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Effect of Holding Specialty Exhibition of Agriculture for Developing Modern Irrigation Systems

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Abstract

The goal of present research is studying Effect of Holding Specialty Exhibition of Agriculture for Developing Modern Irrigation Systems. The statistical society of this research is all farmers attending at agriculture exhibitions; in which, 127 persons were selected by simple random method. The data collection tool was questionnaire and in order to determine the validity of questionnaire, it was benefit from comments of faculty members and experts of promoting agriculture and irrigation. The Cronbach's alpha for reliability of research tool is 0.895 and the results of research hypothesis show that there is significant relationship between development of modern irrigation systems as dependent and independent variable and attending at specialty exhibition of agriculture, farming properties, effectiveness properties and level of familiarity with irrigation systems. Moreover, the independent variable described 47% changes of dependent variable.

Key Words: Exhibition, Agriculture, Development, Irrigation, Economizing, Optimum Application

Introduction

Exhibition activities lead to the dynamism of other economic sectors so that benefiting from scientific methods and techniques based on targeted and comprehensive planning in the process of holding and benefiting from the results of holding an exhibition and obtaining prosperity of the economy. Such exhibitions from viewpoint of industrial export and opportunities, may prepare most suitable services for suppliers and manufacturers for assessing their potential customers, increasing sale and improving level of economic activity (Alavi 2004). Commercial exhibitions shall not be underestimated as important tool that is able to obtain a specific goal in market. One of the main goals of holding commercial exhibitions during long-years is collecting several small and large enterprises next together for determining effectiveness of commercial exhibitions. In fact, commercial exhibitions at best mode may be regarded as important marketing tool for enterprise and important section for mixing marketing; since, such exhibitions benefit from following items: Advertisement, obtaining goal of direct post, direct sale and advantages of Internet oriented networks.

Such exhibitions create a unique environment for following a broad range of goals for sale and marketing i.e. exhibitions collect buyer and seller in a central place. Organizations are permanently in search of cost-effective methods for advertising their goods and services and they specifically attention to effectiveness of commercial exhibitions as marketing for supplying their goals. According to the statement of Readers, exhibitions in new markets act as direct catalyzer for industrial and commercial development and they progress industrial development and technology transfer and the national and regional industry through preparing a window for goods, leads to improving foreign investment (Saska 2012). One of the specialty exhibitions that are held in different cities is specialty exhibition of agriculture. Whereas the main mission of agricultural sector is supplying food safety for growing population of country; it is necessary to have strategic and complete planning and improve level of knowledge of specialists; in which, fortunately the agriculture of Iran at international level has significant advancement. According to the information of FAO, Iran for producing one third of main products of world is regarded as first to tenth grade and Iran by having 15 garden products and diversity of producing garden fruits after China and USA is at third grade with Turkey. From viewpoint of export of agricultural products, Iran is at first to tenth grade and through considering these abilities, experts believe that agriculture sector may have key role on economic prosperity and its product may be replaced by oil (Moghisi 2010). In fact, developing new technologies of irrigation is regarded as one of the most important solution for developing agriculture and increasing products in compliance with serious limitation of water resources in Iran. In fact, Iran is located at dry and semi-dry region and water is regarded as most important challenge for agriculture. Increasing agricultural products through developing lands is faced with serious limitations for supplying water and the only response for ever-growing requirement of food, is optimum utilization of water resources for agriculture and more production in return of less water consumption (Hassani and et al 2007). In this way, the present research examines the influence of holding agriculture exhibition for developing modern irrigation.

Theoretical Fundamentals:

Using modern system of agriculture is one of the methods for economizing and optimum water consumption in agriculture. One of the modern methods of irrigation is pressurized irrigation systems and the main reason of using this name for irrigation is that water is moved in irrigation tubes due to pressure created by pump and distributed in farm. Using pressurized irrigation systems leads to improving efficiency of using water and also increasing level of agricultural products (Daneshmand Jahromi 2010). Pishbord and et al (2015) in their research with title of evaluating effects of applying modern methods of irrigation for sustainable development of agriculture showed that water is regarded as most important

agricultural product and national wealth of each country. Limitation of water resources due to incorrect methods of irrigation leads to using more specialty power for improving water efficiency. Optimum application of water resources and increasing efficiency of water is regarded as necessity of agriculture and it is recommended for applying pressurized irrigation systems as suitable choice for being substituted by traditional methods. Results showed that executing modern methods of irrigation with required considerations and suitable management, leads to increasing efficiency of irrigation and obtaining more products. Moreover, social, economic, structural and natural factors are regarded as most important effective factors for lack of using pressurized irrigation systems. Alizadeh and et al (2014) have studied the scenario of using pressurized irrigation systems on resources of underground water by using system dynamism modeling. The goal of this research is studying effect of developing pressurized irrigation systems on sustainability of Varamin plain and effect of governmental motives on development of such systems. In this way, through benefiting from system dynamism group that has suitable ability for modeling complicated environments, the integrated model of water resources of Varamin plain is prepared by economic and environmental aspects. Results showed that development without plan of pressurized irrigation systems not only does not lead to economizing on water consumption; but also leads to destructing underground aquifers. Jalalian 2012 has studied effect of modern irrigation system on status of agricultural operation at Khodabandeh city. The goal of this research is studying effects of executing pressurized irrigation systems at Khodabandeh region. This research is descriptive –analytical and is performed by survey method and research findings show that executing this plan has economic, social, environmental effects on status of agriculture in this region. Nam and et al 2015 have evaluated the danger of water reserves of agriculture by using irrigation vulnerability model and cluster analysis. Whereas reserves supplying water play key role on management of water resources, it is necessary for evaluating vulnerability of specific water resource. The goal of this research is offering danger maps of agricultural water reserves in South Korea by using irrigation vulnerability model and cluster analysis. In order to measure the risk for water resource is the indices of vulnerability of irrigation is calculated for evaluating performance of water resource in system of reserving agriculture by using theory of probability and analyzing reliability theory. Mobin and Noa (2015) in their research studied the effectiveness of modern irrigation technology in comparison to advanced systems in past. The irrigation systems in long-term have led to suitable growth of agriculture and food safety in world. This plan is used from assisting to farmers of Pakistan for installing underground pipes for meeting the common requirements and limitations of agriculture. Attention to management of water resources in farms leads to influencing and look toward ever-growing population of world

and imbalanced distribution of foods and products. Ifenkwe (2014) has studied the organizing agriculture exhibitions in Nigeria. This article that is a plan for organizing agriculture exhibitions (i) prepares logical solutions for holding educational exhibitions and events in the field of agriculture (ii) and also prepares main phases of agriculture exhibition (iii) and also recommends strategies for successful holding exhibitions in Nigeria and other countries of world. This article concludes that agriculture exhibitions that are based on plans for developing agriculture shall be adjusted through policy of on-time circulating instructions for visitors. Moreover, the exhibition recommends for partnership of all beneficiaries in agriculture and educational sector for improving productivity in houses and food safety. Sasaka (2012) has studies the influence of commercial exhibitions as tool for organizational marketing (analyzing selected companies in Mombasa. This study was performed with descriptive research by using random sampling method. The qualitative data was analyzed by using qualitative analysis; meanwhile, SPSS is used for analyzing quantitative data. Statistical society of research is all companies attended at commercial exhibitions and this research is performed by semi- structural questionnaire for collecting elementary data and meets the requirement of managers who are in charge of executing exhibition activities. The related data were offered, analyzed and interpreted and this research significantly assists for understanding factors of commercial exhibition that are influencing on media of organizational marketing.

Goals of Research

General goals of present research are including:

- Studying effective factors on development of modern irrigation systems
- Studying effectiveness of holding specialty agriculture exhibition on development of modern irrigation systems
- Studying role of specialty agriculture exhibition on education to farmers, lack of using traditional methods of irrigation and wasting water
- Developing specialty agriculture exhibitions on cities, small and large villages
- Support from related organizations including: Ministry of Agriculture, Ministry of Energy from specialty agriculture exhibitions for holding specialty agriculture exhibition

Research Methodology

This is applied research with descriptive-survey method and for performing theoretical study and qualitative research it was benefit from documentary method and for quantitative stage, it was benefit from field method. In the field method, it was benefit from questionnaire by using simple random sampling method. The statistical society of this research is all gardeners, farmers, plant and industry complexes that were invited by the researcher for attending at specialty agriculture exhibition and upon visiting and offering remarks, they attempted for changing irrigation system. In the present research, the volume sample was

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selected from persons referring to exhibition and whereas the number of referents were more than 200 persons; thus, by using Morgan table, the volume sample of 127 persons were selected. Level of standardized Alpha was 0.895 and this amount showed that research has acceptable level of inner reliability for assessment of topic of research. Finally, the collected data was analyzed by using SPSS software in descriptive statistics section and analytical (inferential) statistics section.

Findings:
Descriptive Findings

1) Describing Individual Properties
Results show that the average of participants was 47/63 years and the minimum age was 34 and maximum age was 67, most of participants (91.3%) were married and 2.4% were male and 6.3% were among other group, most of participants (92.1%) were male and 7.9% were female. Most of participants 3.1% had experience of agriculture for 1 to 5 years, 4.7% had experience of agriculture for 5 to 10 years and 92.1% had experience for 10 years and over. Results showed that 79.5% of participants benefited from traditional irrigation system and 20.5% benefited from modern irrigation system and 69.2% benefited from drip pressurized irrigation systems and 30.8% benefited from gravity pressurized irrigation systems. The most frequency of respondents was based on education; in which, 60.6% of respondents had high school diploma and lower education and 2.4% of respondents had university education.

2- Attending at specialty exhibition of agriculture
As it is obvious in table 1, the average testes obtained grade of 46.07 and standard deviation of 4.78 and the minimum reported value for attending at exhibition is 40 and maximum value is 60.

Table 1. Statistical properties of attending at specialty exhibition of agriculture of testes (n=127)

Variable	Average	Standard Deviation	Skewness	Stretch	Minimum	Maximum
Attending at specialty exhibition	46.07	4.78	1.09	0.769	40	60

3- Developing modern irrigation system
As it is obvious in table 2, testes for developing modern irrigation system obtained grade of 48.95 and standard deviation of 4.42 and the minimum reported value was 41 and maximum reported value was 60.

Table 2. Average and standard deviation of testees for developing modern irrigation system (n=127)

Variable	Average	Standard Deviation	Skewness	Stretch	Minimum	Maximum
Developing modern irrigation system	48.95	4.42	0.167	-0.938	41	60

4- Prioritizing developing modern irrigation system

According to grade of spectrum and obtained average of ranks related to 12 forms (3.86) in table 3, it is stated that developing modern irrigation system in agriculture from viewpoint of farmers is confirmed and also according to amount of change coefficient, it is stated that farmers believe that the most effective item is accessible modern methods for developing modern irrigation system and second most effective item is technical support and counseling services and finally economizing irrigation methods.

Table 3. Prioritizing developing modern irrigation system

Row	Question	Rank Average	Standard Deviation	Coefficient variation	Priority
1	Up to which level you access to modern irrigation methods?	4.35	0.59	13.56	1
2	Up to which level existence of technical support and counseling services is effective on developing modern irrigation methods?	3.98	0.854	21.45	2
3	Up to which level using modern irrigation system is effective on technical economizing?	3.97	0.907	22.84	3
4	Up to which level using modern irrigation system is effective on efficiency of product?	3.96	0.867	21.89	4
5	Up to which level topography and geometrical shape of farm (ups and downs) is effective on developing modern irrigation methods?	3.95	0.894	22.46	5
6	Up to which level uniformity of lands is effective on developing modern irrigation methods?	3.9	0.876	22.46	6
7	Up to which level the modern irrigation system is effective on reducing water consumption?	3.86	0.895	23.18	7
8	Up to which level the modern irrigation system is effective on reducing costs of planting, growing and harvesting?	3.81	0.842	22.09	8
9	Up to which level using modern irrigation system is effective on economic economizing?	3.74	1.03	27.54	9
10	Up to which level preparing exhibition farms is effective on developing modern irrigation system?	3.67	0.805	21.93	10
11	Up to which level bank loan is effective on developing modern irrigation system?	3.63	0.741	20.41	11
12	Up to which level attending at educational classes is effective on developing modern irrigation system?	3.59	0.978	27.24	12

5- Prioritizing factors for attending at agriculture exhibition

According to grading spectrum and average obtained from ranks related to 12 forms (3.59) in table 4, it is stated that the most important factor for attending to agriculture exhibition from viewpoint of respondents are including: General information, suitable valuation, quick transfer of data, teamwork and targeting, increasing level of awareness, effectiveness of introduced technology, introducing and recognizing different

irrigation systems, effectiveness of exhibitions, being familiar with advantages and disadvantages of different irrigation system, creativity and innovation of exhibitions, being familiar with performance of machines, access to information and knowledge offered in exhibition.

Table 4. Prioritizing factors for attending at agriculture exhibition

Row	Question	Rank Average	Standard Deviation	Coefficient variation	Priority
1	Up to which level general information and suitable evaluation is effective on application of modern irrigation system and optimum application of water resources?	4.24	0.965	22.75	1
2	Up to which level quick transfer of findings through specialty exhibition may be effective on developing modern irrigation system and prevention of wasting water?	4.01	0.975	24.31	2
3	Up to which level ability of teamwork and targeting through applied education may be able to manage the water resources?	3.93	0.897	22.82	3
4	Up to which level increasing level of awareness through specialty education offered in agriculture exhibition may lead to developing agriculture?	3.77	0.569	15.09	4
5	Up to which level the technologies offered in agriculture exhibition and visiting them is effective on developing agriculture and management of water resources?	3.76	1.01	26.86	5
6	Up to which level through introducing and recognizing different elements of irrigation system offered in exhibition, it is possible to manage water resources?	3.72	0.823	22.12	6
7	Up to which level visiting exhibition of irrigation installations is able to develop the irrigation system?	3.57	0.66	18.48	7
8	Up to which level being familiar with advantages and disadvantages of different irrigation systems through holding exhibitions or educational courses is effective on quality of exhibition and optimum application of water resources?	3.37	0.722	21.42	8
9	Up to which level holding educational courses and specialty agriculture exhibition leads to improving agriculture and launching irrigation system	3.3	0.748	22.66	9
10	Up to which level using creativity, innovation and productivity and benefiting skills, abilities and experiences of agriculture exhibition is effective on optimum application of water resources and prevention of wasting water?	3.29	0.727	22.09	10
11	Up to which level being familiar with method of performance of different irrigation system is effective on holding exhibition of developing agriculture?	3.15	0.77	24.44	11
12	Up to which level access to information and using modern knowledge of agriculture offered in exhibition leads to suitable application of water resources and developing agriculture?	3.04	0.469	15.42	12

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B) Inferential Findings:

2- Regression of effective factors on development of modern irrigation systems

In order to study the relationship between research variables (attending at exhibition, farming properties, effectiveness properties and level of being familiar with irrigation systems) with development of modern irrigation systems, it is benefit from step by step regression and its result is offered in the following table:

Table 5: Summary of correlation model of variables and beta coefficient for analyzing step by step regression

Model	R	R2	B	SE	Beta	T	P-value
Constant			33.93	8.83		3.83	0.00
Attending at exhibition			0.156	0.108	0.119	1.43	0.153
Farming properties	0.473	0.224	2.02	0.424	0.424	4.76	0.00
Effectiveness properties			0.046	0.238	0.017	0.192	0.848
Level of being familiar with irrigation systems			0.204	0.332	0.05	0.614	0.54

Table 5 shows that beta coefficient for attending at exhibition is 0.119 (β= 0.119) and is not significant at 0.05 (P>0.05). Beta coefficient for variable of farming properties is 0.424 (β= 0.424) and is significant at level of 0.01 (P<0.01) and beta coefficient for variable of effective properties is 0.017 (β= 0.017) that is not significant (P>0.05) and also beta coefficient for variable of being familiar with irrigation system is 0.017 (β= 0.05) and is not significant (P>0.05) and on this basis, it is stated that among variables entered into multi-regression analysis, only the variable of farming properties is able to anticipate development of modern irrigation systems i.e. through one unit increase at standard deviation in grades of attending at exhibition, the farming properties, effectiveness properties and level of being familiar with irrigation systems is 0.05, 0.017, 0.424, 0.119 grade is added to modern irrigation systems. Amount of R^2 is 0.224 and shows that 22.4% variance with individual differences for development of modern irrigation systems is related to variance with individual differences for variables of attending at exhibition, farming properties, effectiveness properties and level of being familiar with irrigation methods.

Discussion and Conclusion

Research findings show that the maximum frequency of respondents is male with 92.1% and average age of participants in this research is 47.63 with standard deviation of 7.15, the maximum frequency of respondents is based on education with 60.6% by having high school diploma and 2.4% of respondents had university education and the maximum frequency of respondents based on experience of agriculture was 10 years experience and over than 92.1 and the minimum experience of persons was 1 to 5 years that is equal to 3.1%. According to grading spectrum and average obtained from average rank of comments related to 12 forms (3.86) it is stated that developing modern irrigation system in agriculture from viewpoint of farmers is confirmed and according amounts

of change coefficients, it is stated that most of farmers believe that the most important factor is access to modern methods of developing modern irrigation and second most important factor is technical and counseling support and effectiveness of modern methods and economizing and all of aforesaid factors are regarded as main reasons for developing modern irrigation system. Results showed that there is significant relationship between "properties of effectiveness of applying modern irrigation system" and "Developing modern irrigation system" at sig level of 0.05 i.e. the 6th hypothesis referring to having relationship between effectiveness of modern irrigation system and developing modern irrigation is confirmed. The result of this research is compatible with the result of other researches including: Alizadeh and et al 2014, Norouzifar and Morid 2012 and Mubin and Novoa 2015. Results showed that there is significant relationship between "Level of being familiar with modern irrigation systems" and "Developing modern irrigation system" at sig level of 0.01 i.e. the 7th hypothesis referring to having relationship between level of being familiar with modern irrigation system and developing irrigation system is confirmed and the result of this research is compatible with the result of research by Hassani and et al 2007, Sasaka 2012 and Nom et al 2015.

Recommendations

- Recognizing viewpoints, experiences and skills of experts, benefiting from their comments and recommendations for improving performance of irrigation and water supply
- Increasing level of awareness and knowledge of participants in exhibitions through holding educational workshops, conversation hall, discussions and exchanging ideas about methods and systems
- Introducing and offering new agricultural and irrigation products for developing and improving irrigation methods and systems
- Being familiar with performance of irrigation machines and agricultural facilities through accelerating transfer of scientific findings of experts
- Recognizing and introducing modern knowledge for application at irrigation systems

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