Feasibility Study of cultivation and development oilseeds in Qazvine province

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ABSTRACT

This study examined the Feasibility Study of oilseeds farming and development in Qazvine province (canola, safflower and sunflower). This research was a quantitative applied research and in terms of the data collection process was a non-experimental investigation. A well designed-questionnaire was used to collect the data through interview and observation. All oilseed farmers in Ghazvine province were surveyed as the statistical population of the study, out of which 150 farmers were taken randomly as the research sample. Dependent variable was feasibility of cultivation and development of oilseeds (canola, safflower and sunflower) and several independent variables (i.e. personal characteristics of the farmers and agricultural extension and education activities) were considered. Data have processed through SPSSwin15. Results showed that education level of farmer, land size and farmer's age explained about %54 of dependent variable (feasibility of cultivation and development of oilseeds).

Key words: Feasibility Study, Farmers, Technical knowledge, oilseeds

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INTRODUCTION

Oilseeds have important role as second nutritional resource of world after grains. These products contain protein as well as rich stores of fatty acids. Using plant oil and proteins instead of animals protein lead to increasing importance of oilseeds[1]. Around 300000 hectares of land have already been planted with oilseeds in Iran producing 316000 tons oilseeds and 230000 nutritional oil, in fact only 20% of need to nutritional oil is produced inside Iran and rest of it is imported from other countries. In order to meet this shortcoming in agricultural sector, the government intends to increase promoting level of oilseeds planting and producing gradually [2]. In a research conducted in order to study and determine the most adequate extension methods to develop under cultivation land of Canola in Lorestan province by " Agajani " in 2007, it was found out there is meaningful relationship between independent variables such as individual education, visit from exhibitory farms, participating in training classes and dependents variables of Colza under cultivation land [3]. A bout examining effect of educational - extensional activities to develop modified seeds of rice (abundant product) in Gilan province, Motamed (2002) concluded that presentation of education and extension services as main factor led to public compliance of modified seeds by Gilani rice farmer and consequently increases in producing [4,5]. Izad panah (1999) presented a meaningful relationship between extension education activities and visit from exhibitory farms with increasing of water wheat performance [6]. In another research by Gorji Pour (2001) a bout effects of extension education on rice cultivation developing, it was determined that variables of farmer presence in extension and educational classes and watching related films are meaningfully and positively related to dependents variables of land under cultivation [7]. Also another meaningful relationship existed between number of participating times by farmers in extension education classes, visit from related exhibition and field research plans, group visit of farmers from sample farms and connecting amount with extension agents and increase in performance. "khan & porecha (1994)", "Agajani (2007)", "Shaeri(1996)", "Shariati(2004)", "Motamed (2002)"and Derakhshan(1999)" individually concluded there is meaningful relationship between presented extensional education and developing of under cultivation land increase in production [8,3,9, 4,10]. Marchos Galacher (2001) showed that farmers training have had meaningful effect upon increasing of agricultural production. Alzahrani (1991) in his research including agricultural knowledge in K.A.S

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concluded the most effective ways of a transmitting agricultural knowledge includes, farm visiting extensional visit and utilizing of TV to expand modern skills and methods [12,13].

This study examined the Feasibility Study of oilseeds farming and development in Ghazvine province. In order to accomplish to this purpose, it is essential to response to following question:

What are the cultivation priorities of in the region of study? Is there capacity to increase the oilseeds farming in the province? What are the educational needs of farmers about oilseeds cultivation? Is there capacity of oilseeds in the province? How is the quality of inputs for oilseeds cultivation?

MATERIALS AND METHODS

This study was quantitative research, based on survey methods with using descriptive-correlation method. Dependent variable was feasibility of cultivation and development of oilseeds (canola, safflower and sunflower) and independent variables were personal characteristics of the farmers and agricultural extension and educational needs of farmers.

Statistical population of study consisted of 578 farmers of Gazvin province that had cultivated oilseeds (canola, safflower and sunflower). The stratified random sampling has been used in this study. The sample size was estimated through Cochran formula. 135 farmers were selected for the study and in order to increase accuracy of data, were increased to 150 persons. Study instrument was a questionnaire which includes 3 sections, personal characters in the first section, General variables about oilseeds farming in the second section, and oilseeds cultivation consequences in the third one were measured. Questionnaire validity was evaluated by using the content validity method. And its reliability was confirmed by cronbach's Alpha coefficient that was calculated 0.83 after pre testing on 30 farmers.

Findings:

Research findings indicated that in average most of farmers were 45 years old. Sixty four percent had under diploma and only 1 percent had bachelor degree. The average work experience of farmers was 17.7 years. Results showed that average farming land of farmers was 27 hectares and the average land size of oilseeds include canola about 72 hectares, sunflower 323 hectares and safflower were 60 hectares.

The findings showed that farmers have learned oilseeds farming techniques through various ways includes: visit demonstration farms, watching educational films, contact with advisors (extension agents) in farm, Individual experience, Attend in educational classes, contact with expert farmers, contact with extension agent in office. The frequencies of farmer's were showed in table 1.

Table 1: Frequency of farmer's by learning method

Learning method	Frequency	Valid Percent
Visit demonstration farms	56	37.3
Watching educational films	68	45.3
Contact with advisors	68	45.3
Attend in educational classes	38	25.4
Contact with expert farmers, friends and colleagues	31	21.7
Individual experience	*35*	*30.43*

Table 2 shows the grouping of factors (determined via ordinal factor analysis) into four latent variables: Environmental, Educational, Educational, Technical –Financial and Supportive barriers.

Table2. Classification of barriers that Influence on cultivation and development oilseeds by Using Ordinal Factor Analysis

Factor	Variables	Variance by Factor
Environmental	Inappropriate weather situation, Lack of appropriate land, lack of water, bothers of oilseeds cultivation.	25.93
Educational	Lack of farmer's competency in oilseeds cultivation, lack of education in this field, lack of information about oilseeds cultivation benefits, lack of experts advises in oilseeds cultivation.	18.02
Technical - Financial	Lack of financial input, lack of insurance supportive, lack of appropriate machinery for oilseeds harvest, lack of initial inputs for oilseeds cultivation.	15.22
Supportive	Lack of real legal support, lack of farmer's confidence to experts, lack of institutional support.	9.05
Total		*68.241*

The basic idea of factor analysis is to find a set of latent variables that contains the same information. The classical factor analysis assumes that both observed and latent variables are continuous variables, but in practice, the

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observed variables are often ordinal. Table 3showes the Egenvalue and explained variance percent of barriers (table 3).

Table 3: Egenvalue and explained variance percent of barriers

Factor	Egenvalue	Variance %	Cumulative %
Environmental	5.734	25.934	25.934
Educational	2.910	18.021	43.955
Technical -Financial	1.765	15.229	59.185
Supportive	1.193	9.056	68.241

In order to investigating impact of independent variables on dependent variable "cultivation and development of oilseeds", multivariate regression was applied. Stepwise methods used in this study. In performing Multivariate regression, four variables entered in 4 steps and then operation had stopped. At the first step the technical support, educational level of farmers, amount of land and post harvest activities were entered in the equation. After applauding the last variable operation stopped. These four variables totally explained 54% of variance of the technical knowledge of farmers about oilseeds (Table 4).

Table 4: the standard (β) and unstandard (B) coefficients of independent variables and this meaningfulness of them in the equation

variables	B	S.E.	Beta	T	Sig.
constant	3.21	0.129	–	36.189	0.000**
Technical Support (X1)	0.54	0.046	0.468	5.367	0.000**
Educational Level of farmers(X2)	0.314	0.057	0.346	3.512	0.000**
Land size (X3)	0.243	0.107	0.016	2.860	0.018*
post harvest activities (X4)	0.711	0.148	0.257	2.399	0.000**

*** &* significant at 1% & 5% level*

The linear regression of dependent variables of Feasibility Study of cultivation and development oilseeds is present as follow:

$$Y= 3.21+0.54 X_1+0.314X_2+0.243X_3+0.711X_4$$

CONCLUSION

Based on the research findings the majority of farmers don't have any literacy and suitable education about oilseeds farming. In this study we found that the oilseed farmers had been learned the principles and techniques of oilseed farming from different methods includes (visit demonstration farms, watching educational films, contact with advisors, Individual experience, Attend in educational classes, contact with expert farmers,…..).

From the extension educational methods, the group education methods can be mentioned that includes those methods in which the trainer is always engaged in relationship with a group of trainee clients. There are numerous and important features distinguishing the group methods from other extension methods, i.e. individual and mass education methods. These features include increase in the number of contacts between extension worker and the farmers (Mahboubi, 2010).

The ordinal factor analysis results showed that the Environmental factor is the first important barrier in this research then solving these problems like adaptation with the weather situation and preparing the land and soil position to oilseed cultivation and establish management irrigation system for using water have a major role to play in development of sustainable oilseeds cultivation. In order to expedite the policy design process, a framework consisting of a set of principles and criteria should have been developed.

As we know educational factor is conducive to sustainable agricultural development and cultivation. Approaching to this purpose, agricultural extension and education have been established as executive tools of the government to accomplish agricultural products developing which is almost impossible to study their effects on under cultivation land and mere performance of each product regarding the nature of these activities in promoting various product cultivating is neglected and remains unknown.

Also Technical -Financial factor are always playing an important role in cultivation development, then preparing financial input and enacting insurance supportive and providing appropriate machinery especially in post harvest activities for oilseeds can help to solve this problem.

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At the end design strategic plan in agricultural development programs, establish responsible institution in management structure of agriculture sector, establish unique policies in agriculture in different institutions, enact native and local politic in national policies frame can help to resolve some supportive and technical-financial problems .

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