and the methods used to collect field information and documents. In terms of the nature of research, descriptive - survey and research tool questionnaire. To investigate the validity of the research, experts were helpful and preliminary test was used to assess the reliability of the questionnaire. And Cronbach alpha levels reached 0/81 respectively. To investigate the relationship between variables coefficient Pearson correlation to calculate and the relationship between variables was used. The results showed that, the correlation coefficient was calculated between knowledge farmers attitudes towards methods of soil management principles by respondents Farmer the independent variables of socio – cultural ( $p=0/000$ ,  $r=0/501$ ), factors educational – extension ( $p=0/000$ ,  $r=0/299$ ). Have a positive relationship and are significant at the 1% level. Thus it can be stated with 99% confidence the variables identified as socio – cultural and educational factors – extension the dependent variable attitude towards farmers methods of soil management principles has had a significant and positive relationship.

**Key Words:** factors education – extension, farmer's knowledge, soil management, west Azerbaijan province



## **Investigating Factors Affecting Attitude of Paddy Growers Towards Organic Farming In Mazandaran Province in Iran**

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The main purpose of this study was to investigate Factors Affecting the attitude of paddy growers towards organic farming in Mazandaran province in Iran. The present research is applicable and is in descriptive – correlation manner. The main source of data for the study was a questionnaire and its validity was examined by a panel of Agricultural Extension and Education professors. Its reliability coefficient using Cronbach alpha coefficient for different scales was between 0.75 and 0.85 percent in SPSS software. The target population of study was the paddy growers of Mazandaran province. (n=208839). The first stage of sampling was conducted using cluster random sampling and in the second stage, samples were selected by stratified method. According to Morgan's table, 384 samples were selected from paddy growers, then questionnaires were distributed among them, 335 people completed and returned the questionnaires. The results showed that attitude of paddy growers was at good level. The results also demonstrated that there are a significant relationship between educational factors, social factors, gender, main occupation of respondent and attitude toward organic farming and between age and number of family members at 1% and 5% levels, respectively. And there is a negative significant correlation between amounts of respondent's income at 1% level. Stepwise multiple regression results showed that educational factors and age of people explained the 11.7 percent of attitude variations toward agriculture.

**Keywords:** organic farming, attitude

## **Factors Affecting the Adoption of Tobacco Insurance by Farmers In Mazandaran Province**

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The purpose of this causal-comparative study was to identify Factors Affecting the adoption of Tobacco insurance by farmers. The research instrument was structural questionnaire with close-ended questions which its validity and reliability was confirmed by panel of experts and Cronbach's alpha test, respectively. The target population of this research included all Tobacco growers in Mazandaran province in the 2012-2013 (N=1500), out of which, a number of 306 people were selected as statistical prototypes in a stratified sampling method by using Krejcie & Morgan's table and finally 260 questionnaires were filled out and analyzed. The results indicated that there was a statistically significant difference between adopters and non-adopters on Tobacco insurance regarding some individual, social, economic, farming, extension-education variables, and popularity of the insurance company in the sight of the farmers. The result of Logistic regression also showed that four variables namely "insuring the other crops, experienced years in growing Tobacco, knowledge about Tobacco insurance, and attitude toward agricultural crops" were identified as the most discriminative factors (84.30% of population), affecting adoption of Tobacco insurance.

**Keywords:** Adoption, Tobacco, Agricultural Crop Insurance, Tobacco Grower, Mazandaran Province



## **Rural Women Empowerment, Social Development and Extension Role**

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Employment is one of the main issues that has an important contribution in a country's economic policy and planning program. Since rural women contribute half of the population in rural areas, their employment and empowerment has a crucial importance in this respect. Although rural women play an important role in production, they have been always underestimated in valuing production and their ability has not been appreciated. One reason for the need to their empowerment, their direct and indirect contribution in development indicators. The purpose of this paper is to investigate the methods of empowering rural women through the formation of rural production cooperatives, granting micro-finance and increasing training and literacy of rural women as well as their impact on social development. To achieve the above objective, this paper has utilized reviewing relevant documents. Rural production cooperatives can be one mechanism for increasing rural women income and employment. Cooperatives can attract women's capital and create job opportunities, so they can reduce unemployment, increase productivity and income and finally improve the welfare of rural women. Thus, presence of women in group production activities provides an appropriate context for their participation in social development. Another empowerment mechanism is granting micro-finance support to rural women. Results showed that the women who have received loans, because of improving their economic situation, their confidence has also increased and finally led to their participation in community development. Increasing women's knowledge and skills in relation to production and business activities can cause traditional agricultural activities of women change to business-oriented activities, which lead to the enhanced contribution of rural women to social development. Moreover, empowering rural women can happen through developing tourism, handicraft making and social support. This may need the application of extension approaches for their empowerment.

**Key Words:** Empowerment, rural women, employment, social Development, extension

## **Factors affecting on knowledge of Salmon aquaculture farmers in Mahneshan Township**

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In recent years, increasing yields of salmon farms (both quantity and quality) is very vital because per capita consumption of white meat (particularly fish) have been increasing continually in the community. Knowledge of farm owners are one of the most important factors affecting their farm yields. Knowledge was also influenced by many factors including educational level and other variables. This descriptive correlational study aimed to investigate the Factors Affecting aquaculture farmers' knowledge. The population of this research was all managers of salmon aquacultures in Mahneshan Township (N= 147) which 110 of them were selected using Krejsi and Morgan sampling table and by the stratified randomized sampling method. Analysis of data showed that majority of owners' knowledge (80.9%) was medium and low. In addition, the correlation analysis revealed that owners' knowledge had negative meaningful correlation with age, household number, and farm loss rate but on the contrary, positive meaningful correlation with variables e.g. educational level and rate of information use. Regression analysis revealed that two variables named as educational level and rate of information use from aquaculture experts explained 65.7 percent of owners' knowledge.

**Key Words:** Salmon Fish, Breeders knowledge, Mahneshan Township



## **Specifying the Effects of Tourism on Rural Sustainable Development: (Case Study of Rijab Village in Dalahoo city of Kermanshah Province**

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Today tourism plays an influential role in international transactions as one of the main principles of global development. Therefore, developing tourism activities and introducing a part of tourism attractions of Iran, especially villages it is possible to improve the level of promoting these spaces and also to rebuild the economical and social body of them in order to do some positive activities. In addition, developing rural tourism one can help the process of rural development. In this study it is tried to study economical, social, and environmental impacts of tourism in Rijab village tin Kermanshah province as a village with high tourism ability respecting situation and possibilities. Population of this study contains 800 individuals of villagers that 260 people out of them were selected randomly. Result showed that tourism in this village in economical dimension was downplaying influential respectively based on increasing of income, increasing the price of land and housing, decreasing social class gab, employment and so on. Furthermore, in social dimension respecting improvement of villagers cooperation and integration, changing in the type of villagers cloth, attracting the most Norowz and summer travelers, and also developing external village relationships with neighbor villages and so on. Also, in bio environmental dimension respecting preventing air pollution in the area, precluding wastage of plant types and developing sub-structural services played the most influential role. Results showed that about 70% of villagers in this area have a positive attitude to tourism and rural tourism and some factors like obviating obstacles of unemployment, interaction and villagers cooperation, and government support in the case of tourism and ... had a positive and significant relationship to attitude of villagers toward rural tourism in the area

**Key Words:** tourism affection, rural tourism, sustainable development

## **Effectiveness study of the extension activities invested to enhance readiness level of the farmers in the risk management of the dust particle dispersion**

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In this research the agriculture extension activities in line with attempts preparing some of the farmers in the north of Khuzestan province to reduce or tolerate the risks and hazard of particle dispersion phenomena, is being studied. In order to achieve the proper indices for the evaluation of the aware level and particularly the degree by which extension activities being successful, a statistical study has been scheduled. Through five big agriculture lands in the north of Khuzestan, 50 sample farmers were selected among which the society is defined. The two parameters including risk management skills and dust particle dispersion effects are specially considered and being measured in this sample. It is followed by the statistical analysis in which the order of variance has been assumed to be a measure of success. Essentially the mentioned method of sensing needed some reference data for the relative comparison. Therefore the second group of questions has been issued non-related or general idea topics. The results depict that although these extension activities considerably enhance level of knowledge, still there is serious lack of readiness among the farmers.

**Key Words:** risk management, dust particle dispersion, climate change, extension activities, north Khuzestan



## **Investigation of the relationship between expectations, perceived quality, value and farmers' satisfaction of targeted subsidies program in the Lorestan Province**

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Giving subsidies as a policy is an important government's tools to socio-economic goals adjustment. This policy has, also, considerable effects on the agricultural sector, and hence, on farmers. Although, there are many methods to evaluate the targeted subsidy, however, one of the most important instruments for investigating the impacts of targeted subsidy plan on the society is to evaluate the policy from the perspective of those receive subsidy. Investigation the satisfaction of subsidy's receiver is a kind of user evaluation. As such, the aim of this article was to investigate the relationship between expectations, perceived quality and satisfaction between farmers (249 persons) who received subsidy in Lorestan rovince. To analysis the data, by applying SPSS software, some statistical tests including correlation and regression were used. Results revealed that perceived quality positively and expectation negatively correlated with satisfaction.

**Key words:** Targeted Subsidies, Expectations, Satisfaction, Services Quality

## **Determining Agricultural Economic Priorities for Fars Province' Farmers by Multi Attribute Decision Making**

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Due of high climatic diversity, it can be planting different crops in Iran. Fars is the southern provinces of Iran that it has high climatic diversity too. In this climate situation, crop rotation is one of the most striking methods to achieve sustainability. Wheat, barley and canola are crops that could be placed in crop rotation with each other in Fars province. The purpose of this study was determining agricultural economic priorities for Fars province's farmers. Compared indicators were determined according to agricultural specialists' opinion. The Multi Attribute Decision Making (MADM) (Compensatory Models) was used for ranking and choosing the best option. The required data was gathered from agriculture organization statistical annual report and agricultural organization experts' opinion. Among the studied indices in the evaluation of ranking these plants, farmers' skills in planting crops received highest weight. The results showed that wheat placed in first, canola in second, and barley in third economic priority for farmers.

**Key Words:** Wheat, Canola, Barely, Multi Attribute Decision Making (MADM), Compensatory Models, Fars Province



**Determine the influence of Agricultural Engineering Technical  
in performance of Jihad- and Advisory Service Firms (AETASF)  
Keshavarzi institution in Kermanshah province**

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The purpose of this descriptive survey study was to determine the influence of Agricultural Engineering Technical and Advisory Service Firms (AETASF) in performance of Jihad-Keshavarzi institution in Kermanshah province. Quantitative research design was used with closed-ended questionnaire. Validity and reliability of research instrument proved valid and reliable with alpha coefficient of 0/89. The population consisted of all Agricultural Service Center (ASC) managers (N = 53) and AETASFs managers (N=103) using census study. The ASCs managers are continuously monitoring and managing AETASF members. Results revealed that AETASFs were more active in educational and advisory activities but less active in field work. The result of this study has implication for rural development policy-makers in that more sustainable agricultural practices is possible provided that AETASFs receive more incentives for their sustainable teaching behavior.

**Key words:** Agricultural Engineering Technical and Advisory Service Firms (AETASF), Agricultural Service Center (ASC), Kermanshah

### **Introducing the Factors Affecting accepting agricultural products insurance:(Studying based on logistic regression)**

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Nowadays, there are numerous challenges that the agriculture sector faces in terms of lack of water, land, population growth, environmental degradation and globalization. There are events and natural disasters, the largest concern that farmers are involved in, that are unpredictable dangers. The programs that are dealing with these dangers include government's involvement to control the events and disasters via agricultural products insurance development in order to support the farmers against any losses existing from the natural disasters and horrible events to secure the level of income and productivity. This research has studied the Factors Affecting accepting agricultural products insurance and developing a model to assess the probability of acceptance on the base of logistic regression. To this end a random sample of 180 individuals, consisting of 90 people (reception) and 90 (non-acceptance) of the farmers was chosen from Songhor and Kolyaei, Kermanshah functions in 1391 crop year. The result showed that among the 15 intended variables, 8 variables of age, Literacy, cultivated areas, damage assessment by the insurance, time and the way of payment of damages, affiliates Cooperation (Agricultural Jihad and Bank, etc.), the income of farmers and their awareness of insurance had significant effect on acceptance of agricultural products insurance and then regression was fitted on the basis of LR statistic in the significant level of 5 per cent to provide the final model. This study could be effective helping the policies of agricultural products insurance development to identify the facilitating and accelerating factors in acceptance of agricultural products insurance in order to introduce appropriate and applicable strategies parallel with the presented factors.

**Key Words:** agricultural insurance, Kermanshah, acceptance, logistic regression



## **Identification and assessments of factors affecting farmer women**

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According to one decade assertion on empowerment of rural women in developing programs, the purpose of this study was evaluation of ability and social-cultural, economic and supportive factors that effect on empowerment of Isfahan's farmer women. Required information was collected by questionnaire. For evaluate disability of women by means of Alkier and foster manner and evaluating effective factors was done by logistic regression. Results of regression model shows that academic education, occupation, using media, high social and employment relations, earning higher incomes, health, government support, effect of using various training, believe in equality and existence of credit fund have a significant effect on ability of women. However variables such as primary education, low income and office of communication services have a positive effect on capability and statistically is significant.

**Key Words:** empowerment, farmer women, Logit regression

## **Role of Agricultural Extension and Education in development of organic farming as a way to increase the quality and safety of food products**

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Using pesticides and chemical products causes residual Pesticides, herbicides, antibiotics and plant and animal hormones in agricultural and food products, this trajectory increasingly shows infection. Pollution of these residual chemicals, not only the appearance of an unknown disease among humans, but also led to the destruction of basic agricultural resources. One way to cope with this problem is the development of organic farming. The organic agriculture along with the development of sustainable agriculture and its meaning a series of operations, which aims to reduce the unnatural input, and use of chemical fertilizers ,pesticides, synthetic preservatives, chemical drugs and organisms produced in genetic engineering and the slops is excluded. The aim of current study is to investigate the role of Agricultural Extension and Education in the development of organic farming. The results show that Agricultural Extension and Education in the development of organic farming requires an emphasis on continuous education, motivation of self-help and increase cooperation between rural people and farmers.

**Key Words:** Agricultural Extension and Education, organic farming, sustainable agriculture



## **Survey the Possibility of develop and promote organic agriculture in rural areas in the Birjand County From the perspective of agricultural expert**

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The health and quality of consumed food issues is one of the serious challenges facing the modern societies. Hence, in recent years tendency to consume food products (livestock and agriculture) from organic farming increased and also it's rising day to day. This study aimed to Survey the Possibility of develop and promote organic agriculture in rural areas in Birjand County. An Analysis - explanation study was conducted. Statistical population was Birjand Agricultural Jihad staff that 175 people of them were selected randomly using the formula kerjeci and Morgan. Questionnaire validity was confirmed by a panel of experts from Tehran University Agricultural Extension Department. The Cronbach's alpha coefficient for scale of importance of development and extension the organic farming from professional's perspective was 0/73. The acquired results of factor analysis showed that develop and promote organic agriculture in rural areas in Birjand County from professionals perspective are placed in six factors: educational, economic, technical, managerial, policy-making and psychological that these six factors explained 64/66% of the variance.

**Key Words:** Birjand County, Ability to use, Experts, Rural areas

## **Investigating Roles of Agriculture Education and Factors Affecting on Wheat Waste Management in the Markazi Province, Iran**

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The main purpose of this study was to investigate the factors affecting on Wheat Waste Management in the Markazi Province carried out through a survey method. The statistical population of this study consisted of two groups of 700 wheat farmers each who attended and not attended extension classes with regard to wheat waste management in the Markazi Province in 2008. Based on Cochran's formula, 103 wheat farmers were selected as sample. To collect data, a structured questionnaire was used. Validity of questionnaire (Face validity) was obtained by a panel of experts and university professors. Cronbach's alpha computed to measure reliability study instrument were 0.82. The findings of the study revealed that relevance with extension agent and using of radio and TV are the most important information sources and communication channels for wheat growers. The most effective variables on dependent variable, wheat waste, in trained and non-trained groups are number of agriculture instruments, using level of communication channels, amount using of extension magazines, number of refer extension expert, frequency of participating in extension and educational courses, accessing level of communication channels, income annual of cultivate wheat and surface of cultivate wheat.

**Key Words:** Waste, Wheat Waste Management, Trained and non-trained farmers, the Markazi Province



## **Role of agricultural extension in rural small food industry in the Kermanshah township**

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Owners of small rural food, another group of producers of agricultural extension services that they need. Unfortunately, despite the new approaches, such as system design, knowledge of agriculture and agricultural innovation systems worldwide audience of agricultural extension, traditional agriculture is still limited to groups that are working in the fields. However, the importance of food in small rural agricultural boom, increasing job opportunities and preventing rural migration, is clear. This study reviews 25 cases of small rural food company executives, the basic theory and qualitative methodology using interviews, examined. The results showed that agricultural extension services to these industries mainly by the Office of complementary agricultural processing industries is provided limited guidance for company registration, certificate of license exploitation. Also, with emphasis on rural and small food company executives, according to exchange experiences and ideas on Tasyrqabl professionals, communicating with other successful managers and entrepreneurs in these areas is recommended.

**Keywords:** Small food industry, food industry, rural, agricultural extension

## **Role of agricultural extension in the development of insurance agricultural products**

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Agriculture is the main source of national wealth and to satisfy the food needs of the people and country's raw material. This part is the most risky economic activity because of the interconnections with nature. In such a situation, "insurance" is one of the most influential factors that can effectively protect farmers and products against accidents and disasters and this important issue needs to education and raise people's awareness. Agricultural extension is considered the most important factor in improving the efficiency of agricultural production and the main pillar of the world Agriculture that extension organization's performance in relation to the development plan of insurance was small, So that there are no in the extension organizations specific agent or they have no in relation with this issue Special training. The general-purpose of this study is to investigate Role agricultural extension in the development of insurance agricultural products. This research is a descriptive and is developed by using document library and computerized searched global information networks. According to research results, insurance is an innovation that is facing resistance of rural people and Since one of the most fundamental steps in development of insurance agricultural products is farmers trust and encourage, so Agricultural extension should motivate farmers and make them aware enough with specific methods and skills to inform them about the profits and proceeds. So agents of agricultural extension can connect with insurance groups responsible after exactly identifying the goals and crops insurance and achieving special skills to make the best methods for acceptance and the development of insurance agricultural products.

**Key Words:** agricultural extension, insurance, agricultural products, development



## **Relation Between rural women Activities with Domestic violence against them(Case study: the Hajatan Rural)**

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Rural women activities in Agriculture and non-agriculture without be considered official statistics unemployment in the country are undeniable. Such activities are in unfavorable economic and cultural conditions, and Family expectations. Direct and indirect domestic violence is under difficult conditions in use of rural women in agricultural and non-agricultural activities in the family. It has encountered women rural to difficulties in life and research has been paid little. Therefore, the present study investigate has paid the relationship between agricultural and non-agricultural activities with domestic violence against them there by family members is imposed on rural women. research findings is achievement for planners rural affairs at national, regional and local to increase support for rural women by established with the support of relevant institutions. Data been collected of the 72 women in the Hajatan rural through questionnaires and interviews. Methods in terms of data collection is survey and the nature is quantitative and descriptive-correlation. The results show there are significant relationship between domestic violence and agricultural activities in rural women. The results also show the most important domestic violence against women are not respecting their feelings and lack care of unable women in terms of the psychological in the community.

**Keywords:** Rural women, domestic violence, agricultural and non-agricultural activities, the Hajatan rural

## **Role of agricultural extension and RASs systems to Improve production and quality of tea**

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Iran is one of the major tea producer and consumer. About 70 thousand people who are living in Gilan and Mazandaran provinces are dependent on tea cultivation and for some of them tea is the only source of income. Also the tea industry in Iran is one of the manufacturing which is less dependent on foreign countries and it has a great potential to play an important role in the marketing and increasing job opportunity at the national level. However, because most of the gardens are less than an acre and also yeoman farming system, green tea leaf production rate in the country in recent years has been quite descending. In addition, inconsistencies in crop production units (garden and factory) and their lack of communication with the markets have caused problems especially in terms of quality. We have to benefit from capabilities of the agricultural extension systems and rural advisory services to improve tea production. So, the goal of this research is to study the role and capabilities of agricultural extension systems and rural advisory services to improve production and quality of tea. The research method is browsing electronic resources and library resources. First of all we investigate the quality and quantity of the tea crop which has produced in the country, the potentials and problems and deficiencies, and then we try to discuss the roles and capabilities of agricultural extension systems to improve tea production.

**Key words:** tea cultivation, tea quality, agricultural extension systems, rural advisory services



## **Considering the effective factors path analysis on educational needs of rice cultivating women in the Sari Township)**

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The purpose of this study is to assess the educational needs of rice cultivating women in Sari that adopted a descriptive – inferential approach to conduct the study . Rice cultivating women in Sari comprised the sample of the study summing to 1677(N=1677) culminating to 240 filled questionnaires which were collected and analyzed for this study (N=240). The questionnaire face validity was improved and the corrections were made after consulting with agricultural extension and education. Using Cronbach's' Alpha test, sequential Theta and combines reliability, the obtained reliabilities were 0/816, 0/803 and 0/760, respectively. The youngest and oldest subjects of the study were 25 and 67. Regarding the education level, the highest frequency was related to those who had junior school education that was about 25/8. Among the tested subjects, 217 (90/4 %) were married and 23 (9/4 %) were single. Considering their main jobs, most of the subjects were working in the house .Approximately, 104 subjects (43/3%) of expressed that the training courses have been held for them and 92 people (85/5%) have participated in training courses. The results of the considering show that the participation rate of rice cultivating women and the economic factors importance are among the most effective factors influencing the rice cultivating women's training needs.

**Keywords:** Educational needs, considering, Rice Cultivating Women, Sari

## **Implementation of the Millennium Development Goals in the context of food security: examination of challenges in Iran**

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Related documents on development literature and the Millennium Development Goals show that eradicating poverty and food security is one of the most important objectives that in global level, particularly for developing countries and rural areas will be followed. Food security is achieved when the people at all times, have physical and economic access to the sufficient, healthy and nutritious foods, and consequently, they can provide their needs and food preferences to enjoy an active and healthy lifestyle. However, to achieve this objective has been faced with many obstacles and challenges in developing countries. Despite emphasizing on this objective in development policies especially through agricultural sector, more accurate examination of the situation in Iran also suggests some challenges to achieve food security. Hence, the present article attempts to analyze the quantitative and qualitative challenges in achieving food security in our country, and accordingly to offer a more accurate prospects for development.

**Keywords:** Poverty, Food Security, Agricultural Development, Iran



## **Double cropping role of food security and sustainable livelihoods in the Rural Guilan Province**

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We aimed to investigate the role of culture in food security and sustainable livelihoods in the Rural' in Guilan province. The purpose of this research is applied research. In terms of statistical operations research study is descriptive – correlational. The statistical population included all family farmers in the province to do the second crop in between 86 to 89, and over 60,000 are exploited. Sample size of 250 was obtained using the formula Fadi  $\rightarrow$  multistage cluster sampling method, the study subjects were used. The data for the analysis of descriptive statistics and statistical analysis was performed using SPSS software. Inferential statistics used in this test method and the Pearson and Spearman correlation coefficients were the factor analysis. Results showed that the expansion of the cultivation and food security among the rural province of a positive and significant relationship exists at 99% level. Also second crop development and sustainable livelihoods significant relationship exists at 95%. Between activities promoting the education and development of the culture of a significant relationship exists at 95%. The results of the factor analysis revealed that four factors, income and employment, the pattern of optimal utilization of agricultural land, improving household consumption patterns, reduce production costs by about 68.51 % of the total variance of the variables of the second culture explained.

**Key Words:** Double cropping, food security, poverty reduction, sustainable livelihoods, Guilan province

### **Employment surviving children studying in rural business development agent or hinder development? (Case Study silk carpet in the rural of Ortaso in the Charoymagh Township)**

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Development of rural businesses and the general business of the family played an important role in poverty reduction and sustainable livelihoods of rural households. The benefits of this economic activity can be developed as a driving factor. But deep interest in the hidden layer of this type of rural businesses in some areas show The development of rural business development Create logs is not always and everywhere, and sometimes it can be destructive and inhibiting the development of sustainable rural development in particular. The present study employed a silk carpet surviving children studying in the rural is Ortaso. The purpose of this study, some of applied and theoretical research. In this research, quantitative and qualitative research was used if necessary in quantitative methods, using the questionnaire survey and studied to investigate the employment of children of survivors. The interviews with the surviving children of educated parents are covered qualitative research. Terms of statistical operations research study is descriptive - correlational and Cause - effect. Surviving population of this study consisted of 40 boys and girls from attending primary school in the Academic year 92-93. The silk carpet round of 20 households were selected using simple random sampling. The data for the analysis of descriptive statistics and statistical analysis was performed using SPSS software. Inferential statistics used in this study is to compare the correlation coefficient test. The results showed that the active component of the cultural and social component surviving children studying in carpet weaving, there is a significant relationship at the 99% level. Also, the economic situation of families and children involved in activities like carpet significant relationship exists at 95. Results showed an average annual income of up to 38% of surviving children from attending religious ceremonies and pilgrimage are spent.

**Key Words:** Surviving children from education, Rural Business, sustainable development, silk carpets



## **Conceptualization of rural poverty and explanation of extension systems' role in poverty alleviation**

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Climate variability and economic crisis have made sustainable livelihood and food security difficult for rural areas. Poverty alleviation is one of the most critical duties of Iranian policy makers. However, poverty reduction programs have not been efficient enough and some rural households are still poor. Understanding the concept and nature of poverty is imperative for preparing poverty alleviation programs. Therefore, this qualitative study is conducted to conceptualize rural poverty and explain the extension systems' role in poverty alleviation. Focused group interview was used to collect data from Jihad-e- Keshavarzi experts and three different groups of rural households who resided in developed, semi-developed and less developed rural areas of Fars province. Results indicated that experts' and rural households' perceptions were different towards poverty. Experts perceived economic and structural factors as the main drivers of rural poverty, while rural families believed poverty is influenced by economic, structural, natural, social and personal factors. Since empowerment and capacity building have important roles in poverty alleviation, paradigmatic shift in extension orientation is needed. Some recommendations are provided to reduce rural poverty in Iran.

**Key Words:** Rural poverty, Conceptualization of poverty, Extension system, Capacity building, Fars province

## **Role of agricultural extension and RASs systems in food security and sustainability of family farmers' livelihoods**

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Agricultural mechanization was an innovation of 20<sup>th</sup> century. The increasingly enhance of human population, restricted natural resources, and inefficiency of agricultural productions' inputs and methods caused human to use more resources by the available technologies at that time. The procedure approached extravagance and environmental degradation which affected the production sustainability, attracted the mankind attentions into the sufficient application of inputs by utilizing appropriate technologies. Therefore, mechanization has not been considered just application of machines and technical/economic management of it, since then; but it followed agricultural systems management and the production components, human being and environment, were also considered in system analysis and decision making. The paper aims to review the mechanization from formation and introduction to Iran till now, as well as, analyses the future status. It also covers the concepts such as agricultural geology (agro geology), sustainable agriculture, precision agriculture, and automation and their roles in production sustainability. Finally, suggestions would be represented.

**Key Words:** agro geology, precision agriculture, automation, bio systems



## **Investigation of the Effect of Extension Model Sites on Gardeners' Knowledge, Attitude and skills toward Pesticides Reduction in Peach Gardens in the Asadabad County**

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Commercialization of agricultural activities and being followed by widespread use of agricultural herbicides in agricultural production has had devastating effects on the environment and human health. So that today's agricultural production with minimal chemicals has a great importance to protecting the environment and human health. Therefore the main purpose of this study was to investigate the effect of extension model sites on Asadabad county gardeners' knowledge, attitude and skills toward pesticides reduction in peach gardens. The statistical population of the study includes two groups of Asadabad county peach growers who were participated in extension model sites and those who not participated. The samples were selected randomly. Data gathering process was done by questionnaire. The questionnaire was first validated by a panel of experts and then finalized after a pilot test process through calculating Cronbach Alpha coefficient. The calculated Cronbach's Alpha coefficient was 0.80 that shows a high reliability of the research tool. Results indicated the gardeners' knowledge, attitude and skills were moderate towards pesticides reduction in peach gardens. Also, the results showed that there are significant difference between two groups of gardeners in terms of knowledge, attitude and skills towards pesticides reduction, So that participating gardeners in extension model sites had more technical knowledge, more positive attitudes and more skills compared with other gardeners about reducing their use of chemical pesticides. Finally based on the results, some recommendations have been given.

**Key Words:** Extension Model Sites, Knowledge, Attitude, skills, Pesticides Reduction

**Impact analysis training – extension and economic effects the development of agricultural credit in the city of Piranshahr west of Azerbaijan province**

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The aim of this study was to analyze the educational effects - economic impact of promotion and development of agricultural credit in the city is Piranshahr. The aim of the present study, the applicability of the study and the methods used to collect field information and the documents. Methods in nature - descriptive survey. To investigate the validity of the research, ideas and advice to help faculty members were drawn from the pilot test was used to assess the reliability of the questionnaire. And Cronbach alpha levels reached 0/74 respectively. The population studied in this research, the number of farmers in 8150 was Piranshahr city. The population of farmers and Morgan table to determine the sample size used. 200 farmers have been set accordingly. Correlation coefficients were calculated between the types of credit facility with the dependent variable impact on the sustainable development of agriculture by the respondent farmers in sustainable agriculture credit facility are related. Thus it can be stated with 99% confidence that the independent variables identified as learning effects – extension economic impact of credit facilities with variable impact on the sustainable development of agriculture has had a significant and positive relationship.

**Key Words:** learning effects - extension, Piranshahr city, economic effects, credit facilities



## **Agricultural extension system and food security: Challenges and changes**

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Although, food security is an essential element for development, human faced food insecurity critics in the entire world. Famine is a barrier to physical and mental health of people. Access to food security depends on agriculture directly or indirectly. The current agricultural extension does not promote food security, so it is necessary to rethink elements of agricultural extension. Therefore, declining poverty (especially food poverty) in rural area and access to sustainable rural development, an efficient agricultural extension system is needed. Many changed should be done in agricultural extension in terms of equipment, methods, goal, target group and organization. In this regard, using ICT, participatory methods, empowering, and HLP are changes that are essential for agricultural extension. In this research, documents and literature regarding agricultural extension models were reviewed. Then, the challenges and changes regarding agricultural extension system in its elements and dimensions were analyzed. Finally, the content of equipment, methods, goal, target group and organization were recommended.

**Key Words:** Food security, Agricultural extension system, Sustainable rural development

## Features and experiences of Ukraine in agricultural operation system

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Ukraine is the biggest pool of agricultural in Eastern Europe and the largest producer and exporter of agricultural products at level of European. The amount of agricultural production is 2.5 times the country's domestic consumption. The main objective of this documentary study was to review the Ukrainian agricultural systems' experiences. The soil of Ukraine is very fertile and its' rain is enough with the very reasonable distribution during crop year. About 71 percent of the country's surface or 41 million hectares was used for agricultural activities. About 80 percent of the agricultural area is arable land, two-thirds of it the agriculturally rich "black soil" (chernozem). Under communism, agricultural lands were held by the government. Privatization planned to shift most such land into the hands of individuals and farming collectives (jointly held farming cooperatives). By August 1995, the transfer of lands into private hands had begun. Over 8 million hectares of land had been privatized. By 1996, most of the agricultural land in Ukraine was in collective and private hands, although 40 percent was still owned by the government. Household plots and private farms accounted for about 15 percent of the Ukrainian territory and they filled an important role in the delivery of products to the marketplace. In general, the agricultural sector is experiencing serious internal difficulties, due to the transitional nature of the economy. A new policy and direction for Ukraine's agricultural sector is necessary. Agriculture poses the greatest challenge to the survival of Ukraine's political leaders, because almost half of the Ukraine's population lives in rural areas. Agricultural land investment in Ukraine continues to attract farmers and real estate dealers from around the world. Large local Ukrainian companies have also made a diversification move by investing into agricultural lands –Ukraine's famous *Chernozems* (Ukrainian for black soil) the most fertile soil type on our planet. But only few land investors are able to realize the true potential of Ukraine's fertile soil which can produce 5-7 metric tons of wheat per hectare without any use of chemical fertilizers, pesticides or herbicides. So due to the similarity of the climatic parts of Iran and Ukraine we can use of Ukraine's positive experiences in order to improve the system operated agriculture.

**Key words:** climate, experiences, the system operated agriculture, Ukraine



## **Shared innovations in family farming and sustainable agriculture systems**

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Innovations in family farming systems approach in sustainable agriculture larger part of the population are subsistence farmers around the world with family farming. Purpose of this study sustainable agricultural development, food production, reduce rural poverty and contribute to the family farm with the approach of the new system. Features approach the family farm, efficient use of resources and also is environmentally friendly. In recent years, family farmers in countries around the world (small) in the face of falling prices and rising costs of production, forcing farmers to maintain their income increased use of chemical fertilizer and irrigation were indiscriminate in their farming lands, who suffered irreparable environment the family farm along with social learning and dynamic monitoring and evaluating the effectiveness systems .of family farming systems, farmers can introduce. Therefore, a detailed knowledge of family farming systems in different countries, especially in recent years could be useful for agricultural educators. Accordingly, this paper introduces innovations in family farming systems as a new approach focused on sustainable agriculture in different countries. And tried to introduce the most functional.

**Key Words:** innovation, family farm, extension agricultural education, approaches to farming systems, sustainable agriculture

**Analysis of the role of educational –extension promoting the economic empowerment of farmers with emphasis on determining effective strategies for economic dimension of sustainable agriculture**

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The agricultural sector has always been the center of attention in development. If we are convinced that agriculture plays a pivotal role in development, human resources are therefore the key to reaching the goal of development. The main aim of this Applied research was to Analysis of the role of educational –extension promoting the economic empowerment of farmers with emphasis on determining effective strategies among farmers in Kermanshah County. A sample of 320 farmers was selected using a multi-stage stratified random sampling method. A semi-structured questionnaire was designed to collect data ( $\alpha=0.84$ ). Despite the rather low use of the extension programs and services by farmers the findings revealed the importance of extension services as a predictor of economic (72/4%). Considering effective education and empowerment of working human force in agricultural sector is of particular importance and is a key element in this process.

**Key Words:** Agricultural extension, Empowerment, Sustainability agriculture



## **Analyzing the Motivations of Entrepreneurial Home-based Businesses Development in Rural Areas of the Urmia County**

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The main purpose of this study was to analyze of the motivations of entrepreneurial home-based businesses development in rural areas of Urmia County. A descriptive-survey method was used for collecting the data. The statistical population of the study consisted of all villagers who had registered business in Urmia County (N= 277). According to the Krejcie and Morgan table, a sample size of 181 was selected using a random sampling technique. A questionnaire was used to collect data. A panel of experts established the validity of the questionnaire. A pilot study was conducted to establish reliability of the instrument. Cronbach alpha's coefficient for main scales of questionnaire calculated more than 0.75, which show appropriate reliability of questionnaire. The results of factor analysis showed that five factors of family - location, entrepreneurship, internal (psychological), financial and social – Knowledge totally explained 62.66 percent of variances of motivations of entrepreneurial home-based businesses development in rural areas of Urmia County.

**Key Words:** Motivation, Home based business, Rural Areas

## **Small-Scale and Domestic Farming Systems: Needs, Capabilities**

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Organizing the farming systems of land and agricultural production is the most basic problems of the agricultural sector in Iran. The framework and template of the agricultural sector affected by the farming systems. The small-scale and domestic farming systems based on the criteria of efficiency and productivity among the largest and most important systems in the country. Food requirements of growing population and high population employees in agricultural profession shows it according to this system, providing needs and removing obstacles and problems theirs are important issues. The present study is done with purpose investigating the small-scale and domestic farming systems, their needs and capabilities. This research is developed by using document library and computerized searched global information networks. The results showed that beneficiaries small-scale and domestic to help create self-sufficiency and food security, maintain and restore ecosystems, create jobs, better production of the organic products, to reduce poverty and improve the use of water resources and also need to organize and setup advisory services firms, mechanization and agriculture, storage and processing of agricultural products, setting up processing product in different areas, input distribution, insurance and government financial support, timely compensation for damages caused by natural disasters, marketing affairs and beneficiaries good organizing.

**Key Words:** Beneficiaries small-scale and domestic, farming systems, needs, capabilities



## **Building on traditional cooperation among women for sustainable rural development in the Fouta Djallon Highlands**

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Although women in the rural society of the Fouta Djallon Highlands play a crucial role in the household economy, they still suffer from a marginalized condition. Traditional forms of solidarity and collaboration among women ensure mutual assistance in case of need. Building on these practices, several development projects have worked to establish women's interest groups with the aim to increase and diversify household incomes. The Fouta Djallon Highlands Integrated Natural Resources Management Project is assisting women's groups in their activities.

**Key Words:** Fouta Djallon Highlands, Family farming, Women's interest groups, Horticulture, Valley bottom management, Increase of agricultural production, Marketing of agricultural products

## **A Study of Knowledge and Adoption Behavior of Dairy Farmers in Cattle and Buffalo Insurance**

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The livestock farmers face the different type of the risks in dairy farming such as animal mortality and morbidity due to infectious livestock diseases and changing output prices. Livestock owners are the most direct and primary victims who face the consequences of livestock risks. In order to cope with different risks, livestock farmers have adopted a number of risk management strategies. Livestock insurance is one of the most common risk management tool for dairy farmers. Despite various schemes launched from time-to-time in India, livestock insurance has served very limited purposes. The attempts for promoting cattle and buffalo insurance both by governments and insurance agencies did not meet with good success. The purpose of this research was to analyze the dairy farmers' perception on various issues of cattle and buffalo insurance. The data was collected with a sample survey of 240 dairy farmers in the state of Uttar Pradesh, India. A Likert-type scales (a continuum of 1 to 5), a contingent valuation scenario and a logit discrete binary regression model was used to know the dairy farmers' knowledge and adoption of cattle and buffalo insurance. The result showed that cattle and buffalo insurance was one of the most relevant risk management strategies for the dairy farmers. The low level of education of many dairy farmers has negatively influenced the decision to adopt cattle and buffalo insurance. The personal perceptions of risk, socio-economic status of that farmer, farm type and institutional arrangements were the main factors which determine the adoption of livestock insurance. The reasons for poor penetration of livestock insurance include lack of awareness, literacy problem, affordability, lack of delivery channels that provide access at the doorsteps, problem in claims settlements etc. The government should intensify the awareness programs to increase the knowledge of the livestock farmers about the livestock insurance.

**Key Words:** Adoption, Cattle and buffalo, Dairy farmers, Insurance



## **Agro-ecological intensification of smallholder agriculture and short marketing channels in the Peruvian Andes**

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1 (Agribusiness), 2(Economist), 3(Management), 4(Agronomist) are professionals of the technical team of the AGROECO project: Ecological and socioeconomic intensification of smallholder agriculture in the Andes, which is part of the Canadian International Research Program in Food Safety (CIFSRF) and is implemented in the Andean regions of Cusco and Cajamarca (Peru).4 Senior lecturer at Universidad Nacional Agraria La Molina and general coordinator of the AGROECO project.

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Based on the "Ecological and socioeconomic intensification of smallholder agriculture in the Andes" project seeks to analyze the contribution of agro-ecological practice of food security in rural areas of Cusco and Cajamarca (Peru). Innovation presented shows that the collective mark "*Frutos de la tierra*" in synergy with the participatory guarantee system (PGS) has positive effects on production, marketing and organization by strengthening short marketing channels, which have helped reduce the main difficulties faced by small producers organized processes to market linkages. The main lessons have been the focus of demand, awareness and associativity. It is expected that the relationship between organized organic farmers, local governments, consumers and support institutions constitute the germ of a sustainable local process that is not dependent on external support, to help improve the food security of small farmers. Although prices may not change, the benefits to small producers and consumers increase.

**Key Words:** agro-ecology, agriculture intensification, food security, institutional innovation, short marketing channels

## **Evolution of agriculture and farming systems in the Chokwe, Mozambique**

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This paper is related to the characterization and understanding of the evolution of agriculture and farming systems as well, as established in irrigated area of the district of Chokwe, Gaza Province, located in the South of Republic of Mozambique. The dissertation is organized in five. The first chapter introductory. This chapter briefly describes the country and the studied region. Then it presents the general research problem. The research questions investigated in this study include: how do smallholder farmers adopt agricultural practices aimed at improving soil fertility in different farming systems? The studied hypothesis comprises whether socio-political conflicts experienced in each one of the studied historical periods - especially the colonial period, the establishment of Eduardo Mondlane Irrigation System (SIREMO), and the era after the start of economic liberalization in Mozambique – led to considerable changes in the farming systems in the irrigated area of Chokwe. A correlation between social differentiation and different smallholder farmers' farming systems in the Chokwe irrigated area is observed. Lack of financial resources seems to have forced smallholder farmers operating in the irrigated areas of Chokwe to either completely abandon their agricultural production plots or reduce their agricultural production activities with special emphasis on irrigated land, making them impoverished. In general, the results of the study show that from the social-agrarian point of view of the agriculture, smallholder farmers located in the irrigated area of Chokwe are divided into 5 categories, namely impoverished, auto-consumption, consolidated, employers and rural entrepreneurs. The farming systems of irrigated areas of Chokwe sustain the characteristics of an ancestral agriculture with the risk of, instead of improving, further impoverishing rural areas and perpetuating rural exodus. Land availability is not a limiting factor because uncultivated land suitable for agriculture is still plenty. Finally, the so-called Green revolution by itself cannot be regarded as a miracle because the problems of the agricultural production in the irrigated area are very complex and require a broader approach beyond the simple intensification of the agricultural practices or mechanization.

**Key Words:** farming systems, irrigation system, smallholder farmers'



## **Food Security and Sustainability of Family Farmers' Livelihoods in Context of the North-Eastern Bangladesh**

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Bangladesh is an agro-based country of South Asia. Agriculture in Asia is characterized by small holders of farmland having average size of less than 2 hectares (80% of total farms). Like other Asian smallholders farmers Bangladeshi farmers is also facing several challenges arising from a range of economic, demographic, structural, technological and institutional factors including industrialization and urbanization. At present 95% of farmers of Bangladesh are belongs to small-scale group. The smallholder farmers in major cases depend on sharecropping and struggling of capital investment. After green revolution, the country has developed a lot in case of technology development. Though having success in technology generation the country has not succeeded enough to transfer these technologies to the end-users and a huge gap of crop production has exists between the research station and farmers field. Family farming cultivation is vital to the day to day food security of small-scale rural households. But such practices are not yet based on an integrated and holistic approach. Farmers cannot increase profit margins due to their lack of knowledge and understanding about how to cultivate their land more effectively in a planned and sustainable way. In Sylhet division, north-eastern Bangladesh, we are mostly working with small-scale farm households in our livelihood enhancement programs and found some innovative technologies has been increased the productivity of small-scale farmers. In recent years we introduced some organic and sustainable agricultural technologies to the small-scale farm households such as integrated rice–duck farming practices, Landcare approach, vegetable production in sack, ducklings' hatchery, aquaculture, compost (kitchen waste, vermin-compost, pile & basket compost etc.) production to enterprise and found effectiveness and accepted by the farmers. It was observed that farmers' are very much interested to know and follow the new and innovative approaches. For the extension new technologies it is necessary to ensure the community participation, identify proper households, ensuring farmer's initial capital, and premium price. These innovations are a crud example for poverty elimination and prove that poverty is more than a lack of resources; it is also a lack of opportunities.

**Key Words:** economic empowerment, family farming, food security and safety, livelihood enhancement, sustainable agriculture

## **People's Participation in Protection of plant genetic diversity in the Central Zagros Rangeland: a case of Iran**

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This paper aims to reflect on a participatory action research project in linkages with the Green Message NGO, local settlers and the Department of Forestry and Natural Resources in Central Zagros Region of Iran. The action research involved two different phases in each phase the stakeholders were involved in planning, acting, observing and reflecting. Based on the results, the tribal life of inhabitants which naturally depended on herd and herder, as well as the poverty among rural settlers had seriously damaged the plant bio-diversity of Zagross. This project by creating an alternative livelihood, changed people's point of view towards valuable natural species and the methods of protecting them, by informing people of the dangers of over-exploitation of four endangered species, and empowering people in harvesting and cultivating the wild seeds in their rain-fed lands, for which they were paid by the project's fund. The project ended up with establishing of the participatory conservation pattern in the region.

**Key Words:** SGP, Iran, participatory, range land, empowerment, plan diversity, conservation



## **Rice Pests Control as a Implementation of IPM Practices for Vehicle for Transformation Environmental Friendly Systems in Iran**

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The main purpose of this study was to investigate the implementation of IPM practice for pests control by paddy farmers and correlation analysis for independent variables and the implementation of IPM practices for rice pests' control. The population consisted of paddy farmers in Sari County of Iran. A sample of 260 farmers was selected by using proportional random sampling method. Data were collected by means of a questionnaire. Validity of questionnaire was determined through Agricultural Jihad exports of Sari County and some faculty members at University of Tehran. Cronbach's alpha was used to estimate the reliability. The reliability was found to be acceptable. The findings of correlation revealed that age, agricultural experience, number of family work force, costs pesticides, level of use chemical pesticides have been negatively and significantly correlated with level application of IPM technologies among paddy farmers. In addition, level of education, the number of refer to agricultural service centers, level of social participation in local associations, and influence of opinion leaders, average of paddy farming income, level production of crop, IPM cost, amount of farming lands, amount of paddy farming lands, level of knowledge on IPM, attitude toward IPM, perception toward IPM, number of extension contacts, level of participation in extension programming, level of participation in FFS programming, level of using communication channels and information resources have been positively and significantly correlated with level application of IPM technologies among paddy farmers. According finding reducing pesticide usage and application of IPM practices, requires changing farmers perception and behaviors, improving farmers' attitude, strengthening communication with farmers to extension experts, it is recommended that extension agents state clear advantages of IPM practices accompany with the empowerment of farmers and their participation in decision-making process by using delivery methods such as field demonstration and farmer field schools (FFS) are proper methods to achieve this purpose. Pesticides can pose serious threats to human health and the environment, so IPM is as a vehicle for transformation environmental friendly systems with combination of practices including biological, chemical, and cultural that it enables farmers to reduce their reliance on pesticides while increasing crop production, food quality and safety and profitability.

**Key Words:** Integrated pest management (IPM), Paddy Farmers, Application, Environmental Friendly Technologies

## **Administrative driving factors of organic farming development in Iran**

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There is considerable public interest in redefining the role of agriculture in Iran. Increased domestic and international demand for organic products, along with environmental and safety foods have stimulated policymakers and governors in agricultural part to try to find incentives and necessities for converting from conventional to organic farming. There are many evidences that increased adoption of organic farming system can offer numerous environmental, social and financial benefits. Despite high potential of organic production and organic market in Iran, it remains a very small sub-sector of Iran's agriculture. The objective of this study was to identify most important driving factors to develop organic farming in administration aspect. For achieving this goal we used survey method by a questionnaire to ask agricultural extension experts who are working with organic farmers about the most important governmental influencing factors on conversion to organic farming. The snowball sampling method was adopted. According to the results nine influencing factors were determined by factor analysis method. The extracted factors are: 1) to establish structures and infrastructures, 2) to provide the necessity funds, 3) policy and object making, 4) education and advisory for farmers, 5) to identify and analyze the necessary data, 6) advertisement and public informing, 7) organizational coordination, 8) regulations collection and providing, 9) giving distinctions to investments. In this basis this article recommends making more capacities in public sector to help and support small holders to use organic methods in divers farming systems in the country.

**Key Words:** administrative factors, driving factors, organic farming development



## **Investigating Roles of Agriculture Education and Factors Affecting on Wheat Waste Management in the Markazi Province, Iran**

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The main purpose of this study was to investigate the factors affecting on Wheat Waste Management in Markazi carried out through a survey method. The statistical population of this study consisted of two groups of 700 wheat farmers each who attended and not attended extension classes with regard to wheat waste management in Markazi province in 2008. Based on Cochran's formula, 103 wheat farmers were selected as sample. To collect data, a structured questionnaire was used. Validity of questionnaire (Face validity) was obtained by a panel of experts and university professors. Cronbach's alpha computed to measure reliability study instrument were 0.82. The findings of the study revealed that relevance with extension agent and using of radio and TV are the most important information sources and communication channels for wheat growers. The most effective variables on dependent variable, wheat waste, in trained and non-trained groups are number of agriculture instruments, using level of communication channels, amount using of extension magazines, number of refer extension expert, frequency of participating in extension and educational courses, accessing level of communication channels, income annual of cultivate wheat and surface of cultivate wheat.

**Key Words:** Waste, Wheat Waste Management, Trained and non-trained farmers, Markazi Province

## Land Grabbing and Rural Poverty: Lessons Learned from Western Ethiopia

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Since two decades ago, when China's economic strength has made this most populated country as a leading global agricultural outsourcer, there have increasingly been hot debates on whether such outsourcing is destructive or constructive, especially for developing countries such as Ethiopia. The government of Ethiopia, with the assumption of attracting agricultural investment inflow, is hosting transnational companies by serving them with million hectares of land in long-term leases. These land acquisitions have raised serious concerns about their impacts on local poor people who risk losing access to and control over their land on which they fully depend. Accordingly, the main objective of this study was to explore the consequences of land grabbing on local communities and family farming in the Benishangul-Gumuz region, Western Ethiopia. Results showed that land grabbing has not only worsened rural poverty but also resulted in a significant loss in the environment of local communities while no significant infrastructures are offered by outsourcers.

**Keywords:** agricultural outsourcing, land deal, food security, poverty, rural livelihood, small-scale farming.

**Track 2: Communication, Knowledge,  
Information and Innovation Systems in  
Agricultural and Rural Development**





## **Nonconventional Family Farming of Livestock under Constrained Conditions in the States of International Borders in North East India**

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Constrained by the International Borders of 4,500 kilometer of uneven terrain and connected by a small 22 kilometer “chicken neck” with the mainland of the country; family farming of animal husbandry is at the crossroads today in the North East India due to many reasons against the backdrop of provisions made for the improvement by the Governments both at the Centre as well as in different states. There have been establishment of three National Research Centers (NRC) on Mithun, Yak and Pig by the Indian Council of Agricultural Research, Government of India. But due to the socio-personal reasons while in case of Yak (*Capra hircus*) and Mithun (*Bos frontalis*) progresses have been slow and tardy, pig (*Sus scrofa domestica* or *Sus domestica*) husbandry has prospered at a commendable speed; so much so, indeed that about 28 per cent of the total pig population in the country is from North East India. Ethnically, culturally and traditionally linked these livestock today need an altogether different approach of extension so that border connections could be exploited for prosperity. Mostly reared in small numbers in family farming, the sector is in jeopardy. Eighty each family farmers in Arunachal Pradesh, Nagaland and Mizoram were contacted for data collection on mithun, yak and pig husbandry respectively – making the total sample size 240. In analysis it was found that there were significant mean differences in respect of education ( $F=72.13^{**}$ ) and family's annual income ( $F=45.45^{**}$ ). The relational analysis had positive and significant relationship between education and annual income from livestock ( $r=0.23^*$ ). In fact, socio personal attributes also contributed high significantly to education ( $R^2=45.95^{**}$ ) and to annual income of the family ( $R^2=58.88^{**}$ ). Therefore, in Rural Advisory System emphasis on educational development and economic growth could be prioritized for the development of the place and people.

**Key words:** Economic progress, education, family farming, NRC, rural advisory system

## **Knowledge based adoption practices and information oriented advisory services in livelihood security of small animal farmers under various agro-climatic zones of eastern region of India**

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Small animal farming practice plays a pivotal role in livelihood security of small family farmers of rural India as well as in global rural scenario since time immemorial. Realizing the present day challenge, like food and rural livelihood insecurity, Poverty, malnutrition and environmental crisis, scientific orientation for empowering rural small animal based family farmers through knowledge based adoption process and information based rural advisory services are urgently needed under various agro-climatic zones of Eastern India (West Bengal). To formulate the required strategic approach for sustainable vis-à-vis profitable small animal farming practices and to define the role of extension system as well as RASs for empowering these farming communities a vivid study was promulgated in sample small animal farmers of 06 Agro-climatic Zones (ACZ) of Eastern region (West Bengal) of India.

**METHODS:** In the study, one district from each agro-climatic zone of Eastern India i.e. West Bengal was purposively selected. Out of total 3360 Gram Panchayets (GP), 1178 GPs were selected purposively from six different districts of six different agro-climatic Zones. 5% of 1178, i.e., 61 GPs have been covered randomly. All the villages under 61 GPs have been taken into consideration for this study. Therefore, total number of villages selected for the study was 524 nos. From each village, two small livestock owners (sheep, goat & pig owners) were selected randomly. In this way, 1048 nos. of small animal owners were selected randomly. The field investigation was carried out during December, 2007 to December, 2008 with the help of the pre- tested structured interview schedule constructed for the study. Thirty five (35) no's of independent variables were selected in which 14 no's of socio-economic, 02 no's Communication, 03 no's administrative and 16 no's socio-psychological variables applied to assess the adoption status of selected small animal owners of various Agro climatic zone of W.B, India. Adoption of selected improved Animal Husbandry practices was dependent variable which was measured by adoption index method (Dasgupta, 1968)..

**KEY WORDS:** Knowledge, Adoption, Information Advisory, Livelihood, Small Animal, Farmers, Agro-climate.



## **Identification of Socio-Economically Important Dairy Innovations in India: A Perspective of Scientists**

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Livestock innovations and technologies are generated and promoted by multifarious research and development organizations with heavy investments across the globe. Till date, various isolated studies are conducted on the adoption, diffusion and impact of technologies in different pockets with varying indicators and variables. However, a comparative analysis of these different innovations and technologies of social and economic importance is not explored in India. For example, impact of innovations like cross-breeding, azolla production, Artificial insemination, use of mobiles in dairying etc. cannot be compared or analyzed on single criteria using common indicators. Hence, with this theoretical background, the authors have made an effort to identify important dairy innovations in India which have created socio-economic impact for the farming community by application of Delphi technique. The paper deals with the details of Delphi technique to identify important dairy innovations in India and have shared the experience of Delphi technique by analyzing the strengths and weaknesses. The study classified the innovations under seven broad categories viz. feeding, breeding, health care, management, marketing, ICT and miscellaneous (others) and reported concentrate feeding, Artificial insemination, vaccination, clean milk production, dairy products preparation, use of mobiles and integrated dairy farming, respectively as the important dairy innovations of social and economic importance in Indian dairying sector. The authors indicated that Delphi technique had the major merits of saving resources like time and money for conducting face-to-face interaction, could solve complex problem very easily without the dominance of few experts over others and maintained anonymity till the completion of the study. The Delphi method faced the challenges of poor response rate of experts and was perceived to be time-consuming and laborious. Although this study has identified dairy innovations of social and economic importance in India, it has opened-up a new research area for majority of the researchers and experts across the globe to develop field based indicators and parameters to study the impact of any particular innovation in agriculture and dairy sector.

**Key Words:** Dairy innovations, Delphi technique, Innovations of socio-economic importance, India

## **Disseminating Information among members of livestock based Women Self Help Groups (WSHGs) through Mobile telephony in India**

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Livestock resources are important asset for women, who comprise 43 per cent of the agricultural labor force in developing countries. Though many technologies for better productivity exist, the information acquisition of women is very poor and adoption rates remain low resulting in poor productivity thus affecting their livelihood security. Use of Information Communication Technologies (ICT), especially mobile telephony has shown high potential to reach out women farmers through its three fold communication functions of provision, co-ordination and support of information towards effective dissemination and knowledge transfer. In this regard, a study was conducted in 2013 among 90 women selected randomly out of 15 WSHGs for whom livestock rearing is an important income generating activity, to assess the utilization pattern and effectiveness of mobile telephony dissemination of information. It was found that out of the WSHG members having access to mobile phones, 59 per cent had mobile ownership and SMS facility was primarily used by half of the members and significant number of women were using mobiles for financial transactions, veterinary services and market information. In spite of little formal education among the women, text SMS was the preferred mode to receive information. However, Information was broadcasted in two consecutive cycles for reinforced communication in two forms i.e. both voice and text SMS, designed according to the information gaps assessed. Significant difference with respect to knowledge was observed among the members of SHGs during pre and post SMS broadcast, indicating potential role of mobile telephony in information dissemination. Study confirmed that mobile telephony has significant role in transferring needful information towards enhancing knowledge and awareness among the women farmer groups, who often find it difficult to travel far to attend trainings.

**Key Words:** Dissemination, ICT, India, Mobile telephony, WSHG



## **Sharing knowledge and innovation with and from family farmers through a community knowledge broker network and the TECA platform in Uganda**

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Access to technical information and practices to enable family farmers to improve their productivity is one of the key factors that can contribute to their development in addition to the development of their communities. This paper presents a case study on the role that online networks and knowledge bases play to facilitate the sharing of agricultural technologies and practices with family farmers in Uganda, helping them to meet the challenges faced in the field and improving their livelihoods. Through a partnership between the Grameen Foundation and FAO, a knowledge base of farmer validated technologies and practices in agriculture, livestock, fisheries and forestry (TECA) from FAO and its partner organizations is used to repackage information and share it through mobile phones and a network of community knowledge brokers with small farmers. The same platform is used for sharing documented farmer practices with an online community of practitioners, where they can discuss the practices can take place? And, through feedback from the online forum, help to further improve the documentation. Well-documented practices are then included in the TECA knowledge base to be shared with a wider community working with smallholders. The case of TECA stands out because it contains very practical information presented in non-academic language and using multimedia (video, audio, images and text) that can be easily understood by farmers and those providing advisory services to them. The Grameen Foundation in Uganda uses information from TECA to reach more than 254,385 farmers via smart phone and a network of peer advisors. About 45 percent of the information shared is from TECA's knowledge base. This paper will illustrate the collaboration and highlight a few cases where farmers have taken initiative to improve their productivity and livelihoods through application of new knowledge shared through this joint effort.

**Key Words:** agricultural practices, agricultural technologies, e-extension, family farmers, knowledge sharing

## **Diffusion and Adoption of Livestock Vaccination Technology in Different Agro-climatic Regions of India**

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The scenario of livestock technologies adoption in developing countries including India is very dismal, widening the gap between technologies developed and available at research institutions and technologies actually being adopted or used by the farmers. Although various technologies are generated and promoted by research institutions, only few of them are adopted and diffused at the field conditions. In this context, an effort was made to study the adoption and diffusion status of vaccination technology in different agro-climatic zones of India using primary and secondary data. The group discussion and personal communication with veterinary officers and other experts was also conducted to evolve action plans for effective adoption and diffusion of technology. Among the four zones studied, east coastal & hilly region and upper & middle Gangetic zone farmers adopted vaccination to the extent of 61% and 58 %, respectively. The study also brought out that remotely situated veterinary hospital, poor-availability of veterinary services, lack of awareness about vaccination and high vaccination cost were the constraints which led to poor adoption and diffusion of vaccination in India. The study concluded that, there is a need to assess the technological gaps, actual adoption of technologies and factors affecting adoption and diffusion of vaccination at field conditions. Further, appropriate strategies must be developed by livestock agencies to create better impact and popularization of livestock technologies in India.

**Key words:** Adoption, Agro-climatic regions, Diffusion, Livestock technology, Vaccination



## **Application of the Information and Communication**

### **Technologies in Agriculture**

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Food security turned into one of the most important global concern of the world. According to UN's Food and Agriculture Organization (FAO), food security "exists when all people, at all times, have physical, social and economic access to sufficient, safe and nutritious food to meet their dietary needs and food preferences for an active and healthy life." The major concern about food security arose as a result of climate change, rapid increase in food prices around the globe, policy enforced in the field of energetics, as well as the widespread use of agricultural lands for biofuel production. Extreme climatic events (droughts, floods etc.) directly influence the food supply and plantings are subjected to pest and disease attacks due to the changing climate norms. On the other hand, food deficiency is seen as a result of population growth in the world, growing consumer demands in developed countries, and the reduction of arable lands as a result of housing and industrial development. Currently, the application of innovations hold a special place in all economic sectors- including the vital agricultural sector- in order to ensure sustainable development. The importance of information and communication technologies (ICT) for food security has already been approved at the high level World Summit on the Information Society held in 2003-2005, as well as in a decision made on giving particular attention to the application of electronic technology in agriculture. FAO and other organizations developed the [www.e-agriculture.org](http://www.e-agriculture.org) web portal in 2006 in order to direct efforts at ensuring sustainable agricultural development and food security via applying information and communication technologies.

**Key Words:** Agricultural production, farmer, mobile phones, market, website

## **Review and identify of effective strategies for the development of organic farming in Kermanshah Province from the Viewpoint of Agricultural Centers**

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**Introduction:** Organic farming has experienced considerable growth in recent years. Proponents of organic farming the environmental and nutritional benefits of organic systems, although these are contested by some .Organic farming may contribute substantially to future agricultural production worldwide by improving soil quality and pest control, thereby reducing environmental impacts of conventional farming. **Materials and methods:** This study sought to examine the current status of organic farming in Kermanshah Province is whether organic farming must be in Kermanshah province. What are the factors affecting the development of organic farming in the province? The population in this study, 120 cases of official experts working in rural agricultural centers in Kermanshah province which limits the population ,sampling will be recruited. The main instrument was a questionnaire as well as interviews and observations that have been used to confirm the accuracy of the information, **Methods of data analysis,** descriptive statistics and inferential statistics were. **Results and discussion:** Results show that factors affecting the development of organic farming in the Kermanshah Province Terms of incentives, facilities and services, education and training of human resources , Farming strengthen infrastructure development, policy and risk management is supportive of organic agriculture Recommended in national program development ,policy implementation should be included in Farming, Also in the Kermanshah Province polarity agriculture, organic farming programs for outstanding terms.

**Key Words:** Organic farming, Factors, Development, Kermanshah Province



## **Effective Factors on Adoption and Application Information Technology for Service Provision by Agricultural Organization Workers**

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In recent years, we have encountered new advantages in information technology applications in providing organizational services. There is evidence to suggest that professionals are willing to accept and utilize Information and Communication Technologies (ICT) throughout the organizations. The main purpose of this study was to determine and investigate effective factors on IT usage by the workers of Agricultural Organization (Jihad-e Keshavarzi) in Ardebil Province, Iran. This research was designed as a descriptive study. The sample population according to the table for determining sample from a given population, developed by Bartlett et al. (2001) has been 90 worker members. A self-made questionnaire was used. The validity of the questionnaire was confirmed by a panel of experts and the reliability was approved by calculating the Cronbach's alpha which has been 0.928. The first section of questionnaire investigated personal characteristics of the workers, and the second section investigated their opinions on effective factors on adoption and application Information Technology (e.g. literacy information, technical, educational, attitudinal and management factors), using a seven-point Likert type scale (none= 1 to outstanding= 7). Frequency counts, percentages, Pearson correlation coefficient, Analysis of Variance (ANOVA), t-test and stepwise regression analysis were used in analyzing the data. Regression analysis showed that for three of the five independent variables had a meaningful effect. In general, information literacy, management and technical characteristics predict 78 percent of variations of IT usage, according to the determining coefficient ( $R^2$ ). The result of F-test and t-test indicated level of education had a significant effect on organizational IT usage. This research is an important step in identifying the relevant effective factors and indicators on use of IT for providing electronic organizational services.

**Key Words:** Agricultural organization, Information technology, Iran, Stepwise regression analysis

### **Role of using indigenous knowledge in access to agro-ecosystems health (Case study: agro-ecosystems in Birjand region)**

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Achievement to a sustainable agricultural system requires change in visions regarding indigenous agriculture and underlining it. This indigenous knowledge is acquired by farmers through real world experiences and differs from the formal education –based knowledge of researches and experts. Being Indigenous is considered as a basis of scientific, efficient and successful establishment to achieve sustainable agriculture and health of agro-ecosystems. Therefore, a research was made in 2012 to assess the role of indicator of using indigenous knowledge in health of agro-ecosystems in Birjand region during 1991 and 2011. According to the results, the indicator had a falling trend of 0.4% during the research period as a consequence of decrease in rural population which had a positive correlation with the falling trend of this indicator by 0.871\*\* and increase in the number of government employees in agriculture sector which had a weak relation with rural farmers and low rate of interest in using rural experiences. Moreover, decreasing the use of rural knowledge led to an increase in indicators of abandoned agricultural lands and the use of chemicals in agricultural lands with negative correlation of -0.798\*\* and -0.638\*\* respectively.

**Keywords:** agro-ecosystem health, Sustainable agriculture, indigenous knowledge, indicator, rural population



## **Investigating Agricultural Insurance Role in Pistachio Growers' Adoption of Integrated Pest Management Technologies**

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Agricultural productions activities mostly confront with risks and it can influencing farmers' decision making. Climate changes, market circumstances, drought, Pests and plant diseases are major risk factor in agriculture. Adopting new agricultural technologies, which are highly recommended by agricultural researchers in all of the world, contain with many uncertainties which can increase risk condition. Therefore, vast majority of farmers, who are experienced, prefer to apply conventional technologies which were used for many years. Investigating of agricultural insurances role in farmers' adoption of Pistachio Integrated Pest Management technologies was the main purpose of this research. Pistachio growers who work in Kerman province were considered of statistical society. Totally, 306 pistachio growers were selected as sample group and questionnaires were used for data collection instrument. Results revealed that those farmers who used agricultural insurance since 2009 to 2013 had positive relation with their adoption of Integrated Pest Management technology. Besides, findings revealed that agricultural insurances can decrease farmer's worries and uncertainties toward adoption of new technologies in their agricultural production.

**Key Words:** farm insurance, sustainable technologies, pistachio growers, IPM

## **The role of rural ICT offices in Social - economic development of rural**

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Rural ICT offices is the space that has access to various government services such as communication services, telecommunications, postal mail, bank and IT services enabling. ICT effectiveness in rural areas not less than the urban areas. One-third of Iran's population live in rural areas therefore the ICT development in rural areas is very important. This study aims to investigate the role of rural ICT offices in social-economic development of rural areas from the perspective of rural ICT officers in Shahreza County. The survey method was used for this study and data was collected using a questionnaire. The sample population was 60 officers in rural ICT in Shahreza County. The results of research showed that there was a significant relationship at the 99% level between the use of ICT and awareness of ICT services. The results of research showed that ICT services have the highest effect on rural local council's participation. Also ICT has the lowest effect on equal access to justice for women in social dimension. The results of research showed that ICT services have the highest effect to market accesses and the economic dimension has the greatest effect was observed in association with the market.

**Keywords:** ICT offices, rural development, Social development, Economic development.



## **Developing Appropriate Participative Methods in Order to Make Farmers and Beneficiaries to Play an Effective Role in Process of the Relationship between Research and Extension**

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Undoubtedly, on the threshold of the twenty first century and emergence of advanced technological and scientific developments in various fields, the skilled and educated human power will play the main role in the area of governments' power, since, the circumstances for the next century for the agricultural sector will be so sensitive and more challengeable because the real customers of the agricultural products are willing to purchase those products with high quality in consistent with the accepted global standards with competitive and lower prices. In such circumstances, and regarding the limited resources and high price of production elements, Extension and research are considered to play a very important role which are expected to design some mechanisms to provide the farmers specially micro proprietors, rural women and young people the latest scientific findings and equip them with potentialities so as to they be able to produce high quality products as much as possible. In doing so, an interactive and deep relationship research and Extension with the implementation and farmers is needed; and in this process the main center to which an outstanding attention will be paid should be the participation of the people emphasizing on technical knowledge of the local people and a combination of the centralized scientific knowledge. Meanwhile, a specific attention should be paid to the priorities, needs and potentialities of the rural with the aim of empowering the farmers. Also, the farmers as the active and effective factors, analyzers, observe and assessors in the process of the relationship between research and Extension must be considered. Therefore, in order to make the farmers to have the main role and more participation in such relationship, and this that they can accept such innovations, a comprehensive comprehension of the existing economical, social and cultural conditions of farmers and their adoptability with the implementation of innovation and new knowledge in the region in a given research and Extension process should be made.

**Key Words:** participative approaches; innovation; research and Extension relationship process

## **Survey of Driving and restraining factors for commercializing research findings of vision researchers of research, education and extension organization**

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Regarding the issue of commercialization of ideas and research results necessary and inevitable that must be Next logical decisions considered in terms of agricultural research centers, managers should be concerned. Without commercialization of achievement in research organizations , research does not make sense because no one gains access to customers , production and testing, will be useless on an idea of the overall goal of this study was to identify the factors driving preventive commercialization research findings of vision researchers, research organizations ,education and promotion . The study of the nature of applied research and the gathering of descriptive data - Correlation is. A survey of 710 researchers, research organizations , and promote agricultural education at the Institute of Soil and Water Research Institute, Serum - Razi Improvement Institute, Seed and Plant Research Organization, Agricultural Extension and Education working requirements. Sampling in this study also stratified random sampling was appropriate. The main factors hindering the commercialization of priority that the lack of commercialization of specialized publications, industry practitioners and researchers from different motives , poor flexibility and weak financial systems and administrative IT market to buy. The results also showed Spearman correlation coefficients between the variables and personal interest in commercialization, commercialization, economic interests, moral values recorded Technology, laws and institutional regulations, education, commercialization, intellectual property registration, the impact of job responsibilities, dating market needs, subject knowledge and deep knowledge of science, knowledge and technology commercialization, there is a significant correlation between creativity and commercialization of research findings.

**Key Words:** Commercialization, Factors driving, Inhibiting factors, Research findings, TAT Organization.



## **Analysis of Effect of Shared Vision on Enhance of Social Capital in agricultural Entrepreneurship Development**

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Social capital as the set the value of informal, like facilitator, by creates trust, shared norms and linkage between members of a group, caused the development of teamwork. In addition existence shared vision of the future in group, assemble appropriate context of formation and enhance Social capital. Thus this study was done aimed to analysis of effect shared vision on enhance of social capital in entrepreneurship development. Population of the study Consisted agricultural producers' cooperatives in Kermanshah County. Random samples were used to select 110 members of these cooperatives. Methodology of the study was descriptive correlational and information gathered through questionnaire. In order to validity and determine the deal of comparison and fit of model structural equation modeling was used AMOS software. In order to analysis of effect shared vision on enhance of social capital by using of multivariate analysis of variance (between groups with and without a share vision) was used SPSS software. Based on the findings of research were supported research assumptions, significant and positive linkage of shared vision with (social trust, norms and networks) as indexes social capital, also significant and positive linkage of social trust, norms and networks in entrepreneurial development .

**Key Words:** Shared Vision, Social Capital, Entrepreneurship

### **Casual comparative analysis of social consequences of vermicompost production: The case of Marvdasht County**

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Agricultural development is sustainable, if it be economically stable, environmentally and socially acceptable. Therefore, the technology of vermicompost production with using earthworms produces a combination that is in a way of sustainable agriculture. Accordingly, the aim of this research was to investigate the social consequences of vermicompost on farmers at Marvdasht County. For this purpose, a casual-comparative study with the aid of a questionnaire was used. Validity of the questionnaire was confirmed by experts and reliability of sections the questionnaire was measured by calculating Cronbach-Alpha coefficient (0.72). The statistical population of the study was the farmers of Marvdasht County in two strata: farmers with and farmers without the vermicompost production that snow ball and criterion sampling methods were used to select them, respectively. Finally, 60 farmers (30 farmers with and 30 farmers without vermicompost production) participated in this study. The gathered data were analyzed by SPSS software. The results confirmed improving of women's social situation, social participation, social capital, quality of life and social welfare of farmers group with vermicompost production.

**Key Words:** social consequences, Agricultural Extension, Vermicompost, Marvdasht



## **Occupational Injuries in agriculture: Implications for Agricultural Extension**

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Occupational injuries are considered as a major challenge in developing countries. Agriculture is one of the stressful occupations in the world. Therefore, safety percussions and professional health among agricultural producers play a major role in reducing job injuries in agricultural sector. In Iran however, agricultural injuries has been neglected. In order to this type of injuries' reduction and prevention, no planning has been done yet. Due to considerable number of agricultural accidents in Kermanshah province, identifying common types of farm injuries in this province can help agricultural extension system and other relevant agencies to prevent this type of injuries. Thus, the purpose of this descriptive survey research design was to identify the most prevalent farm injuries in Kermanshah Townships and provide strategies for agricultural extension. Data was collected from a census of farmers who were injured during farm practices (N=90). A researcher made questionnaire was used to collect data. The validity and reliability of research instrument was verified using panel of experts and alpha coefficient respectively. To data analysis, descriptive statistics such as frequency, percentage and cumulative percentage was used. Results revealed that the most prevalent job injuries among farmers were: amputations, fractures, cuts and bruises, and muscle-skeletal defects. Moreover, tractors, water pumps, carrying heavy objects, and heavy workloads played a major role in farm injuries. Results of this study have implications for agricultural extension service as well as professional health services in Kermanshah province. These two institutions can use this study results as a basis for training courses and occupational accidents prevention.

**Key Words:** Occupational injuries, agricultural job injuries, job safety, agricultural extension, professional health

**An investigation of extension – educational variables effects on social effectiveness of technology participatory development approach from point of view farmers of Isfahan Province**

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Today, supply of healthy food and adequate of population is the most important concern of governments. On the other hand, the world population is growing dramatically. According to the FAO, in 2050 years, it could reach to 9/4 billion. For optimal and sustainable use of agriculture lands series of planning and management strategies are needed. One of main approaches in this field is technology participatory development that help to founds transfer facilitation. The purpose of this study is an investigation affective educational – extensional factors on social effectiveness of technology participatory development strategy. This research was done from March of 2010 to November of 2013 in Isfahan Province. The population of this study was consisted of all farmers (N=160) who had been under the ICM strategy and grew horticultural production (greenhouse cucumbers and tomato) from 2006 to 2010. The number of 113 farmers were selected as the sample population by Stratified Sampling and based on using standard table of kerjesy & Morgan (1970). 103 questionnaires were eventually collected and analyzed (n=103). Results showed that membership in social institutions is effective on social effectiveness but educational – extensional courses not affect. Also, educational content and educational methods that were used in this strategy have significant relation and could be explained 58 percent of total variance.

**Key words:** Technology participatory development, Social effectiveness, Educational and extension variables



## **Implementing Yager Fuzzy Screening and Entropy Methods for Selecting E-readiness Assessment Indicators in the Agricultural Organization**

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The role of information and communication technologies in organizational development has been growing exponentially. The main purpose of this study was to identify and priority effective dimensions and indicators on assessing electronic readiness of Guilan province Agricultural Organization (jihad e Keshavarzi) based on opinions of experts. At the first, an e-readiness assessment pattern was designed based on reviewing literature on electronic readiness that theoretically proposed and practically applied by researchers over the past 10 years. This model consists of seven main dimensions including Infrastructural factors, Human factors, Educational factors, Government factors, Management factors, Socio-cultural factors and Legal factors) and 44 indicators. The research design of the study was a descriptive one and the target population included 10 faculty members, Agricultural Organization experts and researchers familiar with the concepts of IT and the organization status. They were selected by using purposive sampling method. The instrument used was an electronic questionnaire with a seven-level Likert scale. Each expert gave his/her point of view about the significance of the factors and indicators. After that, importance of selected indicators for measuring organizational e-readiness were measured by using Yager fuzzy screening method, based on opinion of experts. Based on the results, 40 indicators out of 44 selected indicators for assessing e-readiness in Guilan province Agricultural Organization are appropriate because their importance degree were more than average level. In the last step, weight of each of the dimensions and indicators was calculated using shanon's entropy method. Results showed that, among seven main dimensions, management factor is placed in the first grade. Educational, legal, social, government, infrastructure and human are placed in later grades. Also, priority of indicators of each dimensions were determined based on Entropy weights and final model of e-readiness assessment was designed.

**Key words:** Electronic readiness, information and communication technology, Yager Fuzzy Screening Method, degree of importance, Shanon's Entropy

## **Analysis Obstacles to Development and Enhancement of Internet Businesses in the Agricultural Sector (Case Study: East Azerbaijan)**

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The present study intended to investigate barriers of developing and strengthening internet businesses in agricultural sector. Research method was qualitative and data were collected using semi- structured depth interviews. Sampling 21 managers of manufacturing, packaging and distribution factories and companies who were worked in the area of East Azerbaijan province. In order to determine the validity or reliability of qualitative questions and to obtain unbiased and transferable results (degree of transferability of qualitative data), continuous and close contact with the sample and survey methods such as subject specialists were used. For the analysis and interpretation of data from interviews, content analysis was used. The results of interviews showed that barriers to develop and promote online businesses in the agricultural sector can be summarized three issues in management and human resource development, legal, and technical. Management and human resource development barriers included education and cultural sub-categories; legal barriers included juridical and security issues; and also technical barriers included hardware sub-categories.

**Key Words:** Barriers, Development, Internet.



## **Rural development based on expand of business environment: On clusters approach**

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Attention to the concept of knowledge and competitiveness is more important for rural economic survival while industrialization and urbanization are strongly extension. Because many living firms of rural families or whom living in remote areas removed with urban industrial due to lack of competitiveness. Therefore, negative side effects of new economic growth on local (rural) economic development should be disposal and removal with adopt a regional approach by national or local government. Rural Development requires the use of a variety of agricultural and non-agricultural industries and rural land use, rural jobs and higher income per capita. Rural clusters are one of the most important tools to eliminate shortcomings and obtaining rural development through competitiveness of rural firms. Cluster is a concept that has been the attention by researchers and policy makers from two past decades. The clusters have been much attention in regional development programs of Europe Union to 2020. With Clusters ability remove the negative externalities of economic development in rural areas and every types of activity such as agricultural and non-agricultural business boomed. This propose achieve through attention to knowledge transfer and innovation as indicators that clusters caused them. As yet numerous studies by researchers or commissioned by international organizations on explaining and expanding of clusters concept and structure have been conducted. The propose of our investigation is reviews on last study and Explaining the features and functions of clusters in order to make optimum use of economic factors, natural resources and rural infrastructure of increase rural employment and improving the business environment, the prevention of irregular migration to cities, increasing awareness of the potential opportunities and talent in rural natural and man (men and women) with an emphasis on knowledge and innovation.

**Key Words:** rural development, rural clusters, knowledge transition, competitiveness, innovation

## Capacity building in agricultural extension through cyber extension mechanism

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Farmers need accessing to information resources in order To improve the quality and quantity of production, marketing, sailing and processing of their products. Information and communication technology plays an important role in promoting rural and to achieve sustainable agriculture. Agricultural extension system which have the important responsibility of information transmission and responding to Beneficiaries in the agricultural sector, more than other sectors depending to access to update and on time information. Cyber extension by using a variety of digital technologies, is one of the newest extension approaches that enable to responding the demands of the present age. this article using review methods has discussing about the applications of ICT in agricultural extension, comparing the characteristics of traditional extension and cyber extension and then investigating the importance and function of cyber extension in the present age. Cyber extension is developing agricultural by using Information and communication technology in cyberspace and increases: the data transfer rate, rural development, cooperation, interaction, depth and content of the extension messages, possibilities and abilities of extension and ultimately reducing costs and saving time. According to researches, a cyber-extension is one of the vital tools to support agricultural extension and development, and reduce the Communication gap between components of the agricultural extension systems and Increasing the proper communication between these components can lead to overall development of the country's agricultural system.

**Key Words:** Information and communication technology, cyber extension, agricultural extension, Internet.



## **Effectiveness of promotional plan to accelerate the transfer of research findings among wheat farmers Hashtroud province East Azarbaijan State Based on KASA**

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The origin of this transition plan in collaboration with the research findings of the research centers for agricultural research and extension personnel is coming from farms in the country in 2006 have been implemented. Thus the effectiveness and impact of the project on “Knowledge”, “Attitudes”, “Skills” and “Aspirations” of farmers is a great review. To study the effect of the project on knowledge, attitudes, skills and aspirations of the city Wheat Hashtroud done. The study is a survey research design, causal - comparative and post-test control group occurred among the 100 patients carried wheat. Accordingly, the scheme covered 50 farmers and 50 farmers were selected to non-participants. For this purpose, a questionnaire was designed questionnaire with the assistance of professionals and faculty of Agriculture Extension and Rural Development, University of Tabriz was confirmed. The reliability of the questionnaire was calculated using Cronbach's alpha coefficient was 0.80. Statistical analysis of the data was done by SPSS software. Based on the findings, it leads to increase Knowledge, Improve attitudes, Skills and Aspirations of wheat compared with wheat participants are non-participants. And recommended that the project in collaboration with research institutions for wheat and other products with the comprehensive plan will also be implemented in other areas.

**Key Words:** Effectiveness, Plan to promotional Acceleration the transfer of research findings, Hashtroud province, East Azarbaijan State

## **Application of analytic network process in agricultural extension**

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In recent decades, scholars pay more attention to the multi-criteria decision making (MCDM) models for complex decision making process. In these kinds of decision makings, frequent criteria used for assessing the decision optimality. ANP is the one of MCDM models, which solves the complex problems based on human brain structure analysis and its uses. ANP do this by replacing hierarchical process by network process. By considering the complex nature of extension activities and many actors that exist in these activities, the essence of using MCDM models become necessity. The purpose of this study was to investigate the application of ANP in agricultural extension, by using ANP for prioritizing different extension methods. This study was conducted in two parts. First, different extension methods were extract from literature. In the second part, these methods were compared by considering t goals such as costs, time, participate and learning. The results showed that the highest priorities of agriculture extension methods included workshops (normalized score 0.311), research- extension projects (normalized score 0.156) and extension magazine (normalized score 0.153). According the results of the paired comparisons of criteria, learning criteria (normalized score 0.503) has highest priority comparing to others.

**Keywords:** Multiple Criteria Decision Making( MCDM), analytic network process, agricultural extension



## **New roles and Functions of research, extension and education in innovation system of medicinal plants**

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The importance of medicinal and aromatic plants is increasing day by day. According to the Iran economy dependence on oil revenues, medicinal and aromatic plants can have a large impact both internal economy and in non-oil exports. The international market of herbal products is estimated to be US \$ 1.1 billion which is poised to grow to US \$ 5 trillion by the year 2050. For making full use of this potential, countries must develop scientific cultivation, post-harvest technology, processing, research and extension, patenting and marketing for medicinal plants. All of them are achievable if we can create an appropriate innovation system. Also it is necessary to change previous roles of the main actors in the innovation system, including research, extension and education. In regard to the above-mentioned, the main goal of this article was to determine of new roles of research, extension and education in Innovation System of medicinal plants. This study was conducted through library studies and electronic resources. At first the concept, importance and characteristics of agricultural innovation systems, were considered. Then three approaches including, Agricultural Innovation System, Transfer of Technology, and Agricultural Knowledge and Information System were compared with each other. Also the current functions of research, extension and education in the field of medicinal plants were discussed. Finally necessary new roles and functions of research, extension and education for the establishment and development of an appropriate innovation system for medicinal plants were proposed.

**Key Words:** Innovation System, Medicinal Plants, Research, Extension, Education

## **Application of HLP toward Exploring Rural women's knowledge and Successful Experiences in Shiraz City**

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In Spite that there is a consensus regarding the role of human resources in rural development projects, but we confront with low knowledge toward cognition and application of human resources potential in agriculture sector. Therefore, many struggles toward poverty alleviation, food security, human empowerment and local participation have been fruitless. Agricultural extension system as the responsible of rural development has very important role in knowledge management, continues interaction, knowledge networking, and clients' success. Therefore, extension system is responsible toward exploring, analysis and documentation local knowledge and successful experiences. This study goal was exploring, analyzing, and documentation of rural women's local innovation and knowledge who live in Shiraz County. HLP approach was used as an appropriate strategy for launching network among them. Exploring interview technique was use for extracting data among local rural women groups from eighteen village in Shiraz County. Findings revealed that factors like tacit knowledge, professional experiences, and local innovations influenced on their success.

**Key Words:** Rural development, extension, successful experiences, rural women and local innovation.



## **Role of ICT in Sustainable Development of Rural Environment**

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Knowledge and awareness increasing and all-round development promoting in local communities and the global environment. Have a more rate of speed and size. So that the World Development left behind industrial age and it is transitioning to the post-industrial age. This matter Recently cause the spread of global communications and receiving messages easily From the Media In all areas, including rural areas Has a great impact on the quality of rural life and the environment in the technology age there are much attention to the concept of sustainable development and environmental that alarming The advantages of natural ecosystems. The purpose of this study is examine the role of ICT environmentally sustainable development in rural areas and tries to alert the People, particularly those living in rural areas that these issues are directly related to them and modification the traditional approaches to inhibiting the development. the methods In this Cross – sectional study Is collected with A review of documents, Library resources, Content analysis of existing resources Also Observation the results show with arrival of information technology to rural areas, Sustainable development of the rural environment Is effective in reducing poverty, reduce the digital divide and prevent uncontrolled migration of villagers to cities, so ICT is a complex issue and that's development requires simultaneous interaction between Three dimensions of technology, services and notification to be used towards sustainable development in rural practice. At the end will be provided some suggestion in order to highlight the role of information technology in sustainable development in environmentally in rural areas.

**Keywords:** Information Technology, Sustainable Development, Rural, Environmental

## **Analysis Obstacles to Development and Enhancement of Internet Businesses in the Agricultural Sector (Case Study: East Azerbaijan)**

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The present study intended to investigate barriers of developing and strengthening internet businesses in agricultural sector. Research method was qualitative and data were collected using semi- structured depth interviews. Sampling 21 managers of manufacturing, packaging and distribution factories and companies who were worked in the area of East Azerbaijan province. In order to determine the validity or reliability of qualitative questions and to obtain unbiased and transferable results (degree of transferability of qualitative data), continuous and close contact with the sample and survey methods such as subject specialists were used. For the analysis and interpretation of data from interviews, content analysis was used. The results of interviews showed that barriers to develop and promote online businesses in the agricultural sector can be summarized three issues in management and human resource development, legal, and technical. Management and human resource development barriers included education and cultural sub-categories; legal barriers included juridical and security issues; and also technical barriers included hardware sub-categories.

**Key Words:** Barriers, Development, Internet.



## **Factors Influencing the Communication of Agricultural Research Findings in Mazandaran Province: Case of Orumieh-205 tobacco Variety**

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For many years, the Basmal78-2 variety is cultivated in Mazandaran province. In recent years drought, reduced yield and decline of revenue per hectare it increased necessity to introduce new varieties. Based on optimal quality and quantity performance indicators, uremia 205 variety seems suitable for cultivation in tobacco cultivation area in Mazandaran. This research aimed to introduce the Orumieh-205 variety and feedback reactions of tobacco growers about this new variety. This research was conducted through case study methodology in tobacco cultivation areas of Mazandaran province. A questionnaire was used to collect data. Statistical population of this study was included of all tobacco growers of Behshahr County in Mazandaran province. Research findings showed that three variables, including suitability of variety to economic, social and geographic conditions of tobacco growers, effectiveness of extension agents function, and role of tobacco growers model as technical leader explained 26% variation of adoption innovation as dependent variable. Also, findings of research indicated a positive significant correlation among support of Tobacco Company, interest of women tobacco growers, accessibility of facilities equipment's and demonstration farms variables with adoption of Orumieh205 variety.

**Key word:** Adoption of innovation, uremia 205 tobacco variety diffusion, Case study, Tobacco growers

**Investigation of Influencing Factors on Application the  
Research - Extension Projects: Viewpoint of Tobacco Growers in  
Golestan Province**

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The integrated research and extension project seems as a mechanism for enhancing positive interaction between researcher, extension agent and farmer. Such projects fertile ground for the study of innovation in agricultural conditions and provide rapid diffusion. This research aimed to investigate the barriers and problems of implementation of the "research – extension projects and related influencing factors from viewpoints of the tobacco growers. Statistical population of this research was included of all tobacco growers (individual 65) which participated in research – extension projects in Golestan province. Data was collected by the researcher-made questionnaire. Research findings showed that variables like age, researcher and extension agent utilization rates of tobacco grower's comment and suggestion, interest rate of tobacco growers to research - extension projects and literacy rate of tobacco growers don't have a good condition. Factor like farming experience, job, incentive to cooperation in research - extension projects, satisfaction with assistants provided by Tobacco Company, simplicity and low cost of execution of the research - extension projects are same of positive component that affect effectiveness and application of research - extension projects.

**Key words:** tobacco growers, extension agent, effectiveness, research – extension projects



## **Assessment of the Perceived Relative Advantage of the Adoption of Reforming and Improving Grape Orchard Innovations and affecting factors on its Adoption by Farmers in the Khoramdareh Township, Iran**

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Relative advantage of new innovations is one of the main characteristics determining innovation adoption. The reforming and improving grape orchard innovation is one the important public agricultural programs to develop orchards in Iran. The purpose of this paper is to investigate the relative advantage of the reforming and improving grape orchard innovation and its impact on innovation adoption from the perspective of grape farmers. Using a survey, a sample of 260 grape farmers of the Khoramdareh Township was randomly selected utilizing a multistage sampling technique and the data were collected by structured interviews using a questionnaire. The content and face validity of the questionnaire was discussed and reviewed by a panel of experts consisting university staff and agricultural professionals. Its reliability was also assessed through a pilot study and its main construct was approved to be reliable using the Cronbach Alpha Test (0.93). Overall, the attitude towards the relative advantage of this innovation tended to be positive. The farmers who accepted this innovation through the government interventions implemented between 2009 and 2012 as well as during the Toba Plan between 2001 and 2008 had more positive attitude than the rest of farmers. The regression analysis showed that the perceived relative advantage of the adoption of reforming and improving grape orchard innovation can positively be explained by farmers' vineyard size, family size, having membership in rural cooperatives, having non-grape farming job and being extension aide. Farmers' age and land area under arable crop cultivation negatively explained this relative advantage.

**Key Words:** Relative advantage, Government intervention, Socio-economic Characteristics, Adoption, grape farmers.

## **The Importance of Horizontal Learning in Agricultural sector Development**

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This article is a set of archival research, which emphasis on the importance of farmers` ideas in development trend of Iran agriculture, achieving to more agricultural production, improvement of rural livelihoods, need to some actions in order to decrease of problems according to the ideas and experiences of local people. The results showed that using horizontal learning, we could recognize and collect successful experiences of rural societies and publish them among other rural societies; which it is a step toward involving local people with the rural development projects and spread of compatible and helpful local innovations among the other rural communities.

**Key Words:** horizontal learning, local innovations, rural development



## **Factors affecting Innovativeness of Flowers and Ornamental Plants Growers Case Study: Mahallat and Khomain Townships**

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Markazi province mainly Mahallat and Khomain townships are considered as important regions of Flower and ornamental plants in the country. In such a manner that 23% of area under cultivation and 18.6% of the farmers of this section are from Markazi province. In this research, the effective factors on innovativeness of the flower and ornamental plant Growers has been analyzed. The kind of the research is descriptive and a survey method has been used. The population of the research was 541 which 137 people have been selected by Cochran Coefficient Formula. The instrument of the study is a questionnaire which its validity has been approved by 10 people (of the population) and its reliability has been confirmed by Cronbach Alpha test (92%). The research dependent variable is the acceptance rate of innovations offered to the flower and ornamental plant growers in townships under study. The results of the correlation test showed that there are a significant and positive relation between innovativeness of the respondents and their education level, job satisfaction, participation in extension course, area of greenhouse, annual income, and participation in ornamental plants fairs. Besides, the average innovativeness of respondents in personal land using system was higher than others. Notification about bank credits and providing necessary official facilities for flower and ornamental plant growers to visit exhibitions and related festivals abroad, are suggestions of this research.

**Key Words:** Growers -Flower and Ornamental Plants-Innovativeness-Mahallat - Khomain

## **Factor Analysis of Mobile Learning in Agriculture**

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Nowadays, all the world's countries and economies are facing similar challenges and the challenges of global competition, success and achieve sustainable development. Along established Effective practices in teaching and learning array is considered. Therefore, a new generation of learning approach, Called "Mobile Learning" through electronic devices. Mobile learning that enables people to achieve learning materials at any time and place. The research method implemented was applied survey. Data were collected by using a researcher made questionnaire which was validated by a panel of experts and the reliability was calculated by using Cronbach alphas coefficient( $\alpha > 0.7$ ). Sampling method selected by symmetrical random sampling. Based on the result, recommendations were made for the development of Mobile Learning in the agricultural sector.

**Key Words:** Agriculture, Factor Analysis, Mobile Learning (ML).



## **Use of local innovation in agriculture: India's experience and Iran's potentials**

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Today, innovations are of great importance in communities' development, and they have a key role in economic growth. Therefore, many nations and organizations are using innovations to dominate their competitors. Identification and use of agricultural innovations is necessary because of the importance of agriculture for nations' growth and development. Local agricultural innovations include products and services which are based on individuals and groups in local communities and are developed by themselves. Because of innovators' experiences and their deep understanding of what is happening in local situations, local innovations are appropriate solutions. One the current study's objectives was to introduce India's local innovation networks, and the activities these networks are involved in to identify and document local people's ideas and innovations. To achieve this objective, we used Internet sources and corresponded with Indian informants. Results showed that there are four local innovation networks in India which have been successful to identify, document and even commercialize many local people's innovations. The second objective of this study was to investigate Iran's experiences and potentials in regard with local innovations. Required data was obtained through literature review, interview with six farmers and observation of local innovations. Our findings revealed that disperse activities have been done in Iran to identify local innovations, but the interviews and observations showed that there are considerable potentials for this which necessitates further attention to utilize local agricultural innovations.

**Key Words:** Local innovation, Local innovation network, Agricultural Innovation

### **Study of restrictions Organization and information renovation of traditional walnut orchards (Case Study Tuyserkan district)**

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Walnut production in traditional orchards has problems such as type of seed trees, pests and diseases, water deficit, spring chilling injury, the lack of good varieties and their scion, lack of facilities and devices horticulture. Renovation of traditional orchards is one of the solutions provided to solve this problem. Action necessary renovation orchards including: renovation of planting system, renovation of irrigation system, pruning, soil tillage, orchard soil nutrition, orchard foam management, disposal weed, spraying to control pests and diseases, top working trees. Research findings shows that the lack of fiscal incentives and support to government, government inefficiently management, lack of appropriate planning and organization and administrative problems, the most important restrictions of organization, Lack of access to specialists and information resources, lack of education and extension courses, lack of dramatic orchard, low knowledge orcharder with renovation method are main restrictions information renovation of traditional walnut orchards plan. Have negative and significant between the ages of walnut trees, orchards away from the city center and the number of pieces of land with rate of use plan. Have positive significant relationship between the number of walnut trees and the amount of orchard land owned with rate of use plan.

**Keywords:** Renovation orchards, Walnut, Tuyserkan



## **The Importance of Technology Audit in Agricultural Extension System in Iran**

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While agricultural development is a multi-disciplinary and very complex process, it seems that most of the agricultural systems are focused on the technological aspects of this process and more specifically on the hardware subdivision. So that, using a variety of simple and complex technologies couple with a wide range of small and great changes in various aspects of stakeholders' life is the dominant feature of agricultural systems in the current era. However, research findings show that in most subdivisions of agriculture, the productivity of technology is still low and technological gap between rich and marginal area increases in agricultural societies continuously. Moreover the undesirable outcomes from applying some of the modern agricultural technologies, especially in social and environmental aspects, everyday bring up a new controversy. Undoubtedly, technological sustainable development in agricultural sector as any other part of the country through the trial and error or by passive imports of technology cannot be achieved. By contrast, it only will be possible through applying an efficient management based on an integrated, scientific, systematic and situation- specific framework. In this situation, technology audit as one of the most important functions of technology management is an ongoing process which helps making appropriate decisions and policies to achieving agricultural technology development. In this respect, present article which is done through a documentary study, intends to study the role and importance of technology audit in improving the services of agricultural extension system. The results of the review show that technology audit in agricultural extension system as one of the main components of agricultural knowledge and information system which has been contributed to technology development in agricultural sector from long ago, is very important in both internal and external dimensions. So that, through a precision analysis of the context and recognizing the strengths and weaknesses in addition to identifying opportunities and threats, this process helps to making appropriate management decisions in the field of technology and prepares an information basis which is needed for innovation, appropriate strategy determination and sustainable technology development in agricultural sector.

**Key words:** agricultural knowledge and information system, agricultural extension, technology management, technology audit.

## **Multi-functional university sites located in rural area; a mechanism for strengthening the agricultural knowledge system**

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Universities have three missions of science transfer and dissemination and community services (university outreach). Third mission in Iran can be less developed. If this can be done in an efficient and realistic than the other two functions, namely the production and transmission of knowledge has an important impact. Causes of non-proliferation and the role of serving the community can there was no causal mechanisms of interaction with the community, Lack of faith in the ability of the university community, Weaknesses in the management system and perfect knowledge of the National Innovation System and The lack of a clear definition of functional and organizational structure of the university and community sectors was mentioned. In this subject, planning and implementation of multifunctional university site in the rural area can be effective in developing and strengthening the agricultural knowledge system. indeed, this site Is the physical place where academics members by presence in the rural area and farms conducted applied research, R&D, Practical training for students and development and extension agents, Even provide advisory services to end users; rural people and farmers. Based on mentioned issue, purpose of this research is identifying the challenges and problem between elements of agricultural knowledge system and the consequences. In addition, will formulating the vision, mission and goal of this sites for providing research, educational and consultancy services to rural communities.

**Key words:** university, university sites located in rural area, AKIS, University outreach



## **An Investigation of Factors Influencing the Use of Computer by Plant Pathology Clinic Members in Fars Province, Using Technology Acceptance Model (TAM)**

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These days, information and communication technology has provided a lot of opportunities for agricultural producers and service providers. In fact today's fast world; many traditional educational methods are inefficient and do not have enough power to convey new concepts to students. Therefore, it is necessary to achieve new tools and technologies for improve the information access. One of these technologies is Information and Communication Technologies (ICT). The present study aimed to investigate factors influencing the use of computer among plant protection clinic members. Research population included plant protection clinic members in Fars province, out of which, a total number of 210 persons were randomly selected to carry out this study. Data was collected using a questionnaire. The validity of the research instrument was obtained through a panel of experts, and the reliability was confirmed through a pilot test and Cronbach's alpha coefficient. Results showed that there are significant positive correlations between perceived usefulness, perceived ease of use, attitudes, and intention to use with actual use of information and communication technology (computer). There was also significant positive correlation between one's income and his/her actual use of computer. Finally, suggestions have been provided based on the findings to improve the use of computer by plant protection clinic members.

**Key Words:** Computer, Technology Acceptance Model, Plant Pathology Clinics.

## **Necessity of Applying Fuzzy Thinking in Technology Development Continuum (Emphasis on the Diffusion and Adoption of Agricultural and Rural Technologies)**

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One of the main approaches for empowering small scale and family farmers is Technological development and utilization of the appropriate technologies, which eventually will lead to agricultural and rural development. A short review on technology development continuum in the rural sector (research and development, design and production, diffusion and dissemination, adoption and utilization and outcome appraisal), shows involvement of Extension and Rural Advisory Services across this continuum; however, that in some parts of the continuum is much weaker and unimportant, but facilitating the process of agricultural and rural innovations diffusion and adoption is the original mission and the most important task for Agricultural Extension Agencies and Rural Advisory Services. Many studies showed the failure of reaching this critical mission. In the view of researchers one of the important causes of this failure is that Extension and Rural Advisory services considerate and focused on a specific people of target group population. In fact dividing the population of target group in two absolute (crisp) category: 1) adopters of new technology and 2) rejecters of new technology, causes a large group of people and farmers that whom seem to don't have adopted new technology are denied and disadvantaged of next Extension and Rural Advisory Services help's or may not get desirable services. Therefore this analytical article firstly reviews the role of Agricultural Extension and Rural Advisory Services in the continuum of innovation development, then continues with a critical view of the bivalent approach in innovation diffusion and adoption models and patterns. At the end of article authors by appealing to some experiences and the results of past case studies about the Modern Irrigation Systems adoption (as agricultural technology) will show Necessity of applying fuzzy thinking in the different stages of the technology development continuum, especially in the agricultural technologies diffusion and adoption Phases.

**Key Words:** Agricultural and Rural Innovations, Fuzzy thinking, Technology Development continuum



## **Investigation Factor Influencing Rural ICT Centre Success**

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The useful effect of ICT on the quality of life and rural economy is now extensively renowned. Information and Communication Technology (ICT), considered as basic national and international strategies to achieve socio-economic development by supporting poverty reduction, increase business productivity, accelerate economic growth. Rural areas are frequently considered as information-poor and providing information has always been a central factor of rural development initiatives. The power of knowledge for development can be greatly enhanced by ICTs through improving the access and breaking down the barriers to knowledge and information exchange and also by facilitating knowledge management. Rural ICT center is a public space which provides a range of information and communication technology (ICT) services, such as access to the Internet, computers and software, electronic commerce applications, and other public information services. To empower the rural community the governments and their partners has implemented rural ICT projects which many of these experiences have been only partly doing well and very few of these projects have turn out to be sustainable for access to developmental targets. Thus this study aimed to investigate the factor influencing rural ICT center success. The study has been conducted using documentary study. The results demonstrates that the ICT center success is bases on the five factor including: personal factor (consist of level of innovativeness, computer skill, and level of education), center characteristics (consist of infrastructure, facilities, and instrument, and diversity and quality of services), managerial factor (consist of in communication, social, and technical skills of center's management, and staff), contextual factor (consist of economical, social, and cultural condition), and information characteristics (consist of useful and usefulness of provided information).

**Key Words:** Information and Communication Technology (ICT), Center, Rural development, Success

## **Assessments of farmers' satisfaction regarding extension 'classes among farmers in Aleshtar district: Application of European Customer Model**

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One of agriculture extensions' goals is informal training of farmers to improve agricultural practices, meeting their needs and empower them through training – extension classes. Indeed, these classes have an important role to achieving extension goals. Accordingly, continuous evaluation of these classes is important factor in their success. One way for evaluation these classes is farmers' self-assessment through investigating their satisfaction. Therefore, this study was designed to investigate the farmers' satisfaction from these classes and the factors which influence their satisfaction in the Aleshtar districts. To achieve this goal, the study used European customer satisfaction model as a conceptual framework and survey research as a research method. Population of this research was farmers in Lorestan province in Aleshtar district (2013) who participated in these classes that chosen through simple random quota sampling (240 farmers). The results showed that the image of classes has effect on farmers' expectations, as well as, the expectations on the perceived quality service and the perceived quality service on perceived and satisfaction. Finally, paper presents recommendations to improve farmers' satisfaction.

**Key Words:** Extension, Training – Extension Classes, Farmers' Satisfaction and Loyalty



## **Necessity of Applying Fuzzy Thinking in Technology Management (Emphasis on the Diffusion and Adoption of Agricultural and Rural Innovations**

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According to Diffusion Theory, new technologies can make changes and reactions in farming and rural communities. Rogers, believe that we more than ever live in an era of change but the predominant social structure is often the main obstacle of innovation diffusion. He said, process of social change consists of three consecutive stages 1) invention 2) diffusion 3)consequences and four constituent elements of diffusion are: 1)innovation that by 2) specially communication channel, 3) along with other members of the, 4) social system is shared. Meanwhile Rogers was divided adopters of innovations into 5 groups named: innovators, early adopters, early majority, late majority and laggards. So, this paper is writing with the documentary method by using domestic and foreign resources. The main questions are that if process of social change, constituent elements of diffusion, and also grouping of adopters based on accepting are enough clear and transparent? Or simply as a series of space between 0-1 this process is delimited with certainty? Now here a multi-valued concept and vagueness that in the recent scientific literature named “fuzzy sets” appear. Fuzzy logic discusses about the values that are between “zero-one” that are usual among classical sciences and open a new sight for the world of science. Because fuzzy logic can clear blurring the air and use the floating or infinite numbers that are from zero to one. Fuzzy logic goes forward from “accept” or “reject” to new value “May accept” or “I accept If” for derive and applies. There is an obvious fact that, the innovations are not accepted according to o-1logic. As a result, in this case the approach leads to change and move towards being in Fuzzy method and new conditions that are more suitable phased approach to serious issues to find innovation issues and its scope be extended. This paper will answer the prior questions with fuzzy approach, so that at the end we will reach this conclusion that there is no clear boundary between concepts and that reason in the humanity and social sciences we less encounter with ratio scale so this approach (Fuzzy Logic) is needed more. Also elements of innovation, change and innovation process with fuzzy logic will be explain in the framework of this paper.

**Key Words:** Agriculture, Approach, Fuzzy logic, Innovation, Rural.

## **Investigating Knowledge Exchange in Innovation Networks; Performance Measurement Index for Innovation System of Poultry Industry in Fars Province, Iran**

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At present, Innovation processes have changed from linear patterns to systematic pattern and today the concept of innovation system instead innovation is common. Thus, the use of innovation in economic, social, governance, political and management activities, during its evolution has entered into a new stages and mostly based on systematic participatory, learning and localization. Innovation system approach lies at the focus of the attentions and also entered into agricultural sector. However performance measurement is regarded as the priority of such research approach. In this study, we could develop “Knowledge Exchange in Innovation Networks” index by using a steps and mix (quantitative- qualitative) method for Poultry Industry in Fars Province. “Knowledge Exchange in Innovation Networks” index were initially generated for performance measurement of agricultural innovation system by doing a semi-structured and in-depth interviews with subject matter specialists and reviewing available literatures. Next, a two-stage Delphi questionnaire technique together with Kendall Coefficient of Concordance test were applied for its prioritization. Based on the results, concordance achieved on this index at 0.001. Finally, index came up for validation assessment of the quantitative step to examine its validation by urging micro-system stakeholders' mindsets in poultry slaughtering business. Taking a two-stage cluster sampling, primarily nine slaughterhouses were selected out of 17 active units in Shiraz, Marvdasht, Lar, Abadeh and Kazerun cities led to filling 210 questionnaires. Using the tool created viable information were classified based on their significance order. Forecasts spell out differential expressions which mainly rest on networking for exchange of knowledge and innovation rather than individual or positional aspects of respondents. At the end, certain recommendations are forwarded in favour of Innovation System in this industry.

**Key Words:** Agricultural Innovation System, Innovation Networks, Knowledge Exchange, Performance Measurement



## **The Study of Effective Factors on Technology Adoption: a Macroeconomic Approach**

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The transformation of new technology can greatly help agricultural and rural development. Some studies examine the effective factors on technology adoption with microeconomics aspect but previous researches rarely underline this issue from macroeconomic view. Therefore the aim of this study is the examination of the effect of macroeconomic variables on technology adoption. The results of the estimation of long-run relationship with Johansen co-integration test during period 1365-1386 showed trade liberalization, the rise of R&D expenditure and the improvement of term of trade have positive impact on technology adoption in agricultural and rural area.

**Key Words:** Agricultural development, technology adoption, rural development

## **The role of ICT in rural development**

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Nowadays, ICT is being considered by planners. As a systematic and planned approach can be effective in identifying the advantages and limitations of economic development, global markets, economic knowledge transfer. Therefore, and the government should have been able to be a part of a national integrated ICT applications to integrate field -based development technologies can be created. Including the role of information technology, training, employment and rehabilitation rural communities are facilitating decision. An important advantage of the use of information technology in rural development can be personalized access to information for decision making, reduced borders and easy access to the opportunities mentioned. Therefore the platform to develop entrepreneurship in the field of information technology makes it possible to provide easy access to these networks. Well as create and develop a culture of network therefore the platform to develop entrepreneurship in the field of information technology makes it possible to provide easy access to these networks. Well as create and develop a culture of network. Therefore recommended the context of entrepreneurship in the field of Information Technology will develop and provide easy access to these networks. It also creates a culture of network and expand. The present article method have been designed that to review the documents and written sources, is trying noted the implications of ICT for rural development and its role in rural development, review, and will provide the necessary solutions

**Key Words:** Development. Rural Development. ICT



## **A meta-analysis of agricultural enterprises and entrepreneurship researches**

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This research aimed to analysis content of published research in area of agricultural enterprise and entrepreneurship development. This research was done using content analysis and meta-analysis. The content analysis of the papers focused on methodological and subject (conceptual and theoretical) perspective. Units of analysis was consisted all published papers in Journals and scientific seminars and conferences during the 1998–2012 period which indexed in scientific databases in subject area of agricultural enterprise and entrepreneurship development. Bibliometric methods were used to describe the trend of publication activity, the theoretical and conceptual approach, the methodologies applied, and the content of the articles in order to explore the main themes researched. These analyses enable the identification of potential opportunities for future research that could be meaningful to advance in the consolidation of the agricultural entrepreneurship as an interdisciplinary. Findings of this research describes the structure and trends of the agricultural entrepreneurship literature The findings revealed that must researches focused on students and graduates as statistical population. Most researches were done using primary data. The majority of researches applied quantitative research paradigm and a few of researches used qualitative and mixed methodology which seems more suitable with nature of entrepreneurship. Form view point of time period, mainly of survey was cross-sectional one. According to findings of this meta-analysis, some remarks were suggested in order to enhance research in area of agricultural enterprise and entrepreneurship development.

**Key Words:** agricultural entrepreneurship, entrepreneurship researches, methodology, meta-analysis.

## **Institutional Mechanisms for Agricultural University Research Commercialization**

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Commercialization of research results for many Iranian higher agricultural education's institutions is a new mission. Hence, the need for institutionalization (regular procedures), planning, designing and implementation of organizational structure and operational process specified in the university and establish links and cooperation with other agencies outside the university. Several institutional mechanisms such as intellectual property management, patents, licensing, university-associated enterprises (spin off), joint venture investment, consulting, and university- industry contractual research is considered in this regard. In this paper, based on a systematic review of previous researches, conceptual and empirical models and addressing the necessity and importance of university research commercialization in agriculture, some appropriate mechanisms has been introduced: intellectual property management, licensing, venture capital investment, spin-off, incubators, science and technology parks, technology transfer offices, and the techno market.

**Key Words:** University agricultural research, research commercialization, institutional mechanisms



## **Systemic approach in facilitation of innovation: A case of the Millennium Challenge Account Ghana Program**

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Technical assistance from donors are continuously evolving in a bid to make aid more effective. The Millennium Challenge Account (MCA) program financed by the United States of America government is an aid program that brings a shift in conventional aid approach. The MCA differed from other aid approaches such that the use of the aid is developed by nationals of the beneficiary country. The study explores ways through the MCA Ghana program encouraged innovations among stakeholders. The study examined small scale pineapple farmers in the Nsawam Municipal Assembly of Ghana. The study employed both qualitative and quantitative techniques. The qualitative technique involved the use of focus group discussions and key informant interviews. The study compared farmers that benefited (MCA group) and farmers that did not benefit (non-MCA groups) from the assistance. The results of the studies shows that the MCA program through the Agricultural Innovations System approach encouraged strong public private partnership in facilitating farmer's innovation. Farmers were exposed to efficient marketing skills such as securing market for their produce before production, comparing prices of agro-inputs from different outlets, development of business plans for securing loans from banks. The program improved land tenure security through registration and issuance of land title deeds to over 702 landowners and 60% of farmers diversifying their farming activities. Farmer's access to tractor usage was improved. The program introduced positive changes in the governance arrangement of public and private institutions. It can be concluded that MCA program had a positive effect on farmer innovation and improvement in governance. Large scale program are therefore encouraged to employ the systemic approach in its implementation to facilitate innovation.

**Key Words:** Innovation, aid, farmers

## **Exchange of Knowledge systems, formation and expansion of partnerships with a focus on agriculture-education exchange cooperation**

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Agritourism, dialogue between private public and NGo sector, education from elementary level to higher education, collaboration with agronomists, engineers and institutions of higher learning, with social movements, forge partnerships in agriculture research, international cooperation The migration and exodus from rural areas into urban settings and towards the old continent has often seen more disadvantaged and less educated people trapped into subsistence farming and escape into a dream context that in actuality was just as disheartening as back home. Informal settlement, often created because of the rural migration to urban areas are targeted by government for redevelopment. Vulnerable people have often been attracted by an aggressive manipulation of information of shrewd syndicates that have presented Europe as the mecca of economical opportunities. It is estimated that alone in the Mediterranean Sea around 40000 people have died trying to cross the sea into Italy. Rural migration, lack of access to water and other facilities has fuelled conflicts, contributed to unsustainable subsistence in disadvantaged urban communities, South Africa, Brazil and India share parallels. Cuba's most urgent needs are a sustainable agriculture, housing and energy. There is a need to engage in issues of mutual concern, to elaborate and collaborate on the causes of rural migration that affect both urban and rural areas, to promote pilot projects in African countries and cross collaboration across Asian, Latin American and African countries to seek solutions that can be applied to enable a transition from subsistence farming to sustainable economical activities that could include agritourism, renewable alternative energy resources, utilizing public policies and with help of social movements and collective systems. There is a need for development of joint training programs for human resource development in sustainable development (erosion, soil improvement, research, agrifinance, organic farming, sustainable architecture and urban design, gender matters. The educational component looks at complementary synergies (like School Feeding System - the Brazilian Model), cooperation opportunities, student exchange at tertiary level, collaborative research, implementation of private public partnerships, broad participation of governments and private enterprises, exchange of researchers in respective disciplines.

**Key Words:** collaboration, exchange at tertiary level, government policies



## **Modernization or marginalization: contemporary trends of family farming in Poland**

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In Polish agriculture over 90% of all farms are family-owned. These are generally small entities (average area of about 9 hectares) with spatially diversified specialization of production and varied level of commercialization. The last 25 years, in which Poland has undergone system transformation from socialist to market economy, and especially the period of preparation concerning accession and membership in the European Union resulted in very significant changes in the agricultural sector. The requirements for competitiveness and production efficiency caused polarization in family farms structure, among which, on the one hand modern farms and better managed, and on the other hand farms of slight surplus production evolved. This entails a number of consequences, such as: increase in functional diversity of rural areas, decrease of the number of farms, change of farms' employment structure and increase in the level of education of farm owners. The aim of this study is to assess contemporary trends taking place in family farms in Poland with the special attention to the education development on rural areas. In most cases, they are generally positive, associated with the higher level and living conditions, increase of social awareness and more favorable structure of education. However, these changes also bring along adverse processes such as unemployment, poverty or social exclusion. It could be generalized that family farms, which do not take competition and modernization of production based on human capital resulting from farmer knowledge are condemned to marginalization or gradual liquidation.

**Key Words:** Family farming, Agriculture, Poland, Knowledge and education, spatial diversification

## **Local and codified knowledge - complementary or contradictive attitude of Polish family farms?**

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Nowadays in Poland, agricultural production has less and less involved in the formation of GDP, employment and income of households. On the other hand, more than half of the country is developed as agricultural land, and in some regions agriculture is a basic form of economic activity - especially when consider that the dominant share in the structure have small, family farms. Thus, research on the determinants of the development of family farms have a long tradition in Poland. The range of factors determining the economic performances of farms have changed over time; nowadays knowledge is an important factor in agricultural performance. Embodied knowledge treated as a resource skills, is thought today to be a factor of success. It is usually identified with the level of education, which is a rough measure of the body of formal knowledge acquired. But owners of small, semi-subsistence family farms are characterized by typically the traditional model of knowledge transfer in which the predominant role of informal knowledge. It consists mainly in the conveyance of own experiences and the way in which acquisitions conducted by the ancestors. In the light of the theory related to the knowledge economy, this type of informal knowledge does not include the latest technological advances. The main purpose of the presentation is to prove that high technological, codified knowledge and tacit, local knowledge are related to each other and should not be opposed to each other. The primary source of data used in the presentation will be the results of survey conducted among several thousand owners of family farms in different regions of the Poland. These farms were diversified with respect to both the location and the size, production profiles and socio-demographic characteristics of owners. The analyses performed showed that both local and codified knowledge are important factors in everyday functioning of farms. The efficient management of farm is essential with both types of knowledge; they are complementary attitudes. Presentation prepared within research project 2011/01/D/HS4/03295, Models of knowledge transfer in agriculture and its influence on agricultural productivity - spatial analysis, financed by the National Centre of Science (Poland).

**Key Words:** tacit knowledge, codified knowledge, family farms, Poland



## **Internet and knowledge flows in family farming**

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The role of Internet in rural areas and agriculture is, and what is more important, may become great in the nearest future. The Internet as an exact technical notion is a form of access to the deposits of abundant stores of data all over the world. By stressing the importance of knowledge and creativity in the development processes, we could indicate that the Internet can additionally reduce the feeling of isolation, not only the geographic but also psychological (e.g. alienation). Additionally, Internet makes it possible for people to use local resources and knowledge. Thus it plays a crucial role in the knowledge transfer and could be crucial in agricultural extension. Taking into account the above mentioned issues, the paper aims at presenting the role of Internet with regard to the knowledge transfer in agriculture. We will mainly focus on usage of Internet among owners of family farms. Our investigation is based on the results of a survey conducted among several thousand owners of family farms in Poland. The sample was diversified by region, production profiles, size and socio-economic character of owners. According to the data we could state that nowadays Internet utilization in obtaining information is common and the fastest means, one should notice polarization in agriculture in the use of new technologies. On one hand, well-educated family farm owners use the Internet most frequently for obtaining various information (also in matters connected with agricultural extensions), whereas poorly-educated farmers use this source of information less intensively. It is worth emphasizing that the advantages resulting from the access and use of Internet are not available for everyone. In this context, the main conclusion is that education, understanding of the needs (and possibilities) connected with the use of Internet in the context of knowledge transfer are essential in agriculture and rural areas. Presentation prepared within research project 2011/01/D/HS4/03295, Models of knowledge transfer in agriculture and its influence on agricultural productivity - spatial analysis, financed by the National Centre of Science (Poland).

**Key Words:** Internet, rural areas, agriculture, knowledge flows, Poland

## **Looking for a new sense of "place" – the Polish family farms in transition**

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Countryside in Poland is currently undergoing significant social and economic transformations. One of the most important effects of these changes is the decreasing role of family farming in the Polish agriculture and rural areas. This has various consequences for the traditional institutions of social and economic development, for the changing lifestyles and the development of rural space. There is an important question of the foundations of agricultural and rural identity in the new circumstances, related to the post-socialist transition, the influence of EU policy and globalisation. Rapid structural transformations and the formation of post-productivist countryside give rise to a question of the new role of countryside in the country, as well as its role to the inhabitants, especially family farmers. In Polish conditions, there is a clash between different discourses promoting different understandings of rurality (e.g. agricultural versus non-agricultural), such as the media, legal or casual discourse. The primary purpose of the presentation is to show the family farmers' opinions concerning the transformation of the Polish countryside, the social and economic role of their profession, their job satisfaction, and the perceptions of their own living space. These considerations should lead us to determine where today's farmers see the sense of "place" (life in the countryside, the new nature of "rurality"), whose functions and meanings are undergoing quick rural metamorphoses. Presentation prepared within research project 2011/01/D/HS4/03295, Models of knowledge transfer in agriculture and its influence on agricultural productivity - spatial analysis, financed by the National Centre of Science (Poland).

**Key Words:** family farms, agriculture, rural, post-socialist transition, Poland



## Use of ICT for developing organic agriculture in Iran

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As per the definition of FAO organic agriculture may be defined as an unique production management system which promotes and enhances agro ecosystem health, including biodiversity, biological cycle and soil biological activity, and this is accomplished by using on-farm agronomic, biological and mechanical methods in exclusion of all synthetic off-farm inputs. Iranian agriculture sector is vibrant with high potential for growth including for the development of organic farming due to certain favorable features. Organic agriculture will enables Iranian smallholders to achieve household food security and gain modest incomes while regenerating the land, enhancing biodiversity, and supplying quality food to local communities. It has already been recognized that knowledge is the crucial “fourth factor of production” and sustainable farming practices are more demanding on the skills and knowledge of farmers .Whereas, the organic production calls for an in-depth understanding of the principles, standards, production practices and requirements of the organic certification agencies.To increase awareness about the organic farming among the interested Iranian farmers, the Information Communication Technology (ICT) is a handy tool. An initiative provide such tool that can be used as an ICT tool for propagating the organic farming. It is a three-tier web-based application in which at client level user interface is developed using J2EE Framework in JSF with Java as Programing language. At database end, the database is developed using MySQL 5.0. This is a cross-platform application (platform independent) with Apache 2.0. Web server. This information system can run on standalone desktop computer with Windows 2003 and later, or Linux/ XP and later, or Linux operating system as well as on Intranet / Internet environment. Information System on Organic Farming can provide hands-on information on organic farming, conversion to organic farming, principles of organic crop and livestock production, organic farming and sustainability, characteristics of an ideal organic farm, nutrient management, pest and disease control, organic fertilizers application, soil fertility in organic farming, soil testing, soil amendment, soil management, organic food, organic waste management, bio fertilizers, manuring, composting, certification standards of Iran, a comparison of production standards, list of approved ingredients of non-agricultural

origin and processing aids used in food processing, list of approved inputs and materials, feed additives and processing aids for animal nutrition, products authorized for cleaning and disinfection of livestock buildings and installations, Iranian agriculture scenario, and market organic products. This tool help speedy dissemination of appropriate information on organic farming to wider audience across the country and other Persian speakers across the globe.

**Key Words:** Certification, education, information and communication technology, organic farming, standards.



## **Use of cultivated land and products information gathering system through mobile phone in order to improve the living standard of the Iranian family farmers**

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Every year, most of the Iranian farmers specifically those who are working in remote villages are facing the price fluctuations of the main agricultural products namely potato, onion and tomato. This price fluctuation is mostly due to varied cultivation square of the products during the last past years that lack of appropriate information provided by the agricultural services centers to the farmers in order to moderate the cultivation square of such products in consistent with the country's need is deemed to play a significant role in creating this problem. On the other hand, the organizations responsible for do not have the required information on the cultivated square of agricultural annual plants and their information is dated back to the last years. Also, this problem is apparent when the products are harvested specifically for those products needing to be kept in specific conditions and in refrigerators. Facing these problem will make the farmers to sell their products lower than the market price so as to they be able to avoid huge losses of corruption and hence the intermediates and followed them the whole sellers will benefit from this situation gaining huge profits while the farmers would be the real losers. In order to solve this problem, establishing a center for receiving the information on the cultivated square of agricultural annual plants and vegetables through SMS system and before the cultivation period by the farmers and also at the time of harvesting in addition to inform the other farmers about the cultivated square throughout the region, province and the country it can help the officials to plan how to provide appropriate storage conditions (e.g. constructing refrigerators and etc.). This information is transferred through SMS system and easily by mobile phone to the region's center and then province and finally to state headquarter of information archive center. By using this technique and linking this center to other whole selling units of fruits and vegetables the farmers will be aided to find the nearest market to sell their products for a competitive price specifically for those specific products such as leaf vegetables which have short marketable demand and avoid shipping them to far distances prevent transportation costs. Indeed, this project includes establishment of centers for receiving information in different regions varied in

consistent with the cultivated square of any region in every province. The information gathering system should be established in the provinces and the information receiving center should be nationwide. The farmers must be trained and guided for use of specific signs for sending required information to such centers with the use of easy symbols. Receiving information by the farmers can be also done through this system and by use of SMS system. Meanwhile, creating a website can be aimed for better and effective information distribution among the users.

**Key Words:** Crop production, family farming, marketing, retail.



## **Analysis of Strengthen Extension Programs toward Sustainable Agriculture in Iran, South and Razavi Khorasan Provinces**

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One of the most important tasks of an extension organization is to choose the objectives of the extension program. In many developing countries, agriculture plays a vital role in the economy, and sustainability in the agricultural sector must address the issues of poverty alleviation, food security, and stable income generation for a rapidly growing population. Sustainable agriculture extension programs are mandated worldwide to foster the implementation of sustainable agriculture practices. These required sustainable agriculture extension programs are to be conducted by Extension Educators, therefore understanding extension educators' perceptions toward strengthen extension programs of sustainable agriculture is especially important. This study was conducted to identify the most appropriate objectives to strengthen agricultural extension program toward sustainability in Iran context. The population consists of 3 different Townships of South Khorasan Province (n= 130). Provinces who participated in sustainable agriculture program were the target population for the study. Participants (n= 95) were elected by using simple random sample approach. Data collected by a standard questionnaire. Based upon the result, the implication clearly exists that the Extension Educators should pay more attention to using key and local educators in extension programs, and also held more Extension-education program to strengthen extension program. The research may help ministry agricultural experts to foster the degree of agricultural extension and education programs in sustainable agriculture that operates internationally.

**Key Words:** Extension; Extension program; Sustainable agriculture; Strengthen;

## **Investigating Barriers in Extension Programs toward Sustainable Agriculture in Iran, South Khorasan Province**

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Sustainable development is now widely promoted as a holistic concept that aims to integrate social, economic and cultural policies to ensure high-quality growth in the context to which it is applied. One on crucial branches, Agricultural development, is essential for ensuring long-term economic growth in today's global economy. In Iran, sustainable agriculture, is gaining popularity among extension agents, farmers, and various organizations and ministries, in particular, within Extension and the Ministry of Agriculture. The present study attempts to investigate the effect of barriers to conducting Extension programs in Iran. During implementation such programs encounter, however, as this research found Governmental and logical, Technical and educational Economical and social barriers that often go unrecognized. This research attempts to investigate the effect of these to conducting Extension programs in Iran. The population consists of 3 different Townships of South Khorasan Province (N=132). A random sample of Extension Educator was surveyed (n=95). Data collected by questionnaire. Reliability for the instrument ranged from 0.82 to 0.91. The implication clearly exists that the EE should pay more attention to the effectiveness of investment and seriousness in training programs for sustainable agriculture. Further investigation from educator extension perspectives are required to discover that how they can overcome extension program barriers to promoting adoption of them.

**Key Words:** Extension; Extension program; Sustainable agriculture; Barriers



## **The Capabilities and Barriers of Participatory Breeding: Breeders Viewpoint of Research Centers in the Tehran Province**

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One of important mission of agricultural extension management is using approach for engage farmer's participation in extension programs of modern agricultural technologies and innovations diffusion. One of these approach is Participatory Technology Development (PTD). PTD has a special attention toward farmer's participation in process of innovation diffusion and technology transition. Participatory Plant Breeding (PPB) is a subsector of PTD which has established with cooperation of sustainable development and environment institution and International Center for Agricultural Research by rural research institution. Therefore the purpose of this study was to investigate the capabilities and barriers of participatory breeding. The design of the study was a survey research and utilized a descriptive-correlation method. The target population consisted of 95 research centers breeders in Tehran province (N=95), using the census study 76 questionnaires were eventually collected and analyzed. Descriptive findings indicated that breeders had an agreed viewpoint toward using of participatory breeding. Important participatory breeding capabilities from breeding viewpoint is capability of implementation in farmers land as on-farm. Also, research institute of seed and seedling record, Universities and extension agents had high participation in using of this approach. In addition, Role of National Bank of Plant Gene was low. According to results, two important barriers related to participatory breeding use were 1) lack of enough and suitable coordination among several sectors; and 2) lack of team and participatory working motivations among farmers and researchers. Linear regression findings showed that capabilities and barriers of using participatory breeding were determined 58% of the variations in the use of participatory breeding.

**Key Words:** Participatory Technology Development, Participatory breeding, Breeders.

## **Analyzing the Barriers of Adoption of Integrated Production and Protection Crops Management Strategy Technologies of Horticultural Crops Based on Points of View of the Isfahan Province Greenhouse owners**

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The Integrated Production and Protection Management Strategy, with purpose of safe production, now, is an operational strategy to achieve goals of sustainable agriculture as well as this approach will increase production and sustaining the land. This study aims to analyze hampering factors in proceeding integrated production and protection management strategy among greenhouse owners in Isfahan province. Data were gathered by questionnaires from farmers. The content and face validity of the instrument was specified by Faculty members of agricultural extension and education in Tarbiat Modares University. Cronbach's Alpha coefficient Value of questionnaire was 0.82 percent. Population of greenhouse owners were 160 people which by performing proportional stratified sampling random method, 113 greenhouse owners were chosen as samples for the study and for the purpose of determining the sample size. 103 questionnaires were eventually collected and analyzed by SPSS software (n=103). Results of factor analysis revealed that the factors such as: Financial, Educational, Planning and Lawful - Support were barriers of adoption of IPPM technologies that these factors could be explained in total, 70.52 percent of total variance.

**Key Words:** Integrated Production Management, Protection of Crops, Adoption, Greenhouse Owners, Horticultural Crops



## **Analysis of the evolution of agricultural extension approaches from innovation transfer to agricultural knowledge and information system**

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Extension system in order to diffusion of knowledge was formed in 1864 in Cambridge. Basic philosophy of this system (i.e. the diffusion of knowledge) was the shaping point of agricultural extension system idea in the United States that has effective role in agricultural development of USA especially before World War II. The end of World War II and independence of countries, led to classification them to the first world countries (USA and some European countries), the second (USSR and China) and the Third World (other countries). This classification led to the ideological competition between first and second was to dominate the Third World. The First World including the U.S. with capitalist system to avoid joining the third world to socialist system, implemented Truman's Point Four that according to this principle, the agricultural extension system of United States introduced to assist to agricultural development in Third World countries. Third World countries that had hosted this system were different in terms of structure and social function with United States. On the other hand, these countries, in terms of historical, social, cultural and environmental were not homogeneity. Therefore, imported agricultural extension system to third world countries were not able to adapt to environmental conditions and had not effective role on agricultural development in these countries. Hence, agricultural extension and education experts addressed to solving this problem by creating new extensional mechanisms in the form of new agricultural extension approaches. Agricultural extension approaches in their evolutionary history, has taken a new figures. This study aimed to Analysis of the evolution of agricultural extension approaches from innovation transfer to agricultural knowledge and information system. This a descriptive and review study.

**Key Words:** Agricultural Extension, Extension Approach, Truman's Point Four, Agricultural development

### **Analysis of University System's Knowledge and Information Network as a part of Agricultural Innovation System (AIS)**

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Agricultural innovation system (AIS) as a software system, is the point of development of extension approaches. The goal of this software systems, is strengthening and growth of innovation capabilities and its actors are all institutions and individuals that involved in the production, dissemination, adaptation and use of knowledge and innovation those related to agriculture. University system as one of those actors who has the role of agricultural science and technology is in the domain of AIS. Suitable agricultural knowledge and technology production with system approach need to interaction between producers (faculty members). Identification and analysis of information and knowledge network of group can reveal the strengths and weaknesses of this interaction and be a background to improvement agricultural knowledge and technology production. This study aimed to analysis of University System's Knowledge and Information Network as a part of Agricultural Innovation System (AIS). The statistical population are faculty members of Agriculture and Natural Resources College of Tehran University. To analysis of this network and related structure and interactions Ucinet<sub>6</sub> software was used (by Data processing through analysis of knowledge and information networks). The results showed, implementing mechanisms by university system to improve discipline interaction between faculty members is necessary for the development agricultural science and technology.

**Key Words:** Knowledge and Information Network, AIS, University System, Agricultural Extension, Agricultural Innovation



## **Investigating factors influencing attitude of experts working in techno-engineering and advisory companies towards application of mobile phone in performing job tasks**

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This survey-Descriptive was carried out with the main objective of investigating factors influencing attitude of experts working in techno-engineering and advisory companies towards application of mobile phone in performing job tasks. The statistical population of the research was 218 experts working in techno-engineering and advisory companies in Zanjan province out of which 102 people were selected as sample using Kerjenci and Morgan table as well as stratified sampling technique. A questionnaire was used to gather the data. The validity of the research tool was approved by the judgment of some faculty members in the universities of Tehran and Zanjan. The reliability of the main scales of the questionnaire was approved through a pilot test in which Cronbach alpha coefficient was above 0.7. The data were analyzed using SPSSWin18. The regression analysis showed that 36.3 percent of variations in the dependent variable of attitude towards application of mobile phone in performing job tasks was determined by five variables viz., service provision through mobile phone, extent of utilizing electronic media in performing jobs tasks, English proficiency skill, price of mobile phone and problems of inconsistency of technology with advisory provision.

**Key Words:** Mobile phone, Agricultural techno-engineering and advisory services, attitude, application

## **Relationship between environmental considerations and the type of fuel consumption in rural households in the central county of Zahedan**

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Energy is of the important needs of the human society and sustainable access to energy resources and human fundamental foundation to achieve development. In different societies according to the type of fuel available resources and demographic characteristics of the population, they are different types of fuel. The purpose of this study was to investigate the relationship between environmental considerations and the type of fuel consumption in rural households in the central part of the county of Zahedan. The population of rural households in the central county of Zahedan and descriptive statistical sample of 250 households. Data in this study was a questionnaire that its validity by a panel of experts and its reliability was confirmed using a study guide. The results of this study indicate that households with higher education levels and income and lower range of age use the fuels that generate less environmental pollution such as gas and electricity use.

**Key Words:** Energy, environmental considerations, Fuel Consumption, county of Zahedan



## **Pluralism in The Agricultural Extension System and Advisory Services in order Sustainable Development of Agriculture (A Holistic Model Designed to Agricultural Extension)**

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The rapid changes in international has created for human wide challenges in the field of economic, social and ecological and rural communities of the least developed countries has been exposed to most vulnerable and the least opportunity. The human created the concept of development to deal with these international changes and targeted living. This concept is always in the evolving and at the moment, it is introduced by sustainable development. This concept is expressed sustainable development of agriculture rural communities and agriculture that it is obvious with the purposes such as poverty alleviation, food security, social equity and environmental protection in three dimensions: economic, social and ecological. As a rule to achieve sustainable development in agriculture is required The Agricultural Extension System and Advisory Services with the philosophy facilitation of change. Differences in the structure and function of social systems in rural communities of the least developed countries on the one hand, and the different mission of the agricultural extension system and advisory services in order sustainable development of agriculture on the other hand, are evident the necessity of pluralism in this system. Hence, the present study is review-descriptive research and analysis of pluralism in the agricultural extension system and advisory services in order sustainable development of agriculture and a holistic model designed to agricultural extension is the main purpose in this article. In this study, it was shown the different systems are require for facilitation change until achieve the purposes of sustainable development in agriculture (poverty alleviation, food security, social equity and environmental protection) and the extension system applies Facilitation role by pluralism that is include three public, private and NGOs systems. The results showed that it is essential mutual interaction between three systems of extension (public, private and NGOs systems) in order sustainable development of agriculture and each of the extension system has different and complementary roles.

**Key Words:** Agricultural Extension, Pluralism in Extension, Advisory Services, Sustainable Development

## **Analysis of the Challenges and Problems for the application of Agricultural Knowledge Management in Jihad-e Agriculture of Fars Province**

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The main purpose of this research was analysis of the challenges and problems for the application of agricultural knowledge management in Jihad-e Agriculture of Fars Province. This research was a survey method and the statistical population of this study consisted of 150 experts of Jihad-e agriculture of Fars Province in Iran. Using proportional stratified random sampling, 92 experts were selected by Cochran formula. The data were collected using a questionnaire which its face and content validities were confirmed by a panel of experts of the University of Tehran and the reliability of the questionnaire was confirmed by calculating Cronbach-Alpha coefficient (between 0.93 - 0.98). The data was analyzed by SPSSwin16. Results showed that the current situation of the knowledge management in Jihad-e agriculture of Fars Province was moderate and weak according to the idea of more than half of experts. The results of the priority from the point of view of experts showed that the three important challenges which were studied for the application of agricultural knowledge management were: "the lack of training and progressing for the experts in knowledge management system" "the lack of senior manager's support for knowledge management system", and "the lack of technological infrastructure". The results of exploratory factor analysis showed that 64.821% of the variation of the challenges and problems for application of agricultural knowledge management was explained by the three factors of "Human Resources", "infrastructure" and "Policy and Planning".

**Key Words:** Agricultural Knowledge Management, Challenges and Problems, Experts, Jihad-e agriculture of Fars Province.



## **Study of qualitative and quantitative features of extension programs of wheat farmers in agricultural sustainable development processes “Case Study of Mashhad city.”**

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Extension system is one of the primary tools to promote the dissemination of advanced technology and certainly plays an important role in the development process, particularly rural development. This system is the only one of the factors involved in promoting professionalism in the role of facilitator of communication between agents involved in rural and agricultural knowledge network and must recognize the role of the links the main active function as compared to the strategy formulation and for intervention approaches. An effective communication system to improve the link between the main actors to act. The purpose of this study is to identify the qualitative and quantitative features of wheat farmer extensional programs. Agricultural research survey was conducted in Mashhad city. Wheat farmer year 89-90 students per 12257 population formed. Cochran formula,  $n=150$  sample size of group. Cluster sampling method was used to carry them out. Examined through a questionnaire validated by 5 experts overall appearance and reliability by calculating Cronbach's alpha coefficient was confirmed (0.955 to 0.613). Results showed that the quantity and quality of extension programs in developing wheat farms in advocates their communication indicate that the average effect of different methods of study is “lower than average” (2/51 of 5). Variables: participation in training-extension courses, number of training-extension courses, organize courses related to wheat, usefulness of courses, attitudes toward extensional activities, have created significant differences in the overall relationship between the amount of wheat farmers and advocates. Regression test showed that 12 variables could explain 92% of the variability in dependent variable. The main recommendations for improving wheat farmers quality extension programs include: The Run (extensional festivals and exhibition) and (visits and camps extensional) and (plays Training- extensional) prioritize (TV), (radio) or (lectures run extension) as well as important recommendations for improving wheat farmers quality extension programs are: (impact hits and camps in overall increase in wheat production per hectare), (usefulness classes - promoting the increased production of wheat per hectare), (the effect of field day (product party) to increase wheat production per hectare), (impact hits and camps in overall increase in wheat production per hectare), in priority, (impact of TV programs in increasing wheat

production per hectare) , (impact of radio programs in increasing wheat production per hectare) and (Impact of IPM extension method (integrated pest management) to increase wheat production per hectare), (effect plays learning- promoting the knowledge and skills you), (effect of executing extensional lectures to increase your knowledge and skills) and (impact of using information technology Classes in increasing wheat production per hectare)

**Keywords:** Qualitative and Quantitative Features, Extensional programs, Extensional Communication, Wheat Farmers (wheat producer), Agricultural extension agents.



## **Empowerment of local farmers through agriculture-related events (Case study: Village Zooeram-Shirvan)**

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Nowadays, the integration of capacity of rural communities and economy sectors is very important. Integrating agriculture and tourism through events related to agriculture and farming as a new approach in rural areas are considered. Economic and cultural benefits arising from the creation of agricultural events in empowering farmers and development their activities in order to achieve dynamic and diverse economic in potential area is concerned. In this paper, after survey the potential of case study in field of agriculture events, preferences of development in order to provide empowering strategies were introduced. The method is descriptive-analytical based on field observations and analytical tools are SWOT and MS-SWOT. In addition to evaluating the data and gathered information from various source and field survey, gathered information class, packaging and collect by use of SWOT tool. Then by use of MS-SWOT method strategies priorities were determined. Statistical society are 25 persons of event tourism specialists who know study region that chose by snowball method.

**Key Words:** event tourism- agriculture events- empowering farmers- Zooeram rural

## **The role of mobile technology in agricultural education**

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The speed of change and progress in today's information society is such that any society is trying to adapt itself to these changes in the shortest time. Agricultural education must keep pace with these changes will occur, and to accomplish this requires appropriate tools with staggering speed. Mobile learning is a new way of learning that seeks to provide opportunities for the transmission of information via mobile technologies to enhance and improve the learning and education of persons and one of its goals is to help facilitate knowledge acquisition and learning. Considering this fact that in most countries, farmers and villagers, are producing basic necessities of our life, and the need for continuing education among segments of society, taking into account the limitations in this field is essential. So one of the best options to solve this problem is to use the simplest and most convenient way, the mobile learning. In this study that was performed by a library (study of documents and Internet search), attempted to emphasized on importance of mobile technology as an effective means to achieve better and faster education in agriculture.

**Key Words:** Agricultural education, Mobile learning, Mobile technologies



## **Empowerment trainers rural and agricultural training to improve the quality of a skills training**

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Human resources in any country is the biggest assets and properly trained manpower and denial of the key factors in economic and social development of each country and education as a key mechanism for the development of the skills of individuals and the society, considered that the activity is complex and its effectiveness of the basic principles of the training methods and new approaches. on the basis of the general policies plan for the development of the country of training the villagers of the last few years the technical and vocational training in the country and its efforts to ensure the equal opportunities with the aim of creating employment of villagers and prevent their migration to the cities and broad participation in their efforts to develop national, is accepted. to finally achieve this goal, a lot of trainers to help every few have been the target of education, but the competence of the public was in the village teaching techniques, such as acquaintance with the principles of adult learning, familiarity with the use of technology, education, training, assessment, means of communication with the villagers of psychology, education and rural community in the not too comfortable in the paper has been trying to the competence and with the standard and holding this period to rural teachers before the start of the period of educational and training centers or offices of skills training step in order to improve the quality of education.

**Key Words:** Trainers, Rural and Agricultural Training, Skills Training

## **Investigating the Role of Communicational Skills on Academic Performance of Faculty members in the Sari Agricultural Sciences and Natural Resources University**

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Agricultural Higher education system should enable their faculty members for their survival, the need for communication and a better understanding of human communication skills, promote the organization. Production of Research, Education and Social service, because of the rapid changes take place in various sectors of society and continuing these systems, In this Research, despite the importance of communicational factors especially the CSs in the performance of individuals in the organizations, empirical evidence are demonstrated the weakness or studies regarding the role of communicational factors on the Academic performance of faculty members. The statistical population of this research was consisted of all faculty members in the SANRU (N=120). Using Convenient Sampling method(N=98).The main instrument in this study was questionnaire which its validity was confirmed by the panel of Faculty members of Agricultural Extension in UT and its reliability was confirmed by Cronbach's Alpha coefficient and composite reliability. Data were analyzed by SPSSWin18 Software in two parts of descriptive and inferential statistics. The results showed a positive correlation between the one percent level of significance communication skills, the skills of effective listening, writing skills, oral communication skills and collaboration skills by working with the faculty members of the university there. Thus, it can be stated that communication skills with faculty, academic performance, it will also increase. The results of research showed that the present status of the CSs and Academic Performance of faculty members in SANRU. Finally, based on the results of the study, in order to improve the research and Academic performance of faculty members of agricultural higher education system, a number of recommendations and guidelines for higher education systems, Planners and Policy makers were presented.

**Key Words:** Communicational Skills, Academic Performance, Faculty members



## **Identifying the hidden systems methodological footprints of UNDP-GEF- SGP projects: Reflections on SGP in Iran**

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Though several national and international development agencies claim commitment to participative approaches to reduce poverty by helping the rural poor, little progress has been made in actualizing their claims and translating ambitious programs into effective action. The GEF Small Grants Program (SGP) is a promising approach to engage individuals within local communities and to support them to formulate and to shape their collectively-identified problems into a proposal through collaboration with an NGO or a CBO, as well as with an in-kind sponsor. It aims to improve ecological problems as well as the communities' life style by providing alternative livelihood and reducing poverty in a participatory manner. This article depicts how the Small Grants Program encompasses different dimensions of the most practical participatory research and sustainable community development methodologies and. as an amalgamated holistic entity. Participatory Action Research is the most appropriate methodology which fits with the contextual framework of the SGPs in Iran. In the case studies we will see how the action research-based projects are moving forward through the interdependent complementary cycles. It also promises a more practical and holistic approach for research and development in developing countries.

**Key words:** SGP, Iran, sustainable development, natural resources management, empowerment community-based participation

## **Factor Analysis of Mobile Learning in Agriculture**

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Nowadays, All Economic systems and Countries of the world, face a similar challenge, that is Challenge of gaining success in global competition niche and reaching to sustainable development. And make a new generation of learning approach under the title of Mobile Learning through electronic devices. Mobile learning is emerging as one of the solutions to the challenges faced by education. UNESCO's program of activities is therefore based on growing partnerships geared towards exploring how mobile technologies can enable the achievement of Education For All. The research method implemented was applied survey. Data were collected by using a researcher made questionnaire which was validated by a panel of experts and the reliability was calculated by using Cronbach alpha<sup>s</sup> coefficient ( $\alpha > 0.7$ ). Sampling method selected by symmetrical random sampling. Based on the result, recommendations were made for the development of Mobile Learning in the agricultural sector.

**Key Words:** Factor Analysis, Mobile Learning (ML), Agriculture



## **Factors influencing the health status of rural households in the Kermanshah Province (Case Study: the Bisotoun sector)**

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Descriptive- correlation research aimed to study the health status and its influencing factors among rural households was conducted in Bisotoun sector in Harsin township of Kermanshah Province. The statistical population includes all heads of rural households residing of the Bisotoun sector in Harsin township of Kermanshah Province (N= 1020). The numbers of 278 persons were selected by using Krejcie and Morgan table through stratified random sampling. Data collection tool was questionnaire instrument, its validity was confirmed by a panel of experts and its reliability was confirmed using Cronbach's alpha. The results showed that the health status of rural households Inscription Harsin in Kermanshah city is moderate and 50% of the variation dependent variables (health status of rural households) are explained by five variables of access to health facilities, health education provided level of education, income and health awareness. The results of this study can be used to pay more attention to rural health issues and the protection of public health officials and politicians should be considered.

**Keywords:** hygiene, health, rural households, Kermanshah.

## **Investigating the Role of Communicational Skills on Academic Performance of Faculty members in Sari Agricultural Sciences and Natural Resources University**

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Agricultural Higher education system should enable their faculty members for their survival, the need for communication and a better understanding of human communication skills, promote the organization. Production of Research, Education and Social service, because of the rapid changes take place in various sectors of society and continuing these systems. In this Research, despite the importance of communicational factors especially the CSs in the performance of individuals in the organizations, empirical evidence are demonstrated the weakness or studies regarding the role of communicational factors on the Academic performance of faculty members. The statistical population of this research was consisted of all faculty members in the SANRU (N=120). Using Convenient Sampling method(N=98).The main instrument in this study was questionnaire which its validity was confirmed by the panel of Faculty members of Agricultural Extension in UT and its reliability was confirmed by Cronbach's Alpha coefficient and composite reliability. Data were analyzed by SPSS<sub>Win18</sub> Software in two parts of descriptive and inferential statistics. The results showed a positive correlation between the one percent level of significance communication skills, the skills of effective listening, writing skills, oral communication skills and collaboration skills by working with the faculty members of the university there. Thus, it can be stated that communication skills with faculty, academic performance, it will also increase. The results of research showed that the present status of the CSs and Academic Performance of faculty members in SANRU. Finally, based on the results of the study, in order to improve the research and Academic performance of faculty members of agricultural higher education system, a number of recommendations and guidelines for higher education systems, Planners and Policy makers were presented.

**Key Words:** Communicational Skills, Academic Performance, Faculty members



## **Role of indigenous knowledge in the production of organic commodities**

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Using Thousands of tons of industrial chemicals , chemical fertilizers and pesticides in agriculture under the headings perilous situation provides for a community that works threat to public health chemical and pesticide residues are from among them consumer . The present study investigated the role of indigenous knowledge in the production of organic products and methods - descriptive analysis and data collection practices library , Internet and letters are used. Taking advantage of the " wisdom of accumulated experience and history " of local farmers , the so- called indigenous knowledge , which makes it possible to determine the requirements and design of appropriate technologies and deployment of the local knowledge them practically balanced and sustainable development path Btlbym participation . One of the major strategies to achieve sustainable development in rural communities , and the necessary attention to indigenous knowledge or local knowledge of the villagers

**Keywords:** indigenous knowledge , organic farming , sustainable development

## **An Investigation of Factors Influencing the Use of Computer by Plant Pathology Clinic Members in Fars Province, Using Technology Acceptance Model (TAM)**

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These days, information and communication technology has provided a lot of opportunities for agricultural producers and service providers. In fact today's fast world; many traditional educational methods are inefficient and do not have enough power to convey new concepts to students. Therefore, it is necessary to achieve new tools and technologies for improve the information access. One of these technologies is Information and Communication Technologies (ICT). The present study aimed to investigate factors influencing the use of computer among plant protection clinic members. Research population included plant protection clinic members in Fars province, out of which, a total number of 210 persons were randomly selected to carry out this study. Data was collected using a questionnaire. The validity of the research instrument was obtained through a panel of experts, and the reliability was confirmed through a pilot test and Cronbach's alpha coefficient. Results showed that there are significant positive correlations between perceived usefulness, perceived ease of use, attitudes, and intention to use with actual use of information and communication technology (computer). There was also significant positive correlation between one's income and his/her actual use of computer. Finally, suggestions have been provided based on the findings to improve the use of computer by plant protection clinic members.

**Key Words:** Computer, Technology Acceptance Model, Plant Pathology Clinics.

**Track 3: Structural and functional  
transformation of agricultural extension and  
RASs institutions worldwide in a pluralistic  
context**





## **An analysis of utilization pattern of contractual dairy services in Western Maharashtra, India**

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To analyze utilization pattern of contractual dairy services, the study was carried out purposively in Western Maharashtra division. The division was divided into five strata taking each district (Pune, Satara, Kolhapur, Sangli and Solapur) as stratum from the division. From each stratum, two blocks were selected purposively at first stage where integrating agencies are providing similar dairy services and from each block, three villages were selected randomly at second stage. In third stage, from each village, 6 dairy farmers engaged with dairy cooperatives and 6 dairy farmers engaged with private agencies were selected randomly, thus, total dairy farmers for study were 360. Data was collected through semi-structured interview schedule. The data after collection, compiled, tabulated and analyzed in view of the objectives of the study by using the appropriate statistical method. The study revealed that majority of dairy farmers were using curative services such as medicinal treatment and minor surgical treatment, all the productive, preventive and miscellaneous dairy services, and herd health services in case of diagnostic. The frequency of utilization of various dairy services was more in case of private dairy farmers compared to cooperative and the level of significance were tested by X<sup>2</sup> test. The ordinal probity regression analysis revealed that the major factors affecting frequency of utilization of dairy services were experience in dairying, herd size, number of milking animals, milk production and income from dairying which were positive and significant. The other factors such as age, education, land holding and distance from veterinary hospital were found no significant in case of both dairy farmers which imply that these factors were not important to affect frequency of utilization of dairy services.

**Key Words:** Contract, Dairy, Service, Utilization pattern.

## **Investigating Effective Factors on Production Skills of Tobacco Growers in Mazandaran Province**

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This research was done aimed to investigation the effective factors on production skills of tobacco growers in Mazandaran province. This is an applied study based on descriptive-correlation method. Statistical population of this research consisted of 1500 tobacco growers of Mazandaran province, and 306 people were selected based on Morgan table. Content validity of the questionnaire was determined by experts and professors' ideas. After doing necessary reforms and preliminary tests, we achieved Cronbach's alpha coefficient 81%. The results achieved from the collective effect of independent variables on dependent variable through step wise multiple regression method indicate that the first variable entered into the equation was the variable of tobacco growers knowledge. Then, the variable of tobacco farmers' attitude and channels and information sources variable were entered into the regression equation in the next steps. The results show that these variables are explaining 82.9 % of changes are related to tobacco growers' skill.

**Key Words:** assessment, skill, tobacco grower, Mazandaran province



## **Identify the internal environment for entrepreneurial activities in Iran's agri-business corporations**

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This study have examined the members' perception of the internal environment for entrepreneurship in agri-business corporations and identified the internal conditions that influence members' participation in entrepreneurial activities. Understanding member's perceptions about the internal corporate environment is crucial to initiating and nurturing any entrepreneurial process. In the collection of data from 174 agri-business corporations were used structural questionnaires. The results showed that six internal environmental factors based on how loaded on each factor were entitled management support, resources availability, external communication, internal communication, strategic visions and authority. The results indicated that corporate's environment provide areas where members can develop strategies that positively spur and sustain corporate entrepreneurship efforts. The results of such diagnosis can be useful in designing effective training programs for members of agricultural advisory services corporations.

**Key Words:** Internal environment, Entrepreneurship, agri-business corporations

### **Investigation of agricultural extension activities in Afghanistan**

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Afghanistan is one of the least developed countries. Afghanistan is an agrarian country in which more than three-quarters of the population live in the countryside in scattered towns and villages. More than 20 years of war, a decade of drought and the unsustainable use of natural resources, which could not be checked by weak state institutions, have degraded the Afghan environment. This article reports on the activities of the Ministry of Agriculture, Irrigation and Livestock (MAIL) in Afghanistan in recent decades. Seems to be widespread national and international efforts to agricultural extension activities have taken place during the last decade in Afghanistan. Ministry of agriculture, irrigation and livestock in Afghanistan had some project includes internally funded and externally funded projects. The overall goal of these projects was to promote peace through the facilitation of reintegration of the ex-combatants and contribution to the recovery of the communities where they live by creating sustainable socio-economic opportunities. The results of the present study although showed that the continuous agricultural extension efforts to solve the problems in Afghanistan but it is necessary the sustainable rural development project and integrated effort to be solve the agricultural activities problems in Afghanistan.

**Key Words:** Afghanistan, Agriculture Sector, Ministry of agriculture, irrigation and livestock, Extension Projects.



## **Rethinking in Missions of agricultural extension, in the process of agricultural sustainable development**

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It is necessary to rethink the missions of Iranian agricultural extension and shift from a supply-driven to a demand-driven approach, if it is to be played role in increasing rural income and employment and eventually pro-poor development. As a supply-driven system and on the basis of top-down agricultural planning, Iranian agricultural extension often has focused on production of food staples and providing food security. Hence, in many cases not only it has not led to agricultural and rural sustainable development, but also has had adverse effects because of its encouragement to growing food staples especially in fragile ecosystems. In addition, although there is a wide literature about farmers' indigenous knowledge, the agricultural extension system could not protect them by developing entrepreneurial and win-win strategies. This system also could not realize indigenous knowledge as one of the livelihood sources of deprived farmers, on the basis of culture economy approach. Iranian agricultural extension has not a comprehensive and specific agenda for pro-poor development and improvement of progress and justice conjointly and it repeats procedures of several decades ago. This research aims to assess agricultural extension approaches and investigate successful experiences in countries such as India, China and Vietnam. Then it suggests effective solutions for a dynamic and learning agricultural extension. Rethinking in the missions of agricultural extension and its shifting from being a 'supply-driven' system to a 'market-driven' one, requires at least three institutional changes. First, the agricultural extension must allocate higher priority for growing of high-value, labor-intensive crops/products, on the basis of land-use planning. Second it must play an active role in organizing small-scale farmers for achieving to economies of scale and entering them into value chains. Third, extension planning system must become decentralized and extension agents facilitate farmer's capacity building for community-based monitoring and evaluation of agriculture and rural development projects.

**Keywords:** Institutional change, Community- based monitoring and evaluation, pro-poor development.

## **The Relationship between Resources and Facilitating of Innovation in Agricultural Advisory services Corporations**

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Resource-Based View (RBV) of the firm emphasizes resources that reside inside corporations. In other words RBV conceptualizes the corporation as a bundle of resources, where different resources vary in importance for generating added value to the corporation. Agricultural advisory services corporations are as subsystems of agricultural consultancy services network in Iran. The aim of these corporates is to facilitate process of innovation for farmers. Corporation's resources are organizational asset which are frequently associated with process of innovation. This resources are commonly categorized into four core component: Financial resources, human resource, structural capital and relational capital. The aim of this study was to determine between corporation's resources and facilitation of innovation in agricultural advisory services corporations. Importantly, the findings confirmed that all four resource components has a significant positive relationship with facilitation of innovation in agricultural advisory services corporations. This result suggests that resources are vital to enhance process of innovation facilitation. Importantly, human resources needs to be considered in corporation's resources when measuring innovation. Finally, this study suggested that future research should investigate the influence of the new corporation's resources on process of innovation facilitation within diverse agricultural consultancy services network.

**Key Words:** Resource-Based View (RBV), agricultural advisory services corporations, facilitation of innovation



## **Swot analysis Privatization of agricultural extension services Kermanshah Province and provide appropriate strategies**

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In our country and consequently in Kermanshah, Governmental agricultural extension always been facing with different challenges and issues related to financing constraints, Not covered a large majority of farmers and inefficiency of existing structures and consequently low productivity agriculture. Therefore, Because the comprehensive prospective study so far in relation to the privatization of agricultural extension services in Kermanshah province and even the country level has been done, The present study was performed to identify factors affecting the of extension privatization process, Examine the obstacles and difficulties along the way and Select the most appropriate strategy for privatization and executive policies regarding the current status and future outlook of the region, with using qualitative research approach and meta-analysis and SWOT Techniques. Findings from this study showed that commercialization of production; Enhance the quality of rural life and updates information and increase the quality of technologies and Entrepreneurship development and employment in the agricultural sector, The most important strengths and Lack of attention to small farmers, Lack of attention to cultural aspects - social, farmers, lack of funding - equipment and management; Low theoretical knowledge and practical experts, and poor communication practices and manufacturing experts, the most important weak point is the privatization of agricultural extension services in Kermanshah. As well as having educational and research facilities and infrastructure, privatization of government support, Mutual communication And enhancement of motivation and factors encouraging, The most important opportunities for the Kermanshah province is about the privatization of agricultural extension services. Also, Inadequate social and cultural support for the agricultural sector; One-way communication and Non-participatory services supply circuit and weakness rules, The cumbersome regulations, Among the most significant threats of privatization on agricultural extension services are Kermanshah Province.

**Key Words:** Privatization- agricultural extension- Kermanshah Province- Swot.

### **Identify technical knowledge vineyard owners to the harvest and post-harvest activities and factors affecting**

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Kermanshah Province is one of the leading manufacturers in the country, is a grape product .promotion and development of agriculture is located. Meanwhile, the level of technical knowledge in the field, harvest and post-harvest vineyard owners, in order to eliminate information gaps they are necessary. Therefore, this study aimed to identify the level of technical knowledge to the vineyard owners to harvest and post-harvest activities and its influencing factors in Kermanshah city took place. Vineyard owners in Kermanshah city Bylvar district, cluster sampling method, the sample in this study formed. The findings suggest that the level of technical knowledge is desirable vineyard owners. The grower education, horticulture degree of experience and technical knowledge of the factors affecting these farmers are.

**Key Words:** technical knowledge, vineyard owners, factors, Kermanshah city.



## **Evaluation the Extension Facilities of Public and Private Center for Improving the Interactional Communication Farmers and Extension Workers in the Process of Agriculture Sustainable Development “Case Study: Mashhad city.”**

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Recognizing the potential of the agricultural sector, proper planning, proper management and security requirements can be achieved objectives in developing the sector. This part face with the natural and technical obstacles that by implementation of existing resources and the proper policies and procedures to eliminate or reduce barriers and bottlenecks can be achieved to objectives and quality of the agricultural sector accelerated the process. The present paper aims at understanding the extension facilities of public and private sector and their impact on the improvement of wheat farmer in connection with the review, development and modernization of the agricultural extension system. Agricultural research survey was conducted in scale method in Mashhad city. Wheat crop year 89-90 students per 12257 populations have formed. The sample size was calculated by the formula  $n=150$  Cochran. For cluster sampling was used to select the research sample. Assessed by a validated questionnaire which Ian by 5 specialists to promote and reliability by calculating Cronbach's alpha coefficient was confirmed and (0/955 to 0/613), was carried out. The results concerning the effect “extension of facilities, public and private” on the qualitative and quantitative development advocates communication with wheat indicate that the average effect of the various methods studied in the limit “Large” is (7/9125 of 10). Variable “extension facilities of public centers” has a significant positive correlation with “rate of extensional communications” and variable “extension facilities of private centers” and “rate of extensional communications” correlated is significant. The main recommendations for the improvement of facilities and promotion of public and private extensional centers include: design and research projects- promoting cooperation with wheat farmers, planning to increase contacts with extension units co-promotes with the socio- economic development of the region (schools, health units, etc.), access continuous increase of advocates to electronic educational equipment (computers, Internet, etc.), provide enhanced opportunities to visit farmers from advanced farms, use capable and efficient advocates in extensional units, and advocates access to audiovisual equipment good visual.

**Keywords:** Extension Facilities, Public, Private, Extensional Communication, Wheat Farmers (wheat producer), Agricultural extension agents

**Critical Rethinking on the use of Teaching for facilitator in  
Agricultural Extension and rural development (case study: Ph.D.  
candidate of Agriculture, Tehran University)**

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Critical rethinking in a project is an Experience and data Interpretation to create new insights and agree about activities. There is a way of critical rethinking If Employee can regularly discuss projects about the question with project coworkers go ahead and management. The validity of the study by a panel of experts and its reliability was confirmed by Cronbach's Alpha coefficient and composite reliability. Research population of Ph.D. candidate, College of Agriculture, Tehran University. Bigger samples using Cochran Formula 97 estimated (N=255). while SPSS<sub>win18</sub> Software was used for data processing in order to identify effective educational strategies to developing Entrepreneurship among students in colleges of agriculture, the use of exploratory factor analysis the results showed that the variables in the 6 factors such as: General conditions of the project, Design members team, construction and program management, Action in Operational areas, External opportunities and Citation.

**Key Words:** Agricultural Extension and rural development, Critical rethinking, Teaching,



### **Explaining the Extension Commercialization Components of Nanotechnology in Iranian Agricultural Sector**

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The main objective of this descriptive- correlative study was to explain of extension and development commercialization components of nanotechnology in Iranian agricultural sector. The statistical population of the study contained 125 agricultural extension experts of Jihad-e- Agriculture Minister. According to the Krejcie and Morgan table, a sample size of 125 was selected using a random sampling method. The questionnaire was used to collect the data. The content validity of the questionnaire was confirmed by a panel of experts. The construct validity and the composite reliability of the research instrument were tested by estimating the measurement model and they were satisfied after making necessary corrections. The data were analyzed using Structural Equation Modeling (SEM) multivariate technique by the software of AMOS20. The results indicated that the importance of all four factors mentioned in the research conceptual model has verified based on the field data (good fitness of the model) and the factors including: extension (awareness, education, facilitating and need assessment), economic, farmers' profiles and technology characteristics had a significant relationship with construct of extension and development commercialization components of nanotechnology in agricultural sector.

**Key Words:** Commercialization, Agricultural extension, Nanotechnology.

### **Investigating the East Azarbaijan farmers' satisfaction of companies providing consulting, engineering and agricultural services and it's efficient factors**

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According to official statistics, 25% of our economy depends on agriculture. The need to implement 44<sup>th</sup> Article of constitution and the development plan caused to use NGOs' services in agriculture. In this regard, companies providing consulting, engineering and agricultural service, from 1385 with 90 companies and 732 experts are doing some of Agri-Jahad Policies in East Azerbaijan. But how much were they able to attract farmers' consent? In this descriptive correlational study which its statistical population was all farmers in 19 township by using multistage sampling method, 189 farmers were selected randomly, in these townships. Data were collected by using questionnaire which its Cronbach's Alpha was 88%. To avoid changes of dependent variable by independent variables, step by step multiple regression analysis was performed. The results showed that 72 percent of changes of dependent variable (Farmers' satisfaction) was indicated by variables: assurance, Accountability and trust of five dimensions of Seroquel service quality and independent variables: Expert's ability, Quality of presented services, company's distance and experts' ability have significant and positive impact on dependent variable. Average of satisfaction between townships was significant,

**Keywords:** East Azerbaijan, Satisfaction, Consulting Services and Technical Engineering Companies, performance



## **Factors affecting the adoption of agricultural land consolidation project from the perspective of Operation: A Case Study in city Ndafyh**

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Land is one of the most important factors of production in agriculture, One of the main difficulties and barriers to land fragmentation in increasing production and agricultural development is finally the cause of issues including; The high cost of production, reduce of revenue yield per unit area, exclusion, restriction on the use of machine and scientific and technical achievements productive activity as well as rural poverty. The purpose of this research is to study the factors affecting to adoption of land consolidation projects in the city is Ndafyh. Data collection for this study was a structured questionnaire which its validity was confirmed in a scientific manner. The data collected was analyzed by SPSS software. Statistical society the study was the area Ndafyh' exploitation introduced in 1391 by the Center for of Agriculture Statistical society the study area Ndafyh exploitation introduced in 1391 by the Center for Integration of Agriculture had been trained (N = 100). Sample study by Morgan estimated 80 people were randomly selected. The results showed that the variables tend to participate in group activities, knowledge land consolidation schemes, there is a statistically significant relationship with the adoption plan. The logistic regression analysis indicated that being influenced by changing land consolidation from the perspective of users' familiarity with the benefits plan.

**Key Words:** land consolidation, land fragmentation, exploitation

### **Affecting factors to achievement of social capital among Jihad-Agriculture of Zabol district**

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The aim of present study is identification of factors affecting reinforcement of social capital. This study was applied research that used descriptive–survey. All of Jihad-agriculture experts of Zabol district were considered as statistical population (N=120). From which 134 experts were selected randomly as a sample based on Krejci and Morgan's table. Research method was questionnaire that developed based on five scale of Likert. In order to data analyzing SPSS V16 were used. In this research comparison mean (t and F test) and Pearson and Spearman correlation coefficient were used. According to the results of comparison means between independent variables of marital status, gender and dependent variable of social capital with 95 and 99 percent confidence there are significant relationship respectively. Also according to the results of analysis of variance between independent variable of employment status and dependent variable of social capital there is significant relationship with 99 percent confidence. The results of correlation showed that among independent variable of age and dependent variable of social capital there is relationship with 95 percent confidence. While between job experiences, education, job title with social capital there is not any significant relationship. In other words according to the results of spearman correlation between social capital and job satisfaction there is significant relationship with 99 percent confidence too. Therefore should pay attention to the dimensions of social capital in organizations, also in order to increase of social capital on whole of organization, the managers should create the field of participation, communication and collaboration among the staff.

**Keywords:** Social capital, Trust, Organizational structure, Communication and collaboration, Ethnicity, Job satisfaction



## **Academic development of Agricultural Extension and Education: an Interdisciplinary Approach**

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Now, more than half a century of official Agricultural Extension formation and several decades starting in the field of Agricultural Extension in Higher Agricultural Education goes, it is an appropriate time to critical reflection of the institutional and academic evolution of agricultural extension and education. So far, many studies on the structure function and an outstanding achievement in Agricultural Extension work has been done on the history and roots of the Agricultural Extension has been written. However, the trend analysis of academic development of agricultural extension like a fairly new interdisciplinary scientific field (in comparison with other disciplines of agriculture) has been relatively little attention. Given such a concrete need for a internal critique of the discourse which could be taken into account, this study using a systematic review, will attempt to briefly outline the historical roots and the trends of academic development of Agricultural Extension and Education, and identify the associated theoretical approaches and frameworks of interdisciplinary academic development in higher agricultural education. As a result, a set of mechanisms would be suggested for academic development of interdisciplinary courses, such as Agricultural Extension and Education in Iranian Higher Agricultural Education System.

**Key Words:** Agricultural Extension and Education, academic development, interdisciplinary approach

## **Transformation of Agricultural Extension System in compliance with international developments**

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Human life based on change in the social, economic, political and ecological components is a common dynamic. Agricultural extension system based on these same developments took shape and undertook the role of facilitation of change, empowerment and development of agricultural societies as a vital element. Agricultural extension system to perform this important mission towards rural development in general and agricultural development in particular requires the use of special mechanisms in the form of Extension approaches. But now in the third millennium, the fundamental developments at international level, such as commercialization, globalization and climate change has occurred that need to development and change in extension system has doubled. Climate change as a ecological change is a fundamental challenge for agriculture communities and also, commercialization and globalization as a kind of economic, social and political change has become an opportunity and a threat. This is a review-descriptive study and aimed to transformation of Agricultural Extension System in compliance with international developments. The results showed that agricultural extension system, has the potential to adapt to international developments through development and evolution of extension approaches but converting this potential into actual is required policy and planning.

**Key Words:** Agricultural Extension System, Extension Approaches, International Developments, Climate Change, Globalization.



## **Comparative study of Agricultural Funds' function in Iran and the world via community empowerment**

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Agricultural sector is critical part of country's economy. With no doubt the investment is one of the requirements for the realization of development in this area. Besides being more vulnerable than other sectors of the economy, different countries have to create a package of supportive policies in order to obtain continuity of production .development of funds is one of the tools in order to purposive investment within agriculture sector. Fortunately, Iran's government understood the importance of this matter and the context of it has largely been provided. This paper besides analyze the situation of funds in Iran and other countries including India, Bangladesh and Egypt, investigate the functions, roles, and consequences resulting from their participation with special emphasis on their role in empowerment of local farmer and beneficiaries. Different countries, in Comparisons show the differences functions, structure and orientation of the fund's guidelines and consequently its distinct effect on the empowerment of local communities. Although these funds in order to other public support such as insurance, multiple decisions center, and so on, have been existed since ten years ago, prosperity of them to some extent is questionable.

**Key Words:** funds, empowerment, local community

## **Good Governance Step towards Sustainable Rural Development**

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Good governance is a concept that arose in the development literature as key to the development puzzle in the late 1990s. This concept is derived from institutional theory and Contribution to the three institutions of government, private sector and civil society. The World Bank defines good governance based on six indicators: Voice & Accountability, Political Stability, Government Effectiveness, Regulatory Quality, Rule of Law and Control of Corruption. This paper emphasizes the importance of sustainable rural development and reviews the effectiveness of this indicator on sustainable rural development. The method of this study was library that from multiple sources as well as documents and information networks have been used for more information on content analysis. Results show that contemplation and reflection on the quality of each governance indicator and adopt appropriate strategies to strengthen their can be the best model for sustainable rural development.

**Key Words:** good governance, good governance indicators, sustainable rural development.



## **Advisory services: Achievements, challenges and opportunities in Iran**

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Due to financial constraints, advisory services fundamentally were formed with the aim of delivering a part of public extension activities provided by government to the private sectors. The main purpose of promoting this extension system was to provide a context to help better development of human resources, improving social capital formation in rural areas and conserving natural resources in order to achieve agricultural sustainability. It is clear that the formation of a large number of technical advisory services corporations in terms of joint-stock or cooperative models which leads to employ a large number of agriculture graduates will promote achieving those goals. Using the current literature on the issue, this article primarily provides a brief overview of advisory services in extension, it then proposes a framework to design and analyze the advisory services in the field of agriculture. Furthermore, comparing the current situation of advisory services to the proposed framework, it examines the challenges of active body of advisory services in the country, Iran. Finally, based on this analysis, the effective factors which help to best fit with the proposed framework are identified and discussed.

**Key Words:** Advisory Services, Agricultural Extension, Technical Advisory Services Corporations, Iran

**Track 4: Organizational and human resources  
development in agricultural extension and RASs  
institutions**



## **Determinants of voluntary career development interventions: The influence of personal and contextual factors among Malaysian extension workers**

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Managing Malaysian agriculture, which generates 7.5% of country GDP to meet rising global demand and to respond to the changes and opportunities, requires highly skilled extension workers. This conceptual lens aims at re-skilling extension workers by investigating determinants of voluntary career development interventions among Malaysian extension agents. The importance of voluntary career development interventions as the focus of this study is supported by key evolutions of extension context that require extension agents take the responsibility for charting and navigating their development path. The frequent emergence of change and evolutions in the extension systems is consistent with the concept of protean career, which success in such a career is highly dependent on the workers' adaptability, self-motivation, and willingness to learn new skills. This is in the line with the desire of boundaryless career for employees who navigate their development path when extension environment moves from merely transfer of technology to get involved in human resource development. Based on social cognitive theory, personal and contextual factors have been identified as influential in voluntary career development behavior. The theoretical contribution of this study is on the conceptual framework design that improves our knowledge about voluntary career development interventions. Understanding determinant of voluntary career development could assist in re-skilling the extension worker to perform job effectively which in addition to increasing personal achievement would increase extension organization achievement by providing higher productivity, efficiency, and satisfaction.

**Keywords:** Contextual Factor, Organizational Factor, Personal Factor, Societal Factor, Voluntary Career Development



## **Explaining Organizational Culture of Jihad-e-Keshavarzi Ministry Based on Denison Model**

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The purpose of this study was to investigate organizational culture in ministry of agriculture based on Denison model. Research method of this survey was descriptive and correlation. Statistical population consisted of the agriculture ministry staffs (N=1222). According Krejcie and Morgan table, 295 staffs were selected through stratified random sampling method. Face and content validity of the questionnaire was established by panel of agricultural education and management faculty members. A pilot test was conducted to determine the reliability of the questionnaire. Cronbach's alpha was calculated 0.95. Descriptive findings showed that aspects of "adaptability" and "involvement" had maximum and minimum scores respectively. The total score on the four main aspects of OC was less than medium. Also, indicators such as: "agreement" and "empowerment" gained highest and lowest scores. The correlation results showed that there is a positive and significant correlation between OC components.

**Key Words:** Organizational Culture (OC), Denison Model, Jihad-e-Keshavarzi Ministry

**Educational needs modeling of engineers, supervisors Rice  
Engineering Consultancy Services Companies Agriculture  
Mazandaran province.**

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Identification and analysis training needs is a prerequisite for a successful educational system and determine the training needs is the first step of educational planning. The purpose of this study was to investigate Educational needs of engineers, rice supervisors Engineering agricultural engineering and technical consulting services companies in Mazandaran. The methodological approach of this study was descriptive- correlational. Statistical population of this research consisted of 186 rice supervisor engineers of Mazandaran province, and based on Cochran formula 113 people were selected randomly through proportional stratified sampling. Data collection tool was a questionnaire , whose validity was confirmed by a panel of experts, and its reliability was measured through Cronbach's alpha. Cronbach's alpha ranged from 0.75 to 0.96. for educational-professional needs assessment of agricultural extension agents was used from Burich model and according to the mean weight discrepancy score (MWDS) were rated. The results achieved from Ordinal regression method indicate that fitted model and the amount percentage of explained variance due to the  $R^2$  Mac Fadden, is 22.3. Namely 22.3 percent of variance criterion variable (training needs) is explained with variables provide the required inputs (Importance of economic factors), timeliness signing contracts from agricultural organization with observer engineers (Importance of economic factors). Preparing Preliminary by the government for Provide the input (amount of Economic factors problems), provide the needed inputs(amount of Economic factors problems), timeliness signing contracts from agricultural organization with observer engineers communication with the Department of agriculture(amount of Economic factors problems), communicate with experts research centers (usage of Information resource), communicate with the Department of Agriculture Jahad (usage of Information resource), the use of educational films and slides (usage of information resource), communicate with friends and other observers (Suitability of information resources), discuss together and to experts (Suitability of information resources), the use of educational films and slides(Suitability of information resources), wages and benefits fit and proper, nature of work, there are good partners, monotonous and repetitive tasks, the lack of



freedom of action and autonomy in work and the number of hits on rice lands covered by Supervisors per week.

**Keywords:** training needs assessment, Burich model, Supervising Engineers rice, mazandaran.

## **Investigating the Factors Affecting on Farmers satisfaction about Jihad-e-keshavarzi in Extension and Services Centers of Kermanshah Township**

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Farmers satisfaction of Extension and Services Centers of Jihad-e-keshavarzi is very important because if close relationship between rural society which supports whole nation nutritionally, and the existence of the whole nation socially and economically. So, these centers can have an effective role in increasing agricultural products, improving farmers access to crucial services and facilities, increasing income, and elevating their quality of life. The main purpose of this study is to investigate the factors of satisfaction toward agricultural extension service centers. The data gathering tool was a questionnaire that was designed based on the dimensions of the SERVQUAL model ( $\alpha = 0.82$ ). Statistical population consisted of farmers in Kermanshah Township (N = 32350). The sample size was identified by Cochran's formula (n=417) accordingly stratified random sampling method was applied. For measuring farmers satisfaction, the customer satisfaction index formula (CSI) was used. Based on findings, there are significant positive correlations among variables including age, income, work experience, and benefits from the training services, participation in farmers' organizations and farmers' attitude with their satisfaction toward extension services. Also, the relationship among complexity of the laws and administrative regulations, distance to extension center, family size with satisfaction was negative. Multiple regression analysis showed that 63% of the variance in dependent variable, satisfaction is due to attitude of farmers, the complexity of the laws and bureaucracy, the benefit from educational services, active participation in rural organizations, marital status, membership in organizations and family size. In general, satisfaction level of farmers was determined as moderate to high (about 67%). Information dissemination about official services and rules of these centers' and holding sessions can develop farmers' satisfaction.

**Key words:** satisfaction, Extension and Services Centers of Jihad-e-keshavarzi, Servqual model



## **Measuring Satisfaction Farmers about Activities of Extension and Services Centers of Jihad-e-keshavarzi in Kermanshah Township Based on Model of Services Quality (SERVQUAL) and CSM**

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Regarding the role of Extension Service Centers of Jihad-e-keshavarzi in economy and education in agricultural activities, also considering different types of customers referring to these centers, customer satisfaction measurement stands as an important criterion for measuring of present service quality. SERVQUAL is an effective model for measuring customer satisfaction and it is based on services quality gap model. Which encompasses multiple dimensions of service quality including: 1-Physical facilities 2-Reliability 3-Responsiveness 4-Assurance of delivered service quality 5-Empathy or understanding of the client. The purpose of this study is to measure the satisfaction of Kermanshah farmers of five dimensions of quality of services of Jihad-e-keshavarzi in Kermanshah. This study is a descriptive practical gauging research in its purpose. Data collection was a structured questionnaire that it provided by model of service quality in 5 aspects and its reliability and validity are proven ( $\alpha = 0.82$ ). Statistical population include Farmers in Kermanshah township (N=32350). Although the number of 417 people were selected through stratified random sampling method as the sample by Cochran's formula ( $n=417$ ). For measurement of farmers satisfaction, the customer satisfaction measurement (CSM) was applied. Based on findings, the level of satisfaction of farmers is as follows: Reliability, Physical dimensions, Assurance, Responsiveness and empathy. Also the average of overall satisfaction was calculated 69.2% that it has 30.8 percent different from the level of expectations regarding the staff special educational courses on how to deal with client, personal attention to each client, Accountability and receive timely advice and guidance to the administrative activities are affecting factors in Farmer's satisfaction of the service quality by Extension and services centers of Jihad-e-keshavarzi.

**Key words:** satisfaction, Extension and Services Centers of Jihad-e-keshavarzi, SERVQUAL model, customer satisfaction measurement

## **An Investigation of the Factors Affecting the Effectiveness of the Practical Courses in the Agricultural Vocational Schools of Fars Province**

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Determining academic effectiveness of practical agricultural competencies plays a vital role in improving educational quality in agricultural vocational schools, which are responsible for providing skillful human resource in agricultural sector. This research project aimed to investigate the factors affecting the effectiveness of practical courses in agricultural vocational schools of Fars province. The population consisted of 258 junior students of agricultural vocational schools during 2013-2014. Based on Krejcie and Morgan's table of sampling, 158 junior students were selected through simple random sampling methodology. The data collection was done using a questionnaire which was validated by a group of experts. Its reliability as measured by Cronbach's alpha was 0.89. Findings revealed that, educational process, managing practical courses and subject matter played an important role in effectiveness of vocational courses.

**Keywords:** Practical Courses, Vocational Agricultural Schools, Effectiveness, Fars Province.



## **Development of Organic structure in the Promoting organizations of Agricultural consulting services, Technical and Engineering**

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In order to reduce the problems of Agriculture sector and increase productivity in this sector and In line with leaving the affairs to the private sector Government downsizing, Creating and deploying a nongovernmental network of Agricultural consulting services, Technical and Engineering in the Country level in the fields of production In order to offer the Extensional, Educational, Technical and Administrative services in order to reduce the government outsourcing, Promote the quality and quantity level of agriculture production, Creating job fields of Collegiate Graduates, more benefiting of farmers from agricultural Sciences and Techniques, Creat the changes in promote the scientific findings and provide services tailored to the needs of farmers, Increasing the coverage of agricultural extension services for producers and Beneficiaries, Increase government accountability to Agricultural beneficiaries and producers and etc Was administered Since 1386. These companies act as an independent legal system and include the Organic collection of physical and human elements and communication facilities that provide the Structure for the transfer of Technical knowledge and exchange of mutual information between farmers and provide the required input, consulting, technical and Engineering services for farmers. In addition, these organizational characteristics and values are the first set of requirements that overshadow the success of an organization. So, the present study in line with investigating the optimal organizational structure in companies such as Agricultural consulting services, Technical and Engineering has been studied the common organizational structures. This research has been done by the documentary method. Required Information has been achieved through studies of library and and search in the electronic resources. The results of study show that in terms of organizational structure, the majority theorists have been classified organizations to two groups: mechanical and organic. Each of these structural models have aspects that affect the companies activity. Has been recognized that organic structures facilitate innovation and success in the most organizations; While mechanical structures are hindering this process.

**Key Words:** Agricultural consulting services, Technical and Engineering companies, Organizational structure, Organic structure, mechanical structure.

## **Ranking of the Offices of Agricultural Organization (Jihad-e-Keshavrzi) in Guilan Province on the basis of organizational intelligence components using TOPSIS technique**

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In today's world, the rapid political, economic, social and technological developments have a significant impact on the organizations such as Agricultural Organization (*Jihad-e-Keshavrzi*). In such an environment, only the organizations which are aware of their own organizational capabilities can efficiently carry out their activities; organizational intelligence is one of the organizational capabilities that considering it from different perspectives can greatly affect the organization success. The main purpose of this research was to rank the Offices of Agricultural Organization (*Jihad-e-Keshavrzi*) in Guilan Province on the basis of organizational intelligence components, using TOPSIS technique. This is an applied research in terms of objective, a descriptive-survey research in terms of the variables control rate, and a field research in terms of data collection. The survey would consist of the managers and experts of Agricultural Organization (*Jihad-e-Keshavrzi*) in Guilan Province (N=1296), where the sample size was determined by Bartlett *et al.* (2001) (n=183) and the subjects were selected by Proportional Cluster Sampling. The research instrument was the Albrecht's organizational intelligence questionnaire (2003). The questionnaire's face and content validity was confirmed by means of a group of experts and its reliability was calculated by Cronbach's alpha as 0.95, indicating a high reliability of measurement instrument. The results obtained from ranking of the Offices of Agricultural Organization (*Jihad-e-Keshavrzi*) in Guilan Province based on the TOPSIS technique showed that the highest and lowest performances in the field of organizational intelligence are related to Talesh and Masal counties and Rasht and Amlash counties, respectively.

**Key Words:** Offices of Agricultural Organization, Organizational Intelligence, Ranking, TOPSIS.



## **A meta-analysis of factors affecting job performance and career agricultural extension agents**

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The purpose of this study, meta-analysis of research conducted on the results of the research done in the field of career and technical factors affecting the performance of an agricultural extension agents, in order to integrate the results of research conducted independently to obtain more accurate results and a more cohesive. In order to achieve this goal of 177 studies done on job performance and career (job performance, professional practice, professional competence, professional development) sites magiran & sid, collected among the 10 study Taking advantage of the tools, review and meta-analysis was "the list of technical and methodological research" (including validity and reliability, statistical sampling and accurate) The results showed that the greatest impact on job performance and professional features professional actors that promote agriculture. As well as skills and technical competence, visited the field, membership in organizations, participating in in-service training courses and access to educational facilities impact on job performance and career are high. These results confirm the findings of researchers.

**Keywords:** performance, reinforcing agents, meta-analysis

### **Application of ICT in improving extension services**

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World demand for food, the need for new technology to farmers and villagers knowledge transfer through educational and promotional activities has increased. Promote agriculture through education a service or system that helps farmers farming methods and techniques improve their productivity and raise rural income levels and living standards of rural residents improve their lives through support and information to promote new technologies. Employment of modern information and communication technologies in promotion of agriculture as a means to promote networking between organizations the purpose is to promote and improve the organization of work and raising the efficiency and effectiveness of extension services. Some of the most significant fields of technology are: Inform the training time, a warning about the spread of agricultural pests and diseases, post information on agricultural inputs. Therefore, this study aims to apply information and communication technology and review approach to library and archival research deals with improving extension services in rural to communities planners and senior managers of rural development will provide suggestions to improve the situation.

**Keywords:** Information and Communication Technologies agricultural extension, extension services



## Evaluate the effectiveness of staff's short term training of Ministry of Jihad-e-Agriculture

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Each training activity must be associated with the effectiveness, otherwise except a waste of resources (financial and human) and time, the result will be nothing. This survey is based on the Kirkpatrick model as a theoretical model aimed to evaluate the effectiveness of the staff's short term training. This evaluation has begun from evaluating the reaction and learning followed by searching for assessment of staff's behavioral changes in the workplace. The target population of this study is the staff of the Ministry of Jihad-e-Agriculture who has participated in the short term training in 1390. The collected data from 405 respondents have been analyzed using structural equation modeling multivariate techniques. The results of this study which were accomplished by two major objectives indicate that: The first objective which seeks to assess the validity of both the reaction and behavior variables that have been treated as latent variables, approved based on the derived factor loadings, the composite reliability and the average variance extracted. The convergent validity of these variables guarantees the accuracy of implementing structural equation modeling in assessing the second objective of study. The second objective of this study is to test three hypotheses related to the relationship between hierarchical levels of reaction, learning, and behavior. The results have shown positive relationships between the reaction and learning; reaction and behavioral change; and learning and behavioral change. The structural model results further suggest that the reaction and learning variables explain 22% of the variance in behavioral change as the dependent variable of the study. The results of this study have provided feedback to the activities of short terms training in the Ministry of Jihad-e-Agriculture that can be used in the re-engineering of this process.

**Key Words:** Behavior, Learning, Reaction, Short Term Training, Training Effectiveness

## **ICS implementation of the empowerment of smallholder farmers in the commercialization of organic products**

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Smallholders play an essential role in food production and food security, in sustaining rural economies and as stewards of biodiversity. The FAO estimates that about 1.5 billion men and women farmers are working on more than 400 million small-scale farms of less than two hectares. These small farmers mostly supply local and regional markets. By organizing themselves in groups they can improve their access to local as well as national and international organic market. There are In excess of 8/2 million farmers in the country, 32 percent of the units in operation for less than one hectare and a total of more than 80% of the units in operation is less than 10 acres. However, today the agricultural production systems in order to meet the growing needs of food for a growing population, the use of new technologies have increased their production quantitatively, but this increase in production has always been faced with numerous environmental problems. In order to solve these problems, organic agriculture as a sustainable farming system was introduced, but the development of small-holder farmers are faced with many challenges. One of the most important challenges of organic farming is to acquire and retain consumer trust. The trust between the consumer and the manufacturer as the main indicator of commercialization and sale of organic products. Important tool for gaining such trust system that is certified organic production standards applicable to the specific product guarantees. Certified organic products in the manufacturing process yeoman can be done through internal control system. An Internal Control System (ICS) is a documented quality assurance system that allows an external certification body to delegate the annual inspection of individual group members to an identified body/unit within the certified operator. In this paper, is explained the structure and the formation of ICS system farming in smallholders operations in order to commercialization of organic products.

**Key words:** ICS, organic farming, smallholders



## **Factors affecting ability of agricultural University students for employment after graduation studying from the perspective of members of the agricultural advisory and development service companies**

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Human resources in each country to determine the socio-economic development trends and this issue with the enabling of human resources will be possible. This study is to investigate members of the agricultural advisory and development service companies views about the factors affecting the rate of employment and work of agricultural graduates entering the market. All members of the statistical community in research and development of agricultural advisory services firms in Zanjan province. N = 365. The data and information needed in this study were obtained by random sampling and with the completion of a questionnaire which its validity by views of the Group of experts to Extension and education agricultural and its reliability has been measured to cronbach's alpha . The data was analyzed by spss software. The results of the research showed that the most important factor influencing the employment of agricultural graduates from the perspective of members of the agricultural development and consulting services company, to acquire the necessary skills through participation in the practical training classes. Also, the results showed that increasing the capacity of admission with an average of 5.11, reducing the quality of study with an average of 5.10 and the lack of the required facilities with an average of 4.9, including the main obstacles and problems prioritized by the members of the company who felt needs to pay attention and check to Correction them. As well as the results of the comparison of averages showed that Between View members by gender, field of study, etc. regarding the rate the importance of each of the factors is the difference significant at the 5% level.

**Key Words:** employment- graduate of agriculture- Agricultural consulting companies

## **Investigation Attitude agricultural students toward employment in the agricultural sector**

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Improve students ' Attitude toward employment in the agricultural sector is one of the factors affecting the increase of their capabilities. This research has done with main purpose Investigation Attitude agricultural students toward the employment in the agricultural sector. Statistical population consist of undergraduate Agriculture student of Gilan University. 200 students base with randomly sampling method were selected as sample of study. Data collection instrument was a questionnaire that Cronbach's alpha and panel of experts has used for measuring its reliability and validity . data were analyzed through SPSS. The results showed that the following factors have a role in improving the future career of agricultural students that these factors are Public policies for employment and career opportunities available, student interest and abilities towards agricultural fields related jobs, capital and facilities, and the high quality of the education and to acquire the necessary skills through participation in practical classes and relation with the work environment.

**Keywords:** Attitude, employment in the agricultural sector and agricultural students



### **Required before: Networking the consulting, technical and engineering services In agriculture**

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During 1386 and 1367, in line with Article 44 of the Constitution with the aim of implementing decentralization and devolution of government functions to the private sector Transferable tenure, employment creation and development of agricultural graduates in the fields of , providing consulting services, engineering, agriculture and the farmers and producers of agricultural development, deployment and operations of more than 2,600 of the company's consulting services, engineering, agriculture came into practice in the form of over 22,000 Young graduates in agriculture and natural resources companies were organized and active. has already been done, despite all efforts, many of these companies do not have the efficiency and are like an island without regular communication governmental units and private and public system of agriculture which activities are sufficient merely to limit the exercise of granted tenure on agricultural province, located in a cycle of disappointment activity. This caused that the matter of observer Engineers recruitment which includes most of the active engineers of these companies become a danger to jeopardize the future performance of non-governmental structures which provide consulting, technical and engineering services in agriculture. this paper combines the resources and library studies, and the authors experience, descriptive, drawing than ideal conditions and corporate activity, and practical solutions and recommendations needed to improve the structure of this company offers. soul of the most important article eliminate corporate threats and challenges, review of activities and networking consulting services, technical and agricultural engineering in agriculture is real and legal systems. along with these solutions, other proposals include a comprehensive evaluation of establishment and operation of companies continue to support Of state law, the central trade unions participating employer S, the companies Activity towards Private; organizing attract graduates New graduates at the Company's And, applying the system Required expertise and access to corporate e-mail In local markets, regional and ...

**Key Words:** Agricultural development, engineering and agricultural advisory services, Networking

### **Analyzing of information needs and communication network of agricultural consultancy services firms' experts and agriculture office experts in Meshginshahr Township, Ardebil Province**

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Information is the most important tool for any activity. To do anything, it must first properly identify the relevant and needed information and then be prepared. This study aimed to survey Information needs and communication networks of experts of agriculture office and agricultural consultancy services firms in Meshginshahr Township. This study is applied a descriptive- correlation survey approach. Sample for this study was selected based on random sampling and Cochran statistics of the population of experts of agricultural office and advisory services firms in Meshginshahr Township (n=100). Data was gathered through survey questionnaire. The results showed that the top three mostly used information sources by experts were "Persian books", "scientific technical reports", and "Internet Websites". Regarding communication channels: "in-service training courses", "office library", and "TV" were three top communication channels. "Lack of time flexibility for doing job tasks" was the main handle to seeking information. Information about ways of improving efficiency, new technologies, and new issues raised in agriculture is the most important information needs by the experts. The most satisfaction of communication channels was expressed ease of understanding, precision, accuracy and be updating of communication channels by experts. The most satisfaction of information sources was expressed precision, accuracy and its updating by experts.

**Key Words:** Information needs- communication network - agricultural experts- agricultural office- advisory services firms



## **Analyzing the factors affecting entrepreneurial spirit development among agricultural post-graduates**

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The main purpose of this study was to analyze the factors affecting entrepreneurial spirit development of post-graduate students. The statistical population of the study was 140 post-graduates from Bu-Ali Sina University. The 103 samples were selected by the Kerjcie and Morgan formula randomly. In this research, the important tool for data gathering was a questionnaire. The accuracy of the items and indicators of the questionnaire were validated by experts' views. For assessing reliability of the questionnaire, the questionnaire was first given to 30 students, then a Cronbach's Alpha test used and it calculated 0.87. Results from factor analysis method among 19 factors indicated that these factors can be grouped into five ones include: importance and value of entrepreneurship between society and university, use practical experiences and modern methods for entrepreneurship education, promoting entrepreneurship course at universities, government supports, and relevant entrepreneurship issues compatible to needs of the labor market. Finally according to the results some implications and recommendations have been drawn.

**Key Words:** entrepreneurship education, entrepreneurship spirit, agricultural students

## **The Analysis of Barriers of Entrepreneurship Development in Agricultural Advisory Services Companies from Members' View Point (Case Study: Mazandaran Province)**

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Challenges of agricultural section in Iran might be lack of human resources specialist to help farmers. Also Iran has faced a crisis of unemployment among graduates in agriculture majors. All these problems and crisis have caused to pay more attention to entrepreneurship as a fundamental issue in recent years. One of the strategies for reducing unemployment of graduates is establishing and activating NGOs, like: agricultural advisory services companies (AASCs) and developing their entrepreneurial activities. Considering the abilities of such companies, problems which are related to population growth and unemployment in agriculture graduates, it seems necessary to do this study. The purpose of this study is to analyze the barriers of entrepreneurship development in the agricultural advisory services companies. The research in terms of goal is applied research because, its results can be used in the planning and decision making, in terms of collect of data is non-experimental (descriptive) research and in terms of method is correlation. Statistical population is all agricultural advisory companies' members in Mazandaran Province (N=1221). According to Cochran formula, 154 were selected by proportional stratified sampling. The main instrument to collect the data was questionnaire and its validity of questionnaire was confirmed by experts and its reliability was measured through Cranach's alpha (85%). The data were analyzed using the technique of factor analysis and by SPSSv16. Based on the perception of the respondents and factorial analysis, the factors were categorized into five groups, namely political, educational, psychological, economical and social barriers have explained about 60 percent of total variance in entrepreneurship development. The findings reflect an important fact, namely that entrepreneurship would have a positive impact on community and employment.

**Key Words:** Barriers of entrepreneurship development, Agricultural advisory services companies, Agricultural advisory services companies' members



## **Determinants of voluntary career development interventions: The influence of personal and contextual factors among Malaysian extension workers**

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Managing Malaysian agriculture, which generates 7.5% of country GDP to meet rising global demand and to respond to the changes and opportunities, requires highly skilled extension workers. This conceptual lens aims at re-skilling extension workers by investigating determinants of voluntary career development interventions among Malaysian extension agents. The importance of voluntary career development interventions as the focus of this study is supported by key evolutions of extension context that require extension agents take the responsibility for charting and navigating their development path. The frequent emergence of change and evolutions in the extension systems is consistent with the concept of protean career, which success in such a career is highly dependent on the workers' adaptability, self-motivation, and willingness to learn new skills. This is in the line with the desire of boundaryless career for employees who navigate their development path when extension environment moves from merely transfer of technology to get involved in human resource development. Based on social cognitive theory, personal and contextual factors have been identified as influential in voluntary career development behavior. The theoretical contribution of this study is on the conceptual framework design that improves our knowledge about voluntary career development interventions. Understanding determinant of voluntary career development could assist in re-skilling the extension worker to perform job effectively which in addition to increasing personal achievement would increase extension organization achievement by providing higher productivity, efficiency, and satisfaction.

**Keywords:** Contextual Factor, Organizational Factor, Personal Factor, Societal Factor, Voluntary Career Development

## Effectiveness factors on participation of the Garmsar's women in agricultural and Nonagricultural activities

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The goal of the large country in achieving economic growth and development, requiring development programs. Issue of participation of women, particularly rural women, in the transition from underdevelopment, is very important Globally, women contribute significantly to agricultural production and they play a pivotal role in mixed farming or livestock-crop integrated production system, which is known as the most-sustainable livestock production system in the world. The purpose of this study was investigated to the factors affecting Garmsar rural women's participation in the rural affairs. The research design of the study was a survey utilizing descriptive-correlation technique. The statistical population consisted of rural women in the Garmsar township (N=1600) and it done in the 2013 years. A proportional stratified sampling method was used to select the 134 women as samples of the study and for the purpose of determining the sample size; the authors were aided by the Cochran's formula. A questionnaire was designed as an data gathering instrument. The instrument content validity was achieved by a panel of extension and rural development experts. A reliability analysis of questionnaire was conducted by a pilot test and a Cronbach's Alpha values were obtained ranging 0.72-0.84 for various parts of the questionnaire by use of SPSS v.16 software. The results showed that, effective social factors on participation are women's role in children upbringing, taking their opinion poll in children's marriage and survey them during problems. The results of bivariate correlation test showed that there was a positive and significant correlation ( $p=.01$ ) between variables such as: age, marital background, use of information resource and variable of participation in agricultural activities. Additionally, there was a positive and significant correlation ( $p=.01$ ) between variables such as: economic-social factors, use of information resource and variable of participation in non-agricultural activities. The result of the multivariate linear regression indicated that 40% ( $R^2=0.40$ ) of the variance in women's participation in agricultural activities could be explained by their marital background. Also, this estimation in related to women's participation in non-agricultural activities was calculated 48% ( $R^2=0.48$ ) by variables: age, marital background and economic-social factors.

**Keywords:** Rural Women, Participation, Agricultural and Non-Agricultural Activities.



## **Relationship between Job Satisfaction and Social Capital among Agricultural Insurance Agents (A Case Study in the Mazandaran Province)**

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The purpose of this research was to study relationship between job satisfaction and social capital among agricultural insurance agents. The research design was descriptive-analyzed. Instrument validity was established by a panel of experts and its reliability was confirmed by Cronbach alpha coefficient ( $0.73 < \alpha < 0.86$ ). The statistical population was all agricultural insurance agents in Mazandaran province, (N=113). According to census method, 97 questionnaires was gathered (n=97). The descriptive result of research indicated that majority of respondents stated the amount of job satisfaction and social capital was at moderate level. The other results showed there were positively statistical relationships between the amount of job satisfaction and social capital. The results of the bivariate regression revealed that 60.50 % of variation of the amount of job satisfaction stemmed these variables namely common objectives, the amount of informal social linkages, the amount of common norms and networks, and thrust, respectively

**Key Words:** Social Capital, Job Satisfaction, Agricultural Insurance Agent, Mazandaran Province.

## **Investigating the Motivation of the Kermanshah Agricultural experts of Seeking Employment Data**

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Growing need for various forms of information makes the life of human society strongly circulation of information and knowledge - while supply is dependent. High volume production of scientific information and local knowledge as well as valuable resources among indigenious communities, more attention to the organization of the circulation system of agricultural information pointed out. The aim of this study was descriptive - correlation study of agricultural experts incentive Kermanshah city is seeking career information. The population is the agricultural experts city of Kermanshah that 110 of them using simple random sampling, the samples were determined. Data were collected using a questionnaire compiled and analyzed in SPSS software was used. The results of this study indicate that the personal interest to develop information, professional responsibility and delegated tasks and updating technical information to improve corporate activities, including the main motivations for seeking expertise is occupational information. Also, special education, education, and a significant percentage of the suitability of the information -seeking behavior change as information is explanation them.

**Key Words:** Motivation, experts Agricultural Jihad ,Career Information



## **Entrepreneurial role in rural development and agriculture**

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This paper examines the role of entrepreneurship in rural development . Literature survey shows that people in rural communities rural development programs should be organized within the framework of civil society organizations in order to become certain abilities, their talents and creativity to good use and manage . Since in most regions, including rural areas are poor Drhalfrsaysh , scholars and policy makers worldwide attention shifted to the rural development problems and issues they have . Rural development is a process that leads to improvement of villagers ' ability to control their environment and the wider application of such controls will ensure that the result will be . Entrepreneurship is a strategy that many of today's developed countries and the developing world to address issues and sustainable rural development sector have chosen . Even more important is to realize the real sector development , entrepreneurship development will also have a comprehensive, holistic and stable , so that entrepreneurship, economic, social and ecological together to develop the sector . This study was undertaken in accordance with the general policies of the country's agriculture , library and Internet research is based Brrvshre view.

**Key Words:** Entrepreneur ship, rural development, agriculture development.

### **Exploring job creation projects for agriculture graduates(Case study: Greenhouse Complex of Dekamizadeh, Qasr-e Shirin City)**

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Basically greenhouse facilities are constructed with the purpose of sustained recruitment and employment of agricultural graduates; however, the fact that how much these greenhouse facilities have been set up in an appropriate place needs to be assessed. The first greenhouse facility of Kermanshah city named Dekamizadeh greenhouse facility was constructed in the 80s in Qasr-e Shirin town. The aim of the present research is to study the effect of this greenhouse facility on sustained employment of agricultural graduates. The research design used in this study is qualitative method. The data used in this research have been collected through observation, individual interviews and telephonic interviews and the collected data have been analyzed with the use of Nvivo 10 software. The research population includes all the members of this greenhouse and a number of its experts. The findings indicate that this facility hasn't been constructed in a proper location. Failure to adopt land use planning process in the beginning of the work in order to locate a proper location for construction the facility, employing Non-specialist people who didn't have any relevant knowledge in this filed, inappropriate use of the structures used in the facility considering the condition of the area as well as lack of coordination between the authorities and beneficiaries on one hand, and on the other hand lack of consistency between the Greenhouse owners have led to the Failure of this national project. The findings of this study can have some benefits for the authorities of the Department of the Agriculture of this province which is before launching such projects, which their major goal is to create employments, determining the proper area location for them can be a good basis for risk analysis of these projects.

**Key Words:**Greenhouse Complex, graduates, Qasr-e Shirin City



## **Determination efficiency and productivity in agricultural education and extension researches in Iran**

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Recently many efforts have been done to competition scientific research in world level. So, some improvements have been done to make motivation for increasing productivity and efficiency of scientific research. Productivity and efficiency of research are focused on political improvement in academic systems to make necessary improvement on completion context of researches. Agricultural education and extension research are interdisciplinary researches and based on most policies developed in agricultural sector too. So, attention to circumstance of these researches could have positive political and scientific outcomes. Therefore, this paper tries to determine productivity and efficiency of agricultural education and extension research in Iran. For this aim, numbers of educational and extensional articles published in agricultural journals have been considered as output. Expenditure of development and research in agricultural sector, numbers of universities with education and extension department and population are inputs. Data envelopment analysis was used to survey efficiency and Kendrick index was used for productivity analyses.

**Key Words:** productivity, agricultural education and extension, data envelopment analysis, Kendrick index, efficiency

### **Change management; strategic necessity for agricultural extension organization improvement**

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Today ,the biggest problem is change and transformation that every organization face whit it. Twenty-first century is change century in the nature of work and its requirements. So organizations will success that response to the change well. It requires the implementation of effective change management and directors of organizations should learn how leadership and management in uncertainty and crisis situations to prevent of power wasting and money. Change management is one of the most important is sues for management means keeping employees and organization for continuous learning and development That it is kind of thinking for the future, and including a series of tools, processes, and principles for managing change in order to achieve expected out come sand results. Therefore, organizations need to constantly monitor the internal and external event sand trends, so achieve organization improvement. however agricultural extension organization is one of change actors to capacity building and rural communities development. So Change management is strategic necessity for this organization . In this context, this paper aims to investigate change management in agricultural extension organization at both organizational internal and external aspects and analysis of challenges, requirements that was used analysis – review method.

**Key Words:** Change management, organization improvement, agricultural extension



## **Organizational Entrepreneurship necessity for agricultural extension organizations in Iran**

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Today with on going changes In the organization ,entrepreneurship plays a central role in organizational activities also agricultural extension organizations have widespread participation in the economic, social and cultural areas of rural farming communities and sustainable development so continuous Improvement Must Be considered, Should be adapted with external change of organization such as changes in the field of agricultural technology, communication methods, the needs of farmers, rural conditions, import and export of agricultural products and market economy. Accordingly bureaucratic traditional organizations should transfer to entrepreneurial organizations. Organizational entrepreneurship is stimulating way and then applying of people within an Organization and the way trans form a organization to entrepreneurship organization. this article with method review-analysis introduced organizational entrepreneurship and its necessity, invested preventive and promoter factors of organizational entrepreneurship and also describes the models of organizational entrepreneurship and entrepreneurship in agricultural extension organizations in Iran, Kuratko model compared to other models sees more compatible with conditions of agricultural extension organizations. And one of the requirements to overcome the problems of agricultural extension organizations is organizational entrepreneurship relying on this model.

**Key Words:** Organizational Entrepreneurship, agricultural extension organization, Kuratko model

## **KM Development: Implications and Outcomes for Agricultural Extension organization**

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Knowledge is the engine of knowledge-based development and it will have an increasing role in the growth of organizations and communities. In order to provide a picture of the organizations and communities that make the most use of knowledge, the complete cycle being a learning organization and on a larger scale in terms of the learning community are being used. Learning organization is a modified model and a new way of thinking about the organization, in the age of knowledge. KM tool by most governments as a strategic resource in the public sector have been accepted. knowledge activities in the Agricultural Extension organization can led to assuring the development and continuation of activities at all levels in order to preserve critical knowledge , applying knowledge in all cycles, the synergistic combination of knowledge , acquiring knowledge continuously develop new knowledge through continuous learning experiences by internal and external knowledge can be created. This paper aimed at investigating the outcomes of KM in Agricultural Extension Organization and its importance to become a learning organization identifies its implications based on analyzing external environment and internal components of Agricultural Extension Organization.

**Key Words:** Knowledge management, learning organization, agricultural extension



## **Measurement Model of Organizational Entrepreneurship in Agricultural Technical Engineering and Advisory Services Enterprises in the Southern Townships of the Kerman Province**

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The main purpose of this descriptive- correlative study was to study of measurement model of organizational entrepreneurship in agricultural technical engineering and advisory services. The population of this study was including the 346 members of the agricultural technical engineering and advisory service enterprises in southern townships of Kerman province. Based on Bartlet et al. (2001) table, 215 members were selected through stratified proportional sampling method. Questionnaires were used to collect the data. The content validity of the questionnaire was confirmed by a panel of experts. The confirmatory factor analysis was used in order to determine the construct validity and the reliability of the instrument and estimate the measurement model using the AMOS<sub>20</sub> software. The results showed that importance of the all four factors mentioned in the research conceptual model has been verified based on field data (appropriate fit of the model) and these factors including: organizational renovation, risk taking, innovation and pro- activeness had a significant relationship with construct of organizational entrepreneurship. Based on the findings, it can be concluded that the theoretical foundation of the study was valid and the developed model/ scale for measuring the organizational entrepreneurship.

**Key Words:** Organizational entrepreneurship, Components, Agricultural advisory services.

**Track 5: Agricultural Education Systems:  
Changes, Challenges and New Missions**



## **Factors affecting on the entrepreneurial spirit among agriculture students: Study of Ramin Agriculture and Natural Resources University**

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Entrepreneurship as a development strategy has an important role in development programs. The purpose of this study was identifying entrepreneurial spirit status among Ramin agriculture and natural resources university students and impacts of personal and entrepreneurial characteristics on its. Research method of this study was survey research. In order to collect data, a researcher made questionnaire was designed that validity of it was confirmed by expert views and its reliability Alpha Coefficient was 0.8. Sample size of study estimated by Morgan's table (n=150) and them were selected randomly. Data collected were analyzed by SPSS software. Result of regression analysis revealed that variables such as: interest, perseverance, year of entry to university, entrepreneurship experiences and amount of fund allocated parts of entrepreneurship spirit changes. Result analysis of comparative tests indicated that there is no significant difference between students' entrepreneurship spirit with gender, risk taking, family supported and their academic disciplines.

**Keywords:** Entrepreneurship spirit, Entrepreneurship characteristics, Agricultural students, Ramin Agricultural and Natural Resources University.



## **Study of Psychological factors Affected to intention of student to Entrepreneurship (Case study Agriculture and Natural Resources Students Campus at Razi University in Kermanshah Province)**

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The present study was conducted by using descriptive approach in order to identify psychological variables that affected entrepreneurial intention. Population of this study was consisted of B.S. senior students of Razi University's agricultural and Natural Resources college (N= 258), 146 student were selected by random sampling and Bartlett table. Using factor analysis technique, 6 factors were identified as entrepreneurship intention's affecting factors. These factors explained 59/17percent of total variance and included: need to progress, self-efficacy, control center, risk taking, creativity and the need to independence. 40/82 percent of the remaining variance is related to other factors or variables that were not considered in this study.

**Key Words:** Psychological factors, Entrepreneurial intention, Razi University.

**Analysis of the problems facing practical courses from the perspective crop science students of Payame Noor University of Dehloran province**

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Unemployment among huge part of agricultural graduates implies that, this students' group have been unable to acquire the necessary skills to carry out agricultural activities. So according to importance of practical courses in students training, this study was conducted with the purpose to analysis problems facing training courses from perspective of Dehloran Payame Noor university's crop science students. Statistical population was 24 student of Dehloran city and 26 students of Mosian district that all of them were examined as sample. The researcher made questionnaire's validity was confirmed by experts and its reliability was verified with reporting alpha value (0/89). Exploratory factor analysis results showed that 5factors including: lack of educational and welfare facilities, lack of proper planning and educational activities clarification, lack of proper monitoring and evaluation, lack of training and necessary support for employer and poor students preparation; have explained 82/179 percent of total variance. The results of study can help relevant authorities to improve design and implementation of practical courses.

**Key Words:** training courses, crop science students, Payame Noor University, Dehloran province.



## **Assessment of the Educational Needs of Agricultural Graduates in Management Dimension by Use of Borich Model**

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Today one of the most important issues in higher education in general and particularly, agricultural higher education is continuous assessment of the quality of education. The need to assessment and identified the deficiencies higher education is necessary to improve this process. Hence, the main objective of this study was to assessment the educational needs of agricultural graduates in management dimension by use of Borich model. The population of this research were included the members of the agricultural engineering organization is the Esfahan province (N=2036). Number of samples using Cochran's formula was 280 people who were chosen from the eight fields of irrigation, horticulture, soil science, Crop, food industry, animal science, medical plant and agricultural machines. The main tool for this study is a questionnaire that the formal validity, obtained with opinions professors and experts and reliability by using Cronbach's alpha (0/98). The model Borich is used, for assessment, training needs the Graduates. Therefore, the competence 12 was obtained from a literature review of research literature, according to the "weighted mean difference scores» (MWDS) were rankings for graduates. The results of research showed that graduates need to do their job in management lessons in level "high" are evaluated. Also, the alumni, lessons the rights and legal "rights office, work", the principles of economics and production management, entrepreneurship and job creation, and project planning and evaluation in the first priority of your job requirements were introduced.

**Key Words:** Management, Educational needs, Borich model, Agricultural Graduates.

## **Employment status of graduates of college of agriculture, Shiraz University**

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According to development theories, educated individuals have a profound role in development among developing and under-developed countries. Educational institutions are responsible for educating skilled individuals. However, they are faced with a challenge of not meeting the expectations and as a result; unemployment rate among college graduates is rising. The unemployment and under-employment among college graduates in Iran occurred in the 1970s. This phenomenon was more apparent among agricultural college graduates since more graduates were entering the world of work. The purpose of this study was to determine factors influencing employment of agricultural college graduates. Ex-post facto design was used with survey methodologies. The population consisted of all agricultural college graduates within ten different departments (N=1357) who graduated from 1378 to 1382. A multi-stage random cluster sampling techniques was used. The survey instrument was field and pilot tested using six department specialists. The employment status of graduates was determined using is having a job. These criteria were tested against factors such as individual, social, economical, cultural, job experience, educational experience, and gender. The quantitative results showed that 55.3% of graduates were female and 44.7% were male. Among them, 77.7% held a B.S degree, 15.1% were graduate student, 5.6% were MSc. graduates, and 1.7% was Ph.D. students. Moreover, 49.1% of respondents were employed, 35.7% were unemployed, and the rest of the respondents were continuing their education or were serving in the armed forces. In regards to job type, 45.45% of employed respondents were involved in private enterprises, 39.78% were in government sector, and 10.23% were self-employed. Of these, 57.95% hold a temporarily job, 27.27% hold a permanent job, 48.86% hold a full time job, and 39.77% hold a part time job; 53.41% of respondents worked in their field of study whereas 44.32% did not. The most important factors that related to having a job were gender and employment status during study. In addition, graduates considered social relations, aggressiveness in finding a job, family support, and cultural norms to be the most important factors in finding a job. They also perceived their courses to have the least significance in finding a job. Results also indicated that departments of agricultural extension and education had the most employment rate



whereas graduates of horticulture department had the lowest employment rate among all departments in the study. Unlike agricultural extension and education students, the students in agronomy departments were more interested to pursue higher education. However, agricultural extension and education graduates filled jobs that were related more to their field of study than animal science students. The mean job satisfaction among females was higher than males. However, males felt more secure in their jobs.

**Key Words:** Graduates, Agriculture, Employment, Shiraz University.

## **Improving electronic Entrepreneurship at the University**

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Today, by spreading the knowledge and technology into all aspects of human's life the business and commerce sectors have been influenced throughout the world. One important aspect is internet and electronic technologies in which businesses can be improved so that if one person has entrepreneurial intention and decision for doing a work s/he can use internet for marketing, sale, and distribution of his or her productions. E-entrepreneurship means to market, sale, and distribute the productions by using internet in order to access a low cost and a high income. On the other side, the university as the most important institute can have a major proportion in training the skillful manpower for the labor market. For this reason the current paper has an aim at study the possible action courses for the e-entrepreneurship development at the universities using a library research method with focusing on valuable and new documents. According to the results, there are some solutions for developing e-entrepreneurship at the universities includes: culture-building, managerial and planning, financial and banking, individual, characteristically traits, and entrepreneurial skills solutions.

**Keywords:** e-entrepreneurship, entrepreneurship development, university.



## **Analysis of Abilities and Attitudes of Graduates toward sustainability (Case study: University College of Agriculture and Natural Resources, University of Tehran)**

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Higher education system has particular potential to facilitate social response to increasing sustainability challenges facing communities throughout the world. University graduates as heretics of technology and future leaders can be part of the solution through gaining sustainability competencies during their study. Therefore, the present study has been done to analyze the part of sustainability competencies including the abilities and attitudes of graduates towards sustainability. Statistical population was included graduates of the past 20 years at the University College of Agriculture and Natural Resources, University of Tehran, and 120 from them were selected as sample. Data collection was done through a researcher-made questionnaire. To measure validation of factor structure of each of the latent variables was used a confirmatory factor analysis using LISREL software. The results showed that the skills' levels of critical thinking and creative thinking in sustainability were moderate in the majority of graduates. Also, about 77 percent of graduates did not any kind of interdisciplinary collaboration during their study. Analysis of level of sympathy revealed that empathy among more than 60 percent of graduates was above the mean. Also, commitment to sustainability among 45 percent of graduates was less than the mean. Respect to past, present, and future generations among 60 percent of graduates was moderate. According to the results, the integrating sustainability content in higher education system is proposed.

**Key Words:** Sustainable development, Sustainability education, sustainability competency, Graduate.

## **Investigation of the Relationship between Learning Styles and Personality Traits of University of Zanjan Students**

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Learning styles in the education process is considered as a one of crucial components. In this case one of the most important variables in learning process is focusing on personality characteristics of individuals. Therefore, this study aimed to investigate the relationship between learning styles and personality traits of University of Zanjan students. In order to achieve the objectives the data was collected from a sample including 140 students of University of Zanjan in all degrees. Data was collected by using a survey method and questionnaire was the main instrument. The questionnaire was included three sections of Kolb learning styles, NEO Inventory (NEO) Personality traits of individuals and demographic characteristics of respondents. Data analysis was performed using SPSS software. The results showed that in terms of learning styles most of students had an active experimentation learning styles, and in terms of personality traits most of them had a both Neuroticism and Agreeableness types of personality. Also, the results of correlation analysis showed that there was a positive and significant correlation between extraversion, openness, agreeableness and consciousness personality traits with concrete experience, reflective observation and active experimentation learning styles. While there was a negative and significant correlation between neuroticism personality characteristic with abstract conceptualization and concrete experience learning styles.

**Key Words:** learning styles, personality characteristics, students.



## **Analysis of Razi university's agricultural student perspective about entrepreneurship barriers**

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Entrepreneurship has been studied increasingly in recent years. However, study on entrepreneurship's barriers has little experience. So this survey was conducted to analysis Razi University's agricultural student perspective about entrepreneurship barriers. Population of this study consisted of undergraduate students in 1390 – 1391 at agricultural faculty (N= 2850).200 of them were selected by Cochran formula and stratified random sampling as sample. Data collection tools of this research was a structured questionnaire that it's validity confirmed by entrepreneurship professors and scholars. In order to measure reliability of research tool, Cronbach's Alpha coefficient was calculated, this calculated Alfa was 0.93 which shows it's acceptable credit. For data analysis, SPSS software was used. Results indicated that educational, supportive, policy transition, informational – communicational and infrastructural factors are considered as entrepreneurship's barriers from under study student's perspective.

**Key Words:** entrepreneurship, barriers, students.

## **Investigation Factors Influencing Agriculture Student Attitudes toward Employment in Agriculture Sector (Case Study: University of Zanjan)**

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The active presence in the agricultural sector in addition to comprehensive development of this sector could cause economical development and even development of the country. Stability and dynamics of the agricultural sector is only possible through employment of skilled and specialist human capital in this field. Therefore focus on graduates of the agricultural majors as a large part of the important and influential human capital in the country's economy is essential. Achieving this important point needs concentration on the employment of graduates of the agricultural majors in the agricultural sector. Employment is one of the most fundamental concerns and needs of youth, especially among university graduates in agriculture (eight thousand people per year) that seems inevitable the necessity of investigating factors influencing the improvement in attitude, motivation and interest in agricultural students to employ in agriculture. Hence, this study aimed to investigate factors influencing agricultural student attitude toward employment in the agricultural sector by using survey method. The study population consist of all students in the Agriculture department of University of Zanjan in year 91-92, that as a sample 118 student are selected by using random sampling method and data was collected using a questionnaire. Data analysis was performed by SPSS<sub>20</sub> software. Descriptive findings revealed that %26.3 of respondents have lived in the village and %33.9 has chosen the agriculture major based on personal interests. Analytical results showed that there is a significant difference in attitudes to employment in the agricultural sector in terms of whether or not there is a history of settlement in the countryside. The result of multiple regression model analysis also showed that factors such as academic performance, attraction and repulsion work in the village have a significant effect on the attitude of student toward their employment in the agricultural sector.

**Key Words:** Attitude, Employment, Interest, Students



## **An investigation of female Students' attitude toward self-employment and that's barriers(Case study: Agriculture and Natural Resources students, University of Zabol)**

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The main purpose of this study was to investigate Attitude of female students toward self-employment and that's barriers affecting on Self-employment. The statistical population of the study consisted of 1500 agricultural and natural resources students in 2012-2013 academic year of Agriculture and Natural Resources, University of Zabol from that 175 students were randomly selected. The research tool was a questionnaire. The research instrument was given to the academic staff of the department of agricultural extension and education to test its content validity. Cronbach alpha was calculated to measure reliability of questionnaire ( $\alpha = 0.76$ ). Data were analyzed using SPSS version 21. Results showed that agricultural students had not a positive attitude toward self-employment. Also, results indicated that Lack of sufficient capital and inappropriate and restrictive laws for starting self-employment are the main barriers affecting on self-employment. The results showed that there wasn't Significant differences in attitudes towards self-employment in undergraduate and graduate students.

**Key words:** self-employment, attitude toward self-employment, agricultural and natural resource students.

**Relationship between learning styles and Academic achievement among agricultural and Natural Resources students(Case study: campus of agriculture and natural resources, University of Tehran)**

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The main purpose of this study was to explore learning styles and the relationship between the learning styles and academic achievement among agricultural students, Campus of Agriculture and Natural Resources, University of Tehran. The statistical population of the study consisted of 3859 agricultural and natural resources students in 2009-2010 academic year. The study's respondents were 285 students. The data were gathered through an instrument consisted of main two parts including "Kolb Learning Style Inventory"(1985) and Demographic Data Questionnaire. The validity of the questionnaire was approved by the judgment of a panel of faculty members of the department of Agricultural extension and education, University of Tehran who were assumed here as experts. In order to measure the reliability of the questionnaire, Cronbach Alpha coefficients were calculated for the main scales of the questionnaire which ranged from 0.69 to 0.73. Data were analyzed using SPSS version 15. Results showed that there was relationship between learning styles and academic achievement of agricultural and Natural Resources students. In the study, majority of the students were found to have Assimilator and Diverger learning styles.

**Key Words:** learning styles, Academic achievement, agricultural and natural resources students.



## **Perceptions of Bu-Ali Sina university's agricultural students regarding entrepreneurial activities about agricultural labor market**

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Entrepreneurship as a valuable process leading to a new production or service has a key role in community's growth and development. The agricultural students as the educated manpower how are supposed to enter future labor market are the most important groups which their perceptions about entrepreneurship may improve the entrepreneurial activities. This research has an aim at identifying Perceptions of Bu-Ali Sina university's agricultural students regarding entrepreneurial activities about agricultural labor market. The research's statistical population included all agricultural extension and education students during 2014 academic year. Of those students a number of 100 students were randomly selected as samples. The main research data gathering tool was a researcher-made questionnaire which face validated by a team of experts and the reliability of the questions were tested by using a Cronbach Alpha test ( $\alpha= 0.76$ ).the results showed that there was a significant relationship between the variables of age and the students' perceptions about entrepreneurial activities. The results also revealed no significant relationship between the variables of gender, level of education, the academic field, and the students' perceptions about entrepreneurial activities. According to the results there was no significant relationship between the students' individual status and their entrepreneurial activities. Finally, some policy recommendations and implications were drawn based on the results and the findings.

**Key Words:** agricultural students, entrepreneurship, entrepreneurial activities, employment, perception.

**Survey students' attitudes than role of knowledge-based economy  
in achieve economic development(Case of extension and rural  
development of Razi University)**

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Today, every country requires to increasing the production science for promotion and progress. In the meantime competition in the employment agencies and development organizations is important issue in achieving knowledge-based economy. Production knowledge-based economy needs to provision of necessary infrastructure and attention of politicians and other presenters in applying performance factors to achieving knowledge-based economy and use it. Strengthen and improvement students' attitudes are facilitator for achieving knowledge-based economy as the richest sources in various areas in applying fundamentals. Meanwhile, Agricultural Education and Extension with rural development is facilitator for this goal, too. So, the aim of this study is survey of student attitudes Agricultural Education and Extension and rural development at Razi University towards the knowledge-based economy in achieving knowledge-based economy. This research, is quantitative and cause-correlation and Sample study was 60 students that selected among agricultural education and extension students at Razi University by random sampling. Results showed, students Agricultural Education and Extension and rural development at Razi University have Positive attitudes toward the role of knowledge-based economy and they have imperfect attitude toward the role of knowledge-based economy. Also, the results showed there is significant and positive relationship between students' attitudes toward capacity and ability of Agricultural Education and Extension to achieving acknowledge-based economy.

**Key Words:** Student perspective, Knowledge-based economy, Agricultural Education and Extension, Economic growth.



## **Attitudes Senior Agriculture Toward Practical Education (Case Study of University of Zanjan)**

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The main purpose of this study Attitudes senior Agriculture Toward practical education. The population of study consisted of 352 people of senior Zanjan Agriculture University through 80 members of them way selected for this research by stratified sampling with proportionate allocation. Content validity of research tools was justified by guide professor and sighted persons at over find. For determining reliability of the questionnaire was used from Cronbach Alpha that was amount of that for each one questionnaire scales of optimum 0/938. The result show that 4/3 percent respondents have perfect opposition attitude toward agricultural Practice.10 percent have opposition attitude toward agricultural Practices and 31/4 percent have no opposition. While 50 percent have agreeable course of agricultural Practices at the 4/3 percent have perfect agreeable attitude toward agricultural Practices. At here the most frequency is related student that have well attitude to this course and this event is in the means of justify to be useful to course.

**Keywords:** Agricultural education, Agriculture practical education, Attitudes senior.

**The investigation of agricultural graduates' motives to serve in rural areas: The case of the Graduates of agricultural college of Shiraz University**

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The objective of this study was the evaluation of factor affecting on agriculture graduates' incentives to serve in rural areas. The study was undertaken as descriptive and survey methodology. In this research, in addition to describing data, inferential statistics were used, too. The target population was agricultural graduates in Shiraz University. Eighty subjects were selected through random sampling technic. The assessment toll was questionnaire containing open and close equations; which its face validity was confirmed by experts, and its reliability tested using 0/85 Cronbach Alpha's coefficient. The results of T student showed that there was significant difference between incentives for different sex. The results of analysis of variance also showed that there were significant differences between incentives of graduates' field of study to serve at rural communities.

**Key Words:** Incentive, Employment in village, Agriculture graduates.



## **Assessment of Relationship Between Learning Styles and Academic Performance of Agriculture and Natural Resources University of Ramin, Khuzestan**

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Nowadays, human developments depend on their learning and by its man could achieve their competencies. Learning type is one of the factors that affect the student development. Hence, the goal of this study was Assessment of Relationship between Learning Styles and Academic Performance of Agriculture and Natural Resources University of Ramin Khuzestan. This study was a comparative study which Kolb's questionnaire was used as data gathering instrument. Our population was the 2, 3 and 4 years student in 91-92 semesters of Ramin, which 201 students selected by random sampling technique. Results showed that the most learning method and between type student was objective observation and convergent learning, respectively. Although different genders of students have different learning type ( $H_0$  rejected at 0.001). In addition, the result of correlation showed the strong negative correlation between age, divergence learning type, and objective observation ( $H_0$ , s rejected at the range of 0.02 and 0.001 of value). Also, we couldn't see correlation between learning type and educational development.

**Keywords:** Learning Styles, Academic Performance, Ramin Agricultural.

## Surveying of the rural women's role in household and village economy based on the tourism approach

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Nowadays, the main concept of the rural women's role is unfortunately dedicated to housekeeping and children rearing, while the observation shows that if their activities is not more than men's, it will be not less than theirs. Actually women have a key role in economic production and reproduction in villages. In Iran, the main economic/social rural women's activity is more focused on three parts: agriculture, rural industries and rural services. On the other hand one of the industries that can help the women's occupation, is related to the tourism industry. Unfortunately, according to the published statistics, women playing minor role in tourism industry, so that their participation is only 23 %, while their share in hidden occupation sometimes reaches 70%. Accordingly, the writers of this paper besides emphasizing the importance of the women's role in household and rural economy based on tourism approach, try to survey and explain the most significant challenges that the women faced in the way of being present and participated in household and society dimension, through measuring research by applying interviewing and observation tools and also reviewing the past studies and experiences. More than that, through analyzing the presented models and patterns, some solutions are suggested in order to reach the right position for women in both household and rural dimension. Therefore we found that the main challenges in this field is ignoring the impressive women's role, most of their activities is not properly paid and also their employment in lower jobs like services and servants in tourism industry. Some of the more important solutions are: holding justification classes and training the rural women in systematic ways, improving and promoting rural industry in order to make attraction for tourism and also the necessity of moral and financial supports of women's productions. These factors cause household economic prosperity and make the settings appropriate for their participation in rural dimension.

**Key words:** rural women, tourism, participation, household and rural economy, promotion trainings.



## **Analysis of Impact factors to readiness for entrepreneurship and leadership on the Independent Business among Agricultural Post Graduate Students**

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The employment of university graduates in various communities always has been a considerable topic. Besides agriculture, among other fields of higher education in terms of its production capacity, employment in the area has good potential. However, this potential requires nurturing entrepreneurial spirit and providing the necessary training to the students who studying in this field. Therefore, the aim of this study was to investigate the impact factors of willingness to independent entrepreneurs and business leaders in the agriculture students. The population of this study included agricultural graduate students at the universities; Tarbiat Modares, Razi and Zanjan (N= 1518). The sample size determined by Krejcie and Morgan table (n=306). The samples were selected through Stratified proportional sampling method. The tools were standardized questionnaire of William, et al. (2005) and Amador & Moqimi (2010). To analyzing of data, descriptive and illative statistics were use. Previous studies show that there is significant direct relationship between the readiness for entrepreneurship and students personal characteristics. The university and faculty members supports to entrepreneurial projects, could increasing students readiness for entrepreneurship and business leaders. The results of this study could have implications for higher education in agriculture and improve the economic situation in the country level; this issue could be the basis for identifying the impact factors of entrepreneurial readiness of the courses that has more effect in enhancing students' entrepreneurial activity. It's important to realize, reducing the number of unemployed graduates in the agricultural sector can play an important role in the economic situation.

**Key words:** Entrepreneurship-Higher Education-Higher Education System.

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## **Review barriers to agricultural development in higher education from the perspective of Khuzestan Ramin University of Agriculture and Natural Resources**

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Education is one of the most important basic infrastructure development in each country is without doubt the engine-driven development and the creation and development of the society. Agricultural Higher education has a significant role in rural development. Unfortunately, numerous studies indicate that agricultural higher education in the country, according to the pace of change, the learners do not have sufficient efficiency to cope with changing conditions of the agricultural sector is not ready. Every year, during a meeting of heads of agricultural colleges and professional debates, proposals to improve Higher education in agriculture and fixes existing problems are formulated. The present study proposals in a number of meetings in order to eliminate obstacles to agricultural development higher education by the farm has deans. In terms of practical purpose terms of how research methodology and data collection descriptive– survey. The population of the three faculties of engineering graduate students of agricultural and rural development, the Department of Agriculture and Department of Animal Sciences College of Agriculture and Natural Resources Ramin province, 112 people were selected. Sample is stratified sampling. Data collection questionnaire construction is achieved. Data was gathered by a researcher-made questionnaire is. Questionnaire data were obtained using the statistical software SPSS (V20) have been described and analyzed. Descriptive statistics indicate that most of the suggestions offered three suggestions to fix the problems in the field of consulting engineering company registration authority to recognize, communicate effectively and systematically colleges with relevant provincial centers Research and consider the depreciation cost devices in the laboratory and Troubleshooting Laboratories Ranked first and third respectively assigned to them in the preferences. The most important results of inferential statistics have shown that the views of students, the component planning of the study, Proposed the creation of the required fields and trends and to strengthen interdisciplinary expertise and Revising existing courses according to the needs of each region, there was no significant difference with 99% confidence

**Keywords:** Agricultural higher education, barriers to higher education development, Proposals.



## **Analysis problems facing training courses from perspective of crop science students Dehloran Payame Noor university**

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Unemployment among huge part of agricultural graduates implies that, this students' group have been unable to acquire the necessary skills to carry out agricultural activities. So according to importance of practical courses in students training, this study was conducted with the purpose to analysis problems facing training courses from perspective of Dehloran Payame Noor university's crop science students. Statistical population was 24 student of Dehloran city and 26 students of Mosian district that all of them were examined as sample. The researcher made questionnaire's validity was confirmed by experts and its reliability was verified with reporting alpha value (0/89). Exploratory factor analysis results showed that 5factors including: lack of educational and welfare facilities, lack of proper planning and educational activities clarification, lack of proper monitoring and evaluation, lack of training and necessary support for employer and poor students preparation; have explained 82/179 percent of total variance. The results of study can help relevant authorities to improve design and implementation of practical courses.

**Key Words:** training courses, crop science students, Payame Noor University, Dehloran province.

**Assessment of psychological factors that affects agricultural students' entrepreneurship intention (Case study: BS. senior students of Razi University's agricultural and Natural Resources college)**

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The present study was conducted by using descriptive approach in order to identify psychological variables that affected entrepreneurial intention. Population of this study was consisted of B.S. senior students of Razi University's agricultural and Natural Resources college (N= 258), 146 student were selected by random sampling and Bartlett table. Using factor analysis technique, 6 factors were identified as entrepreneurship intention's affecting factors. These factors explained 59/17percent of total variance and included: need to progress, self-efficacy, control center, risk taking, creativity and the need to independence. 40/82 percent of the remaining variance is related to other factors or variables that were not considered in this study.

**Key Words:** Psychological factors, Entrepreneurial intention, Razi University.



## **Pragmatism the Missing key of agricultural higher education system (The case: Payame Noor University of Zanjan)**

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Currently national higher education system of agriculture is encountered with serious problems in training of experienced and skilled graduates', due to dominance of theoretical education over practical training. These problems had led to consequences such as unemployment of agriculture graduates, lack of accountability to market demands, dissatisfaction, and unhappiness of executive organizations and destruction of valuable agricultural resources. This descriptive - survey study was carried out to identify and analyze factors influencing quality of practical training from the perspectives of senior students of agriculture at the Payame Noor University of Zanjan. A stratified sampling was used to select 83 respondents from a total of 168 students who comprised the statistical population. A questionnaire was used to collect data which was further validated by an academic panel of agricultural extension and education experts, and its' reliability for practical training quality scale was estimated 0.92 by Cronbach's alpha coefficient. Results of factor analysis showed that few factors can affect the quality of practical training in four general categories, namely the correct management of practical training, active participation of teachers in practical training, targeted and effective communication inside and outside the organization, and active and meaningful participation of students classified. Finally 72.22% of the variance in variables was explained by these factors. Based on the research findings it was suggested that the university to have strong link with the agriculture sector; necessary equipment's be given to agricultural colleges for practical training; Part-time training be provided for students during their study and content of practical courses to be determined with regards to job market demand.

**Keywords:** Practical training, Quality, Agricultural practice, Agricultural students.

### **Motivational factors of agriculture graduates to serve as “construction soldiers”**

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The agriculture sector is always faced with the challenge of expert and efficient manpower shortage in the education and extension of new technologies and findings in the rural area. The current study aimed to investigate the motivational factors of agricultural graduates for serving military service as construction soldiers. This study attempts to discover these factors and solutions to enhance incentives of graduates to serve as construction soldiers in the Jihad-agriculture centers, and thus could overcome the shortage of appropriate and efficient manpower in various consulting, training and extension activities in different rural and agricultural areas. The type of study is applied research and the method is descriptive-correlative. The main instrument of study was a questionnaire that its validity was confirmed based on comments of a group of scholars and experts. The population study included all 266 soldiers who attended in the seventy-fifth of training course and were census. The research findings indicate that there is a significant relation between jobs, social, cultural and skill factors with graduates' incentive to serve as construction soldiers. Finally, some recommendations are provided based on the findings.

**Key Words:** Agricultural graduates, Motivation, “construction soldiers” plan, Jihad-agriculture centers.



## **Effect of dissertation on Self-efficacy of agricultural graduates (Case study: Faculty of Agriculture, University of Zanjan)**

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To achieve knowledge based economy and national development, considering the role of intellectual capital is vital. Publication and graduates are two important of university outputs among which graduates are playing an important role in the upgrading intellectual capital of the society. The purpose of this descriptive-correlational study was to assess the impact of dissertation course on research self-efficacy of agricultural MSc. Graduates. Reliability of Research tool 'questionnaire' was obtained by calculating Cronbach alpha coefficient for before and after the dissertation writing indicators equal with 0.92 and 0.87 respectively. By using higher education expert's views, validity of research tool was verified. The population consisted of all 326 graduates of the year 2011 and 2012 from faculty of agriculture, university of Zanjan. 202 graduates were selected based on Krejcie and Morgan table and by using stratified random sampling method. The finding revealed that research self-efficacy of graduates have been significantly increased after dissertation writing and attending in MSc. courses have increased their ability in research area.

**Key Words:** Research self-efficacy, Agricultural MSc. graduates, University of Zanjan.

**Obstacles and problems of agricultural practical training from the viewpoints of the students(The Case of: Undergraduate students in the College of Agriculture at Shiraz University)**

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Higher Agricultural Education must train graduates who have the adequate commitment, proficiency and skills and have efficiency in society. But today one of the problems of higher education in agricultural domain is, over-reliance on theoretical education and lack of the relationship between agricultural practical training with the needs of the labor market and graduates. So, the aim of this survey was to investigate and analyze the obstacles and problems of agricultural practical training from the viewpoints of the students. The statistical population of this study consisted of all undergraduate Students, who were in their last academic year in the College of Agriculture at Shiraz University (N= 320), The sample size was computed by Morgan Table with the method of stratified random sampling composed of 175 subjects (n=175).A questionnaire was used to collect the data. Factor analysis was applied in order to identify the problems and obstacles of practical training in agriculture,. These four factors explained 61.16 percent of variance of the data indicating problems for practical training. So, the most important factor, was motivational factor that explained alone 18/23% of variance. After this factor, humanity, planning and physical factors are the most important variables that explained variance of the data indicating problems for practical training. Therefore, according to the findings, the empirical model of the study was provided and some suggestions are presented for eliminate or reduce the obstacles and problems of agricultural practical training.

**Key Words:** Obstacles and problems of agricultural practical training, Shiraz University, Undergraduate students.



## **The study impact of educational technologies in the empowerment of entrepreneurial students at the University of Scientific and medical herbs comprehensive application of South Khorasan province**

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the challenges of employment and unemployment is not just one of the most important social issues, the country but also with regard to the rate of population growth, it can be the most important social challenges in the future. On the other hand, the experiences of different countries, shows that the best option, preparing training educational system to employment in the labor market and entrepreneurship education and training of the practical scientific can distance theoretical training centers of higher education with the labor market. So, one of the strategies to achieve the goal of the move towards entrepreneurship and entrepreneurial student. , especially in the field of medicinal plants in recent years to the traditional medicine and use of medicinal herbs has returned, could be a good opportunity for the creation of entrepreneurship. The present study the overall goal (the impact of the educational technologies to enable the entrepreneurial university students, medicinal herbs comprehensive Khorasan scientific and medical herbs province and South).The present study in terms of the nature of research, the application of the type and controlling the variables of the kind of descriptive and solidarity. The population of the present study includes student's practical scientific centers in the South of Khorasan province. The volume of the sample included 131 people of students to carry out the census and were studied. In the questionnaire. The study shows that the students in the use of assistance (teaching technology) use of training at the first priority and in the classroom and workshops, less than a video projector. From the perspective of the study group regarding the current situation between good and meaningful difference. Based on the findings of this study some training initiatives like: to update the educational technologies, more attention to the technology affecting the education of the most effective ways of education in the development of the University of practical scientific for medicinal plants.

**Key Words:** engagement, educational technologies, empowerment of entrepreneurial, Students of medicinal plants.

## **The role of women empowerment to improving the efficiency of family farming**

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Women empowerment is one of the key factors for development which United Nation has concerned on it as one of the millennium development goals. Women economic empowerment is one of the most important aspects of empowerment .it seems the women economic empowerment has more effects in agriculture sector. Most of the activities in this sector is managed as family farming and most of the family members have participated on it. In this kind of activities, women have a key role. They have the role of their family and family farming together. Despite the role of women in family farming productions, the value of their work, don't computed in national accounts often. Without development planning in this sector, the created value added cannot back to the families. Women empowerment is a solution to improving the efficiency of family farming activities and receiving to the development. In this article the importance role of rural women in agriculture sector is analyzed and the different aspects of empowerment with some women empowerment experiences will noted. Finally some suggestion for improving the efficiency of agriculture family farming sector will be presented.

**Key Words** agriculture sector, family farming, rural women, empowerment.



## **During the Study an Investigation of Interest and Switch the Agricultural Students(Case study: Final year girl students of the Ramin Agriculture and Natural Resources University)**

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Choice the field toward continue the education was one of the main important element for any body and learner interest to field and subject to access the successful is so important. Our educational system is not currently able to create a situation that learners can select the topics according to their interests and needs and most students, regardless of their interest in a particular field, forced to choose a different field altogether. The main objective of this study was to determine the reasons for interest in the field of agriculture students during education. This descriptive - survey Khuzestan Ramin Agriculture and Natural Resources at the University and the students took last year. Census sampling and data collection tool was a questionnaire. Questionnaire utilizes the expertise and reliability test Cronbach's alpha (0/93) was calculated. As well as the data analysis was done by SPSS software. Results showed an increase in student interest in agriculture largely depends on specific subjects of interest to the history of higher education has been a teacher and educational administrator. The percentage share of both teaching and learning the nature of the courses that have been most effective in increasing students' interest in their field reflects the fact that the nature of the course of instruction is designed for students of higher importance.

**Key Words:** Interest, Field of Study, Changes, Educational system, Khuzestan.

### **Investigation of Innovation Capital situation between Intellectual Capital Components in the Shiraz Agricultural Colleges**

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The main purpose of this research was the Investigation of Innovation Capital situation between Intellectual Capital Components in state and private Shiraz Agricultural Colleges. This research was survey method and the statistical population of this study consisted of the faculty members of agricultural colleges of Shiraz (N= 123). Proportional stratified random sampling was chosen and 71 faculty members were selected applying Cochran formula and data were collected using a questionnaire that its face and content validities were approved by a panel of experts at the University of Tehran. Reliability of the questionnaire was confirmed by calculating Cronbach-Alpha coefficient (0.93 - 0.95).SPSSwin16 was used for data processing. The Results of correlational analysis showed that there were significant relationships between innovational capital with other intellectual capital components (human capital, structural capital, relational capital, innovation capital). Results of path analysis showed that structural capital had the most direct effect on Innovation capital (47.5 %). The most effective variable on Innovation capital is Human capital that its effect by direct and indirect was 71.5 % and relational capital with direct effect of 19.4 % had the lowest effect on Innovation capital. Finally three components of human capital, structural capital, and relational capital could explain 66.3% of variations of Innovation capital.

**Key Words:** Human capital, Structural capital, Relational capital, Innovation capital, Intellectual capital.



## **A Decade of Quality Assessment in Iran's Agricultural Higher Education: Successes and Failures**

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In response to local, national and international developments and challenges many countries have developed quality assurance as a new approach and institutional innovation during last three decades. Self-assessment is considered as a base of quality assessment in higher education. First experience of implementing self-assessment by an agricultural educational department was 1998. In the early of 2000s, National Education Measurement Organization has introduced self-assessment nationwide. National Education Measurement Organization efforts led to hegemony of self-assessment in the 2000s. After a decade these questions are raised: 1) how was the trend of implementing self-assessment? 2) Which factors affecting success and failure of implementing self-assessment? 3) What is lost ring of quality assessment in Iran's higher education? The research method was qualitative-quantitative mixed method design. Data have been gathered through documents content analysis, interview and questionnaire. Participants in the qualitative phase were self-assessment committee members while population of quantitative phase consisted of all faculty members of agricultural departments which implemented self-assessment. Results revealed that in spite of successful implementation of self-assessment in several departments but many of other departments facing problems that led to delay or pausing in implementing self-assessment. Conflicts in the educational departments as well as losing motivation by executive committee members are main determinants of failure in implementing self-assessment.

**Key Words:** quality assurance, self-assessment, external assessment, agricultural education.

## **Analyzing of Agricultural Student's learning styles(Case of study University of Tehran's Agricultural Students)**

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One of the key factor is understanding the learning styles of students for improvement in learning in higher education, and faculty members can to create educational programs initiatives that enhance student learning. The goal of this research was to analyze learning styles of students and find the effective style in agricultural majors. This research was a descriptive study that the statistical population comprised of 2032 junior and senior students of agriculture. The sample of the study consisted of 335 students using proportional stratified random sampling technique. The instrument used to determine students' learning styles, was Kolb's Learning Style Inventory. Data analysis has been done by using SPSS computer software. The results showed that 37 percent (124 Person) of the students surveyed had diverger's styles also 23 percent (77 Person) converger style, 20.3 percent (68 Person) assimilators style and 19.7 percent (66 people) accommodator's style. Students' learning style was mostly divergers and the lowest style was accommodators. While, the according to studies in this regard, the first style of preferences for agricultural training is accommodators style. According to these findings, or in the admission of students to enter the fields of agriculture should be investigated their learning style and people accommodators' style be in the priority or provide Conditions and requirements for agricultural educations that students divergers styles will lead to accommodators style. Note that learning styles are changeable.

**Key Words:** Agricultural majors, Higher education, learning style, Student.



## **Attitudes Senior Agriculture Toward Practical Education (Case Study of University of Zanjan)**

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The main purpose of this study Survey of factors affecting student learning practical courses in agriculture at the University of Tehran Payame Noor. The population of study consisted of 243 people of senior Payame Noor Agriculture University through 81 members of them way selected for this research by stratified sampling with proportionate allocation. Content validity of research tools was justified by guide professor and sighted persons at over find. Pilot study was conducted to determine the reliability of the instrument was calculated Cronbach's alpha values were obtained at an optimum level. The result show that 496/70% of the variance by factors of educational facilities and teachers' skills in the use of diverse learning environment, learning skills in designing and delivering training materials; important to give students the training process and stated objectives training is explained.

**Keywords:** Learning, Practical courses, senior students.

**The Role of Motivation in Agricultural Education(Case Study:  
Students of final year Bachelor Degree, College of Agriculture,  
University of Tehran)**

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Motivation is the process whereby goal-directed activity is instigated and sustained. That requires activity physical or mental. Physical activity entails effort, persistence, and other overt actions. Mental activity includes such cognitive actions as planning, rehearsing, organizing, monitoring, making decisions, solving problems, and assessing progress. Most activities that students engage in are geared toward attaining their goals. Actually, one of the foremost problems in education, is often inadequately addressed in typical foundational (educational psychology) courses. Motivation is not synonymous with achievement. The validity of the study by a panel of experts and its reliability was confirmed by Cronbach's Alpha coefficient and composite reliability. Research population of students of final year Bachelor Degree, College of Agriculture, Tehran University. while SPSSWin18 Software was used for data processing in order to identify effective educational strategies to developing Entrepreneurship among students in colleges of agriculture, the use of exploratory factor analysis the results showed that motivation has been conceptualized in varied ways including inner forces, enduring traits, behavioral responses to stimuli, and sets of beliefs and affects.

**Key Words:** Motivation, Agricultural Education, Students.



## **Comparative Studies on Agricultural Education: A Necessity for Improving Higher Agricultural Education**

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Based on comprehensive map of the agricultural sector and to fulfill the goals of the Islamic Republic of Iran document, the agricultural sector in 1404 should be knowledge base and to have the first place in the Southwest Asian region. In this context, higher agriculture education as a base element of higher education plays a significant role in the education of manpower. In other words, the agricultural development of any country depends to policies, programs, agriculture system and consequently, the skilled graduates. On the other hand, globalization and the revolution in information technology, make universities to participate in competitive markets of education and research. Study of higher agricultural education at different countries can show the situations of educational systems and consequently, comparing the educational condition and agricultural situations show success or unsuccessful of education. The aim of this study is to compare and analysis of agricultural education at different countries and so, according to the findings recommendations will draw. According to the results, with global changes, it is essential to change curriculum and teaching methods.

**Key Words:** higher agriculture education, comparative study, agricultural development, improvement.

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**Identification of Effective Factors Motivation student entrepreneurs of the Kermanshah University, College of Agriculture and Natural Resources**

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Motivation is a powerful force for conducting human behavior and it has effect on all aspects of behavior, such as perception, imagination, learning and talent. Understanding students' motivation can help to reduce psychological problems and it's a prerequisite for human growth and prosperity. The main objective of the study is descriptive - analytical study on the factors affecting students' motivation Entrepreneur College of Agriculture and Natural Resources, Razi University of Kermanshah. The population for this study included 30 person of entrepreneurs from the college. A questionnaire was used to collect the data. Validated questionnaire panel of experts in the field of research was approved. Cronbach's alpha reliability of the questionnaire through 0/80 was calculated. Factor analysis showed that the 65/5 % of the variance of the environmental factors that influence the motivation of entrepreneurs, Faculty of Agriculture, economic, psychological, social and individual factors can explain.

**Key Words:** factors affecting, motivation, student entrepreneurs.



## **Effective educational strategies for development of entrepreneurship among Students the Faculty of Agriculture**

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Professionals and entrepreneurs must study in the Cross- Correlation with the aim of investigating the Educational strategies that influence the development of entrepreneurship among students of the Faculty of Agriculture done. The validity of the study by a panel of experts and its reliability by calculating Cronbach's alpha ( $0.7 < \alpha$ ) determined. Research population of students of final year Bachelor Degree, College of Agriculture, Tehran University. Bigger samples using Cochran Formula 97 estimated (N=255). While SPSS software was used for data processing in order to identify effective educational strategies to developing Entrepreneurship among students in colleges of agriculture, the use of exploratory factor analysis the results showed that the variables in the 6 factor curriculum, extra curriculum activities, planning, teaching methods, instructors and facilities summarized.

**Key Words:** Entrepreneurship, Employment, Unemployment.

**Obstacle and Ways in the Teachers' Job satisfaction in  
Agricultural High School, the Mazandaran Province, Iran**

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This research ends to investigate Obstacle and ways in the teachers' job satisfaction in Agricultural High School in Mazandaran province, Iran. This is a descriptive-correlative research. The statistical population includes 127 teachers. The sample size was determined using Cochran's formula, 110 teachers were selected, and 108 teachers completed the questionnaires. Questionnaire is the research instrument. A group of extension specialists measured the content validity of questionnaires. In order to investigate the reliability of research questionnaires, 29 teachers were randomly selected and they completed the questionnaires. In addition, Cronbach's alpha, were 0.95. According to the findings, creating the conditions for growth and advancement, good working conditions, appreciate and respect the authority of teachers and raise respectively on ways to increase job satisfaction are a priority. Also, job control, lack of relevance or ability to pay, have good communication between partners and the absence of bad climate, so the barriers to job satisfaction are a priority.

**Key Words:** job satisfaction, teachers, Agricultural High School, Obstacle, ways.



## **Analyzed the factors affecting in achieving entrepreneurial approach in agricultural higher education in situations; study of the Khuzestan province**

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Organizations in the third millennium are faced with numerous challenges. Entrepreneurial orientation in the organization can deal with this problem will help. The propose of this study was to analyzing factors affecting on the achieve to approach entrepreneur mental into higher agricultural education in centers of Khuzestan (including: Agriculture & Natural Resources Ramin University of Khuzestan, Agricultural College Chamran university Ahwaz, higher education complex of agriculture and natural resources Behbahan and the University of Science and Technology navy Khoramshar) in the year 1389. The population study were all employee staff of four center (N= 372) and sample was selected by the Morgan table (n= 265). The study used a descriptive survey design. A researcher – made questionnaire was utilized with acceptable validity through and of experts and reliability was measured through pilot study. SPSS software was used for data analyzing. The Result show that employees of the situation between the status of “monopoly” impulse, law and regulations organizational, system assessment reward, psychological characteristics, the center of internal control, decision – making, environmental characteristics, organizational characteristics, communications within an organization with the desire to orientation toward the structure of entrepreneurial positive relationship and there is significant relation. In this study clear that between ages, seniority, and education variable with an organization with the desire to orientation toward the structure of entrepreneurial positive relationship and there is significant relation. The variable law and the number of people with family with the desire to orientation toward the structure of entrepreneurial there is no relation. Finally; the role of motivational factors tend more toward the structure of entrepreneurial orientation plays, so considering these factors should be considered organizations. Entrepreneurial organizations and individuals identified in their properties through entrepreneurship tests should be one of the priorities of each organization.

**KEYWORDS:** Entrepreneurship, Entrepreneurship, personnel, university, agricultural.

**Recognizing student's perspective about meeting for with challenges of agriculture higher education (Case Study: Khuzestan Ramin agriculture and Natural Resources University)**

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The Agricultural sector in all countries are considered from economic, social and political aspects. Higher education institutions have an important role in the agricultural growth. Because achievement multilateral and constant agricultural development, is dependable to human development. Despite of all the its successes we must knowledge that higher agricultural education encounters challenges nowadays.. The general purpose in this study is to recognize the student's points of view Entrepreneurship, privatization and globalization in higher education are major challenges. About the preparation condition of university for encountering higher agricultural education challenges. The present study from the aspect of practical purpose and the manner of collecting data is descriptive- survey. The data collecting device was a researches-made questionnaire that its validity was signified by doing a pretest between 30 students of agronomy engineering and rural development faculty and calculation of Cronbach's alpha coefficient Entrepreneur section 0/98, globalization section 0/95, and higher education denationalize section 0/98-signified. Faculty and the volume of the sample of study by Morgan's table was determine 120 persons. The manner of sampling was categorical. The questionnaires data were analyzed by SPSS win20. The main descriptive results shown that the existence of Faculty members who are knowledgeable of agricultural science in agriculture University in the Challenge of Globalization, holding of expertism seminars of entrepreneurship in Agriculture University, about the challenge of becoming an entrepreneur and existing of a valid teaching institutions about the Challenge of denationalizing of higher agriculture education that it has more importance for students in comparison with other things. Also the main subsequent results shown that between under graduate and postgraduate students points of view about the University's amount of preparation to encounter with the challenges of globalization and privatization in higher agricultural education, does not exist a meaningful difference. But there were meaningful difference between their points of view bout the challenges of becoming an entrepreneurs and from M.A. student's points of view, the university is more ready in entrepreneuring higher agricultural education.

**Key Words:** higher education, agriculture, the challenges of entrepreneurship, privatization, globalization.



## **Developing a Model through Talent Management for Agricultural Higher Education System in Iran: A Grounded Theory Study**

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A cursory review of the recent talent management literature reveals a degree of debate as to the conceptual boundaries of the new topic. Despite a significant degree of academic and practitioner interest the topic of talent management remains underdeveloped and according to experts, isn't a single consistent or concise definition of talent management. However, just a definition, conception and talents typology will not lead to optimal talent management; rather this requires the application of a comprehensive model in this regard. Obviously that universities and educational centers are considered as key elements for fostering human resources in any community and somehow will generating the intellectual capital of future generations. Hence, the main purpose of this paper is developing a comprehensive model of talent management and consistent with the agricultural higher education system in Iran. In this qualitative research with grounded theory method, the indexes of talent management for agricultural higher education system have been identified and after the encoded using MAXQDA software have been analyzed. The analytical results showed that talent management model has three general themes include prerequisite, process cycle, and the impacts of talent management for agricultural higher education system that each of themes consists of categories and indicators. Thus, the results of the present study provide a clear definition and clarify the conceptual boundaries of talent management for future research that would be useful in the area of measurement and the application of talent management model.

**Key Words:** Talent management, Agricultural higher education, Grounded theory, Qualitative study.

## **An Investigation of Student's Self-graduate students of agricultural research**

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Given the role that research and development activities in the community, and since most student's graduate courses in various subjects to be spent on research. So their self-understanding in the field of research and its related factors could provide a better platform for future research and subsequent developments in the field of theoretical and practical knowledge useful forth reverse. The purpose of this study was descriptive - survey "Survey research and self-efficacy for students of agriculture. Survey Tarbiat Modares university students (N = 736) formed using Cochran's formula, 75 of them as examples, and were selected using a stratified sampling. Validity by a panel of experts to review and approval, and to determine the reliability of the various sections of the questionnaire Cronbach's alpha coefficient was used (0/96). Self-prioritize research results showed that students writing skills and participation in data collection and adherence to ethical principles in research in order to place the highest priority. The skills of new research and innovative skills to use statistical software to the low level of confidence and self-efficacy were the student's perspective. The findings showed that the respondents' self-efficacy is desirable to have a positive attitude to study the correlation between level of education, research, performance and a positive attitude to research and research students are self-efficacy results show a significant difference between graduate students and post-doctoral research there.

**Keywords:** research self-efficacy, attitudes toward research, graduate.



## **Evolutionary trend of agricultural extension and education research topics: The Case of Purdue University**

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Agricultural education have great variations each year. Many research institutions and universities try to change main research topics for better responding to new problems in agriculture. Purdue University is considered as main university in the United States where are researching on new subjects in sciences especially in agriculture. Main objective of this paper is investigating evolutionary trend of agricultural extension and education research topics which can help researchers to be more familiar with new and emergency topics that are considered as new problems in agricultural sector. This research has focused on agricultural extension and education faculties in Purdue University. Comparative analytic method was used as research method. Findings show that many various topics such as land law in agriculture, drought, society food security, sustainability in agriculture,... are researched in Purdue University and those agricultural students who are researching in agriculture science should be aware from new topics in their field of study to select better topics for research and study.

**Key Words:** new research topics, agricultural sciences, Purdue University, agricultural extension and education.

## **A study on psychological and personal factors influencing achievement motivation of agricultural students**

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With the development of more diverse markets in agriculture, competence workforces are required to improve agricultural production, processing and marketing of products. On the other hand, students' performance is significant in producing the best quality graduates who will become proficient manpower. High achievement motivation can play an important role in students' excellent performance in universities and their future career. Considering the importance of achievement motivation, it is imperative to investigate agricultural students' achievement motivation and the factors that are related to student motivation to learn. So, the domains that we focused on include: agricultural students' achievement motivation, personal factors related to achievement motivation, and psychological factors related to achievement motivation. A sample of 273 students was selected by using random sampling method. A questionnaire was used for data collection. Data were analyzed descriptively and inferentially using SPSS/win software. The results showed that students had both differences and similarities regarding their achievement motivation. In addition, both psychological factor and personal factor were related to students' achievement motivation. Accordingly, the discussions and recommendations were put forth.

**Key Words:** achievement motivation, agricultural students, university, psychological factor.



## **Analysis of Barriers against Development of Rural Entrepreneurship in Guilan Province**

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Entrepreneurship is important to the alleviation of poverty and prevention of occupational burnout in rural communities. Barriers against rural entrepreneurship development in Guilan province in Iran was studied using the Delphi method in two rounds. The results of interviews and questionnaires were collected and assessed by 33 experts in the field of entrepreneurship. At the end of the second step, Kendall's coefficient of concordance ( $W$ ) was used to measure consensus among the experts about the barriers against rural entrepreneurship in Guilan at the end of the research rounds. The significance of the barriers was ranked using the fuzzy screening and SPSS 16 and Microsoft Excel 2010 software. The results indicated that the barriers can be divided into seven groups: individual and personality, financial and economic, socio-cultural, structural and environmental, policy-making, administrative (managerial), and educational barriers. The results show that the most influential factors are: policy-making with inconsistent executive planning and policies and lack of trust; improper codification of government economic and support policies created without consideration of the possible adverse effects; educational barriers created with a lack of knowledge about entrepreneurship on the part of the provincial authorities; lack of an entrepreneurial training system; and poor understanding of the rural population about design principles and initialization of new entrepreneurial businesses. It is possible to create a roadmap for entrepreneurship to advance opportunities and new values in this province by analysis of entrepreneurial development barriers at the village level in Guilan province..

**Key Words:** Rural entrepreneurship, Barriers, Opportunity, Empowerment, Delphi, Fuzzy screening.

## **Students' Entrepreneurial Motivations Survey in Shiraz Agricultural College.**

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Agriculture section extensively needs proficiency to achieve development, while its graduated students are unemployment. It seems that by entrepreneurship training courses, we help them to create a new business in agriculture, which it could make development in this field easier, but its precondition is a necessity to knowing their motivation to persuade them for agricultural entrepreneurship. The purpose of this research was to assess the students' tendency to agricultural entrepreneurship and factors which affect their tendency, in Shiraz University agricultural college senior students. Our study sample was number of 100 students from five different of agriculture's disciplines, and we used questionnaire as data gathering instrument. Our questionnaire face validity has been confirmed by number of extension experts in Shiraz University. After the data statistical analyses by SPSS software, the results showed that the motivation of students for entrepreneurship is less than average score of our measurement scale. Additionally, results shown that there is no significant difference between students' motivation to entrepreneurship in different groups of students (groups include some variables: gender, sex, scores, disciplines, marital status and living location). The student highest degree of motivation to entrepreneurship tendency belong to personality, Identity, welfare and perfection motivation, respectively.

**Keywords:** Entrepreneurship, Motivation, Students, Agriculture Engineering.



### **Analysis status planning in the top level educational administrators (Case study of Agricultural and Natural Resources higher education institutions in Khuzestan province)**

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The purpose of this study was to Analysis status planning function in the top level educational administrators in Agricultural and Natural Resources higher education institutions in Khuzestan province. The research method was descriptive - correlational. Statistical population of the study consisted of all faculty members at Khuzestan Ramin University of Agriculture and Natural Resources, faculty of Agriculture of Ahwaz Shahid Chamran University and faculty of Environment and Natural Resources of Behbahan Khatamolanbia University (N=146). Statistical sample size was determined by using the table of Morgan (n=111). The Statistical sample was selected through Proportional stratified sampling technique. Research tools was a made questionnaire. The questionnaire's validity was confirmed by a panel of Agricultural extension and education experts. Its reliability was conducted and confirmed using Cronbach's alpha ( $\alpha=0/96$ ). Data were analyzed by using SPSSwin<sub>16</sub>. The findings showed that planning in the top level educational administrators in Khuzestan Ramin University of Agriculture and Natural Resources was relatively desirable, and in Agriculture of Ahwaz Shahid Chamran University and Environment and Natural Resources of Behbahan Khatamolanbia University was relatively undesirable. Between Experience managers and job satisfaction, motivation and functional planning were Significant difference ( $p=0/01$ ). Results of regression analyzes indicate that job satisfaction, motivation were explain 1% planning function changes.

**Keywords:** Higher agricultural education, Planning, educational administrators.

## **Investigation of Factors Affecting Student Achievement in Higher Education Integrating Science - Applied Agricultural Jihad of the Sistan and Baluchestan**

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One of communities<sup>s</sup> small but high-impact across the country, University of Science - Applied and centers are dependent on future managers who make up the community. Based on this review the progress of students from higher education scientific - practical, can be effective and efficient enforcement in producing graduates in various sectors of agriculture, industry and services contributed to the present study to investigate the factors affecting the development of Integrating students higher Education - practical Agriculture in Sistan and Baluchestan is applied and methods of the survey is. A survey of 936 undergraduate students from the Higher Education Resource Center - Agricultural province, which was applied according to the formula 208 of them as the sample size was carried out. The research instrument was a questionnaire whose validity and reliability of the research committee of the questionnaire was confirmed by Cronbach's alpha coefficient. Data gathered by a questionnaire and were analyzed using the software SPSS.20 .there was a significant negative correlation with academic achievement. In addition, the results of the comparison between variables indicated that students' gender, marital status, type of diploma courses, interest in the field of education, home ownership and education of students with their academic achievements there were significant differences. Findings from the stepwise regression analysis also showed that between 99 percent and specificity of professors between the hours of daily study, students self-confidence level of 95 percent positive correlation - correlation with academic achievement was significant, but the number family members of students' academic achievement in at 95 percent and there was a significant negative correlation, the total of these variables explained 40 percent of the changes in the educational attainment variable.

**Key Words:** Achievement, Agriculture, Academic - Applied University, Sistan and Baluchestan.



## **Quality assessment of practical courses (training, agricultural operations and laboratories) the case of Isfahan University of Technology**

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Discussion of quality in agricultural higher education is very important because cost per student of agriculture is more than students of medicine, engineering, sciences or humanities. Interdisciplinary nature of agriculture leads to agricultural education becomes attractive on the one hand and it becomes difficult on the other hand. Educational planners must be proactive in adapting and adjusting to new environments and situations that can increase the effectiveness of future graduates to upgrade programs of agricultural education. By the 1990s, the professionalization of agricultural education followed seriously and stated in annual meetings of the American that the planners must fit the educational programs with situations in the labor market. The purpose of this study is quality assessment of practical courses of agricultural disciplines in the B.Sc. The study is an applicable research and is a descriptive research in terms of data collection, that its data was collected using survey method. Two groups of stakeholders of agricultural higher education, graduates and academics of Isfahan University of Technology, selected as population of this research that conducted a census. Data collection instrument was the questionnaire. The results of this study show that the number of practical and training courses in the B.Sc. is not enough and there is significant difference between the current situations of parameters affecting the quality of agricultural operations course with its favorite situation at 1% level. There is also significant difference between the current situations of parameters affecting the quality of laboratory courses with its favorite situation at 1% level.

**Key Words:** quality assessment, practical courses, agricultural education.

### **The study relationship between students' interest in agriculture field and the effectiveness of the operations course**

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Professional training is part of public education what agricultural education its subcategories. Agricultural training through changes and increased knowledge, understanding and skills in learners will increase their productivity, reduce production costs and provide job opportunities for employment. The purpose of this study was to investigate the relationship between students' interest in agriculture field and the effectiveness of Operations course is in Lorestan University. This research is a descriptive correlation. The population of students in the academic year 92-91 who have completed the course of agricultural operations. A simple random sampling method was used for sampling and data collection also is researcher made questionnaire. A questionnaire was used to collect data to validate the content. Preliminary tests were obtained in 97% reliability. Test results show that the correlation between interest in agriculture and the effectiveness of The course as a whole, there is a significant positive relationship ( $r = .52$  ;  $p < 0.01$ ) This means that likely to increase interest in universities will increase the effectiveness the operations course .And the loss of interest in universities, it also reduced the effectiveness operations course.

**Keywords:** Effectiveness, interest, Operations Course.



## **An investigation of critical thinking conditions from point of view agricultural college students of Buali Sina university**

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In ages of rapid changes., cultural, social and economic structure of socials emphasize the importance of human resources training and as for to increasing of knowledge and information, educational institutions should be able changing their action from transfer and clump of knowledge toward critical thinking and active learning. Therefore the goal of this research is an investigation of critical thinking condition among students of agricultural college in Bu Ali Sina University. Research method was qualitative and data were gathered from students by open - questionnaire that including 5 questions. The content and face validity of the instrument was specified by Faculty members of agricultural extension and education in Bu Ali Sina University. Population of students were 20 people as samples for the study who they were be available and from agricultural engineering college in different majors. Sampling method was goal-oriented and analysis done by content analysis. Results of content analysis revealed that the main barriers of reinforcement of critical thinking are Lack of educational pattern and appropriate teaching manner, lack of creativity in courses content and lack of teacher's attention to individual different. Also the main solutions for expedite critical thinking skills are changing of educational pattern and using of active methods in teaching. Making classroom critically and motivate students to cognition of their abilities and capacities. From view of students, the best critical thinking educational methods are reinforcement of group and individual oral activities, exploration of cause and caused and how achieve information, asking Socratic questions, abet to thinking and writing assignments designing are the best way for training of critical thinking.

**Key words:** Assessment, Critical thinking, Buali Sina University.

### **Status of students' creativity (A case of: The College of Agriculture and Natural Resources, Zabol University)**

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Creativity is the emergence and generate of new ideas, and referees to the man power to produce new thoughts. New thought, in addition to be new, also should be applicable in practice. Individuals should be able to enhance creative through educational curriculum development. One of the most important reasons to enhance creative Opinions and skills of students is for preparing them to enter competitive markets. The aim of this study is to evaluate student creativity. The population was all undergraduate students at College of Agriculture and Natural Resources (University of Zabol), and 200 students were selected randomly as samples. SPSS software version 21 used to analyze data. This research based on 4 dimensions of creativity (fluid, initiative, flexibility and expandability). Result showed students have most initiative creativity and lowest flexible creativity. According to the comparison test, there were significant differences between student's flexibility creativity. Also, there was a significant relationship between fluid and flexible creativity. Finally, some suggestions recommended enhancing student's creativity.

**Keywords:** Creativity, Innovation, Students, College of Agriculture and Natural Resources, Zabol University.



## **The motivation of studding in Agricultural Extension & Education field(A case of MS.C students of Agricultural Extension & Education department in Shiraz University)**

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Manpower is the center of development in different fields. Therefore, the education of man power is one of the most fundamental elements of economic growth, social, political, cultural. The motivations are the basis of human activities, therefore, it is very important to Understand this motivations. The aim of this study was investigation of the educational motivations of students at Shiraz University. In this regard, the survey used to collect data, the data collection instrument was a questionnaire, and data analyzed by SPSS version21. The research population was all undergraduate students at Shiraz University; the sample size was70students who selected randomly. In this study, four dimensions of motivations such as life, identity, hedonistic and idealistic motivations have been studied. According to the comparison test (ANOVA), there were significant differences between first and fourth year students, and third and fourth year students at life, identity motivations. Also, there was a significant difference between male and female students at all dimensions of motivations. Finally, some suggestions recommended enhancing the educational motivation of students.

**Keywords:** life, identity, hedonistic and idealistic motivations, students of agricultural extension and education, Shiraz University.

## The Motivation of Students to Study Agriculture of Shiraz University

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Job satisfaction is one of the most influencing and important factors on job performance. However, the primary motivation of students to enter college is to get degree and a better job in future. The purpose of this study was to investigate the motivation of students for studying agricultural of Shiraz University. Research method in this study was descriptive-survey research. In order to collect data, a questionnaire was designed that its validity was confirmed by a group of experts and its reliability Alpha Coefficient was 0.79. The size estimated by Morgan's table (n=150) and the subjects were selected randomly, and the data was analyzed by SPSS software. The Results of analysis revealed that variables such as: motivation to study higher education, development of moral and social values, getting a degree, social perception, and to achieve better social class were the most important motivation among students. Result of comparative tests indicated that there is a significant difference between students with rural background with urban students in regard to their field of study with environment, to get higher income, Influencing in agricultural development and Social pressure to inter university.

**Keywords:** study motivation, Agriculture, Shiraz University.



## **Agricultural expert's attitudes towards privatization of Agricultural extension: case study of agricultural engineering organization experts of Khuzestan province**

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In the past two decades, structural and financial constraints of public agricultural extension, has emerged privatization of agricultural extension, and necessary to make it more clear and lead to financial and administrative reconstructing of agricultural extension activities. The purpose of present study is investigation of agricultural experts' attitude towards privatization of agricultural extension to improve management of agricultural production. Research method of this study was survey. In order to collect data, researcher deigned a questionnaire that its validity was confirmed by a panel of specialists and its reliability Alpha Coefficient was 0.75. Sample size estimated by Morgan's table (n=70) and samples were selected randomly. Result of correlation analysis revealed that there was significant correlation between independent variables such as attitude toward canceling public extension, improving extension services centers, Transfer of ownership and extension services to private sector with attitudes towards privatization of agriculture extension. Also, Results showed low-income of farmers, lack of budgets to implementation of agricultural extension services and increasing costs of agricultural production are major obstacles to ward privatization of agricultural extension.

**Keywords:** public extension, private extension, organization of agricultural engineering, Khuzestan.

## **Prioritize evaluation and improving strategies of quality of higher agricultural education curriculum planning from the faculty members Viewpoint**

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This is a descriptive research and its aim is Identify faculty members Viewpoint about Prioritize evaluation and improving strategies of quality of higher agricultural education curriculum planning. The population consisted of agricultural faculty members of Ramin Khuzestan University (n=158). The sample size selected based on Morgan table (n=112) and a simple stratified sampling method, Proportional with size of each stratified was used. Data collection tool was a questionnaire and to determine its reliability, Cronbach's alpha test was used for different parts of questionnaire ( $\alpha = .71, .79$ ). Data collected were analyzed using the software SPSS version 20. The results of Prioritize showed that from faculty members Viewpoint Strategies of "Joint group formation curriculum planning to adapt the curriculum to the needs of the labor market" and "The amount of faculty member's information about related of evaluation procedures curriculum planning process" are in the highest priority.

**Key Words:** Evaluation, Curriculum planning, Higher agricultural Education.



## **The Motivation of Getting Employed by Agricultural Graduates of Shiraz University**

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Human development is one of the most important factors that can affect national development. The present study investigates the employment motives of agricultural college's graduates in Shiraz University. The sample was 400 graduates in 2006-2012 that selected by stratified random sampling. Questionnaire's Face validity was confirmed by experts; Questionnaire's reliability was confirmed with pilot study and the final version of the questionnaire was prepared. Data were analyzed using SPSS software. The results showed that the biological motivation with 3/22 mean is the highest motivation to employ the graduates; then ideal, hedonistic and identity motives were followed respectively. But generally, all dimension of motivation had the score more than average. 48 % of employed respondents respectively had the Biological, identity, hedonistic and ideal motives more than average. Finally, some recommendations were presented for enhancing the employment motivation of agricultural college graduates.

**Key Words:** employment, motive, Graduates of Agriculture, Shiraz University.

## Factors affecting on entrepreneurship in graduates of applied scientific higher education

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This study was conducted to investigate the determinates of entrepreneurship in applied scientific higher education in different agricultural fields. The methodology was descriptive with a survey approach. The statistical population was consisted of those who graduated from one of applied scientific higher educational centers in different agricultural fields. The sampling method was available sampling and from seven applied scientific higher educational centers at 32 of them, some 76 graduated who were entrepreneurs were available samples. The main instrument of the research for data collection was a questionnaire. The validity of instrument was approved by panel of expert and the reliability was approved by croncachs alpha coefficient which was 0.89 to 0.91 . result show that respondent are in young to middle aged range and most of them are males. Half of them are the first or second child of their family. Findings show that respondents mainly interested in the field of animal science, poultry and fisheries. According to the field of study, half of them are working in production and the other is working in service and business activities. Half of them are working individually and half as cooperation. Individual investment is the main findings of their financial supports. Their type of their business is small and medium size business. Most of respondents are satisfied with their business and are not willing to change their business. Gain experience, play an active role, progress and innovative, risk taking, preservance, security and independence, profitability, capital, benchmarking, job security, family support, beliefs and social status, affect on administration and development entrepreneurial business unit. Identify and strengthen of internal and personal motivation for encourage graduates to move toward entrepreneurship activities, discovering and fosterage of independence talents, innovative and risk taking of applied scientific higher education student and promoting of graduates for startup entrepreneurial activates for getting economic profit and prestige were some recommendation of this research.

**Keywords:** applied scientific higher education, business, entrepreneurship, graduated in agriculture



## **Personality traits of senior agricultural students using Myers- Briggs Type Indicator**

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The main purpose of this study was to investigate personality traits of senior agricultural students of the faculty of agriculture, Bu-Ali Sina University, Iran. The access population of the students in 6 chosen disciplines (N=100) were surveyed the G type Myers-Briggs Type Indicator (MBTI) standard questionnaire, which proved to be reliable in a pilot study with a Cronbach's alpha at 0.89. Data showed that: (1) The Extraversion, Sensing, Thinking, and Judging (ESTJ) personality prevailed among the participants; (2) Sexuality made a difference among Extravert and Judging students; (3) High achievers (those better scored on average) tend to be more in the sensing category; (4) Discipline also revealed a significant impact. Further investigation discovering the relationship between personality traits by MBTI and entrepreneurial intentions aimed at providing more effective career consultations is advised.

Key words: students, senior, agriculture, higher education, MBTI

**Track 6: Agricultural extension and RASs in  
sustainable natural resources management and  
environment**



### **Changing farmer attitudes is an ongoing process**

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Climate predictions point toward a drying climate and an increased likelihood of drought being a more common feature of the Australian landscape. With much of Australia's agriculturally important areas located in marginal rainfall zones, farmers must prepare for these risks for Australian agriculture to remain viable. This paper examines the impact of the Farm Planning program on participant attitudes. The aim of the program was to increase the number of farm businesses with strategic business plans that, when implemented, would result in businesses that were more self-reliant and better prepared to manage drought and other future challenges. Surveys were completed by 142 program participants between six and 18 months after completing the program, and compared to data collected from participants prior to commencing the program and immediately at the programs' completion. The information was used to identify the influence of the program on participant attitudes. The program was successful at changing the attitudes of the participants over the short-term, but less so over the medium-term. In particular, participants showed declining optimism toward the future and their ability to personally influence the business' performance when compared to data collected immediately after completing the program. In general, program participant attitudes six to 18 months after completing the Farm Planning program were comparable to those of people that did not participate in the program. The research highlights the potential pitfalls of relying on 'end of day' evaluation to identify project impact.

**Key Words:** agricultural risk, climate, drought, evaluation, strategic planning



## **Diffusion of organic farming in north-eastern India: The case of Mizoram state**

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Organic farming is increasingly being considered as an option for improving food security, food safety and alleviating poverty, proactively creating new local and export markets. Organic production systems are particularly suitable to smallholder farmers as these systems depend on the sustainable use of local resources and on farmers' traditional knowledge and social networks. The FAO of UN has identified organic farming as a priority area for addressing both local and global food security challenges. The government of India too among several other measures has launched "National Project on Organic Farming" (NPOF) which has focused attention on North Eastern states including Mizoram. The Indian Ministry of Agriculture and Indian Council of Agricultural Research consider the North Eastern Region including Mizoram, being mostly rain-fed and mountainous, ideal for promotion of organic farming. Thus, this study (doctoral dissertation) was carried among 150 integrated organic farmers from three districts of Mizoram to identify the potential & constraints including training needs of the farmers and role of producer organizations in the area of organic farming. Mizoram state in India formally recognized organic farming by passing the Mizoram Organic Farming Act in 2004 to introduce, adopt areas for, promote and regulate organic farming in the state. Accordingly, under extension strategies, organic agricultural practices were diffused by setting up model organic farms and model organic villages, with substantial efforts made in capacity building of trainers and farmers in different aspects of certified organic production in Mizoram. This study also revealed very good prospects of organic animal husbandry development as well. This paper elaborates the extension activities including capacity building measures undertaken in the state of Mizoram to promote and develop organic farming, which could be an example for others to replicate the experience towards organic farming development. As a way forward, it is recommended that the extension functionaries should concentrate on capacity development measures including formation and strengthening of farmers' associations to make organic farming sustainable venture for the farmers.

**Key words:** capacity building, extension functionaries, Mizoram, North-eastern India, organic farming





## **Consequences of Agricultural Land Consolidation by Rice Producers in Iran**

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Implementation of land consolidation is one of the most important strategies for dealing with the problems of land fragmentation in Iran. The purpose of this research was to examine consequences of land consolidation by rice producers of Savadkooh County in Mazandaran province, north of Iran. Using a multi-stage random sampling, questionnaire was completed in 112 subjects. The results showed that there is a significant difference between variables: the number of land pieces, the average distance between pieces of each other, the average size of every piece, the average distance of land pieces from asphalt roads between farms and the average distance between the asphalt roads of rural parts before and after land consolidation. Also there is a significant difference between agronomic characteristics (paddy production, the amount of seed consumption, fertilizer consumption, and water consumption in hour, planting time, growing and harvesting time) before and after land consolidation. The satisfaction of adopters from the land consolidation activities is not desirable. However their attitude to the project was positive at moderate to high.

**Keywords:** Acceptance, Consequence, Consolidation, Rice producers, Savadkooh

## **Agricultural extension responsibility toward water conflict management: The Case of Doroodzan Dam Irrigation Network**

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"Agricultural water conflict" is a term describing disputes and contrasts among stakeholders over an access to water resources in agricultural sector. Education is increasingly seen as one means to reduce and overcome the effect of water conflict. In this regard, agricultural extension as a kind of informal education can be a key element to reduce conflicts among its clients. The purpose of this paper was to investigate agricultural extension responsibility toward water conflict management. A descriptive method using two surveys and a focus group was fulfilled as a research method. The study was conducted in Doroodzan dam irrigation network zone in Fars province. Multistage stratified random sampling was used to collect data from 294 farmers as a first population and all of regional water experts who worked in Doroodzan dam irrigation network formed second population of this study (75 experts). The research tool included two questionnaires for farmers and experts. Findings of this study revealed that agricultural extension as mediator variable can control and reduce water conflict by influence on context conditions which affect it. Also, findings showed extension has no needed power to change in the structural area of water management in Iran. Before agricultural extension could have a significant effect on water conflict management, needs to revise its purposes, approaches, methods and specially tasks. At the end, according to the findings, a model was designed to determine the role and position of agricultural extension for intervention in water conflict management.

**Keyword:** Agricultural water conflict, Agricultural extension, Doroodzan Dam.



## **Potato Growers' Attitude toward Agricultural Water Management (AWM)**

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In recent century, water care is vital for safeguarding livelihood and food security. Therefore the main purpose of this study was to investigate factors and attitudes which affect farmers' behavior on agricultural water management. Data gathering process was done by questionnaire in Hamedan province. The questionnaire was first validated by a panel of experts and then finalized after a pilot test process through calculating Cronbach Alpha coefficient and it was 81 percent. The result showed that there was a positive significant relationship between level of education, cultivation land of potato, product performance and attitude toward agricultural water management. There was also significant relationship between age, number of family members and farming experience and attitude toward agricultural water management. The result of the multivariate regression revealed that 74.3 percent of variability in farmer's attitude toward agricultural water management stems from age, Social interaction, and product performance, cultivation land of potato and Job satisfaction. Finally based on the results, some recommendations have been provided.

**Key Words:** Attitude, Potato growers, Agricultural Water Management, Multivariate regression.

## **Designing Optimized Strategies for Sustainable Development of Agritourism: A Case Study in the Coastal Provinces of the Caspian Sea in Iran**

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Agro-tourism is gradually being adopted in some rural areas of Iran. However, unplanned development of this type of tourism can result in unfavorable and negative results. This article presents the current situation of agro-tourism in the coastal provinces of Iran in terms of strategic management perspective and determines and prioritizes appropriate strategic recommendations using SWOC and QSPM analysis to make this industry to be more developed and effective. Data required for determining the internal and external environment of agro-tourism development were collected using interview with twelve experts in the field of rural tourism and technical experts from the agriculture sector employed by the Ministry of Agriculture of Iran. Two questionnaires were developed using external and internal factors identified, and determined strategies administered to agricultural experts at the Agricultural Organization, and Agricultural Management Center of intended Provinces and experts participated the formal group meeting in order to weight SWOC factors and prioritize the identified strategies, respectively. Results showed that conservative strategies are the suggested strategies for development of agro-tourism in the intended areas of the study emphasizing on; developing an approach for marketing sustainable agro-tourism services, enhancing the quality of infrastructures and increase access to technologies, encouraging local rural communities to participate, and reinforcing them through training regarding entrepreneurship, marketing and management of sustainable agro-tourism, investing in agro-tourism, and encouraging the NGOs and private sector to participate.

**Key words:** Coastal Provinces of Caspian Sea, QSPM, Strategic planning, Sustainable agro-tourism, SWOC analysis



## **Prioritization Stability Pillars of rice cultivation system in Mazandaran Province**

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Agricultural sustainability is a multi dimensional concept that involves different dimensions. In this respect, the main objective of this study is to identify and prioritize the pillars of the sustainability of rice cultivation. This study is a descriptive research and practical. The population of the present study is all those specialists who have enough data about ways of stability and rice cultivars that they were identified and studied through Non-probability sampling (n=16). To determine the validity of the questionnaire, face and content validity was used, and, to assess the reliability, inconsistency coefficient was used. In order to achieve the main objective the technique of the Analytic Hierarchy Process (AHP) was used. The Expert Choice (EC) 2000 software was used to analyze the data in this part. Prioritization stability dimension of rice cultivation showed that the stability pillars of economic (32.0%), ecological (23.9%) and technical (21.1%) are more important than the stability pillars of social (14.8) and political (8.3%).

**Key Words:** stability dimension, Rice, Analytical Hierarchy Process

**Effectiveness of Farmer Field School (FFS) approach on  
technology development of Integrated Pest Management (IPM) in  
Shirvan-Chardavol Township**

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Integrated Pest Management (IPM) is an ecological approach controlling pests. Like other ecological systems in this kind of management are wed, this kind of management is dynamic procedure. In fact, this approach is a combination of technologies for controlling many of pests that are based on a maximum dependency to a biological control of pests' population along whit a combination of mechanical and agricultural approaches and if necessary use of pesticides in reduced amounts. The aim of the present study was investigating effectiveness of the Farms Field School (FFS) approach in promoting Integrated Pest Management Technology the view of pomegranate planters in Shirvan-Chardavol town. Statistical society included 77 pomegranate planters that were studied through census. The required data was gathered through a researcher made questionnaire. The panel of expert confirmed the questionnaires validity. Its reliability was estimated by calculating the Cranach's alpha coefficient for 30 questionnaires administered pilot study using SPSSV19 software ( $\alpha= 0.85$ ). The results showed a positive significant relationship between the planting background, pomegranate planters' view, pomegranate planters' knowledge, educational level, and relationship with promote center as independent variables and the effectiveness of FFS approach as the dependent variable. On the other hand, regression analysis indicated that 85 percent of variances was related to age, relationship with promote center, pomegranate planters' view regarding FFS approach and pomegranate planters' knowledge.

**Key words:** Effectiveness, Integrated Pest Management, Farms Field School, Technology development



## **Feasibility of dry cultivation of saffron in Kamyaran**

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Saffron is the most costly agricultural products and medicines that due to high value of its sales are gram and ounces. One of the methods of agricultural production is rainfed cultivation, that for some reason as the lack of adequate rainfalls and water resources are made available. This method involves the selection of appropriate management techniques for agricultural products with reasonable expectations of the regional climate. Usually due to the limitation in the choice of products rainfed profits of this approach of farming is the lower inevitably. Calibration of the area conditions and pilot cultivation of more valuable and less trouble crops in planting and harvesting help to the farmers' economy and increases the amount of valuable products like saffron to efficient use of limited water resources in the country. The present study was conducted to evaluate the climatic conditions during the ten-year-old in the Kamyaran city and test cultivation in three years (2009-2012) in this area. The climatic parameters such as temperature, degree days, frost days, rainfall season and the precipitation was evaluated and complete adaptation with the Saffron requirements. Results showed that temperature and precipitation of Kamyaran city in comparison cities saffron inferred such as Torbat Heydarieh, Qaen and Gonabad has a strong correlation, also results showed pilot cultivation of rainfed of Saffron is valuable and product has been successful. Hence part of the Kamyaran city is dry and this areas prone for rainfed cultivation of saffron.

**Keywords:** Saffron, Kamyaran, dry farming, climate parameters

## **Pathology of aquaculture development: the case of Salmon farms in Boirahmad County**

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One of the recent approaches for the development of less developed areas of developing countries is small and medium sized enterprises. Aquaculture farms including cold-water fishes in one of these activities. While a lot of salmon fish farms have been established in less developed provinces such as Kohgiluyeh and Boirahmad and especially in rural areas, but less attention focused on the pathology of these economic activities. Thus, the pathology of salmon fish culture in Boirahmad County considered as the aims of this study. Survey research method with a pre-designed questionnaire was used in this study. The questionnaire validity was verified using face validity procedure and its reliability was also verified calculating Cronbach's Alpha coefficient in a pilot study (from 0.7 to 0.9). Research population included all owners of salmon fish farms of Boirahmad County that about 60 ones of them were selected as research sample based on simple random sampling technique. The results showed that "the high price of baby fish", "Failure to provide veterinary Services", "inappropriate behavioral characteristics of extensionists", "inappropriate expression of them in extension courses", Lack of access to safe and adequate water", "Low level of technical knowledge of farm owner", "low position of aquaculture in society", "low monitoring on fish food prices" and "failure to sterilize instruments before entering the pool" are the most important inhibitors of salmon fish culture in the study area. Also, the results of ranking different inhibitors showed that economic inhibitors are the first. Moreover, the results of mean score comparisons showed that there are significant differences between aquaculture incomes based on "the type of infrastructures", organizational inhibitors" and "hygienic inhibitors". More detailed findings are presented in the body of the paper.

**Key words:** Aquaculture, Salmon fish, Pathology, Boyer-Ahmad



## **Study of Agricultural Engineering Service companies in achieving a healthy product. A case study of farmers in the northern province of Khuzestan Aghili-Turkalaky**

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Sustainable Agriculture Farming System and technical consultancy Services Company can be very important. This study is to investigate the role of agricultural engineering companies in achieving normal production (case study of farmer's in the northern province of Khuzestan Aghili- Turkalaky) was conducted in 1392. The research is descriptive research that was carried out by field. The population of the city Turkalaky were all farmers (n = 625) of the normative sample size of 72 subjects was calculated using Cochran formula. A questionnaire was used to collect data from a panel of experts to verify the validity of Agriculture Department of PNU was Turkalaky. The reliability of the questionnaire was measured by Cronbach alpha about 0.86 respectively. Software for data analysis SPSS score of 11/5 was used. Results Descriptive statistics of the study showed that service companies Engineering Agriculture during the period of activity have been unable volume chemicals used by farmers to reduce the statistics of the last 3 years, only a small fraction of pesticides and chemical fertilizers reduced and this companies couldn't among farmers to create a culture of healthy product. The positive relationship between demographic variables such as education and income level of farmers by the knowledge that there was a safe product. Inverse relationship between age of farmer knowledge and productivity as well as health statistics are available.

**Key Words:** Technical counseling services for agriculture • Healthy Product • Chemicals

## **Farmers' attitudes towards sustainable management of crops (Sustainable Management of Pests)**

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Today, developing countries widely used pesticides .Despite the fact that they are known to be toxic. Assess the attitudes of farmers in pesticide use patterns can contribute significantly to the understanding of how to change their behavior. So on the other hand nature values, environmental attitudes of individuals, one of the issues of sustainability and environmental protection is. Studying and understanding why it is important aspects of environmental attitude. And can clarify the situation, to recognize the need to improve environmental issues and programs to help. The purpose of this study was to attitudes and of farmers to use pesticides in crop management. The study population comprised all farmers in Gharb Islamabad city randomly, 176 of whom Cochran formula has been studied as an example. This study was conducted using a survey method and the validity of the questionnaire was verified by agricultural of professors Reliability of the questionnaire was also calculated by using Cronbach's Alpha test and it was( $\alpha=0/79$ ). In order to analyze the collected data, frequency, mean, standard deviation, coefficient of variation, ISDM and regression were utilized. Results showed that the results show a significant relationship between education level and positive attitude of farmers. The higher the education level of farmers, they behave more responsibly towards the use of pesticides will. And there is significant relationship between the attitudes of farmers with agricultural activity and negative experience. Therefore, attitudes are formed based on previous experience and training can affect their attitudes

**Key Words:** Sustainable agriculture, Pesticides, attitude surveys, crops, Gharb Islamabad city



## **Analysis of Agricultural Development in Bushehr Province with Emphasis on Offering Consultative Support Services**

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Agriculture is one of the most important economic sectors in Iran and, besides meeting the food needs of the people and the needs of the industries for raw materials, plays an important role in the political independence of the country. Recognition and investigation of the potentials of this sector, followed by determination of its level of development, are the first step in the process of planning agricultural extension service and agricultural development. This research was conducted with the purpose of analyzing levels of development in the agriculture sector in Buser Province. The nine studied indices were weighted first using the Shannon entropy model, and the TOPSIS technique was then employed as the Multiple-Attribute-Decision-Making (MADM) method. Results showed that, among the cities in the Province, Dashtestan and Bushehr enjoyed high levels of agricultural development with coefficients of 0.689 and 0.349, respectively, while Daylam with the coefficient of 0.174 exhibited the lowest level of agricultural development. This shows that agricultural planners and extension service agents in Daylam must pay closer attention to performing their duties. Finally, strategies were suggested for utilizing the potentials in the various cities of the Province to develop the agriculture sector and to offer consultative support services.

**Keywords:** Development, Agriculture, Consultative Support Services, TOPSIS technique, Bushehr Province

## **Barriers to Use of Water and Soil Conservation Practices by Paddy Farmers in Foumanat Plain of Guilan Province**

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Present research is aimed to prioritize main limitations of use of soil and water conservation practices in the region Foumanat plain of Guilan province took place. The study area in this research of construction units the irrigation and drainage network Sefidrud in the Foumanat plain of Guilan province is included Units F1 to F5. The Statistical population includes paddy farmers residing in the plain Foumanat (52086 households), respectively. The sample size with using the sample table Minimum Bartlett et al (2001) for a defined population with datas sequence of 400 individuals was estimated. A researcher made questionnaire based on a review of the literature was used as the main tool Research, which includes restrictions on the use of soil and water conservation practices of the study. The questionnaire reliability of using a pre-test of 30 samples were studied outside the scope of which Cronbach's alpha coefficient of 0.822 obtained from. Also face validity of the questionnaire was determined by the soil and water expert's revision was attempted. For analysis of the data from the study, descriptive statistics such as frequency, mean and standard deviation were used. The results indicated that barriers such as access restrictions to promoting and Consulting Services and Poor management of departments in charge of agriculture and Problems of using agricultural machinery for preparing the land the main limitation of the use the soil and water conservation practices have been. Also Another limitation of the study was to burn crop residue after harvest which Paddy farmers it as a restriction of use the soil and water conservation practices were not considered. This problem indicates the need for extension programs new approaches to education for soil and water conservation to farmers.

**Key Words:** Barriers, Restriction, conservation practices, water and soil, Foumanat plain, Guilan



## **Fuzzy Analysis for Identification Most Important Inhibitors of Hazelnut Gardens in Region Eshkevarat City Roudsar**

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The highest labor productivity and value added per unit of capital devoted to agriculture. Meanwhile, horticulture sub-sector due to the country's dependence on food security, it is particularly concerning. The aim of this study was to identify the barriers to the development of hazelnut gardens. This Delphi study was conducted in the context of 7 experts and experts with experience in production and benchmark hazelnut gardens in the province Eshkevarat members of the expert panel formed to investigate. In the first phase study of multiple response analysis for the analysis data from the open questions in the questionnaire were used. In the second stage of the research phase of a screening method for prioritizing data were used. After the second phase, the Kendall W test results indicate that the experts agreed that the third step is not necessary. The results showed that the main problems facing the development of hazelnut orchards in northern Iran, for example, the market was not reliable and not guaranteed purchase of products by the government, Lack of production cooperatives and government organizations active to track issues and problems manufacturers, Failure to timely use of agricultural inputs and Multi rate of hazelnuts price and speculators abusing in the purchase hazelnut. Also order to fulfill the research objectives important strategies such as seriously addressing trafficking gang's hazelnuts and Issuing rules, Expert prices hazelnuts, Make more connections research centers with manufacturers and Improve Transportation Systems Center product direct sales were made by experts.

**Key Words:** Screening of fuzzy, Delphi method, hazelnut gardens, preventing factors, Region Eshkevarat

## **Family Farmers' Knowledge Regarding the Importance of Rangeland Conservation and the Impact of Rangeland Management Projects: A Case Study in the Mahneshan Township**

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Farmers' knowledge has a significant role in sustainable use and conservation of natural resources. The aim of this research is to investigate farmers' knowledge regarding rangeland conservation, including protection and rehabilitation activities. Data were collected through existing documents review, focus groups, semi-structured and structured interviews with the farmers of the rural areas in the Mahneshan Township of Iran, in which rangeland project had been implemented or was being implemented. The rural households' livelihoods highly depended on livestock keeping through rangeland use, which made overpressure on rangelands. According to the farmers' view, this caused consequences such as soil erosion, decreasing rangelands' soil fertility, increasing flood, and decreasing spring and river water sources. Farmers' knowledge regarding the role, importance and affecting factors on rangeland degradation was relatively high, but they had a low level of knowledge and action about mechanical operations before and after project implementation. Their knowledge about biological conservation and grazing management of rangelands had increased from a moderate status to a high level due to interaction with external institutions particularly the Natural Resources Administration, accessing to extension training courses and receiving credit and services. Extension interventions and providing facilities and required learning condition can lead to increased knowledge and actions of family farmers for sustainable rangeland use.

**Key Words:** knowledge, conservation projects, rangeland management, farmer, Mahneshan



## **Analysis of Discontinue of Integrated Pest Management Technology in the Greenhouses of Alborz Province**

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Integrated pest management (IPM) is one of the most popular strategies that uses for attainment of sustainable agricultural purposes. According to the 5<sup>th</sup> development program, all of the earth's greenhouse products should have been under IPM (except; of ornamental plants and flowers), since 2010. In spite of the expressions and efforts for extension of IPM, greenhouse owners did not inclination to continue IPM after one, two or maximum three years. So, this research analyses reasons for discontinuing IPM method in greenhouses'. The research is qualitative that used interview. The research population consisted of 38 persons who grown cucumber from Karaj, Nazar Abad and Hashtgerd townships. According to the results, greenhouse owners mentioned 28 main reasons for discontinuing of IPM method. The most important of them included: "governmental sanction that inhibited entrance of product inputs", "low profitability for providing of family life costs" and "lack of continual and suitable market for organic products". For easiness in information explain, the reasons of IPM method discontinue classified in five factors included economic, political, technology characteristics, consumer's view to the organic products, and risk and ambiguity factors. In fact, farmers' reason for non-adoption of sustainable agricultural and its technology (like IPM) is a substance conflict between its ecology and economic purposes. As the implementing costs of integrated pest management is more than greenhouse owners' financial ability, so it is recommended that government increased the economic supports of mentioned greenhouse owners (like; grant loan and special facilities and guarantee the purchase of organic products).

**Keywords:** Discontinue, Integrated pest management (IPM), Greenhouse.

## **An Investigation of Influencing Factors on Woodman Villagers Participation in Forests Conservation (Case Study: Northern Cities of Ilam Province)**

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Nowadays the importance of Renewable natural resources as worth and vital capital of each country in order of achieving into stable development is clear. But otherwise of this issue which in third world countries especially in Iran in variety cases which mainly has human religions the trend of destruction has anxiety form. For confronting of this trend government, especially forest and watershed organization, and Environmental Protection Agency in order of protection of natural resources has significant role. But with many extended area of natural resources fields, government lonely can't do this task, thus needs contribution of public specially beneficiaries and residents of jungle areas. The present research has focused on evaluation of effective factors on participation of forester villagers of northern cities of Ilam province in conservation of forests. This research is practical in terms of purpose and has been done using the survey method. A questionnaire was used for data collection which its face and content validity has been confirmed based on the experts perspective using Cronbach's alpha coefficient (92%). The statistical population of this research consists of (N=24489) forester villagers from cities of Ilam, Ivan, Sirvan and Chardavol. Sample size was determined using Cochran formula (n=378) and the selection was based on the Random Cluster Sampling method. Data analysis, based on the research hypotheses, was performed using descriptive statistical and analytical methods (Spearman correlation coefficient and Man White Ney test, Kruskal-Wallis, and multiple regression), and SPSS v20 software. The obtained results show that there is a significant positive relationship between variables of income, communicational factors, educational-promotional factors, social-cultural factors, and political factors, and dependent variable of forester villager's participation rate in conservation of forests. The obtained results of collective effect of independent variables, on dependent variables using multiple regression and stepwise method, showed that variables of communicational factors, political factors, social-cultural factors, and number of family members, had the highest positive effects on dependent variable of villager's participation rate in conservation of forests.

**Key Words:** participation, forester villagers, forest, conservation



## **Factors influencing farmers' participation in sustainable use of Qanat water in Taft district**

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The present descriptive – correlative research was conducted to investigate the factors determining farmers' participation in sustainable use of water in Qanat in Taft district. The sample population of the study consisted of all Qanat users of Taft (14466 users). 1220 users were sampled using Kokaran formula by proportional stratified random sampling method. Data collection instrument was a questionnaire whose validity was confirmed by a panel of experts. The data were analyzed by SPSS: win software. The results of stepwise regression analysis showed that variables of attitude toward participation, social participation and the executives of Qanat explained 59.5 percent of variances of farmers' participation in sustainable use of Qanats water in Taft district.

**Keywords:** Participation, Sustainable use, Qanat, Taft district

## **Impact of farmers training In realization of sustainable development Case Study in city of Natanz**

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Agricultural training and promoting programs and training appropriate skills to rural that are designed and implemented consistent with the needs and special requirements of rural, will be key factors for sustainable rural development and will be integral part of the overall development process. Many studies have shown that conventional farming systems by indiscriminate use of chemical inputs, not only have damaged natural resources but also its wastes destruct the environment. Promoting agriculture aims to positive changes in information, skills, insights and attitudes of farmers towards protecting the environment. Obviously, in this process, farmers and especially rural will be considered as main audiences for promotional programs. This applied research has been done to explore the role of agricultural promotion in increasing participation of rural in the sustainable development by descriptive- survey at the city of Natanz. The statistical population of and the sample size was determined people based on Morgan table. Sampling method was random that was proportional to size. The data collection instrument was a questionnaire that its validity was confirmed by obtaining Specialists and Teachers of Agriculture opinions. . Reliability coefficient of questionnaire was obtained using SPSS software and Excel programs for different sectors, indicating the suitability of the research tool. Results have shown that Farmers among training methods of promotion, have benefited from contacting with agricultural promoters, most farmers have expressed that promotional magazine content is consistent with their needs and promotional and educational materials in the classroom have been understandable for them. Results of correlation tests showed that there is significant relationship between rural farmers' incentives to participate in sustainable rural development and education variables, participate in educational promoting activities, barriers to participation and attend training classes of promotion.

**Keywords:** sustainable development, organic farming, agriculture training



## **Analysis of past studies regarding range management and users' participation in rangeland plans**

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Rangelands have an important role in rural economy. Therefore, participation of rural people in managing, protecting and revitalizing them are highly considered. Accordingly, the aim of this paper was to analyze past studies regarding rangeland management and users' participation in management plans. For this purpose, a document study with the aid of a meta-analysis was used. A protocol was prepared and all scientific documents were analyzed based on the protocol. Findings revealed that the most of the researchers have used Cochran formula and questionnaire. The SPSS software had highly used in these studies. Many of these studies were conducted at years 1368 and 1390 in Fars and Semnan provinces. Findings also showed that the investigating socio-economic condition was the first aim of the studies. Furthermore, results revealed that the education and extension had an important role in participation of stakeholders in rangeland management plans. Also, indigenous knowledge and local experiences could improve participation of stakeholders in rangeland management programs. Finally, due to improve rangeland management and participation of rural people in these programs some suggestions were recommended.

**Key Words:** Pasture, Range land management, Rangeland management projects, Farmers participation, Meta-Analysis

### **Ranking Dust effects on crops from farmers' perspective (study city Sarpolzohab)**

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This study was conducted to identify the effects of dust on the agricultural sector, In order to achieve the goal of mixed research (qualitative - quantitative) were used. Firstly, to identify the effects of dust professionals Delphi method were purposefully selected. The population was formed by small amount of farmers in Sarpolzohab city (N=6402), 266 subjects using Cochran formula and a two-stage clusters were selected with probability proportionate to size. In the third round of the Delphi study was conducted in three rounds and the results of the third round of the Delphi as questionnaire were available to farmers. For data analysis in Delphi phase content analysis, coding, mean statistics and frequency, and for the quantitative statistics, mean and standard deviations in SPSS and Excel software was used. Finally, the 38 effects in six categories were determined and identified as income and livelihood of rural resource degradation, reduction in crop production, livestock, horticulture and fisheries, increasing in spending and rural households, morphological and biological changes in trees and climate change and unsuitable health consequences.

**Key Words:** Natural Disasters, Pollution and Dust.



## Survey the place of behavioral economic in developing environmental policies

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The challenges are faced because of demand increasing for agricultural crops for food security and importance of attention to natural resources to ensure sustainable food supply in societies. In this context, the efficient use of natural resources and maintain them is place at a high degree of importance. It cause to focuses to agricultural sustainable programs in different countries by policymakers. These programs are nationally and internationally based on mainstream economics model which assume actors are perfectly rational in decision making process and aim to maximize benefit. But researchers found that actor's decisions are not always based on financial consideration, instead they change behavior by psychological and social interactions. These factors lead to violation of rational models which are basis of decision making in mainstream approach. It is believed that more reliability about base of psychological analysis lead to improvement of economics and better policy prescription. This combination is related to new approach of economics called behavioral economics. While neo classic theories consider economic motivations, behavioral economic assume actors have internal and external motivations. More reliability to this, more successful programs will be developed. This paper first attend to basis of behavioral economic then, discussed about its place on better developed and more successful implementation of these applied programs

**Key Words:** behavioral economics, decision making, environmental policies, rationality

## **Effectiveness study of the extension activities invested to enhance readiness level of the farmers in the risk management of the dust particle dispersion**

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In this research the agriculture extension activities in line with attempts preparing some of the farmers in the north of Khuzestan province to reduce or tolerate the risks and hazard of particle dispersion phenomena, is being studied. In order to achieve the proper indices for the evaluation of the aware level and particularly the degree by which extension activities being successful, a statistical study has been scheduled. Through five big agriculture lands in the north of Khuzestan, 50 sample farmers were selected among which the society is defined. The two parameters including risk management skills and dust particle dispersion effects are specially considered and being measured in this sample. It is followed by the statistical analysis in which the order of variance has been assumed to be a measure of success. Essentially the mentioned method of sensing needed some reference data for the relative comparison. Therefore the second group of questions has been issued non-related or general idea topics. The results depict that although these extension activities considerably enhance level of knowledge, still there is serious lack of readiness among the farmers.

**Key Words:** risk management, dust particle dispersion, climate change, extension activities, north Khuzestan



## **Review the role of promoting in energy management in the rural sector**

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Energy is one of the basic human's needs and all of the countries have been faced to some challenges to supply it in the recently decades. In developing countries as same as Iran energy consumption had increased and certainly in these countries energy supply is going to a big problem in the future. Currently, the household sector has the most of the energy waste that have irreparably damage on country's economic and environment. In rural sector used the non-renewable resources like oil and gas and there aren't any certain measures to the energy management. With pay attention to this matter that the non-renewable resources are limited and must have used alternative fuels as well as renewable energies that promoting of people has an important role to energy management. In this context, the aim of this research is promoting the proper management of energy consumption in the rural sector

**Key Words:** promotion, energy management, rural

## **Promotion and its effects on rural housing development**

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Village is a collection of life that comes in contact with economics, culture, nature and community. The form of rural housing has been changed with the arrival of technology and its integration with these factors. Recognition of transformation and infrastructural factors that could have effect on these changes is very important. Low quality construction methods and materials used and the lack of proper infrastructure in the villages are among major problem of rural housing in Iran. Rural have an important role in national development that is necessary to supply infrastructures. In this context, an important role of promoting to public awareness for improving rural housing is obvious. The purpose of this study that gathered with documentary style is, the promotion and its effects on rural housing development.

**Keywords:** development, housing, rural infrastructure, rural development



## **Review the role of promoting in energy management in the rural sector**

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Energy is one of the basic human's needs and all of the countries have been faced to some challenges to supply it in the recently decades. In developing countries as same as Iran energy consumption had increased and certainly in these countries energy supply is going to a big problem in the future. Currently, the household sector has the most of the energy waste that have irreparably damage on country's economic and environment. In rural sector used the non-renewable resources like oil and gas and there aren't any certain measures to the energy management. With pay attention to this matter that the non-renewable resources are limited and must have used alternative fuels as well as renewable energies that promoting of people has an important role to energy management. In this context, the aim of this research is promoting the proper management of energy consumption in the rural sector

**Key Words:** promotion, energy management, rural

### **Study the role of promoting and public awareness in managing and conserve of forests**

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Forests are considered a valuable economic, social and cultural resource. According to the human life has dependency to these resource so that protection of are very important. One of the protection way is prevent damage that caused by the human factor which the villagers have an important role to achieve this protection. To achieve this, promotion and public awareness can play a significant role in protecting forests. The purpose of this paper is to review the methods of collecting, reviewing and promoting public awareness of the role is to manage and conserve forests.

**Key Words:** promotion, forest, nature areas, management



## **Investigation and analysis of environmental attitudes of farmers in Ilam province**

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The purpose of this study was investigation and analysis of farmers' environmental attitudes in Ilam Province. This study was conducted by using survey method. Population of this study was consisted of all Ilam province farmers. 210 of them were selected as sample by using Cochran formula and based on their cities. The main data collection tool was a questionnaire. The most important and obvious part of questionnaire was related to farmer's environmental attitude. It was assessed by means of, Danlp et al. new environmental paradigm test (NEP). This test contains 15 questions in a form of five scale Likert range. Each 3 question of it take consideration into special aspect of five dimensions of environmental attitude (equilibrium dimension, environmentalism, humanitarianism, environmental crisis, growth restriction). In this test, the highest score (75), indicated farmers' environmentalism (environment-centered) and the lowest score (15) reflects humanitarianism (human-centered). After questionnaire design, its construct and face validity was confirmed by experts and specialists. In order to verify the reliability of the questionnaire, Cronbach's alpha coefficients calculated. This coefficient was 0/57 to 0 /86 for different variables. Data were analyzed using SPSS 18 statistical software. For data analysis and interpretation, frequency, spearman correlation and mean comparison tests (Man Whitney and Kruskal-Wallis) were used. Findings of this study indicated that, environmental attitude among Ilam province farmers is moderate.

**Key Words:** Environmental attitudes, farmers, new environmental Paradigm (NEP)

## Challenges Facing Watershed Management in Iran

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Degradation and over exploitation of natural resources is the most important constraints to sustainable development in many developing countries. Indeed, the over exploitations of these resources represent a wide gap between the objectives of sustainability and current watershed management practices. Looking at the destruction Facts and figures of range lands, forests, soil erosion and water loss in our country represents numerous challenge sin this field. Therefore, this study was conducted to determine the current challenges of watershed management in the country. The population for this study consisted of natural resources management experts in the throughout country that had sufficient knowledge and experience. Delphi results, which were conducted in three rounds, showed that the most important challenges of watershed management for the country Included: management, policy-making, research and informing, participation and social justice and economic challenges.

**Keywords:** watershed management, natural resource management, challenge, Delphi technique



## **Farmers ' perception toward soil fertility and nutrient management Kermanshah Township**

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The purpose of this descriptive-correlational study was to determine Farmers ' perception toward soil fertility and nutrient management and the factors influencing it. The statistical population for the study consisted of farmer heads of families in the rural society of Kermanshah township (N=24391). Three hundred and fifty samples were selected through multistage sampling method. Data were collected through questionnaire. Validity and reliability of the research instrument were respectively determined through a panel of experts and a determination of Cronbach's Alpha Coefficient. Based on the findings, the Farmers ' perception toward soil fertility and nutrient management was moderate. Results of structural equation modeling revealed that variables including education level, extension contacts, farming experience, Sources of information and farm size had *a significant influence on* Farmers ' perception toward soil fertility and nutrient management, with these variables in total determining 51% of variation of Farmers ' perception toward soil fertility and nutrient management.

**Keywords:** Perception, soil nutrient management, fertility management, Farmers

### **Analysis of the importance of energy in processing and complementary industries**

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Processing industries' development level is an index to measure the level of agricultural development in each country. Industry is one of the major energy consumers, so considering this section has particular importance in improvement of energy efficiency. However, the role of energy in processing and complementary industries has not been dealt. The purpose of this paper was to investigate and explain the status and role of energy in agricultural processing and complementary industries of Iran. Analytic-content approach was used in this study. The results show that energy consumption in the industrial sector of Iran from 1988 to 2008 has increased 130%. Also, the results showed that with increasing energy consumption in the industrial sector and the replacement of natural gas instead of petroleum products in 1994, index of energy intensity had decreased from 0.4 per thousand Rials added value in 1967 to 2.35 in 2011. This result showed that the energy efficiency is improved in the industrial sector.

**Key Words:** Processing and Complementary Industries, Energy, Agriculture, Efficiency



## **The effect of biofuels on rural development and agriculture**

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In order to reduce the consequences of conventional fossil fuels around the world, renewable energy introduced as an alternative to fossil fuels. It's well acknowledged that renewable energy is environmentally friendly and unlike fossil fuels are Capable to be renewed. Different types of renewable energy exist such as hydropower, wind, solar, geothermal energy, biomass and energy from the waves and tide. Biofuel which is one of renewable energy, they have different shapes such as liquid, solid or gases that produce from biomass. Bioethanol and biodiesel are different kind of Biofuel, which transport have capabilities to use in transport systems as fuel, and can act as a substitute for conventional fossil fuels in vehicles, industries and can be used in remote areas. Solving environmental problem is the major reasons for willingness to develop biofuels however; they can facilitate social and economic development at the community level. While this kind of energy dependent on rural resources, as such it can play a pivotal role in rural development. In general, development of bio energy in rural area will change directly and indirectly rural residents' life. Directly biofuel can create local employment and income in local level, present better energy services, local health service and stabilize the local economy. Indirectly, it can, contribute to improve the infrastructure and facilities, the knowledge and skill of farmers; efficiency farmers and quality of their life. However there is also criticism and risks which associated with biofuel extension, such as: increase food prices, competition with food production in use resources (such as water and land), and influence the bio-diversity. The aim of this paper is analyzing the effects of biofuel on rural and agriculture development in Iran with respect to the biofuel advantages and limitations.

**Key Words:** renewable energy. Bio fuel .rural development

## **Exploring the causes and impacts of dust phenomenon: A case study**

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For decades, the pollution and destruction of the environment has been considered as one of the worrying issues at the local, national, regional and international levels. Need and greedy desire to exploitation of resources in today's human society has increased the pressure on different types of renewable natural resources, to the extent that, has exceeded of its tolerance range. This has created the contexts for destruction them. Dust phenomenon is one of the problems that is spreading by human interventions and irrational use of natural resources. In this regard, this study was performed with aim to explore the causes and impacts of dust phenomenon on farming using the qualitative research methods in Ahwaz County, Khuzestan Province. In this study, a number of key informants among agricultural experts and farmers were selected through purposive sampling and examined by encoding and categorizing method. The research findings indicate that the main causes of dust in the study area include: reduction of water resources, lack of vegetative cover, ceasing of interregional cooperation due to political factors, irrational patterns of agriculture, global warming, loss of soil moisture and speedy winds. Furthermore, agricultural experts attributed the causes of dust to a wider domain of factors. Also the impacts of dust on farmers and farming were revealed as social, economic, agronomic and environmental impacts. The study, then, suggests that the extension system must promote farmers' knowledge in the context of dust causes, in order to manage the controllable factors by farmers. Also, due to the impacts of dust on various sectors, the final part of the study followed by providing some suggestions to reduce the impacts of dust as well as to improve the role of agricultural extension in this context.

**Key Words:** Dust, Dust Causes, Dust Impacts.



## **Identify Factors Affecting Farmers' Attitudes towards the Environmental Impacts of Burning the Plant Debris in Khuzestan Province: Elhai Region**

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The general aim of this study was to investigate the factors influencing farmers' attitudes towards the environmental impact of burning the plant debris. Farmer of Elhai Region were the target population that sample size 200 cases were calculated by using of the Cochran formula and these cases were chosen with the random sampling method. A questionnaire was designed to data selection that the fact validity of the questionnaire was approved by Faculty members of the Department of Agricultural Extension and Education, University of Ramin and its reliability was calculated using Cronbach's alpha coefficient (0/86). SPSS software was used to analyzing data. The research indicate that the majority (6/67%) of farmers surveyed had moderate attitude towards the environmental impact of burning the plant debris. Comparison of means showed that between Farmers' attitudes towards the environmental impact of burning the plant debris based on variable crop residue management, there are significant differences in the level of one percent. The results of the stepwise multiple regression showed that among the variables studied education, type of crop residue management, cultivation practices, use appropriate technologies to collect plant debris and communication with staff service centers explain 21% of the variance of farmers' attitudes towards the environmental impact of burning plant debris.

**Key Words:** Attitude, Burning the Plant Debris, Environmental Impact.

### **Evaluation of pressurized irrigation systems as a mechanism to optimal water management (case study: B4 Miyan Darband)**

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Agricultural sector is the largest water consumer but due to inappropriate irrigation practices, much of this water is wasted and irrigation efficiency is very low in this sector. Therefore great efforts have been made in order to control surface water. Consequently this qualitative research sought to evaluate pressurized irrigation projects in the B4unit of Miyan Darband. Purposeful sampling was used to select study population. Observation, interview and PRA techniques (map sources) were used in order to data collection. Results showed that increasing production performance, preventing irrigation, understand the value of water in current crisis situation and inappropriate channel position, illegal exploitation, small farm plots, pipe and raisers destruction during plowing were expressed by farmers as the most important problems in project exploitation.

**Key Words:** Evaluation, pressurized irrigation systems, B4unit of Miyan Darband



## **The Effects of Extension Training Activities on Participation of Farmers in Conservation and Restoration of Natural Resources Projects**

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The main purpose of this study was to survey effect of education on participation of farmers in conservation and restoration of natural resources projects in the center part of Hamedan city. The statistical population of the study includes all users of natural resources in the center part of Hamedan city who were selected according to Cochran's formula and 142 user of natural resource were randomly selected as statistical sample. The samples were selected randomly through proportional stratified sampling. The most important instrument for data collection was questionnaire. The validity of the questionnaire was confirmed by specialists and its reliability was calculated using Cronbach's Alpha coefficient ( $\alpha=0.79$ ). The results of T and Mann-Whitney tests indicate that there is a significant difference between users that participate in training and users that not participate in training in terms of attitude towards conservation of natural resources, participation in conservation projects - reducing natural resources and awareness of the importance of natural resource conservation projects. So that users of natural resources participating in training, more positive attitudes, greater participation and greater awareness about the importance of natural resource conservation projects compared with users of natural resources that not participate in training.

**Keywords:** Education, Participation, Farmers, Conservation and Restoration Projects, Natural Resource

**Analysis of effectiveness of Plant Clinics extensional activities on the acceptance of IPM by growers in the south Khorasan province in crop year 91-92**

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For nearly a decade, Plant clinics, started its activities in Iran with the goal of creating a suitable situation for knowledge based integrated pest management of technology transfer and also in order to empowerment of private promote in the extension of agricultural plant protection. The effectiveness of extensional activities of these centers, requires knowledge of the effect of internal and external factors governing them, particularly in view of farmers referred to these centers. Therefore, this study aimed to analyze the effectiveness of extensional activities of the South Khorasan Province Plant Clinic, in developing integrated pest management from the perspective of producers of horticultural products. This study is a part of descriptive and correlational researches which is done as a survey. The study consisted of 172 items to investigate the factors influencing the effectiveness of extensional activities clinic such as the characteristics of beneficiaries , the amount of communication with clinics, the attitude of farmers towards the impact of extent, functional , structural , operational and support mechanisms governing clinic. Cronbach's alpha coefficient for this scale was calculated with implementation of a pilot study. The survey involves agricultural producers of horticultural products in 92-91, have been referred to the centers at least once a year. The volume of sample obtains from stratified random sampling method using Cochran's formula with (n = 160), respectively. Qualitative assessment of Respondents' attitudes showed that 53 percent of them, evaluated the effectiveness of clinical activities in moderately and poorly. Also based on the results of tests of compare independent variables, including marital status, selected as a best farmer, location of respondents, education, water resource use, garden products, target pests, integrated and non-chemical control methods which used, clinic services, irrigation systems and the way to supplies consumed poison, with effectiveness of promotional activities clinic variable, there was significant difference between them. Analyzing the results of stepwise regression analysis showed that the independent variables , attitude towards the exploitation and utilization of basic IPM training in the clinics has the most significant and positive impact on the effectiveness of extensional activities of Plant Protection clinics.

**Keywords:** effectiveness, advisory activities, Plant Clinic, pest management, attitude



## **farmers for Drought Management: an Application of the Sustainable Livelihoods Approach**

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Drought is a natural hazard quietly and most dangerous natural hazard that causes the greatest losses in communities. Droughts as a context of vulnerability, causing instability in livelihoods of farmers' households and the social, economic and environmental impacts on their livelihoods. Sustainable livelihoods approach, including context of vulnerability and livelihood assets, structures and processes, livelihood strategies and livelihood outcomes. Extension and advisory services as a structure and process component in the approach can improvement livelihood assets' farmers and also betterment their livelihood strategies. The purpose of this study to analysis the role of extension and consultancy services in empowerment of farmers to manage drought due to the sustainable livelihoods approach. The research method in this study was descriptive - analytical and for collecting data used from the Library – Documents method. In this regard, first, an overview of the concept drought and its effects. Then, sustainable livelihoods approach explanation is required and afterward, role and position extension and consulting services in this approach with emphasis on strengthening and improvements livelihood assets' farmers , particularly their human capital and social capital in order to manage drought. Finally, Recommendations for empowering farmers for manage drought, according to the functions of extension and advisory services are offered.

**Key Words:** empowering farmers, extension and advisory services, manage drought management, sustainable livelihoods approach.

## **Impact of Social Capital on sustainable Management of Range land sand Extension Role**

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Rangelands in Iran covering an area of over 84 million hectares are important economic resources available to rural households, which have important role in their livelihoods. In addition to providing forage for livestock, range land have many other benefits and functions, such as water and soil conservation, sustainability of ecosystems, providing protein for society, preventing soil erosion, producing medicinal plants, etc. Despite rangelands' crucial role in our life, many rangelands are degrading due to excessive and inappropriate use. Sustainable management of rangelands is deemed to be necessary. This paper is to review the documents and studies conducted regarding the role of social capital in sustainable management of rangelands. The results of the studies show that social capital is an important asset in the sustainable livelihoods framework, which can have a very important role in the sustainable management of rangelands and its strengthening can improve natural resource management policies and decisions .Social capital is often assessed by the rate of participation in public life and the existence of trust between them. In a community where social capital is high, relationships and trust between people and the government have improved and the rate of participation in collective actions has increased, which has led to the actions for sustainability and sustainable management of rangelands. Extension can help enhancing social capital in this context.

**Key Words:** Social capital, natural resources, rural development, sustainable rangelands management, trust



## **The role of Consulting Services in development and promotion of organic farming**

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Currently the market for organic products at international level is witnessing a high growth and a trading volume more than 55 billion dollar per year and on the other hand latent demand for organic products in past year has been approximately around 48.5 billion dollars. Therefore, organic products are considered to be a potential and profitable market and considering the growing trend, demand for this type of products has increased. Hence, the necessity of dealing with issues such as empowerment of beneficiaries in production process of organic products, decreasing environmental pollution and risks, decreasing job losses, following professional standards and conservation of biodiversity have gain importance more than ever. In line with this, the policy makers and program planners of our country in the implementation of the provisions of the Fifth Development Plan have entrusted policy activities such as biological control of pests and plant diseases, optimal use of pesticides, Extension the use of bio-fertilizers and other activities of development and Extension of organic farming to the non-public sector (private sector). However, studies show that in spite of this extensive planning, this area is facing with some extensive and serious problems among which we can mention the rejection of organic farming from subsistence farmers, The high cost of organic farming in transition, Low area under cultivation of these crops, Consumers' lack of interest due to the high prices, the low level of educational and Extensional skills of consulting services experts and lack of experiences in them in performing the tasks related to promoting organic farming. Therefore, it is recommended to make use of the capacity and capability of the agricultural engineering and technical consulting services firms and with creating farmers fields schools in terms of Systematic field research start to empower farmers in the field of development and Extension of organic farming.

**Key words:** consulting services, Extension and development, organic farming

## **Review the role of indigenous knowledge in the conservation of natural resource**

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Several years of experience in the field of conservation of natural resources show that the use of academic knowledge singly is not sufficient and remedial in the conservation of natural resources. It seems beside academic knowledge, traditional and indigenous knowledge of people of the region can be beneficial for protection of natural resources and sustainable development. There is a problem in this area, the role of indigenous knowledge in the conservation of natural resources is not well determined. So, this paper aim is to review and determine the role of indigenous knowledge in the conservation of natural resources has been codified. In this paper study approach is library and archives with using online and offline databases. The results show that indigenous knowledge can have a role and broad impact in the conservation of natural resources. By using indigenous knowledge in each area we can confront natural disasters and by using methods such as grazing pastures, the use of mulch, watering jug, a native stored procedures and optimized use of water resources and indigenous management of trees water demand, we can try to preserve natural resources and reduce arisen damages. Also, the results indicates that maintaining beliefs, values, and culture of people by themselves and by help of government , can have suitable role in the field of conservation of natural resources and sustainable development.

**Key Words:** Indigenous knowledge, natural resources, sustainable development, traditional knowledge



## **Factors influencing on the Effectiveness of Wheat Farm Advisors from Viewpoint of Wheat Farmers in Sari Township**

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The purpose of this study was to examine the effectiveness of Wheat Farm Advisors (WFA) in terms of increasing wheat farmers' technical knowledge, professional skill and improving attitude toward wheat. The target population of this study consisted of all wheat farmers who received advisory services from WFA in Sari township in farming year 2011-12 (N=4122), according to Krejcie and Morgan's table, a number of 351 people were selected using statistical sampling in a stratified randomization method (n=351). The tool of research was the questionnaire, which panel of experts had confirmed its validity, and its reliability had been reported from 0.71 to 0.92. The descriptive results of research showed that the WFA's impacts on the wheat farmers' technical knowledge, professional skill and improving attitude toward wheat were at good level. The other results of research also indicated that there was statistical relationship between some of individual, farming, participatory characteristics of wheat farmers, extension-education characteristics of WFA and the amount of activity effectiveness of WFA. The results of the bivariate regression revealed that 69.30 percent of variability for effectiveness of WFA stemmed from "wheat farmers' participatory characteristics, wheat farmers' attitude toward cultivating wheat, WFA's extension-education characteristics, and educational level of wheat farmers".

**Key Words:** Effectiveness, Advisory Services, Wheat Farm Advisors, Wheat Farmers, Sari Township

## **Evaluation of farmers' participation in WUA irrigation projects ""Ghaleh Madreseh Behbahan**

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Entering the private sector in the field of administrative and operational activities in the field of water resources projects, opportunity and prosperity for the prosperity of the agricultural sector is in project areas. The irrigation network in Khuzestan and southern area of 720 acres in coastal Southern California city is located right Kheirabad River. According to studies conducted by the consulting engineers, because the height difference of land surface water pumping station to transfer water to Kheirabad was used. Also, due to topographic conditions, soil type and other parameters needed for the irrigation, sprinkler and drip irrigation methods were chosen as the best option. Cooperatives should be created to undertake the work. It is normal in long-term, cooperative enterprises and organizations of people to transfer their activities in the sub-networks consisting of operators, with a working knowledge of their core network ready for the sustainable management of water supply installations and government will also aim irrigation management transfer has been achieved by building on the water industry and the expected goals of development programs are provided in the form of visions.

**Keywords:** participation, exploitation, privatization, organize, transfer of irrigation management



## **Maintain the quality of water resources for sustainable development path**

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Water, particularly in the sense of its availability for irrigation and other purposes and is one of the most important and most frequently used of natural resources. Enough water is one of the preconditions for economic –social development. Hence, most studies of the public resources developed to water. However, most studies of water in Iran and the world has focused on water quantity researchers draw little attention to other dimensions of quality of water. Water quality is one of the important feature of water resources to achieve the goals of economic- social sustainable development. In other words, the quality of water resources is an important factor in ensuring food security, rural poverty reduction, increasing income and employment and resulting in sustainable rural development. Through the passage of time, water has significantly been affected by other contaminants. Water quality, especially in rural areas has undergone serious changes. Since, it reduces agricultural production is low quality water, affected farmers' incomes, and it has reduced. Hence, the reduced food availability and led to rural poverty.as a result, the outcomes, has increased country's for need for food and is lacking the food.

**Keywords:** Water Quality, Food Security, Sustainable Development, Health.

### **Sustainable development of irrigated agriculture in nomadic territories of Khuzestan Province**

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Irrigated agricultural development is one of organizing policies for nomadic society and it is also a policy for diversifying of products and change in the nomads lifestyle. This study aimed to find factors affect sustainable development of irrigated agriculture in nomadic territories of Khuzestan Province. For this purpose, grounded theory and purposeful sampling were used and 13 informant experts were deeply interviewed with a semi structured questionnaire. Open and axial coding of the collected data were used. The results show that social capacity building, study on potentials of nomadic territories, sustainable management of developmental programs and improving resources usages systems are the most important strategies for irrigated agriculture development in nomadic territories of the study area.

**Keywords:** Irrigated agriculture, nomadic territory, Khuzestan Province.



## **Challenges for Saving Natural Resources in Rural Tourism**

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Recent years most of the attention toward the tourism is due to absorb economical benefits rather than sustainable use of resources and maintain the principles of sustainable development. Although rural tourism is one of the concepts and forms of sustainable development but the point is that if the industry is seen as a strategy for rural development required to provide necessary structures to enable the achievement its benefits. This paper describes the benefits and disadvantages of rural tourism in the preservation or destruction of natural resources, investigating the perception and attitude's residents in rural communities and describes the theoretical base of the subject. The end of the article presents some practical recommendations to reduce the disadvantages and increase benefits of the industry base on the results study in Khuzestan's rural (Ezeh) for investigating the impacts of rural tourism by the authors.

**Key Words:** rural tourism, sustainable development, natural resources, perception, resident's attitude

## **Studying the Educational Needs of Range Owners of Ortabolagh Village in the County of Zanjan**

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The main purpose of this study was studying the educational needs of range owners of Ortabolagh village in the county of Zanjan. The research method of the study was descriptive-correlation research. The statistical population of the study consisted of all range owners of Ortabolagh village in the county of Zanjan (N= 142). According to Morgan & Krejcie table, 105 persons of them were selected by Simple Random Sampling for doing the study. A questionnaire was used to collect the data. The results showed that respondents are considered the three statements including familiarity with methods to prevent degradation of rangelands, familiarity with proper methods of rangeland correction and familiarity with precise time of animal's entry and exit from rangelands as the most important educational needs. The results of the correlation coefficients revealed that there was significant and negative relationship between the dependent variable of the educational need level and variables of educational rate, income level, work experience and usage of different information channels; whereas, there was no significant relationship between the respondents' age and animal number with dependent variable. Results of t test showed that there was significant difference between the educational needs of range owners who have attended in educational classes with range owners who have not, so that the latest ones have had more educational need.

**Key Words:** Educational Needs, Ortabolagh Village, Range Owners, Zanjan County



## **The Status of Environmental moral norms The case of farmers in Shiraz County**

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In several past decades, relationship between human and nature has been considering as a major issue, because it seems that natural resources have consumed and degraded faster than the time which they need to be recovered. Until now, many technological solutions, like precision agriculture, presented to solve environmental challenges. But nowadays, ethical dimension has been considering besides other dimensions of protection of environment, and that shows the important of attention to software dimension beside hardware dimensions in protection of environment. This research implemented for investigation of environmental moral norms between farmers in Shiraz County. Survey and questionnaire has been used to collect information from 272 farmers as sample. Questionnaire validity was confirmed by agricultural extension and education professors, and questionnaire reliability was confirmed by pilot study and Cronbach's alpha. In this research, four types of environmental moral norms such as profit-centered orientation, saving, taking responsibility and forethought were investigated between farmers community. Results showed many farmers in spite of incidental acceptance of taking responsibility for consumers health, other organisms and biosphere, are following only their profits by excessive use of fertilizers and chemical pesticides and burning residuals. In other hand, many farmers in spite of incidental acceptance of next generation rights to use natural resources have a little forethought and made unsustainable behaviors that can decrease next generation ability to use these resources. At the end, some suggestions recommended for farmers' practical commitment to environmental moral norms.

**Key words:** environment, moral norms, responsibility, future, saving, profit-oriented, Shiraz County.

## **Study of factors related with rural domestic waste management**

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One of the most important environmental problems and concerns of rural areas in the world is domestic waste management. Unfortunately, weak management of waste management could cause some bad effects e.g. economic loss, resource degradation and environmental pollution. Therefore waste management as an effective tool could improve the environmental health of the rural areas, decrease environmental problems, reduce resource overconsumption and reduce the cost of society. There have been done several studies regards factors related with domestic waste management but the results of these studies have not been summarized. Therefore, this study was conducted with the aims of summarizing these studies and prioritizing the factors related with domestic waste management by using the Meta-analysis method. The population of this study was including the articles in Iran and foreign databases that used keyword waste management (n=20). Results showed that the main factors related with waste management behaviors in terms of the frequency of studies respectively were comprising; Age, gender, education level, attitude, family size, income, participation in training programs, advertising and local authority. Also the results indicate that demographic characteristics of people are main factors in waste management behaviors. Therefore, in designing educational programs for waste management it is necessary to consider target group conditions and desires.

**Key Words:** Rural development, rural environment, waste management, Meta analy



## **Explaining the role of social capital in local communities in the sustainable management of Hamoun wetlands**

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Hamoun the International important wetlands, one of the world the largest fresh water lake is throughout the Iranian plateau. This wetland values include economic, social, environmental, recreational and widespread that this wetland has been among the most important wetlands. Unfortunately, due to recent of drought, many species of valuable wetland ecosystems that have formed in the chain of life, From gone. Nevertheless, social capital can be one of the important factors affecting the sustainable management and development of Hamoun wetlands and consequently improve the quality of life of rural villages around the wetland to be considered. The aim of this paper is to provide effective strategies from the perspective of social capital both above and below the sustainable management of Hamoun wetlands. Research findings based on two categories of individuals at the regional level were recognizable: groups with high and low social capital. The results of this study indicate that the two groups are relatively the same refers of view in relation to the consequences of the lack of sustainability in the management of wetlands, Two groups of social capital, social and environmental consequences arising from the situation in order to more and less the area of wetlands has occurred, however, different strategies to achieve sustainable management of wetlands presented.

**Key Words:** social capital, Hamoun wetland, local communities, sustainable management

## **Agritourism: Rituals and Celebrations agriculture as a context for the diversification of the rural economy, case study: Shanadar in Ourmyieh Township**

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Agritourism, as one of the branches of tourism, is taken into consideration during the past two decades by experts, planners and policy makers. This type of tourism has a deep connection with rural environment and emphasizes the utilization of agricultural activities along with leisure tourists. Moreover, it includes rituals, celebrations and ceremonies related to agriculture. Iran has a history of thousands of years in agriculture. Accordingly, where there are the customs, traditions and rituals associated with agriculture. In this regard, hold some celebrations and rituals have great reputation. Celebrate the grape or the local term "Shanadr" one of them. The celebration will be held in Ourmyieh Township in West Azerbaijan. This province Is known as a center of agricultural production. Given the history of agriculture in the region, the various rituals associated with main agricultural products are formed in this area. This ritual is three thousand years old and is held every year in late summer, coinciding with harvest of grapes and participates in its many of those interested in the culture and traditions of Azerbaijan. Therefore, the potential of this type of rites and celebrations aimed at income generation for rural development and agricultural producers is essential. This research is founded with the aim of evaluating the feasibility of the development of agricultural tourism with emphasis on ritual and celebration "Shanadar" .The conceptual framework for this study is descriptive – analytic. The present findings indicate that Celebrate "Shanadr" and other agricultural celebrations and rituals have the ability to attract tourists to rural areas and to generate income, diversification, stability and continuity of their economic activities.

**Key Words:** Agritourism, sustainable rural development, Shanadar, Ourmyieh Township.



## **Recognizing accelerate factors of Irrigation Networks Management Transfer Toward Farmers of Experts Viewpoint of the east Azarbaijan Regional Water Corporation**

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Survey of laws and regulations related to public management, utilization management of soil and water resources than ever that the basic problems of utilization management the duties of the State Policies and Project Development and Construction and ignoring the role of people and the gradual with drawl of public sec to management began and the remedy has led the people back to the management arena. Now, in the context of good people back into management Success has not been achieved. N adequate attention to the principles, procedures and overall management of the transition process, the main reason for the failure is. Although public transport is essential to the management of water distribution but understanding the context and the proper use of available beds, it is a requirement. This type of research is applied research and the descriptive - correlation. And It aims to Recognizing accelerate factors of Irrigation Networks Management Transfer toward Farmers of Experts Viewpoint of east Azarbaijan Regional Water Corporation. This study attempts to identify the barriers to the transfer of management aspects of corporate and governmental, cultural, social, economic, financial, and environmental and natural. Research tool was a questionnaire, its validity was confirmed by experts and Reliability using Cronbach's alpha (0/87) Verified. To 83 experts and managers of irrigation systems questionnaires were given (Census method). SPSS software was used for data analysis and Factor analysis techniques were used for Classification results. Variable were classified in 6 factors. And 60/071 percent of the variation is explained. Managerial factors with 20/088 percent , Social factors with 12/723 percent , The job satisfaction of 7/869 percent , Cultural factor 7/642 percent , The structural factor of 5/909 percent, Individual situations and terrain with 5/839 percent.

**Key Words:** East Azarbaijan, Management Transfer, Irrigation Networks, accelerate factors of Management Transfer, Experts of Regional Water Corporation

### **Indigenous knowledge systems related to soil conservation evidences from Jiroft and Kahnooj**

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Today, soil conservation as one of the most basic resources of agriculture, play a critical role in the sustainable development of agriculture in all countries, especially developing countries like our country. One of the reasons for the failure of soil conservation projects is mismatch recommendations of extension workers with experience, knowledge and indigenous conditions. According to the new paradigms of rural development, local solutions must first be referred, if it was effective, then they must be strengthened and improved, otherwise use external solutions and test them. The objective of the current study is investigation of the indigenous knowledge system related to behaviors of soil conservation of crop farmers in Jiroft and Kahnooj using systematic and qualitative research methodology. Indigenous knowledge, explaining cognition system and activities of rural people involved in agricultural practices and using of the natural resources witch related to a defined geographic zone. In this research, indigenous knowledge systems related to soil conservation in the city of Jiroft and Kahnooj as the two major poles of agricultural production in the country will be introduced. The results shows that indigenous knowledge system related to soil conservation in the region, is based on participatory approach for natural resource management.

**Key Words:** Indigenous knowledge, soil conservation, Jiroft and Kahnooj,



## **Evaluation of the Economic Values of Natural Resources(Case study: Zanjan Province Pastures)**

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Value is a subjective issue and people evaluate a subject according to their interests and ideas. In fact, value is a means for optimal allocation of resources and determination of the favorable position of a target that is somewhat variable based on a preferred way of thinking politicians, influential individuals and groups. Values are the basis of planning, so the actual valuation of issues is very important in the development to society. One of the main causes of the destruction of natural resources is lack of awareness about the economic value of these resources; in particular, in our country, a good mechanism for economic valuation of natural resources has not been provided yet. A watershed basin as an area for water production or the value of one hectare of forest has no objective meaning. Economic development issues are the main challenge and duty of any government, but the consequences of ignoring the environment and nature along with scientific achievement and experiences of the past two decades, have suggested the importance of the environment and its conservation and management in the economic literature and economists are emphasizing on the importance of natural resources and its sustainable economic development. More than 50 percent of Zanjan province is composed of national land area and ranges that make up an important role in the economy of the province. Understanding the economic values of pastures can be as the first step towards sustainable development.

**Key Words:** Economic value, Sustainable Development, Ranges, Zanjan

**Providing the sustainable management of water resources model with emphasis on stakeholder analysis approach: case study of Mahabad Dam exploiters**

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Today, the optimum use and productivity of internal resources is the major challenge in sustainable agricultural systems. In this regard water as one of the most important factors of production in agriculture, has a key role in the set of production limiting factors. Therefore, water is considered as a vital and valuable social and economic driving factor in development of human societies as well as the key factor in ecosystem protection. On the one hand, the drought as a natural disaster and inevitable phenomenon of climatic anomalies that have undesirable effects on flora, fauna and ecological environment and ultimately human. On the other hand, stakeholder analysis is considered as a new approach in the field of sustainable management of natural resources and due to the extensive network of knowledge and information. Hence, this study aimed to providing the model of sustainable management of water resources with emphasis on stakeholder analysis approach. The statistical population is Mahabad dam exploiters. This is a qualitative research that in this regard uses the proposed framework of stakeholder analysis. This method is used largely to identification the roles of the different actors to manage a phenomenon that many people are considered as stakeholder. The expected result of this approach, is providing a Model and a framework to determining the role of each actor in the management of a common phenomenon with emphasis on their role.

**Key Words:** Stakeholder Analysis, Sustainable Management, Water Resources



## **Analysis of rural tourism with a gender approach from the perspective of the host society (case study: yasechay county)**

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Diversifying the economy, enhancing human development indicators, to prevent migration from rural areas, increasing productivity and efficiency in human resources, employment, the environment and the interaction of cultures and discourses that concern the world today To achieve sustainable development, seeking new ways to provide optimal Gzydarhayy such as rural tourism. Experts doubt the indispensable role of women in rural development processes do not. This study seeks to analyze and explain the gender perspective of the host society groups on the development of rural tourism activities in rural areas in the South West of Iran. Methodology of the study, both quantitative and qualitative, a quantitative survey with a qualitative case study that the method is done. The required data are collected through questionnaires and semi-structured interview. The qualitative part of the study sample, 19 people in the little village of 134 people, men and women or yasechay city is settled in ChaharMahal and Bakhtiari. The results of the differences between male and female perspectives on reasons for agreeing with the tourists, incentives and changing social roles of women's participation in work activities related to tourism development in the region. The results show the formation of the native structure are in activities related to tourism, which today is known worldwide as a tourism entrepreneur.

**Keywords:** tourism, rural, sex, women, rural tourism entrepreneurs, or yasechay.

## **The Effect of Social Awareness on Empowerment Level of Rural Women (Zanjanrood District, Zanjan Township)**

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In modern world, any country tries to raise people's knowledge and awareness will be achieved by more development. So, in this essay, the influence of social awareness on the empowerment and also the empowerment and knowledge of Zanjanrood city rural women was studied. In this study, qualitative- quantitative research method is used. In qualitative part of the study, some experts in social awareness of rural women are used. The population of quantitative part of this study is 15455 women of Zanjanrood city that as a sample of, 386 persons of them is selected randomly. The data were gathered using a questionnaire which its validity is confirmed by faculty of the Department of Agricultural Extension and Education of Razi University and calculation of Cronbach's alpha of 0.79. The data were analyzed by using of SPSS 16 software. The overall, the results shows modest rural women's social awareness. Also, the findings of this study suggest modest rural women's empowerment. On the other, the results showed women that are more aware of the social and legal issues are empowered more than the women are less aware. To determine the effect of independent variables on the dependent variable capabilities of linear regression of social consciousness was measured. The results showed that the independent variables can explain 43% of the variability that is robust. The impact of social awareness on the positive and significant empowerment means increasing community awareness, empowerment of rural women is also increasing. This effect was significant at the one percent level to 99 percent more likely to say that social awareness and the empowerment of rural women, helpful.

**Key Words:** Social Awareness, Empowerment, Rural Women.



## **The role of indigenous knowledge in sustainable management natural resources and the environment**

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Natural resources may play an important role in many aspects of human life (social, economic, cultural and environmental).then, the destruction of these resources due to rapid growth of population, poor planning and lack of proper exploitation and also lack of public awareness of people , has continued rapidly. The stability of management of natural resources and preserving it, is main condition for sustainable development of agriculture and rural. It should also be noted that public participation natural resource and environment management play an important role in preventing such destructive process. The issue has led to the purpose of this study was to investigate the role of indigenous knowledge unsustainable management of natural resources and the environment led villagers to find. The issue is caused the purpose of this study has led to investigate the role of indigenous knowledge of rural unsustainable management of natural resources and the environment led. Statistical community in this research has been the people of Zirab village. In this qualitative study, sampling was done purposeful and by snowball techniques. In order to collect data was used from individual and group interviews, participation and direct observation. Results showed that due to steady drought and lack of water source, farmers have abandoned their lands without growing which it caused severe windy erosion of area. But the Agricultural institute, in a short time by using of indigenous knowledge of rural and agricultural land conversion to palm trees, was recovered most parts of the lost land that had inverted to low conversion efficiency land. Therefore, proper management of natural resources by participation of local people in these fields, especially in protecting and restoring the lost vegetation and enhancement of the livelihood of the communities in that region with existing potential, have especial importance in policies and local and national plans and The first priority in the use of sustainable and participatory management of natural resources, renewable resources are considered to Combat Desertification and reclamation. The first priority in the use of sustainable and participatory management of natural resources, renewable resources are considered to Combat Desertification and reclamation.

**Key Words:** Indigenous knowledge, sustainable management, natural resources, environmental, rural

## **Investigating the Strategies Smallholder Farmers Adaptation to Climate Change in the Fahraj Counties, Iran**

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Climate change is a global phenomenon. Its impact on agricultural activities in the developing countries has been increasing. Higher temperature and decreasing precipitation levels caused by climate change depresses crop yields. This is particularly true in low-income countries where adaptive capacities are perceived to be low. The vulnerability of poor countries could be due to weak institutional capacity, limited engagement in environmental and adaptation issues, and lack of validation of local knowledge. Therefore essential to develop appropriate adaptation measures that can mitigate these adverse consequences. The main aim of this study was to identify the determinants of farmer's choice of adaptation strategies to climate change in the NaginKavir district Fahraj Counties, Iran. research method is type Descriptive-Analytic. Required data were collected from a randomly selected 140 sample households interviewed through a semi-structured questionnaire. Interviews with a number of experts Organization Agricultural southern Kerman, province. Logistic regression analysis was estimated to analyze the factors influencing households' choice of adaptation strategies to climate change. The result showed that sex, age and education of the household head, family size, livestock ownership, household farm income, non/off farm income, access to credit, distance to the market center, agro ecological zones, access to climate information, and extension contact have a significant impact on climate change adaptation strategies. Therefore, future policy should focus on awareness creation on climate change through different sources such as mass media, encouraging informal social networks, facilitating the availability of credit.

**Key Words:** Climate Change, NaginKavir, Adaptation to Climate Change, Logistic Regression



## **Importance of public participation in environmental protection projects of the expert view**

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Given the proper use and dispose of waste Khdaday these resources as a human duty and any person directly or indirectly associated with it. Thus, according to public participation in environmental protection is of high importance and validity. In this regard, the overall aim of this Pvhsh importance of community participation in environmental protection projects were conducted. The population of this province was all agricultural experts (N = 142). Using census sampling, questionnaires were sent to all persons who ultimately Mvrnzr 105 questionnaires were returned and analyzed. The main tool was a questionnaire that bad, its validity by a panel of experts and its reliability was confirmed by Cronbach's alpha coefficient (= 0/88 $\alpha$ ). The results showed that the importance of community participation in conservation projects is the optimal use of facilities, material and immaterial. Reinforce a sense of ownership in the people.

**Key Words:** sustainable development, rural development, environment, participation, Kurdistan

### **Agro-pastoral system in nomadic society of the Kohgilouyeh and Boirahmad Province (Iran)**

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Diversity in production and income resources is one of the most advantageous priorities of Iranian nomadic society. This priority obviously is reflected in development programs. Agro-pastoral system combines growing of crops and the raising of immigrant livestock. This system is capable to response exceeding needs and expectations especially in nomad youth generation. Agro-pastoral system as a strategic approach is a good opportunity for regional potential improvement and nomad society development. The evaluation of agro-pastoral development programs and evolutionary trend, we used census and asked all 62 employees in Office of nomad pastoralist affaires of K-B province. the results showed that: although evolutionary growth of agro-pastoral has accelerated from Iran land reform in 1963, but national and local government performance in programming and management of agro-pastoral systems isn't completely successful and must be revised.

**Key Words:** Agro-pastoral system, nomads, Kohgilouyeh and Boirahmad Province



## **Farmers' attitude towards conservative agriculture(The case of farmers in the Maraghe conservational fossil region)**

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Farmers' attitude towards farm management based conservational agriculture principles can has important role to push them for implementation of conservative behaviors in agriculture. The goal of Present research was the measure of farmers' attitude towards conservational agriculture. Statistical sample of this research was 60 farmers in Maraghe conservational fossil region that selected with random sampling method. This research is the kind of descriptive-correlational research that implemented with survey technique. Farmers' attitude measured in four dimensions includes knowledge (cognition), value, orientation, and practical dimensions. Results showed farmers' attitude towards conservational agriculture is positive (mean=2.53), and four dimensions of attitude ranked knowledge (mean=2.7), practical dimension (mean=2.53), value (mean=1.8) and orientation dimension (1.14). Also, there are significant positive correlations between four dimension of attitude with personal variables such as participation, access to information resources and farmers' motivations. Therefore, conservational agriculture principles should be teaches to farmers with considering of farmers' values and orientations.

**Key words:** attitude, conservative agriculture, Natural Resource Management, Maraghe conservational fossil region.

**A Survey on The Consequences of Pressurized Irrigation  
Technology in the development of wheat farming from The  
Perspective of Agricultural Production Cooperatives Members In  
the Ardabil And Bilesavar County**

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The main aim of this study was exploring the Consequences of Pressurized Irrigation Technology in the development of wheat farming. This aim was achieved by determining the perspective of agricultural production cooperatives members. The study area was Ardabil and Bilesavar County. The study population was included 900 wheat growers, which 130 persons were selected using proportional stratified sampling method. The sample size was identified using Cochran formula. All of the selected farmers, cooperatively, applied pressurized irrigation system on their farms. The data collection tool was a questionnaire. The validity of the questionnaire was confirmed by a staff board of University of Tehran and a group of Agricultural Jihad Organization experts. Cronbach's alpha coefficient was used to determine the reliability of questionnaire ( $\alpha=0.91$ ). Data analysis was performed by using SPSS statistical software. The results of this study showed, there is a significant difference between the amount of Wheat Production And Annual net income per hectare before and after implementation of pressurized irrigation systems. Finally, the results of the factor analysis recapitulated the consequences of using pressured irrigation technologies, as perceived by wheat growers, in four factors (Social, Farming -Technical, economic, direct and indirect economic). These factors, totally, explained 62.82% of the total variance.

**Key Words:** Pressurized Irrigation, Agricultural Production cooperatives, Consequences.



## **Identify indigenous ways of drought management (city of Sarpol-e-zehab)**

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Because of the close relationship with the natural environment and have limited opportunities for long exposure destructive natural forces, rural communities, have been particularly affected by drought. The farmers in each region as experience take measures to adapt to and cope with it. The overall aim of the phenomenological method of qualitative research was to investigate and identify ways that the farmers dealing with drought. For this purpose, the rural population of Sarpol-e-zehab city, with the most recent drought experienced was selected. Notified cases were identified using a snowball. The data collected for this study using in-depth interviews and direct observation methods and were analyzed by collaizzi model. Based on the results, different farmers used variable method in face to drought. some participants in research used different methods, such as changing crop patterns , stored hay , planting and harvest times change , biodiversity livelihoods , restoration and reform of atmospheric water and irrigation methods in order to adaptation and some methods such as grazing fields for consistency and dried, buying water , reducing the number of animals , cutting trees and vowed to fight the drought.

**Keywords:** drought, phenomenology, drought management, indigenous methods

## **Vulnerability: A new paradigm in the studies of risk at agricultural development**

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Agricultural sector Because of Continuous and sustainable economic growth, food security, exchange technology and social justice in comparison with other sectors of the economy has a special feature and it has been Important role in the economic .However ,agriculture as an activity is associated with risk. Increased population and increased demand for food production pressured on the environment and product factors, so this, economic and environmental losses due to natural disasters, need for a systematic approach to reduce risk is inevitable.risk reduction as "the systematic development and application of policies, strategies and practices to minimize vulnerabilities and disaster risks throughout a society, to avoid (prevent) or to limit (mitigate and prepare) adverse impacts of hazards, within the broader context of sustainable development. Failing this context means disregarding the many opportunities that can bring agriculture closer to their development goals. Their view of the methods of measurement of agricultural and its effects appear to be necessary. In recent years a new approach, entitled Vulnerability studies in this area have opened a new horizon.In recent years a new approach, named Vulnerability have opened a new horizon at this studies.vulnerability is the degree of exposure of households or individuals to shocks and stresses, and their ability to prevent, mitigate or cope with the event. Vulnerability of agriculture is composed of drought, floods, climate change, price volatility, and market access and food poverty. The concept of vulnerability has been a powerful analytical tool for describing states of susceptibility to harm, powerlessness, and for guiding normative analysis of actions to enhance well-being through reduction of risk. This article overviews- analyzing attempts to introduce a new paradigm in the studies of risk. So In addition, the concept of vulnerability, is discussed effective factors in vulnerability of agriculture. And is stated critical role of Agricultural Extension and Education in this field .and this can provide training programs to inform farmers to help reduce the risk and its management.

**Key Words:** Vulnerability, Risk, agriculture, agricultural development, compatibility capacity



## **The role of ecotourism in rural sustainable development**

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Rural tourism as one of the most popular forms of tourism can lead one hand, economic growth and diversification of rural activities are And the other will lead to job creation and help boost rural in come and thus provides an opportunity for the development .The objective of rural sustainable development, expand opportunities and enhance the lives of the current generation is the next generation of rural vulnerable And which has a capacity of ecotourism can be considered as basic strategies for sustainable rural development One of the key strategies for the sustainable development of ecotourism in rural areas due to rural isolation is off target. Ecotourism is a new approach to rural development that could further economic growth and strengthen the protection of the rural environment provides a local perspective. The purpose of this study is the role of ecotourism in sustainable rural development, library research techniques and using web sites and data analysis using descriptive and analytical approach taken. The results show the impact of ecotourism in terms of economic growth, employment diversity, and cultural development -social, rural communities and prevent the migration of villagers. Therefore considering ecotourism as a strategy to protect and preserve natural resources is inevitable.

**Keywords:** Rural tourism, activities, job creation

### **Impact assessment of climate variability on environment and rural livelihood: Implications for extension systems**

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Climate variability has led to environmental degradation. It has also threatened the livelihood of households which heavily depend on natural resource based economy. While natural hazards' management and environmental sustainability are concerned globally, there is still a knowledge gap about climate variability impacts on natural environment and rural livelihoods. This survey research is therefore an attempt to identify the impacts of climate variability on environment and rural livelihoods and propose solutions to sustain the environment. A multistage stratified random sampling technique was used to collect data from 274 farmers of Fars province. Results indicated that climate variability has considerable effects on regulating, provisioning and supporting services of environment. Also, income loss, food insecurity and reduction of agricultural productivity were the harsh consequences of climate variability. Since environmental sustainability demands for strong interactivity between people and environment, some recommendations are provided for extension systems in order to achieve sustainability

**Key Words:** Climate variability, Environment, Rural livelihood, Extension system, Fars province.



## **Ecotourism, sustainable development, together agree or disagree**

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Ecotourism or nature or kind of tourism in which the tourists to visit natural areas undisturbed Wilderness and the City have traveled the world and watch the plants, birds and other animals. The assessment of global agriculture, the growth of the tourism boom in the present decade, 10 to 30 percent. Today 7 % of all passengers in the current situation of the world, which is expected in the next decade, compared to 20 percent. Ecotourism is a booming future is so bright, it has many benefits to the world. , But the environment has intrinsic value, and this value is more important that the tourism industry is considered an asset. The term sustainable development (Sustainable development) in the early 1970s on the environment and sustainable development used in the 1990s emphasized the aspect of human development and the environment and future generations. However the long term benefits and protection of the environment should not be sacrificed short-term considerations .today they are protective against each other and cause damage to others who are in a stable environment be identified and written policy comes into force in order to move in the development of hope to the spaces geographic guarantee . Sustainable tourism for higher performance in these areas is a fundamental and practical purposes, is the coordinator.

**Key words:** ecotourism, sustainable development, together hand in hand, and non-Bottom of Form

## **Role of plant protection clinics in using pesticides in gardens of Tehran province**

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One of the controversial topics among researchers in agriculture and environmental sciences is environmental pollution due to excessive use of chemical pesticides and other soil pollutants that caused many problems for environment and human health. Implementation of integrated pest management (IPM), especially in order to production safe products, is the ultimate goal of most of plant pest control programs. Meanwhile, plant clinics have an important role in reducing usage of pesticide and offering new strategies for pest control and decreasing production costs. The purpose of this study is to investigate role of plant protection clinics in using pesticides in gardens of Tehran province. The methodology of the study was descriptive which was done using a survey and questionnaire as research tool. In this study 230 experts of 23 plant protection clinics in Tehran province were census and among the 13,500 farmers, using Morgan table 374 people were randomly surveyed. In this research, the effect of economic, social, cultural, professional factors and farmers satisfaction of clinics performance on reducing pesticide use by farmers was evaluated. The results of study showed that the extension courses, trust to clinics experts as well as selling safe products with higher prices are correlated with reducing the use of chemical pesticides.

**Key Words:** safe product, plant protection clinic, integrated pest management, chemical pesticides



## **An investigation on utilizing pesticides in the Zanjan province and their effects on the environment**

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Utilizing chemical pesticides is considered one of the methods of controlling pest and incorrect use of these chemical materials can have destructive effects on the environment. Total number of used pesticides in Zanjan and in the years 75, 80, 85, 87, 88, 89 and 90 equals to 30778/5(Litter/kilogram).The results of the study shows that 160 ton of this pesticide called delta metrin was used in the year 1390 and 180 ton was used in 217000 hectare and in the year 1391 and the later was used against wheat growth. In Tarom region, Malatiyon and seven pesticides were used for controlling grasshoppers in 1390 and in 4000 hectare, and also it was used in 5000 hectare in 1391.\_the stability of delta metrin pest was 10 to 15 days, and it will be analyzed during 1 to 2 weeks in the soil because of microorganism activity, and its effect (D T 50) on the soils is less that 23 days. Malatiyon pest disappears quickly. Seven pests (karbayl) are used for bees and poisonous paratyod. Inclusive pest management ( IPM) method is an approach that is a mixture of different methods for controlling pest and it is also used for the prevention of environmental side effects have been proposed in this survey.

**Key Words:** Pest, Zanjan province, Environment, Inclusive pest management

**Evaluating the effective Educational – extensional factor on applying precision agriculture in sari’s rice field, from the view of agriculture jihad’s experts**

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An precision agriculture is a managerial strategy which examines on special local details for management on product’ s puts on the needed basis of each area, so that economical production increases and the environment sustain the least lost. The final object of this project is evaluating the effective Educational – extensional factors on applying precision agriculture in sari’s rice fields, from the view of agriculture jihad’s experts. This project is among in correlative-descriptive research and in terms of its applied objective and the type of collecting data, it is a kind of descriptive and non-experimental research and it was done based on measurement. We use Cronbach alpha coefficient for determining its reliability. The coefficient of 0.96 percent for all parts of this research shows that research instrument has good reliability. In the following, 157 questionnaires were distributed among agriculture jihad’s expert, by statistics. Data was analyzed by the software of spss<sub>20</sub>. The results showed that there is a significant correlation between the Educational – extensional factors and the possibility of applying the precision agriculture. So the estimation equation show’s that our research’s independent variable establishes 46 percent of our research’s dependent variable (the possibility of applying the precision agriculture).

**Key words:** Precision agriculture, rice, agricultural local management, sari, Educational – extensional



## **The effective factors on local community's satisfaction of rural Tourism: The case of KohbadDo Village in the Izeh Township**

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Since Access to desired support for the rural community seems essential to tourism development. Therefore, this study aimed to explain the effective factors on local communities' satisfaction of rural Tourism in the village KohbadDo is. This study used a descriptive – survey method. Statistical population of the study consisted of all households living in rural (N=240). By using the table of Morgan the sample size was determined (n=140). The sample was chosen through Random sampling technique. Data were collected using a questionnaire. The questionnaire's face and content validity was confirmed by a panel of agricultural extension and education experts. Reliability of the questionnaire was conducted and confirmed using Cronbach's alpha ( $\alpha$ : 0.86- 0.92).The data has been analyzed by using SPSS program. The results showed that, most villagers are expected tourism make Money for their caused. Results also showed, most villagers creating employment opportunities in rural and state agencies and departments pay more attention to rural as the value and quality of tourism in rural areas have received. Regression analysis showed that perceived value of tourism explaining 17 percent of the variance of Satisfaction of rural tourism.

**Key Words:** Rural tourism, satisfaction, satisfaction of the American model, village KohbadDo.

### **Examine the role of communication media and information resources in creating soil conservation practices by farmers**

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In this century, the decline of natural resources such as soil conditions, agricultural activities is one of the reasons for low performance. Today, land degradation due to soil erosion and nutrient depletion, the major reasons for the development of the agricultural sector limit. The methods of operation of the soil by farmers, it is useful to fruition. In this regard, it is noteworthy that the farmer's behavior is influenced by knowledge and information, and knowledge, they also affect the availability of communication media and information resources. This study aimed to investigate the role of communication media and information resources, soil conservation practices were implemented. The study population consisted of farmers, Kermanshah city is Mahidasht area using simple random sampling, and 150 of them were selected samples. Data using a questionnaire designed by the researchers, were collected and analyzed by the SPSS software and descriptive and inferential statistics were used. Results showed that the subjects are mediocre in terms of soil conservation behavior and two variables related to the level of organization and communication activities and information on accompany level, farmers are two factors influencing the behavior of ground.

**Keywords:** soil conservation, behavior of farmers, media-related information resource



## **Factors influencing the development of integrated rice-fish cultivation in paddy fields of Mazandaran the Viewpoints of Farmers**

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Real and potential effect of integrated rice-fish cultivation on Improving income and nutrition and also on environmental issues is very important. But generally, little value has been given to this issue. In this Causal-correlation research it is aimed to investigate the Factors influencing the development of integrated rice-fish cultivation in paddy fields of Mazandaran from the Viewpoints of Farmers during 2011-2012. The populations were all of farmers who applied integrated rice-fish cultivation method which were 80. Thus, census method was used as the sampling method in this study. Research tool used in this study was a questionnaire that its validity approved by expert panel, and its reliability 87% achieved using Cronbach's Alpha. using stepwise multiple regressions results obtained in this study showed that economic factor, the amount of the use of extension programs, the amount of the use of educational-extension methods, knowledge of farmers, the amount of participation of farmers and communication channels were factors determining 79% of Changes related to the development of integrated rice- fish cultivation systems.

**Key Words:** integrated cultivation development, integrated rice-fish cultivation, Mazandaran province.

**Track 7: Agricultural Extension and RASs in  
Strengthening and Developing Cooperatives and  
Producer Organizations**



### **Determining weaknesses and Strengths of agricultural student's cooperatives**

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The main purpose of this qualitative study was to identify the strengths and weaknesses of agricultural student's cooperative using Delphi Technique in three rounds. The population consisted of experts and experienced people regarding student's cooperatives in Kermanshah Province (40). Based on results, reducing students' fear of practical works, increasing learning persistence, and strengthen ability to work together are the main strengths of establishing students cooperatives. Lack of credit, lack of appropriate tools and machinery, and lack of definition practical and participative work in agricultural courses were known as final weaknesses of agricultural student cooperatives.

Key words: Cooperation, Agricultural Student's Cooperative, Agricultural Higher Education.



## **Evaluating the success criteria of forest development cooperatives of the Savadkooh County: the application of TOPSIS and Entropy**

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Renewable natural resources, especially forests, are such a valuable resources. Thus, forests' management can be achieved if preservation and sustainable utilization of them considered. Some cooperatives in the field of forests utilization, revival and development can be really useful in the process of forests' management. Thus, it'd be helpful to evaluate these cooperatives activities and to present some reformist strategies to improve their functions. So, evaluating the success rate of three forest development cooperatives of Savadkooh County named "Velopi", "Karsangrood" and "Azar-rood" regarded as the aim of this study. A questionnaire with proper validity and reliability was developed to get opinions of managers and members of these cooperatives. Moreover, TOPSIS and Entropy techniques were used to evaluate success criteria of them based on respondents' opinions. Results showed that "Velopi" is the most successful cooperative based on the supposed criteria. More results are presented in the body of the paper.

**Keywords:** Evaluation, success criteria, forest development cooperative, Savadkooh

### **Investigation on influencing Educational-Extension factors in improvement management of Agricultural Production Cooperatives**

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Today, numbers of cooperative are far from ideal efficiency and performance due to, face many barriers. This study, for this reason, is aimed to investigate influencing Education Extension factors in improvement management of agricultural production cooperatives of Semnan province. This is an applied study and the research methodology is correlation. The main research tool was questionnaire and dependent variable was the improvement management of agricultural production cooperatives. The Cronbach alpha coefficient 87/9%, was calculated. The Statistical population of the study is 3357 members of agricultural production cooperatives, based on random sampling and Cochran formula, 209 questionnaires were completed. After data collection and extraction, Statistical analysis was done through SPSS Version 16. Descriptive results show that the situation of agricultural production cooperatives management performance are fairly desirable. Educational- Extension factors also have a large role in the improvement management of agricultural production cooperatives. Regression analysis results indicated that educational workshops, use of radio programs, enjoying of consult extension agent and related journals extension study determined about 29% variance management of agricultural production cooperatives.

**Key Words:** management, agricultural production cooperative, factors of extension and education



## **Measuring the quality of internal services of rural production cooperatives in the ChaharMahal and Bakhtiari Province using 3 methods; SERVQUAL , weighted SERVQUAL, and SERIMPERF**

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For villagers, Rural Production Cooperatives (RPCs) have provided wide participation in rural developing process and solve occupational, economical and social problems by participating and cooperating. Due to members satisfaction and motivation which has very important role for establishing and surviving the cooperatives so this research tries to determine the level of members, satisfaction of internal services quality of RPCs by using these three methods: SERVQUAL, weighted SERVQUAL and SERIMPERF and by comparing them. The total numbers of PRCs members in ChaharMahal and Bakhtiari province are 3715 from these people 160 participants were selected by random sampling method as sample society. We used Survey method and the experts' opinions were applied to determine the content validity of questionnaire. A pre-test and Cronbach Alpha coefficient were used to assess the reliability of questionnaire. The average of this coefficient was 0.96. The results indicate the inability of these cooperatives to satisfy the members 'expectations and for attracting them for participating. 5 dimensions of SERVQUAL model, RPCs just met the members' expectations regarding assurance and for other dimensions, the average of expectations is significantly higher than the perception average. Also according to the IPA model, in these cooperatives, responsibility dimension is in priority for improvement rather than the other dimensions.

**Key Words:** Rural Production Cooperatives, SERVQUAL Model, SERIMPERF Model, IPA Matrix.

**Influence of economic and social variables pistachio growers on their participation in agricultural production cooperatives(case study: pistachio growers' cooperative of Damghan city)**

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The overall goal of this research is to survey relationship between social and economic characteristics of pistachio growers and their partnership in pistachio grower's cooperative of Damghan city that is done by descriptive-survey method. 318 among of 2500 pistachio growers member of pistachio grower's cooperatives were selected by Cochran formula. A mixed (open and closed) questionnaire was used to collect required data. Also, reliability and validity of the questionnaire was calculated by factor analysis, KMO coefficient and Cronbach's alpha methods. The reliability and validity Coefficients of the questionnaire are %729 and %96 respectively that are acceptable for our research. Consequently, data was analyzed by SPSS software in terms of descriptive and analytical (i.e. Pearson and Spearman tests) statistics. Results show there is significant and positive relationship between socio-economic characteristics of farmers (cultivation, product performance per hectare, the use of bank credits, mechanization and also using methods and new inputs, transformation of land under cultivation, education, use of advisory services, farmers motivation, social status, advise of local leaders, belief to the partnership and morale of partnership, farmers risk acceptance, amount of promotion connection and farmers awareness of the benefits of participation) and participation of farmers in pistachio growers cooperative of Damghan city.

**Key Words:** economic characteristics of pistachio growers, social characteristics of pistachio growers, partnership, pistachio grower's cooperative, Damghan city.



## **Analyzing strengths and opportunities of the Rural Women Cooperatives on the Agricultural Production through SWOT Method**

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According to economic changes, in recent years and assignment policy of economic activities and production to the private sectors, safer place or the cooperative sector has been established. Rural women's cooperatives such as organizations that are possibility of integrating human resources, small capital accumulation and employment with easy conditions and thus enhance the economic power of women can provide. The research was applied and method was descriptive – correlational. The questionnaire asked from member of rural women cooperatives in Tehran Province in two level managers and staff members of cooperatives were completed. The population were 7 units of rural women's cooperatives in Tehran province that sampling method of this research was satisfied random sampling (n=1631). The results S.W.O.T indicated that Continuous commitment (Individual characteristics of employees and member of cooperatives) highest strength, education (Individual characteristics of employees and member of cooperatives) highest weakness, Punctual (Individual characteristics of member of cooperatives) highest threats and hours of work (Individual characteristics of employees and member of cooperatives) highest opportunities were rural women cooperatives in Tehran Province.

**Key Words:** Rural women's cooperatives, Agricultural production, S.W.O.T Analysis (strengths, opportunities).

## **Educational and Extensional Needs of Pistachio Producer's in the Rafsanjan Township**

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This study was conducted to identify and prioritize extension and educational needs of Pistachio's growers in Rafsanjan Township. Research was descriptive and correlative and used survey method. Statistical population were included all membership and non-membership Pistachio growers in Rafsanjan Township. Using Cochran's formula and stratified proportional random sampling technique, 270 Pistachio growers were selected as sample. A questionnaire was used for data collection which its face validity was confirmed based on opinions of a panel of agricultural extension and education experts and its reliability was confirmed by calculating Cronbach's alpha coefficient in pre-test stage ( $0.86 \leq \alpha \leq 0.94$ ). The results showed marketing, irrigation, planting, processing, harvest and post-harvest educational needs were at first to sixth rank, respectively. Results of mean comparison test showed that there were significant differences between educational needs mean of Pistachio producers based on their job, participating in educational training, membership in cooperative, educational level and communication level. According to the results, it is necessary to pay attention to the Pistachio producers' needs of marketing, irrigation, planting, processing, harvest and post-harvest, respectively in designing and implementing of the training programs. In addition, it is necessary to pay attention to the Pistachio producers' personal and professional characteristics in implementing training programs. In addition, it suggest to use theoretical training methods such as informal discussion, questioning and problem solving in marketing educational courses and demonstration methods in processing and post-harvest trainings.

**Key Words:** Education and Extension Needs, Borich's Need Assessment Model, Pistachio, Rafsanjan



## **Investigating of Barriers to the Development of Water Users Cooperatives in Rural Areas around the Aras River with Explanations Strategies to Development of Their**

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Newly Participatory Irrigation Management have been introduced widely as a new approach for strengthening sustainability in agricultural water management that aims to involve farmers to improve the effectiveness and efficiency of irrigation. This study performed to investigate the barriers to the development of cooperatives in rural areas around the Aras River Water Users. The research methodology applied survey. The sample of 537 water users' cooperative farming villages constituted the Aras River in 2013. The research instrument was a questionnaire that was verified by a group of experts and its validity and reliability was calculated by using Cronbach's formula ( $\alpha=0.90$ ). Barriers to development of water user's cooperative by using SPSS and LISREL were classified in 5 factors. The first factor was financial barrier that account of 18.54% of the variance was introduced as the most important factor. Next barriers named educational-extensional, policy investment, Infrastructure and legal barriers were classified a total of 68.89% of the explained variance. Based on the results, recommendations presented for the Development of Water Users Cooperatives in Rural Areas around the Aras River.

**Key Words:** Barriers, Water User Cooperatives, Aras River.

**Entrepreneurship in rural tourism for rural development strategy****Kaivan Saberi\*<sup>1</sup>, Saeid gholamrezaei<sup>2</sup>, Saman rahimi<sup>3</sup>, Ehsan Khosravi<sup>4</sup>**

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Entrepreneurship is the engine of development. Three important causes of attention draw to entrepreneurship is wealth creation, technology development and productive job creation. In this regard, tourism is one of economic sectors which because of necessity of relation between tourist as explorer man, venture and nature highly depend on the degree of entrepreneurship participation. Importance of entrepreneurship on wealth creation and tourism as potential instrument for distribution and redistribution of wealth in all society levels, looks as incorporative entrepreneurship in rural tourism sector can help as effective factor on development and empowering the local rural society. In this paper by attention to concepts and features of entrepreneurship and tourism, study the entrepreneurship development necessity and recommendations for entrepreneurship level incorporation with tourism industry. The research methodology of the study is review study by official and academic references domestic as well as international databases has been used.

**Key Words:** Tourism Development, Entrepreneurship, Rural Tourism.



## **Determining optimal exploitation system in agriculture with respect to sustainability: The case of Kurdistan County**

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Due to agricultural sector is a significant element of rural economic, the optimization of exploitation systems of resources and factors could help to productivity, efficiency, reducing the costs, improving income of rural people and consequently the poverty and vulnerability will be reduced. Rational use of the nature and its benefits and combining inputs in agriculture is important with respect to economic dimension. Therefore, the purpose of this study was to determine the optimal exploitation system of agriculture with regarded to sustainability in purpose to extent it. This model can also increase rural income, a positive role in sustainable development. With reviewing and analyzing the literature review the criteria of sustainable exploitation system were identified with consider to organic approach. The analytic hierarchy method (AHP) in the software expert choice was used as a method of analysis applied to the desired weight was used. The population of the study was experts and professors in Kurdistan province. Therefore, 15 samples were selected purposively. The instrument of the study was a questionnaire. The finding of hierarchical analysis revealed that exploitation of the "Rural Production Cooperative" among other operating systems with the highest weight of an agricultural operation system was optimized from the viewpoint of sustainability. So given the task of agricultural extension and education and its role in helping farmers to be responsible in creating and restoring them to help rural production cooperatives.

**Key Words:** Hierarchical analysis, Sustainable agriculture, Exploitation system.

## **Satisfactory Explanation of the Villagers from the Rural Municipality case study: Central Part of Ahwaz City**

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Rural municipalities, including potential sources that contribute to the reform of rural development are regenerated. The satisfaction of the performance guarantee for the success and sustainability of rural municipalities, rural management success in increasing the effectiveness of their activities and symptoms. This study aimed to explore the satisfaction of the municipality rural villages. The purpose of the research methods used and the data collection survey. The population of this village in the central part of the city of Ahvaz is about 2,800 people. According to Morgan, a sample size of 338 were selected. Survey methodology and questionnaire data collection and analysis were performed using the software SPSSv20. The results showed that the economy functions, the lowest level of satisfaction, "Marketing of quality agricultural products" and the greatest satisfaction, "the quality of livestock products in rural marketing". In social functions, the highest ranking of "quality administrative services in rural" and the lowest ranking of "quality services in the country". Satisfaction of the functions of the body - Environmental Rural Municipality of highest priority to "dredging canals and wells in the village" and "Quality mortuary and cemetery in the village" is allocated to the lowest priority. Significant relationship between education and satisfaction Rural Municipality the five percent level and the physical parameters - the one percent is related to environmental and social indicators, a significant relationship exists.

**Key Words:** Satisfaction, rural development, rural management, rural municipalities.



## **Capacities and competencies of agricultural cooperatives and rural organizations in Japan and Australia**

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Currently the cooperative system is essential element for achievement in different economic sectors. Cooperation in global agricultural sector caused social and economic prosperity by vision of many scholars and researchers in the field of development and the economy. This documentary study carried out to review Capacities and competencies of agricultural cooperatives and rural organizations in Japan and Australia. The results showed that the Australian rural cooperatives activities included citrus packing, production of chemical fertilizers, production of eggs, fruit production and packaging, irrigation, marketing, research activities, meat products, providing agricultural supplies and so on. These cooperatives have met not only the economic needs of individual procedures directly but also they have answered industrial markets demand even well than rival organizations. Japan's agricultural cooperatives are entitled to coherence of the popular, high efficiency in the production of food products and provision of high quality services to members. Finally, the results of agricultural cooperatives and rural organizations in both countries can be categorized on increasing of economic efficiency, providing timely and adequate credit facilities, providing a high level of market information, a high level of productivity, open attitude toward joint investments and cooperation, increasing the social capital, empowerment, and gender equality on women's organizations.

**Key words:** capacity, cooperatives, village

### **Investigated the success of consulting firms, technical and agricultural engineering in Isfahan province**

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Agricultural activities efficiency due to the non-use of new technologies is very low and for this reason, researchers believed that implementation of cooperative works in agricultural fields could be caused to improve the agricultural activities efficiency. To reduce the problems of the agricultural sector in line with the handover to the private sector and downsizing government, since 2008, creating a network of NGOs operating in the country the implication of agriculture engineering and technical consulting services had been established. The aim of this study was to investigation of factors affecting the success of consulting firms, technical and agricultural engineering in Isfahan province (2012). The statistic population of this research consisted of members of boards of directors and the managing director in Isfahan province. The study sample consisted of 130 patients from members of boards of directors and the managing directors were selected by using of Cochran formula. Required field data have been collected through questionnaires and interviews. Validity of the questionnaire confirmed by experts and its reliability confirmed by use of Cronbach Alpha coefficient calculated 0.83. The collected data were analyzed by SPSS software. The results of research showed that the success rate of consulting firms, technical and agricultural engineering evaluated 53.2% at the medium.

**Key Words:** Consulting firms, Success, Privatization, Agricultural sector.



## **Assessment of satisfaction of rural youth of village facilities ( case study: Firooz Abad village Kermanshah township)**

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Nowadays, rural communities' role in sustainable development is not hidden for everyone. Rural youth are important human resource. By providing appropriate living and working conditions for this group in rural, sustainability in rural communities will be provided. Therefore the purpose of this study was assessment of rural youth's satisfaction degree about village facilities. The population of this study was consisted of youth living in Kermanshah townships, Firooz Abad village (N= 6240). Sample size was estimated 361 by using Morgan table. Samples were selected randomly from 18 villages. Data collection tool was a researcher-made questionnaire which its validity confirmed by a panel of experts and its reliability was confirmed by Cronbach's alpha coefficient ( $\alpha > 0.76$ ). For data analysis in descriptive statistics part, means and frequency percentage have been used. In inferential statistics, ANOVA test was used. Results indicated that youth satisfaction about existing facilities, were different significantly in various villages. Results showed that among 18 surveyed villages, "creating processing industries near the village "have been proposed by 9village's youth to improve agriculture, while the rest of the respondents have considered "introducing and teaching new farming techniques" more suitable for its promotion. Results of this study can be used in planning and policy making related to youth in rural development programs.

**Key Words:** rural youth, satisfaction, village facilities

## Strengths and weaknesses of Rural Cooperatives of Urmia County

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The represented research, has studied social-economic characteristics of rural cooperatives of Urmia city members and managers, Strengths and weaknesses of the cooperative operation it has identified from the members and managers view. The statistical population in this research Eighty-six thousand people were members of Twenty-four rural cooperatives of Urmia and Thirty-five managers sample cooperatives Study. The estimated sample size was determined by Morgan Table. Samples Society using a two-step Sampling was selected. In the first step, five rural cooperatives selection in geographical Directions and The sample size of five cooperative members were selected by systematic random sampling method was selected. Data gathering tolls was Researcher made questionnaires whit fourteen questions of social-economic characteristics, ten closed questions and two Open Question In order to Strengths and weaknesses of the cooperative operation for Company members and their managers. For data analysis, descriptive statistics and inferential statistics of independent t-test was used to compare comments. Average age of members and directors of the company Forty-two years and the highest Frequency level of education from members and managers was cycle and high school diploma. The highest Frequency strength of cooperatives Distribution of oil · Supply of agricultural inputs and Commodity and they weaknesses was Lack of liquidity·No purchase of agricultural product and Non-payment were to Cooperative members.

**Key Words:** rural cooperative, strengths and weaknesses, Urmia.



## **Factor Analysis of Components of Organizational Entrepreneurship Development in Rural Development Cooperatives of the Zanjan Province**

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The main purpose of this study was to factor analysis of components of organizational entrepreneurship development in rural development cooperatives of Zanjan Province. A descriptive- survey method was used for collecting the data. The statistical population of the study consisted of all main members of administrative board in the cooperatives of Zanjan Province (N= 335). According to the Krejcie and Morgan table, a sample size of 105 was selected using a stratified random sampling technique. A questionnaire was used to collect data. A panel of experts established the validity of the questionnaire. A pilot study was conducted to establish reliability of the instrument. Cronbach alpha's coefficient for main scales of questionnaire calculated more than 0.75, which show appropriate reliability of questionnaire. The results of factor analysis showed that six factors of innovation and creativity, flexible structure, risk taking and pro-activeness, effective organizational culture, team working and organizational learning totally explained 65.58 percent of variances of organizational entrepreneurship development components in rural development cooperatives.

**Key Words:** Organizational Entrepreneurship, Component, Rural Development Cooperative.

## **Analyzing the role of agricultural extension in developing rural production cooperative infrastructure in East Azerbaijan**

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The land reform program in led to the collapse of rural management and the loss organization collective production in rural areas. Peasant and family farming system was lead to smaller and distribution of agricultural land and allowing optimum utilization of the factors of production is facing serious constraints. Government to reduce management problems in agriculture action to the definition and the introduction collective farming system and adopted The Law of cooperative production in 1970. After victory of Islamic Revolution for integrating land and modernization of agriculture establishment of rural production cooperatives as a key strategy in the management of agricultural production and to achieve the agricultural development began. Simultaneously with across the country 52 rural production cooperatives established in the East Azarbaijan province. A quick look at the performance of rural production cooperatives in East Azarbaijan show that this cooperatives was not success at the field of action and most of recession and deviations from objectives are defined for rural production cooperatives. This paper provided uses the organizational documents and library and the authors' experiences in rural production cooperatives and agricultural extension and education at the district, city, county and state while discussing the history of the establishment of rural production cooperatives in the province, refers to identify the causes of recession the companies include: Hasten the establishment of cooperatives. Lack of social studies in the area of operation, Inadequacy of training of members and elements of cooperative, Unfamiliarity Government officials with the fundamentals of companies and Organizational lack of coherence. At the end emphasized the unparalleled role of agricultural extension and education order to Human resource development and empowerment rural people improve co-production infrastructure expansion of cooperatives produce the spontaneous recommended.

**Key Words:** Agricultural Extension and Education, Human Resource Development, Rural Production Cooperatives.



## **Conceptual Explanation of Structure and Function of Cooperative Extension System**

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Cooperative sector accompany government and private sector, is one main economic sector in Iran. This sector play key role to reduce structural – institutional, functional – performance gaps among mentioned sectors and led to capacity building for national sustainable development. Considering importance of cooperative sector as a main part of economy, this paper want to identifies conceptual and theoretical foundations of cooperative extension. In spite of diversity of concept, function (covered areas) and a structure (institutional entity, diversity of service delivers, organizational structures, etc.) of Extension, Agricultural Extension seems as established form of institutionalized extension, universally. Using a deductive approach, this paper attempts to recognize fundamentals, principals and components of extension systems and generalize them to functional context of cooperative context as a subject area for extension function. As a result, concept, philosophy, principals, objectives, functions, target groups, organizational structures, and periphery environment of cooperative extension were illustrated. Also, group entrepreneurship approach was discussed as an appropriate approach for cooperative extension. Finally, two conceptual models of structure and function of cooperative extension were drawn and some impacts and measures were explained for establishing cooperative extension system.

**Key Words:** Cooperative, Cooperative Extension, Extension System, Cooperative Extension.

## **Role of agriculture extension and RASs systems in food security and sustainability of family farmers' livelihoods**

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Since the food crisis of 2007 agriculture has climbed to the top of the international agenda and small-scale producers are now the object of everyone's attention. Climate change, environmental degradation, conflicts, agrarian crisis and numerous suicide in many regions, desertification and water scarcity, food-related health issues, toxic chemicals, the scandal of land grabbing, food waste and commodity speculation have exposed the unsustainability of a food system based on industrial agricultural production and globalized value chains which reward all the actors except food producers and consumers. Smallholder family farming should be recognized as a pillar of local, sustainable development and primary owner and user of land and marine or river coast. • (Farmers seeds for the food security and sovereignty for the genetic patrimonies, Seeds constituent a key subject which cannot be avoided when we are talking the future of agriculture and food sovereignty. Guardians of the genetic heritage of the plant world, the seeds are a key subject when addressing the question of the future of agriculture and food sovereignty. Our activities on the certified seed growers' cooperatives implementation this approach has shown that there is real peasants' seed management know-how. A little everywhere in the Gambia, they reported examples of peasants who select, retain and share their seeds in an autonomous way. • Strengthening the involvement of small-scale family farming, pastoralism and artisanal fisheries' organizations at country level and in operational activities as the source of 90% of the consumed in the world:- More attention should be giving to issue of concern to FOs, such as risk management in agriculture, guarantee funds to facilitate access to credit, and resolution of conflicts over natural resources.- Privatization was one of the challenges to make RASs and family Farming undeveloped due to the process and pre-measures for privatization were not in line with current policies in place. • Land Governance a guiding principle for RASs and Family Farming to increase food production and productivity.- Forest management- Land underground resources management- Water (sea, ocean, river and lake) management • Can ICT play a vital role in establishing linkages between RASs and Family Farming?- Information is power, technology is a motor of innovations, communication is a method to share and learn. - Community Base Extension and Experimentation a system which enable RASs and Small holder to be stay connected and closer at all level (Gambia experience to work with National Agricultural Research Institute (NARI), Funding Agency (CRS) and Famers' Based Self Help Organization. - Research and Farmers Organizations Framework a Platform which enable researchers, Farmers and funding agencies to define research



agenda, its funding mechanism and application of results for reinforcing best practices to increase yields, processing, marketing and quality consumption

**Key Words:** food crisis, small-scale producers, family farming, ICT RASs  
Community Base Extension and Experimentation.

### **Extension Needs of Tribal Goat Keepers of North Coast Zone of the Andhra Pradesh, India**

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Livestock farming is an important source of livelihood security, poverty alleviation and employment generation to millions of resource poor of India. The agrarian economy particularly in hilly areas revolves round the livestock and especially goats have been tribe's most reliable livelihood resource since domestication. Most of the tribes in India worship their own Gods and Goddesses reflecting their dependence on nature and animals, with subsistence earnings. The tribes 'Savara' and 'Jatapu' of North Coast zone of Andhra Pradesh rear goats as subsistence farming, whereas, they can improve their household income by commercializing their operations. The goat rearing pattern of the tribal farmers was assessed in the hilly area of North coast zone of Andhra Pradesh. A total of 120 tribal farmers from 30 villages of three *Mandals* of Vizianagaram district were selected through multistage sampling. The tribes were marginal farmers who cultivate paddy and 'raagi' in wet lands and cashew in dry areas. Main source of their income was forest produce and cattle, goat and poultry were maintained by them. These tribes need to change their traditional subsistence practices to scientific rearing so as to improve net productivity from goat husbandry. The tribal women can be encouraged to rear goats as commercial enterprise through formation of SHGs to avail government support. These tribal goat keepers can be oriented to scientific goat rearing practices through capacity building measures, farmers to farmer extension, SHG formation and organized marketing interventions.

**Key Words:** Extension needs, India, Tribal goat keepers, SHGs, scientific rearing.



## **Journal of Agricultural Education and Extension (JAEE)**

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The Journal of Agricultural Education & Extension is published to inform experts who do or use research on agricultural education and extension about research conducted in this field worldwide. Information about this research is needed to improve policies, strategies, methods and practices for agricultural education and extension. The Journal of Agricultural Education & Extension accepts authoritative and well-referenced scientific articles within the field of agricultural education and extension after a double-blind peer review process. Agricultural education and extension faces profound change, and therefore its core area of attention is moving towards communication, competence development and performance improvement for a wide variety of fields and audiences, most of which can be studied from a multi-disciplinary perspective, including:

- Communication for Development
- Competence Management and Development
- Corporate Social Responsibility and Human Resource Development
- Design and Implementation of Competence-based Education
- Environmental and Natural Resource Management
- Entrepreneurship and Learning
- Facilitating Multiple-Stakeholder Processes
- Health and Society
- Innovation of Agricultural-Technical Education
- Innovation Systems and Learning
- Integrated Rural Development
- Interdisciplinary and Social Learning
- Learning, Conflict and Decision Making
- Poverty Reduction
- Performance Improvement
- Sustainable Agricultural Production.

**Key Words:** Economic progress, education, family farming, NRC, rural advisory system.

**Analysis of the components of social capital impact on social stability member production cooperatives (Case Study: Kermanshah city poultry cooperatives)**

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The overall objective of this research was to analyze of effectiveness of component of social capital and social stability productive members of by cooperatives descriptive - correlation method. Statistical community were 133 people of member's poultry cooperatives active in Kermanshah city who were using the census questionnaire. 107 person completed and returned the questionnaire. Main tool for data collection was researcher made questionnaire. Validity of questionnaire was done by experts and reliability of the calculated by alpha Cronbach's that was 0.93 and 0.74 for social capital and social stability, respectively. Data analysis was performed using the software SPSS16. Correlation analysis showed a significant positive correlation between components of social capital and social stability. Linear regression showed that 33% of changes in the dependent variable of social stability is explained by the two component including participation in local communities and safety and reliability sense.

**Key Words:** social capital, social stability, poultry cooperatives, participation.



## **The effect of social capital on job satisfaction of employee's cooperative of the Kermanshah Province**

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A Descriptive -Survey research aimed to study the impact of social capital on job satisfaction cooperatives employees Kermanshah Province was done. The statistical population was all persons employed in agricultural, industry and services cooperatives that were covered by the General Administration Cooperative Kermanshah Province. 356 of them were selected by using Bartlett and colleague stable (2001) through stratified sampling with probability proportionate. Data collection tool was a questionnaire instrument, its validity was confirmed by a panel of experts and its reliability was confirmed using Cronbach's alpha. Results indicate that employees of Kermanshah Cooperative are average social capital in cognitive and structural dimensions, and overall social capital (total) moderate. Also, Cooperative employees of industry, services and agriculture, Kermanshah province have middle in the whole of job satisfaction. Results indicate that 15% of the social capital variation is explained by job satisfaction. The results can be very useful for cooperative organization and officials should planning and decision making regarding the impact of social capital on job satisfaction of employees cooperative of Kermanshah, in order to increase job satisfaction and increased productivity of labor.

**Key Words:** Social capital, job satisfaction, cooperatives employees, Kermanshah Province.

### **Examine the role of micro credits fund rural women's employment in the rural city Baghmalek–Khuzestan**

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Nowadays for many reasons, women supervision households are responsible for a lot of added responsibility on the shoulders are well organized, productive operations. Micro credits as an option could be to create capital for women. Microcredits programs aimed at increasing incomes of the poor through self-employment and training services for optimal use of resources. The present study examined the role of microcredits fund rural women's employment in rural Baghmalek city-is in Khuzestan province. The population of rural women in the city Baghmalek is a member of the Credit Fund and 180 = N is Based on a sample size of 120 = n was chosen Morgan. The most important result of descriptive statistics indicate that the greatest impact in the field of microcredits groups raise confidence among women has. According to respondents, and micro-credit loan fund to further the activities in the field of animal husbandry, agricultural activities have been implemented. The most important results of inferential statistics have shown that the views of rural women, married and single case study the study of social and cultural impacts of micro credit in reducing Social inhibitory activity of women in the traditional atmosphere of 95% and 99% in other areas of social and cultural level, there are significant differences.

**Key Words:** Employment, microcredit, rural women



## **Analysis role of rural women in cooperatives with emphasizing the role of social empowerment**

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Considering women as half of the productive forces in different societies and their role in achieving development goals has been considered several years ago. Planners in third World countries are looking for research results to show the employment status of women in the rural producers. Considering the participation of rural women is essential in productive activities. Today there are essential specific organizations of rural women as an effective tool for women's rights. These organizations can consider as an educational, cultural, technical and production operation and are as the center of attention to the disadvantaged segments. Women cooperatives are organizations that are involved people to social and economic activities. These companies are creating jobs with easy conditions for women. Even denied women with his small investment can join to this cooperatives, and exploitation of their talent and capabilities for their community development. Also cause to women participates outside the home in community affairs. This article, using Internet and library resources in connection with this subject has been prepared and is looking to clarify women place in developing countries to be able to help their position and improve.

**Keywords:** Rural women, cooperatives, agricultural development.

**The role of technical & vocational education in promotion of handicrafts produced by tribal women cooperatives in Isfahan province, Iran: the case study of Fereidoonshahr city**

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This study investigates the role of non-formal technical and vocational educations in improvement of knowledge, skills and attitudes of nomad women who are the members of cooperatives in Isfahan province and their effect on the quality of women's tribal handicrafts in the city of Fereidoonshahr, Esfahan, Iran. An Applied and practical research was used and data collection was carried out using questionnaires, interviews and the literature review. Dependent variables of the research are the knowledge, skill and attitudes of nomad women and the independent variables are technical and vocational extension courses presented to the audience. Systematic sampling was implemented and based on Cochran formula a number of 60 tribal women were selected and investigated. The validity and reliability of the questionnaire was tested and assured. Thereafter it was distributed among the research sample. Descriptive and inferential statistics was used by the SPSS software. Results from the study showed that in presenting technical and vocational courses for nomad women, economical issues and status of the audience, tribal habits, costumes and culture, and tribal women's needs and interests should be seriously taken into account in order to improve the efficiency of these courses.

Key words: handicrafts, technical and vocational courses, tribal, nomad, women



## **Review the function or rural production cooperatives in social capital**

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Development of rural production cooperatives has formed at the beginning of the first five year plan has been considered as one optimal utilization of the country's agricultural sector. Here the partnership, trust and willingness to teamwork as a component of social capital, have increasing role in production cooperatives. The main aim of the present study that was conducted in Hamedan Province and was conducted with performance in science is to examine the function of promoting co-product of social capital. The statistical population consist of members of cooperatives that have at least three years have passed since the beginning of its activity. Using a sample size of 350 people and the specimens Morgan identified using the proportional stratified random selection. The information obtained from documents and field study and questionnaires was used as the primary means of data collection. Cronbach'alpha coefficients were calculated with a 760 was acceptable. The results of this study showed that the cooperatives are successful in attracting participation of farmers in rural practice, but their efforts to raise awareness of the cooperative members has not been very effective.

**Keywords:** rural production cooperatives, social capital, Hamedan.

## **Investigate the factors effective the success of rural women entrepreneurship of the Qazvin Township**

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Current developments in the field of economic, social and cultural consequences of the village, despite the positive is to improve living conditions. On the other hand leads to a decrease in the production of the active role of women in villages. Former rural women producers, consumers may become housewives. This not only leaves negative impacts on the rural economy, But in practice the vast majority of critical activation process has been deleted and can also slow down the growth of the national economy. Entrepreneurship is not only the right strategy for economic development in rural areas, but is less expensive than other strategies and is suitable for rural environments. This study aimed to evaluate factors influencing the success of rural women entrepreneurship has been done, Statistical population of Qazvin constitute the rural women entrepreneurs A survey This research - is descriptive . The purpose of the application is considered. The results showed that the family has had the most impact on their business success. More than half of them have participated in courses related to the business. In terms of participation in social activities, most of them are members of cooperatives.

**Key Words:** Entrepreneurship, Rural Women, Rural Development.



## **Factors affecting on beneficiaries satisfaction of Water User Associations (WUAs) in the Region of the Hashtrood Sahand Dam**

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Effectiveness and sustainability of WUAs depend on satisfaction level of their beneficiaries. The purpose of this research was to investigate the effective factors on the beneficiaries 'satisfaction of WUAs in the region of Hashtrood Sahand Dam in East Azerbaijan Province. The target population of study consisted all 270 members of these WUAs, which 155 of them based on Krejsi and Morgan sampling table were selected. The randomized stratified sampling method were used. Reliability of Research tool 'questionnaire' was obtained by calculating Cronbach alpha coefficient equals with 0.80. A panel of experts in this regard verified the validity of research tool. The results revealed that there are positive meaningful correlation among some variables e.g. participation in project, social trust, social status, risk taking, rate of knowledge regards WUA, communication channel using and extension contact with satisfaction level of beneficiaries. Regression analysis showed that three variables named as social trust, number of household and second job income explained 44.3 of satisfaction level. At the end of paper, some suggestions have been presented.

**Key Words:** Water User Association (WUA), Satisfaction, Hashtrood Sahand dam

## **Impact Factors on adoption and participation of farmers in crop activities until rural cooperatives organizations**

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Objectives in this study were: investigation of Socio-economic characteristics of farmers, determine of factors effect on adoption of cooperative. This study carried out in Ahar in 2012. Information were collected by questionnaires using random sampling method. Sample size was 40 farmers. In order to getting to objectives used descriptive analysis, correlation, T and Z test. For estimation used logit model and Stata Microsoft. Based on results, the value of gross income and profit of crop for members of cooperative was more than non- members of cooperative. The difference of among area, number of plot and number of irrigation was significant by t test. The difference of among mean of age, seed, fertilizer was estimated non-significant between two group adoption and non-adoption of cooperative in 5% level. The effect of yield, number of irrigation and area on adoption of cooperative was positive and significant, because, Z test was estimated more than 2. Odds ratio of yield showed that increasing of one kg/ha in yield increase the probability of adoption of cooperative 0.86%. The effect of fertilizer in production on adoption of cooperative was positive and non-significant. Increasing of one unit in fertilizer increase the probability of adoption of cooperative 0.65%. The effect of seed in production on adoption of cooperative was negative and non-significant. Increasing of one unit in seed increase the probability of adoption of cooperative 6%.

**Key words:** Logit model, adoption, cooperatives, marginal effect, Ahar.



## **Determining Impact of climate change in Farmers Household Livelihood(A case study of the Dorood Faraman Region)**

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Drought is complex and multidimensional phenomenon, which has great impact on the lives of rural people. But these impact on rural communities are high. This requires greater attention to rural communities. But, unfortunately, did not pay much attention to the effects of the disaster at the village level. Therefore, the aim of this study, was to determine this impact at the village level. The sample in this study was families living in 42 villages in Dorood Faraman region. Findings of content analysis indicated that, the prevalence of hunger and poverty reduction, employment in agriculture, migration to cities, and prevalence of substance use among rural youth and has been.

**Key Words:** Climate Change, Impacts, Farmers Household, Dorood Faraman Region.

## **Effectiveness of Training of agricultural extension in Palm grower's empowerment**

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During recent years Placing on the agenda of empowerment of farmers and now in order to support farmers and rural and agricultural development and rural development attention to empower an integral part of policy development and government agencies and non-governmental organizations are. Among all the factors in the process of enabling farmers to increase production and empowerment them, the role of extension education is very important. Human resource after acquiring the necessary training and from the way of this development can grow and determine the short term and long term goals. The overall goal of this research is Effectiveness of Training of agricultural extension in Palm grower's empowerment. This is a descriptive study using a document library and searched computerized global information networks have been developed. According to research results Farmers with empowerment, the fields of entrepreneurship create employment and therefore create income, capital accumulation, consumption more and investment more, Putting Agenda and In addition Security of basic needs, provide progress in the field of social, political, for themselves and the way to achieve smoothly to make development and progress your own.

**Key Words:** empowerment, educational extension, effectiveness, Palm Growers.



## **Review the importance and status of WUAs and transfer management of irrigation projects**

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Today the most important issues that have attracted the attention of most researchers, the most critical issues as water is a matter of human survival. As far as water restrictions and shortages of basic goods as a more considered and as a matter of the greatest challenges facing humanity has been introduced. So the logical and efficient use of limited resources and irrigation management and public use of the potential seems to be inevitable. Experience shows that sustainable development, through programs that will effectively to national needs through the participation of people respond. The level of cooperation in the development process more the success rate of more than proposals for achieving sustainable development will be the same One of the factors improving productivity and expanding public participation in water resources development projects, Organize farmers in WUAs. Participatory in situations are cooperatives of water users Its members are in the process of establishing, financing, defining objectives, selecting managers, applications development, decision making and monitoring the project implementation process, with full participation And the benefits this partnership will also benefit. Water users associations co-operatives as one of the many features and has the potential For job creation and unemployment problems and the safest and most effective way to outsource the administration The company also plans a range of economic prosperity, social justice and to improve creativity and innovation to beexploited.Irrigationmanagementtransfer toWUAsasafactorintheplanningofwater resource development projects and in fact, decide how to use water resources to enhance the productivity of these resources. So we can expect with the establishment of WUAs and transfer them to manage, using native capacity, accelerate the implementation of projects and project barriers and induce a spirit of cooperation and participation is achieved and clear vision of sustainable development projects in the region will emerge. The public sector is essential for the continued support of new cooperatives and strengthen their education, social development, economic and cultural projects of the true goals of sustainable development of water resources is to consolidate.

**Key words:** water resources, participation, operation, WUAs.

## Contribution of Good Governance in Rural Sustainable Management

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Management, as the most important factor in survival, growth or death of a society, controls the trend of moving from the current to the desirable situation in each organized structure. During the last decades, Good Governance as a new form of management has been appeared in the field of management and policy-making. This new form of management puts together the different and diverse stakeholders around a specific issue including a common resource, a place, an organization, a village, town or even a country, in order to make collective decisions. Good governance is a concept that includes criteria and standards, procedures and management principles by which some decisions about public affairs are made, planned and then implemented. Transparency, responsibility, accountability, participation, law dominance, flexibility and decision making are the main pillars of good governance. Accordingly, the villages, as the special places accepting different life style and various activities compare to the urban areas, need distinct management model consistent with their economic, social and ecological conditions. Therefore, to govern these special conditions, the common management styles i.e. hierarchal ones is not useful. To control and allocation of resources between different stakeholders, setting rules and institutions to specify who, what, where, when and how receive, only be governmental body is not efficient anymore. So, to switch from conventional management, government-based management, toward good governance can provide the necessary flexibility, transparency and proper accountability for rural communities in terms of their complexity, uncertainty and current rapid changes. Although the conditions were not easy to reach this managerial style and needs its specific social, cultural, economic and political competences, starting this process will ensure moving forward as a rising spiral. Obviously, the outcome of this management style is rural development. Introducing the concept of good governance, this article aimed to explain the important aspects of this management style as well as its contribution to rural sustainable management.

**Keywords:** Management, Rural Management, Governance, Good Governance, Sustainable Rural Development.



## **Effect of agricultural production cooperatives formation on their members improving economic, social and cultural development indices**

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Among cooperatives, agricultural cooperatives can now more important than other cooperatives play in rural development. Agricultural production, food distribution to the benefit of farmers and consumers, food supply, as well as full use of the multi-functional role towards sustainable agriculture and Rural Development of their most important to be counted. Interviews and data required to complete two questionnaires were collected. To collect data, a questionnaire was prepared by the co related impact on indicators of economic, social and cultural rights of members. Cochran is a sampling method. The data collected were analyzed using the software SPSS20 results of the Pearson correlation coefficients showed that cooperative economic factors at the level of 0/656, social factors in 0/571 and cultural factors in the 0/520 to 0 are significant.

**Key Words:** agriculture cooperatives, economic effects, social effects, cultural effects, cooperation, members of cooperative.

**Assessing Market-Oriented Extension Needs of Poultry  
Organizations from the Perspective of Laying Hen Poultry  
Farmers in the Qom Province, Iran**

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Farmers' market oriented capacity is one their main capabilities for increased productivity in the value chain process of their production. The purpose of this descriptive-correlational research is to assess extension needs of poultry organizations, including unions and cooperatives, in terms of market-oriented capacities from the perspective of laying hen farmers. Using the statistics of the Jihad-e-Agriculture Organization, the Poultry Farmer Union and the Laying Hen Cooperative of the Qom Province, a population of 125 laying hen farm was identified in this province, of which a sample of 91 laying hen farmers (owning 105 farms) was randomly selected using the simple randomized sampling technique. The study utilized a survey methodology in the autumn 2012, through a structured interview technique and using a questionnaire, validated in terms of validity and reliability techniques. The Borich model was utilized to assess the needs. These organizations should have required capabilities and improve them as follows: to establish local markets, to determine the level of production for the next round, to process products, to provide infrastructure for distributing products to the target market, to buy poultry products with a guaranteed purchase price (higher than dealers' purchase price), and to pressure the import and export policies. They also needs other important qualification for their capacity building such as providing finance and infrastructure for preservation and storage of produced eggs, facilitating finance for producers to buy inputs, providing skilled manpower in the market process, taking decisions with the executive capability, launching export terminals, collaborating and negotiating with government agencies to set guaranteed purchase prices, and providing facilities for packing, marking and classifying products.

**Key Words:** Market-oriented needs assessment, Borich model, capacity building, farmers associations, laying hens.



## **Assessment of affecting factors on the tendency of senior students of the agricultural majors in the Ilam Province to employment in the cooperative sector**

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The purpose of this study was to investigate associated factors with the tendency of senior students of the agricultural majors in Ilam province to employment in cooperative sector. This study was of descriptive – analytic research type in which the correlation methods were used in this study. The number of 110 senior students of agricultural majors in Ilam universities (Ilam university, Islamic Azad University, Ilam Branch, and Payame Noor University) were comprised the statistical population of this study (1391–92 academic year) in which using Cochran formula for sample volume determination and random sampling, a sample with probability proportionate to the size of 285 individuals were selected. The required data was collected through a questionnaire in which its face validity was investigated and confirmed by the experts. The reliability coefficient of the questionnaire was also confirmed using Cronbach alpha coefficient ( $\alpha= 0/88$ ). The results of correlation analysis showed that there is a significant and negative relationship between variables of age and respondent's barriers to developing specialized agricultural cooperatives with the variable of respondent tendency to employment in cooperative sector. There was also a significant and positive relationship between the variables of the amount of granting essential incentives for formation specialized agricultural cooperatives and the level of respondent's knowledge about the mentioned cooperatives. In addition, the results of multiple regression analysis showed that in the total of barriers in developing specialized agricultural cooperatives, the level of respondent's knowledge about cooperatives and the amount of granting essential incentives for formation of mentioned cooperatives, explained 54 percent of obtained changes on dependent variable of tendency to employment in cooperative sector.

**Key words:** Tendency, Agricultural major, Ilam Universities

## **Role of Agriculture Bank of Iran in Sustainable Development**

**Behzad Nikkhah**

Executive Director of Keshavarzi Bank branches in the Zanzan Province

Bank Keshavarzi (Agriculture Bank of Iran), initially named "Agricultural and Industrial Bank of Iran", was established in June 1933, following the merging of two specialized banks, i.e. "Agricultural Development Bank", and "Iran Agricultural Cooperative Bank". BK, as the only specialized financial institution to finance the agriculture sector, is now a pioneer bank in offering variety of banking services through 1866 branches nationwide. For the past decade, the bank has been successful in meeting its objectives, especially financing the agriculture sector through active participation in monetary and financial markets and relying on adequate resources mobilization. The fundamental and strategic objectives of the bank are as follows:

- Grant credit facilities to improve rural living standards;
- Develop small industries in rural areas;
- Enhance rural income levels and elevate the standards of living in rural areas ;
- Promote agricultural production;
- Strengthen the agriculture sector to reach self-sufficiency in production of agricultural crops and livestock products; and
- Escalate agricultural export.

The bank's financial resources are mainly raised through equity capital; credit from CBI and other banks; variety of Qard-al-Hassanah savings accounts; state-owned, corporate, and individual checking accounts; and other sight and term deposits as well as collections.

### **Mission Statement**

Creating and offering distinctive and sustainable banking services aimed at meeting customers' needs and enhancing productivity for the public in general, and all those of organizations, economic enterprises, etc. involved in the agriculture sector and associated industries, in particular. BK's fundamental values are, but not limited to, the following:

1. Respect all customers as the main stakeholders of BK;
2. Dignify the bank's staff as professional, motivated and enthusiastic bankers;
3. Avail itself of new technologies to offer distinctive services;
4. Comply with laws, rules and regulations of the banking system, based on Islamic Sha'ria Principles;
5. Rely on knowledge-orientation and knowledge-based management;
6. Achieve scientific and specialized credibility in the agriculture areas;



7. Gain credibility in international arena.

### **Vision Statement**

Bank Keshavarzi is the prime specialized bank of the region, pioneer in innovation and utilization of new technologies in banking and financial services industry. Realizing its vision, BK is determined to:

- Facilitate the flow of internal and external financial resources into the agriculture sector having identified and institutionalized the needs and investment opportunities in the sector;
- Avail itself of diligent, motivated, highly-educated, trained, and expert staff, with good morals and bound to professional ethics, within international and modern banking sector;
- Pioneer in utilizing up-to-date technologies, and capable to offer new E-banking services in national and international arenas;
- Have integrated, coordinated, harmonized, recognized, and fluent systems implemented and developed for the benefit of all stakeholders at required and internationally acceptable standards;
- Hold the largest market and customers shares among the specialized banks, ranked among the first four-top Iranian banks;
- Make constructive and effective interactions with international institutions and banks operative in overseas financial and monetary markets;

Comply with Islamic Sha'ria in banking operations and use novel Islamic banking instruments.

### **Human Resources**

Bank Keshavarzi, aimed at realizing its mission and meeting customers' expectations, has been endeavoring to improve the procedures of human resources management including employment, training, remunerations and human relationships. Some of the human resources strategies, adopted in BK, are as follows:

- Employ highly educated man power matching the needs of the bank;
- Identify and develop talented man power capabilities;
- Establish a training system based on jobs specification and staff qualification;
- Update the staff's knowledge regularly;
- Develop special programs for branches to promote the staff's skills and knowledge;
- Launch a job rotation system for the branch staff;
- Establish an incentive system based on performance to provide the staff with required motivation;
- Improve physical and mental health of the staff;



The staff's working experiences, in addition to specialized knowledge and sense of devotion, have always been appreciated in BK approaches and programs.

### Corporate Social Responsibility

Among the major components of the bank's social responsibilities and attainments, the following Scheme and programs are presented as illustrations of community mobilization, women's economic empowerment, application of new technology for environmental protection, efficiency in production, improving the economic activities of rural population and poverty-alleviation:

- Hadhrat Zainab Scheme to support women-headed households;
- Kowsar (Hadhrat Fatima) Scheme to create employment opportunities aimed at supporting rural girls empowerment, preventing their emigration from rural areas to cities, and promoting their social positions.;
- Iran Scheme, developed exclusively for Iranian women, providing them with accessibility to required banking services;
- Rural Job-creation Fund for all those individuals and entrepreneurs involved with activities in rural areas;
- The Fund for Newly-released Prisoners to provide them with new jobs opportunities;
- Children and Youth Bank, aimed at promoting banking and savings attitude among Children and teenagers and familiarizing them with modern banking services and operations;
- University Graduates Employment Scheme to furnished agriculture graduates with special credit facilities aimed at creating employment opportunities;
- Financing green projects to achieve sustainable development and environment protection, including water resources, soil, air, forests, rangelands, and other natural resources;

**Holding and Sponsoring Sporting Activities** Sporting Activities aimed at realization of agricultural objectives dissemination of sporting culture among the young generation in general and young population in rural areas.

### International Membership

Aimed at exchanging technical expertise, keeping abreast of the latest financial and banking developments, elevating the bank's global status, and promoting its prominent presence in international events to display BK's capabilities and potentialities, the bank has been focusing on strengthening of mutual ties with international communities by obtaining official membership in the following associations:

- Asia Pacific Rural and Agricultural Credit Association (APRACA)
- Confederation Internationale Du Credit Agricole (CICA)



- Islamic Financial Services Board (IFSB)
- Association of National Development Finance Institutions in Member Countries of Islamic Development Bank (ADFIMI)
- Near East and North Africa Regional Agricultural Credit Association (NENARACA)
- Federation of Afro-Asian insurers and Reinsurers (FAIR)

#### **United Nations Development Program (UNDP)**

To enhance the impacts of Bank's financial resources on economic aspect of rural population's living standards, i.e. income and employment as one of the indicators of Human Development Index and distribution of resources to promote more equity within rural society, the bank's management has decided to invest on raising Bank's knowledge base and its role in equity development. With such general objective, which is compatible with the Fifth Development Plan, the bank is benefiting from the experiences of the United Nations Development Program (UNDP) within the framework of UNDP's next five-year program in Iran to initiate a new line of cooperation in development projects.

#### **United Nations Industrial Development Organization (UNIDO)**

Bank Keshavarzi has also reached an agreement with United Nations Industrial Development Organization (UNIDO) upon cooperation aimed at improvement of value chain finance for specific crops.

#### **International Shareholding**

In addition, the bank, owning shares of stock in some international corporations, has established close interaction and cooperation with many international organizations, such as:

Islamic Development Bank (IDB)

Islamic Corporation for the Development of the Private Sector (ICD)

International Islamic Trade Finance Corporation (ITFC)

Chairman and Managing Director: Dr. Mohammad Talebi

Board Members: Mr. Heshmatollah Nazari; Mr. Davar Mahikar; Mr. Mohammad Hasan Foroughifar; Dr. Mohammad Reza Farzin

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## **Organizers**

Iranian Agricultural Extension and Education Association  
University of Zanjan

## **International Partners**

Global Forum for Rural Advisory Services  
Asia- Pacific Islands Rural Advisory Services Network  
World Rural Forum  
International Year of Family Farming 2014  
United Nations Development Program  
World Agricultural Heritage Foundation, FAO  
Access Agriculture  
Asia-Pacific Rural and Agricultural Credit Association  
UN Food and Agriculture Organization  
Ganja Agribusiness Association (GABA)  
African Forum for Agricultural Advisory Services (AFAAS)  
National Network of Farmers Association (NACOFAG) in the Gambia  
World Forum of Fish Harvesters & Fish Workers  
Wageningen University, Netherlands  
University of Aberdeen, UK  
Nanjing Forestry University, China

## **National and Provincial Partners**

Agriculture Bank of Iran  
Ministry of Science, Research and Technology  
University of Tehran, Iran  
University of Tabriz, Iran  
Ministry of Jihad-e-Agriculture  
Zanjan Province's Jihad-e-Agriculture Organization  
Ministry of Cooperatives, Labor and Social Welfare  
Forests, Range & Watershed Management Organization  
Zanjan Province's Natural Resources and Watershed Management Administration  
Agricultural Research, Education and Extension Organization  
Government of Zanjan Province



Zanjan Regional Water Company  
Zanjan Chamber of Cooperatives  
Welfare Organization of Iran, Zanjan Province  
Farmers', Rural and Nomadic Social Insurance Fund  
Agricultural Insurance Fund  
Cultural Heritage, Handicrafts and Tourism Organization  
Islamic World Science Citation Center  
Emam Khomeini Higher Education Center  
Iran's Rural Cooperatives Organization  
Regional Center of Information of Science and Technology  
Technical and Vocational Organization  
Jahad Agriculture Applied Scientific Higher Education Institution  
Maharat Applied Scientific Higher Education Institution



