Full Length Research Paper

Investigation of factor affecting efficiency and effectiveness of agricultural facilities from viewpoint of farmers and credit experts in 2009, Iran

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Although agricultural credit is one of the important issues in agriculture, almost no organized study has been done on caring about the distribution and utilization to achieve the agricultural prosperity and economic growth. This analytic and descriptive study was conducted to explore, that factor affecting the efficiency of agricultural facilities from viewpoint of farmers and credit experts. To achieve the objectives of the study, the survey data were collected by an effective and reliable questionnaire designed to this study. Results indicated that the process of agricultural training, low age and higher education of farmer had a positive significance relationship with effectiveness of their earning facilities on the fields of profit, increasing productions employment, and satisfaction with farming.

Key words: Agriculture, facilities, effectiveness, efficiency, production, Iran.

INTRODUCTION

Agricultural credit is one of the important issues in agriculture and it is necessary to care about the way of utilization and distribution to achieve economic growth, agricultural prosperity and increasing income of farmers and their financial position (Statistical and reference agency of Jahad Keshavarzi, 2007; Hosseini-Yekani, 2011).

Many experts believe that an agricultural facility is a great part of the institutional collection to speed up the agricultural development and thus economic growth of Iran. Agriculture bank function indicates that this bank has a substantial role in farmer's financial strengthening and as a government; credit advantage in the most important economic sector of Iran has an important role. Since accurate way of credits utilization causes leveling movement of private sector activity with programs and polices of the government thus, agriculture bank acts as government tools for essential investment to agricultural financial strengthening of Iran (Arab and Khodarahmi, 1999). Many economists relate the low productivity of developing countries to the low level of adaptive technology and lacking of enough production finance on

the other words, small-scale farmers suggest different causes of low production and income farmers of which law finance is the most important blockages on the way of acceptance of new technology and emphasized shifting traditional agriculture (Hakimi and Karimi, 2006).

Seasonal agricultural production made a time–lag between disbursement and earnings of farmers, thus to pay current costs and investment on agricultural affairs they need to save their previous income or need investment grants of financial and credit institutions, while because of low income of farmers hoarding money is difficult thus cannot farmers use their hoarding in agricultural affairs, investment and purchasing needed inputs (Karami, 2000). If credit institutions granting a cheap, proper and on-time facilities to farmers, producers can use of their received loan productivity and increase gross national production (Behradi and Zibaee, 2009).

Achieving high productivity, in Iran necessitates capital investment and its optimal utilization. So agricultural bank credits has a substantial role in developing investment and walking capital required by agricultural sectors suggestive of impotency of an effective agricultural system existence to agricultural sector growth and gross national product of developing country (Sadr, 2003). Agricultural sector grabbed a big share of Iran economic so that it took 15% of gross national product, 36%

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employment, no percent of food production, one–third of non-petroleum exports and meeting the 40% need of industrial institutions of Iran. Despite the dependency of climatic change, agricultural development with less fluctuation than the other sectors, income dependency, and among all, economical sectors, it has the minimum debit-credit ratio (Shahnoshi and Dehghanian, 2001).

Agricultural credit grant to producer by means of two official and non-official sectors. Basis on some conducted studies more than three – official institutions and 66% of credits and facilities granted by agriculture bank granted quarters of received facilities by farmers. According to results of the study plan, the sources related to value added of effective credits and agricultural product market prosperity, positive effect of value added credits of agricultural sector is affirmed which indicate per one percent increase in paid credits with fixed price value added of the sector will have an increase amount of 15% (Shaditalab, 1993; Levin and Zervose, 1966).

Agriculture bank as the most important official agricultural credit company is responsible for financing agricultural sector or multipurpose such as increasing production, income adjustment, making easier acceptance of new technology and payment claim, so that this bank every year offer 60% of allocated overdrafts of banking system to the sub-sector of agriculture. Investigating results obtained from granted facilities and credits related to increase in quantitative and qualitative characteristic of products show the most affecting factor of improving production and ideal distribution of credits. This study aims to survey the effectiveness and efficiency of agricultural bank and its relative factors from viewpoint of formers and credit experts of agriculture bank (Loony, 1999; Akbari, 2003).

MATERIALS AND METHODS

This analytic and descriptive study was conducted with an intersectional approach. Target population including farmers who earned facility from agriculture bank and credit experts are working in agricultural bank of Kohgiloye and Boyer Ahmad province (Iran). Sampling done in multistage method and from every city randomly in proportion to 2nd, 3rd and 4th grade and from each bank non randomly to percent of files related to paid facilities in 2008 selected and horticulture sectors. These farmers identified and surveyed in their living, locate surveyed through questionnaire created by researchers themselves. Twenty-five credit experts working in all branches of agricultural banks were surveyed using questionnaire created by researchers themselves. According to purposes of the study and regarding error, sampling amount of 5%, maximum estimation error of 1% and degree of freedom p = %50 and one level of cluster selection and one level of cluster selection and one level statistical unit selection, farmer sample volume estimated equal to 400 people that according to existence of statistics of bank with investigation of 2% volume of files of bank we will obtain this volume.

Efficiency means utilization of minimum resourses to accomplishing purposes of the company. Effectiveness means ratio accomplishing the desired purposes (Akbari, 2003). Questionnaire related to farmers survey prepared base on viewpoint of scholars of

agronomist, economic and administration joint experts and surveyed by interviews. Questionnaires related to survey by two pre-test and its analyzed using SPSS software (version 12) and bisection method and uses Cronbach`s a resulting in amount of 72% indicating its validity.

Questionnaire prepared by retained researcher completed by face-to-face method or in the case of illiteracy or low educated of farmers completed by interviews. Questionnaires related to survey of experts prepared basis on view of scholars, agronomists and joint economic experts using bisection method and using of Cronbach`s a resulting in amount of 85% indicating its reliability. The prepared questionnaire distributed and collected after completing. Hurdle remove and collected data analyzed by SPSS, data described by central and scattering indices and frequency distribution table and analyzed by means of one variable linear regression and multivariate linear regression.

RESULTS

The sample included a group of 416 farmers. The subjects age was 26-37 obtaining mean of 44.9, standard deviation of 11.29 to 24.13% of the subject were illiterate, 83.3 has low education , 15.5 has below – diploma, 23.2 has diploma and 11.7% has a bachelor degree or higher. The minimum and maximum of agricultural experience is 4-55 years with mean and standard deviational 19, 10.6, respectively. 12.2% has less than 10 years of agricultural experience. 43.9% has between 10-20 years of experience, 22.5% has between 10-20 years of experience, and 22.5% has between 20-30 years of experience and 21.9 have 30 or more than 30 years of agricultural experience (Tables 1 and 2).

Factors affecting model of profitability, increasing production, employment and satisfaction with agriculture based on this study are as follow (note that variables having no significant influence on the model will be deleted by systematic method):

1. Linear correlation model is related to factor affecting facilities, profitability regarding general and specific conditions of the payee of facilities and its related results of their suggestions:

Profitability =59.768+1.925* (education) - 0.193 (age) +0.137 (total ratio of facilities)-0.232 (the distance from the city), R = 48%, R^2 =231%, and R^2 = 219% (adjusted).

2. Linear correlation model is related to factor affecting increasing production regarding general and specific conditions of payee of facilities and its related results of their suggestions:

Increasing production = 49.992 + 2.761* (education) +/ 251* (age) +0.125 * (total ratio of facilities)-0.192 * (distance from the city), R= 0.474, R^2 = 225%, and R^2 = 219% (adjusted).

3. Linear correlation model is related to factor affecting employment regarding general and specific conditions of

Table 1. Assets and income different agricultural sectors.

Activity sector	Variable	Standard deviation	Mean	Maximum	Minimum
Farming	Asset	61.6	34.2	100	50
	Income	8.3	4.8	40	2
Horticulture	Asset	78.9	39.7	500	5
	Income	6.6	4	30	0
Animal husbandry	Asset	45.7	22.7	200	2
	Income	7.3	4.1	30	1
All sectors	Asset	35.8	32.9	150	1
	Income	7.3	4.3	10	5

Table 2. Granted facilities ratio to farmers.

Activity sector	Mean	Maximum	Minimum	Standard deviation
Farming	11.2	900	5	20.3
Horticulture	10.8	700	5	17.9
Animal husbandry	3.4	200	5	5.6
All sector	9.1	200	5	15.3

the payee of facilities and its related results of their suggestions:

Employment = 29.01+ -6.079 * (education) - 0.83 (age) – 0.295 (distance from city)- 0.11.2 * (income), $R = 562\%$, $R^2 = 316\%$, and $R^2 = 289\%$ (adjusted).

4. Linear correlation model related to factor affecting satisfaction with farmers regarding to general and specific conditions of the payee of facilities and results related to their suggestions:

Satisfaction with farmers: 74.68+1.27 * (education)- 394% * (age) + 135% * (total ratio of facilities) – 157% * (income), $R = 524\%$, $R^2 = 279\%$, and $R^2 = 279\%$ (adjusted).

DISCUSSION

Agricultural training, earning facilities ratio, low age, higher education of farmer have a positive significant relationship with effectiveness and efficiency of their earning, facilities in the field of profitability, increasing production, employment and satisfaction with agriculture. There is a negative significant relationship between ratio of assets is sub sectors of farming. Horticulture and factor related to effectiveness and efficiency, of facilities such as profitability employment, increasing production and satisfaction with farmer. There is a positive relationship only in the animal husbandry sector. There is a positive

significant relationship between facilities ratio of all sub sectors and profitability, employment, increasing production and satisfaction. Education and training related to agriculture has a positive significant relationship with profitability, employment, increasing production and satisfaction (Shaditalab, 1993; Levin and Zervose, 1966; Loony, 1999; Akbari, 2003).

The aforementioned results are an agreement with the studies and indicate that education, short-term training especially in animal husbandry sector lead to increase in effectiveness and efficiency of facilities. There is a negative significant relationship between distance from city and profitability, employment, increasing production, satisfaction with farmer indicating the influence of facilities accumulation in the area near city. These results also are in agreement with similar studies (Sadr, 2003; Shahnoshi and Dehghanian, 2001; Shaditalab, 1993; Levin and Zervose, 1966). Annual income amount of 84% of farmer is less than 10 million and only 16% has more than 10 million annual amount of income, thus in this province poor financial position of farmers are apparent (Statistical and reference agency of Jahad Keshavarzi, 2007; Malek-Saeidi et al., 2011; Abdalla and Nourien Malik, 2011; Bigramo Allaro et al., 2011).

Other factors, which have decreased effectiveness and efficiency of paid facilities according open responses of farmers and experts, are as follow: lack of adequacy of facilities ratio in view of current condition and day-to-day increasing agriculture costs, improper time of earning facilities, redemption, and strict condition for giving facilities.

SUGGESTION

According to results of this study, we suggest that to increasing effectiveness and efficiency of facilities agricultural education and being youth is emphasized. In order to certainly of proper utilization of advances in their related affairs, regular inspection of credit design during period of activity and credit consumption along with offering related training are important duties of experts of banks, ways and means advances to agricultural design, payment installments and the progress made should be under investigation of experts. The bank and applicant cooperatively administer the design. Facilities of farmers and the desired locate insure completely with account of low costs (Malek-Saeidi et al., 2011). The restrictions completing the questionnaire had some difficulties, but by using trained researchers, we manage to cope with it. Questions asking about assets ratio, income or the way to use facilities, made more hurdle

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