Full Length Research Paper

An investigation of educational needs of Guilan- Iran's tea–planters

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Agriculture has various roles on the development of Iran in different aspects. The most obvious roles are: food preparation, rural's migration prevention to urban areas, preservation of economical and political independence and material preparation for many industries. Tea is one of the crops among agricultural productions which it is still confronted with a series of poor natural and managerial barriers and lack of modern technology as well because of its key role including the most popular drink among Iranians, job creation, currency loss prevention and so on. This research was conducted with the goal of investigation of educational needs of Guilanian tea-planters in 2006 in Guilan province, Iran. 80% of domestic tea in Iran is produced in Guilan province. Statistical population of this research is farmers who are known as tea-planter according to the local norms. Among 67681 Guilanian tea-planters, 280 ones were selected randomly using Cochran's cluster test (formula) to represent the whole population. Independent variables of this research are: age, educational level, range of income, under-cultivation level, social participation, sex (gender), participation in educational and extensional activities, and the use of communicative channels and their relationship were also considered and contrasted with educational needs of tea-planters. The major device for data collection was questionnaire, which was determined after its validity and reliability. For data analysis and interactions existed among variables, descriptive statistics (frequency, percentage, mean, standard deviation, variance…) and inferencing statistics were used. The results obtained through the test of theories cleared that there was a meaningful and negative relationship among educational level, economical situation, under-cultivation level, connection of tea-planters with the extension agents of Agricultural Jihad with their educational need. There was also a meaningful and positive relationship between the contact of tea-planters studied and other tea-planters in the area and their educational needs. There was no meaningful relationship among age, use of communicative channels, use of educational and extensional classes, connection of tea-planters with local leaders and factory owners, tea-planter's use of radio and TV and studying of extensional periodicals with the range of educational need. Educational needs of the tea-planters who participated in educational-extensional activities or those who participated in cooperations and unions were less than that of tea-planters who didn't participate in such activities, cooperatives, and unions.

Key words: Tea, educational needs, tea-planters, educational and extensional activities.

INTRODUCTION

Tea is an ever green plant which is plantable in warm and semi warm areas with temperate and wet climate with acidic and light soils. Nowadays, tea is one of the most popular drinks in the world that its obvious nutritious and medicinal importance, influence on nerve system, relief, relaxation and so on has been proved. The under-cultivation level of tea in Iran has been 35627 ha from which 88% is in Guilan province and the other 12% exists in Mazandaran province. Now, 76052 tea-planters are working on these gardens. 80% of domestic tea consumed

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consumed in Iran is imported, and increase in quantity and quality of Iranian tea and creation of a suitable market for selling it domestically and exporting it is impossible just by development of under-cultivation level and factories, using new technology in the stages of planting, keeping and harvesting tea, correct processing of this crop, educational activities and governmental supporting can have an important and crucial role in production increase and elevating of competitive power of domestic crop in regard to foreign types. To achieve the ideal goals, at first a comprehensive needs analysis is required (Fogelstrom, 1994).

Needs analysis is a remarkable outcome of new sciences and is used as an effective instrument to increase the participation of people and beneficiaries. Every society has its own special values, tendencies, opinions, desires and individual and group behaviors, and determining and interpretation of their needs is impossible without overlooking such factors (Todorova, 2005). The most important feature of needs analysis is that it prevents misuse of existing needs and through summoning the society to individual call to awareness, identification and determining common needs and agreement with such needs; it attracts people's support to supply their needs. This kind of responsible participation of individuals and beneficiaries is the main basis of establishment of a dynamic system for supplying real needs and increased development of current presentation of services to achieve welfare and improvement (Pample and Vanes, 1977).

Burrtton and Merrill (1997) believe that needs analysis completely consists of a systematic process for determining goals, identifying gap between existing situation, goals and eventually determining the priorities for acting. Veale (2002) believes that needs analysis is the process of collecting and analyzing of information through which, the needs of individuals, groups, and societies will be identified, however, (Fathi Vajargah 1998) concluded that needs analysis is just obtainable after needs are operationally defined.

Khoy Nejad (2001) believes that in performing needs analysis, several problems arise. The definition of need is the first problem. Mowbray and Szilvgyi (2002) believe that needs analysis causes more awareness from areas within which needs must be investigated, thus, the planning becomes more effective. According to the latest statistics presented by the main office of North Tea in Guilan province in 2004 , about 76052 tea-planters in Guilan and Mazandaran provinces are working at 35627 ha of gardens in these two provinces , because of existence of 87% of tea gardens in Guilan province, the role of this province is highlighted (Adham, 2003).

For different reasons Guilanian tea-plant farmers use their own experiences to remove existing problems. Negligence of correct principles in gardening causes soil erosion, resistance of pests and diseases, reduction of quality of tea production and application of plans like

structural reforming of tea has increased the inefficiency of such activity. Non-motivated tea-planters have influenced on the garden-holders who have a relative profit to give up planting and just small farmers who are dependent on the income of tea gardens continue working as previously. Remembering this point that the per capita of tea consumed in our country is about 1.5 kg, considerable amount of tea is still imported every year, meanwhile our county has not only the potential of supplying domestic use, but it also has potentiality of exporting such product (Ikerd, 1993).

Since no complete research has been comprehensively done to investigate the educational needs of tea-planters in Iran so far, it is hoped that by considering of special goals; recent situation of tea planting in Iran ,identifying the relative and effective factors on educational needs of tea-planters, awareness of the number of participation of tea-planters in social activities , we can achieve to determining, identifying and priority setting of tea-planters' educational needs and the application of such results, achieving to determine the real needs of influential factors on tea in scientific crop production, production increasing , economizing this activity and creating an appropriate situation for performing useful educations, important information for tea- planters.

MATERIALS AND METHODS

This research is a kind of surveying, correlative and causative-comparing one. According to the local norms statistical population of this research is farmers who are known as tea- planter. The numbers of whom in Guilan province are 67681 persons and they act in 11 towns of Guilan province. The population of this research is 280 persons of tea-planters who were selected by using cluster sampling from the whole ones. The procedure of study was done through library, observation and interview with tea-planters and authorities. The main instrument for collecting data was a questionnaire consists of opened and closed questions that were completed by instructed subjects (participants).

In order to determine the reliability of the study, opinions of authorities and professors were considered, and to determine the final validity of the questionnaire, a pilot study was conducted through the completion of 30 questionnaires in one village located in the area and its α-Cronbach was estimated as 82%.

Independent variables of this research consist of age, literacy, economical situation (range of income), under-cultivation level, participation, gender, participation in educational and extensional activities and use of communicative channels. Dependent variable of research is the educational need of tea- planters of Guilan province; they are consequently presented as the following hypotheses:

-There is a relationship between the age of tea-planters and the amount of their educational need.
-There is a relationship between the tea-planters' literacy level and the amount of educational need.
-There is a relationship between tea-planters' income and the amount of their educational need.
-There is a relationship between tea-planters' under cultivation level and the amount of their educational need.
-There is a difference between the amount of educational needs

of tea - planters who participated in unions and co-operations and those who didn't participate.

-There is a difference between the educational need of tea-planters participated in educational - extensional activities and that of those who did not participate.

-There is a difference between male (men) and female (women) tea- planters in terms of their amount of educational need.

-There is a relationship between tea-planters' use of communicative channels and the amount of their educational need.

For data analysis, descriptive and analytical statistics were used, and in the description of data indices like percent frequency, accumulated percent, mean, standard deviation etc were examined and in data analysis, determination of correlation between variables in the method of Pearson and Spearman rank correlation coefficient regarding the type of independent and dependent variable and considering the cause of independent variable on dependent one, Mann-Whitney test was used.

RESULTS

Descriptive findings

96.4% of tea-planters are men and 3.6% are women. Minimum and maximum age of tea-planters' of this research are 23 and 84 years, respectively and their age mean is 49 years. From literacy viewpoint, the most frequency exists among individuals who are under diploma (haven't finished high school), but the least frequency exists among individuals who have higher education.

Analytical findings

Results of coefficient of correlation of Spearman Showed that there is a meaningful and negative relationship between literacy level of tea-planters and the amount of their educational need in level of 99 percent i.e. with one percent of error, the amount of tea-planters' educational need decreases by increasing of their literacy, so there is less need for education ($p = 0.002$, $r = -0.185$).

Results of coefficient of correlation of Pearson showed that there is a meaningful and negative relationship between the amount of tea-planters income and their educational need in level of 99 percent i.e. with one percent of error, the amount of educational need of tea-planters decreases by increasing of the income of tea planting ($p = 0.001$, $r = -0.198$).

Results of coefficient of correlation of Pearson showed that there is a meaningful and negative relationship between under cultivation level of tea-planters and the amount of their educational need in level of 99 percent. In other words with one percent of error, it can be said that the more under cultivation level is, the more the amount of educational need of tea-planters would be ($p = 0.001$, $r = -0.199$).

Results of coefficient of correlation of Spearman showed that there is a meaningful and negative relationship in level of 95% between connection of tea-

planters with extension agents of agricultural Jihad center and the amount of their educational need, i.e. with 5 percent of error it can be said that the more is connection of tea-planters with extension agents increases by decreasing of their educational need ($p = 0.045$, $r = -0.12$)

Results of coefficient of Correlation of Spearman showed that in level of 99% there is a meaningful and positive relationship between connections of tea-planters with other tea-planters of area and the amount of educational need. In other words with the maximum of one percent of error it can be said that the more the number of the connection of studied tea-planters with tea-planters of area the more the amount of their educational need will be. This point indicates the lack of required knowledge in the area.
($p = 0.006$, $r = 0.164$)

Moreover, results of Spearman test showed that there is a meaningful relationship between age, use of communicative channels, use of educational and extensional classes, connection with local leaders, connection with factory-holders, use of radio and television and use of extensional publications with the amount of the need of education tea-planters in level of 95%.

Study of the effect of independent variables on dependent variable by using Mann-Whitney test

Results of Mann-Whitney test showed that there is a meaningful difference between educational need of tea-planters participated in organizations and cooperatives with non-participant tea-planters in level of 99 percent. In other words, with one Percent error, the amount of educational need of participated tea-planters in organizations and cooperatives is less than those who didn't participate in such organizations and cooperatives. ($z = -3.368$, $p = 0.001$)

Results of Mann-Whitney test showed that there is a meaningful difference between the amounts of educational need of tea-planters participated in educational-extensional activities and non-participant tea-planters in these activities in level of 99 percent. In other words with one percent error, tea-planters participated in activities need less education than non-participant tea-planters in activities ($z = -5.615$, $p = 0.000$). Results of the same test showed that there is no meaningful difference between the amount of educational need of women and men tea-planters in level of 95%.

DISCUSSION AND CONCLUSION

According to the point that majority of tea-planters of this research are illiterate and under diploma (have not finished

Table 1. Frequency of subjects according to literacy level[*].

Literacy	Frequency	Percent
Illiterate	44	15.7
Under diploma	132	47.1
Diploma	73	26.1
Associate of arts	11	3.9
BA	19	6.8
Higher (PhD)	1	0.4
Total	280	100

15.7% of studied persons are illiterate. The most frequency in terms of their income earned through tea-planting was under $1000.

Table 3. Distribution of frequency according to the age of bushes.

Age of bushes	Frequency	Percent
Under 19 years old	4	1.4
20 - 39 years old	45	16.1
40 - 59 years old	166	59.3
Higher than 60 years old	56	20
Without answer	9	3.2
Total	280	100

*84.3% gardens are private and only 5.4% of them are rental ones. The majority of private gardens are under one hectare (45%).

Table 5. Distribution of frequency according to the number of people participated in educational-extensional classes.

Participation in classes	Frequency	Percent
Yes	63	22.5
No	216	77.1
Without answer	1	0.4
Total	280	100.0

Table 2. Frequency of subjects according to the range of their income earned through tea-planting*.

Range of income US$	Frequency	Percent
Under 1000	128	45.7
1000 - 3000	101	36.1
3000 - 5000	10	6.1
Higher than 5000	13	4.6
Without answer	21	7.5
Total	280	100

Most bushes are between 40 - 59 years old and the age mean of bushes is 47 years old.

Table 4. Frequency according to under plating level.

Under planting level	Frequency	Percent
Under one hectare	126	45
1 - 5 ha	119	42.5
Over 5 ha	11	3.9
Without answer	24	8.6
Total	280	100

62.9% of tea-planters participated in organizations and cooperations. 22.5% of tea-planters participated in educational and extensional classes and the rest of individuals reported that they didn't participate in classes because either the time was inconvenient or they weren't informed.

Table 6. Distribution of frequency according to the problems existed frequently among participants in educational-extensional classes.

Problems	Frequency	Percent
On time information	7	26.9
Unsuitable time of forming classes	19	73.1
Total	26	100.0

The priority of studied tea-planters to use communicative channels was as following: use of radio and television, communication with local tea-planters, extension agents, factory owners, and local leaders. Studying of extension publications and participation in educational classes was also mentioned.

high school) (Table 1) and the educational need is required more for those who are in low educational level (Table 5) It is suggested that the instructors select educational content and methods of teaching in their syllabus to be suitable according to the mental capacity of tea-planters and present them easily and understandably in order to increase the efficiency of courses and create more motivation in tea-planters to participate in future educational courses.

Majority of tea-planters have under one hectare (45%) cultivation and their income is under $5000 (87.9%) (Tables 2 and 3,4) and there is more educational need for tea-planters with low increase (Table 11) , it is suggested that through appropriate contents and efficient educational methods , valid and applicable information can be given to such tea-planters during planting, harvesting, and harvesting such a product.

Since tea-planters who participated in organization and cooperatives have less educational need than those who did not participate in organizations and cooperatives (Table 12), it is suggested that through encouraging policies , non-member tea-planters get motivated to increase their social participation and by increasing the connection of this group of tea-planters with such organizations and the exchange of scientific and technical information about tea and tea-plantation, their educational need decreases recognizably.

Since the tea-planters of this research preferred group (team) educational methods to other methods (Table 6) and they also say the reason for their absence in such educational and extensional courses was due to the

Table 7. Priority of using communicative channels by tea-planters.

Priority	Relational channels	Co efficiency of variables
1	Radio and television	64.48
2	Tea-planters'	76.41
3	Extension agent	110.88
4	Factory holders	113.45
5	Local leaders	114.47
6	Extensional publication	118.58
7	Educational classes	138.07

Tea-planters studied prefer the use of group, massive and individual educational methods, respectively.

Table 8. Priority of using information resources gathered by studied tea-planters.

Priority	Earning information resources	Co efficiency of variables (percent)
1	grouping method	25.79
2	massive method	36.25
3	individual method	44.98

The educational needs of tea-planters according to their priority were required during the stages of planting, keeping and harvesting respectively.

Table 9. Priority of educational needs mentioned by studied tea-planters during stages of planting, keeping and harvesting of tea.

Priority	Educational need	Co-efficiency of variables (percent)
1	keeping stage	31.31
2	planting stage	39.53
3	harvesting stage	122.07

inconveniency of the time and poor information regarding such courses, (Table 7). It is suggested that more educational classes introduced by local medias be held and it is preferable that such courses be held in non-working season especially during winter proposed by most tea-planters if possible (61.4%) (Table 8).

Moreover it is suggested that instructors assess their learners continuously through the whole educational and extensional courses and at the end of each course a final assessment should be held in order to not only recognize the weak and strength points but also the top participants at the end of each course be nominated and encouraged and such activities pave the way for more participation of tea- planters.

Since the tea-planters of this research here preferred group educational methods to individual ones (Table 9) and because of the nature of work in such gardens that is done collectively it is reasonable and it is suggested that

mass media especially appropriate radio and television programs that is according to the level of literacy of the majority be used to increase their knowledge and skill. Due to the fact that more connection between tea-planters and extension agents of agricultural Jihad service center causes a decrease in their educational need (Table 10) it is suggested that continuous planning should be done in order to recruit more fresh extension agents.

Since 79.3% of tea bushes are more than 40 years old (Table 13) they need to be eradicated and replaced and also 20% of these bushes are more than 60 years old, they need to be replacement for long years, it is suggested that through by using suitable educational methods, the importance of such tasks should be revealed to tea-planters, eventually by using of state aids and technical suggestions given by extension experts, the action of eradicating and replacement of bushes

Table 10. Classification of priority of tea-planters' needs according to related topics used during production stages.

Stage	Priority	Unseen needs according to related subjects of production stages	Mean	Standard deviation	CV
Planting	1	Acquaintance with suitable time of exploitation of recently created gardens	0.2111	0.40885	193.67
	2	Awareness of the standard of producing of green leaf in one hectare garden	0.3008	0.45950	152.75
	3	Recognizing of kinds of suitable twig with climate and soil of area	0.6034	0.49059	81.30
	4	Acquaintance with importance of eradication and replacing of tea bush	0.6224	0.486002	78.08
	5	Recognition of tea botany	0.9192	0.27301	29.70
	6	Importance of using of improved cutting	0.9439	0.23061	24.43
	1	Acquaintance with the most appropriate pesticides	0.1049	0.30742	239.06
	2	Acquaintance with the most suitable way for the control of the diseases	0.2179	0.41552	190.69
	3	Acquaintance with suitable time of using fertilizers in tea gardens	0.2707	0.44515	164.44
	4	Awareness of quality of using remains prune	0.5681	0.49631	87.36
	5	Acquaintance with solution sprinkle on tea plants	0.6087	0.49072	80.61
Keeping	6	Recognition of methods of increasing of hollowness of the soil	0.6257	0.48535	77.56
	7	Acquaintance with the important diseases of tea	0.6715	0.47138	70.19
	8	Awareness of the suitable time of pruning of tea bushes	0.8327	0.37393	44.40
	9	Acquaintance with suitable soil for growing tea bushes	0.8452	0.36248	42.88
	10	Acquaintance with the most important tea pests	0.8761	0.33019	37.68
	11	Recognition of correct methods of weeding	0.8961	0.30579	34.12
	12	Acquaintance with the most important existing weeds in tea gardens	0.9130	0.28239	30.92
	13	Instruction for understanding the importance of doing soil test	1.8597	0.35814	19.25
	14	Recognition of kinds of pruning of tea bushes	0.9818	0.13409	13.65
	1	Recognition of unsuitable situation of transporting of green leaf from garden to factory	0.7070	0.45602	64.50
Harvesting	2	acquaintance with correct manner of harvesting of green leaf	0.8007	0.40018	49.97
	3	recognition of the standard way of leaf picking up	0.9476	0.22332	23.56

Table 11. Results of research hypothesis test using coefficients.

No. of hypotheses	Independent variable	Dependent variable	Kind of coefficient	Coefficient correction	Meaningful level	Meaningful relationship
1	Age	Amount of educational need	Pearson	-0.025	0.679	No
2	Level of literacy	Amount of educational need	Spearman	-0.185	0.002	Yes
3	Income	Amount of educational need	Pearson	-0.198	0.001	Yes
4	Under-cultivation level	Amount of educational need	Pearson	-0.199	0.001	Yes

Table 11. Contd.

8	Using of related channels	Amount of educational need	Spearman	-0.044	0.463	No
8-1	Participating in educational extensional classes	Amount of educational need	Spearman	0.083	0.168	No
8-2	Connecting with extension agent service center	Amount of educational need	Spearman	-0.120	0.045	Yes
8-3	Connecting with local tea-planters	Amount of educational need	Spearman	0.164	0.006	Yes
8-4	Connection with local leaders	Amount of educational need	Spearman	0.074	0.216	No
8-5	Connecting with factory – holders	Amount of educational need	Spearman	0.107	0.074	No
8-6	Using of radio and television	Amount of educational need	Spearman	-0.012	0.842	No
8-7	Using of extensional publications	Amount of educational need	Spearman	0.025	0.672	No

Table 12. Results of hypothesis test using Mann Whitney test.

Confirmation of yard	Sig	z	w	u	Mean	Dependent variable	Independent variable		No. of hypothesizes
Confirmation	0.001	-3.368	22744.500	6634.500	127.06		Participated	Participation in cooperatives	
					160.80	Educational needs	Non-participated	or organization	5
Confirmation	0.000	-5.615	5671.500	3655.500	90.02	Educational needs	Participate	Participation in educational	
					154.58		Non-participated	Extensional activities	6
Refusing	0.465	-0.731	1222.000	1167.000	122.20	Educational needs	Woman	Sexual	7

Table 13. Frequency according to suitability of season from the viewpoint of tea-planters to form classes.

Objective season	Frequency	Percent
Spring	4	1.4
Summer	3	1.1
Fall	34	12.1
Winter	172	61.4
No difference	10	3.6
Fall and winter	44	15.7
Spring and summer	1	0.4
Without answer	12	4.3
Total	**280**	**100**

should be taken.

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