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Study of educational needs of nomads utilizing Arasbaran dam watershed in the field of cattle breeding

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ABSTRACT

Nowadays, the Nomads life development program in the country is carried out in two distinct approaches: 1- settling volunteer nomads in permanent domiciles 2- Organizing migrating nomads. With respect to the fact that eighty eight percent of the nomads in Gharah-ghaia region in East Azarbaijan province volunteer for permanent settling (Taghavi, 1992), the Arasbaran Dam was constructed with the aim of settling them and also elevating their living standards. The capacity of this dam is 25 million cubic meters, which will mainly be used to irrigate 3200 hectares of farm lands in the dam watershed. It should also be mentioned that sixty percent of the land will be allocated to farming and the rest will be used to establish orchards. This will make it possible to settle twelve tribes of nomads with 607 families comprising 3460 people. With respect to the studies undertaken and by considering climatic conditions of the region, quality of water sources and soil, being in line with development programs of the country raising cattle instead of light livestock and wet farming/gardening eight different agricultural crops has been recommended. Since the nomads in the region have traditionally raised cow and cattle, they lack any knowledge or skills to achieve the above mentioned goals. So, it is necessary to teach them the needed skills and promote their vocational and technical knowledge. Lack of comprehensive information about training and needs of nomads in the mentioned fields is the main subject of this study.This study was carried out in order to evaluate training needs of nomads in the fields of raising cattle, irrigated farming and gardening. It was carried out by doing a field study. The statistical population included volunteer nomads who wanted to be settled in watershed regions of the Arasbarab dam. The Cochran formula was used with random sampling from one hundred twenty people and data was collected thru interviewing and questionnaire. The result showed that training needs of nomads in the field of raising cattle were was higher than normal mean, and according to their importance included the subjects of breading management, marketing, calf rising, barn management, and hygiene management respectively. It must also be mentioned that based on the result of analysis, among factors of training subjects, promoting quality of cattle and cattle holding barns, which includes variables such as milking and breast hygiene, feet hygiene, feeding, hygiene in livestock transfer, selection of appropriate beef cattle, quality of feed, promotion of environmental conditions (improving breeding conditions), detection of correct time for mating, and selection of appropriate feed for beef cattle accounted for 40.04 % of the total variance.

Key Words: Training needs, assessing training needs, nomad practitioners in Arasbaran dam watersheds, cattle rising

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INTRODUCTION

Specialization of productive activities in human primary communities and the emergence of two classes of farmer and poulterer were led to nomadic lifestyle. This livelihoods and production style due to the effect of natural, geographical and climatic factors have taken many forms by time passing and today it has settled in many parts of earth, particularly In Central Asia, Middle East, and North Africa. In Iran, nomadic society has settled in two-third

of country space as a livelihood style with several thousand year old records and a kind of human adaption to nature and with the population of 1.3 million people (according to 2008 census, 212,660 households with 1,186,398 inhabitants) and in the form of 102 tribes, 592 clans and 199,930 households [10]. In spite of nomadic society has a major role in production specially livestock production and country's progression and development but in development path it has been back warded and in comparison with other backward communities it has been faced with lower welfare and income. In the past the cause of backwardness of this community has been attributed to their lifestyle and production so because of that settlement was recognized essential and they had been forced for settlement. Also forced settlement was due to political reasons in the past and nomad's economic and social conditions have not been considered. This procedure caused the collapse of nomadic system and created many problems. But some experts, who agree with nomadic procedure, have recognized unfair distribution and lack of accessibility to features, facilities and resources as the reasons for weaknesses of nomadic system. East-Azarbaijan Province has recognized as one of the nomadic provinces of Iran due to diverse climate of pastures and green forests and also high mountains and based on the results of nomadic tribes census of Iran in 2008, the population of the province nomads during the summer quarter is 13.295 households and over 70,577 people and in winter quarter is 8097 households with 43,857 persons. This province has 6.46% of total population of Iran in summer quarter and it has 3.99% of total population of Iran in winter quarter. (Selected results of socio-economic census plan of nomadic tribes of Iran 2008). This province's nomads who have formed in 2 Arasbaran and Ilsevan tribes and 9 independent clans in summer quarter and 2 (Arasbaran and Ilsevan) tribes and 7 independent clans in winter quarter are intermigration but every year this province is receptive of some quests from neighboring provinces such as Ardebil, Zanjan and West Azarbaijan in summer. (Illustrated report of training and extensional period's performance of Nomads Affairs Office of East-Azarbaijan Province). Comprehensive development plan of nomadic areas of country has been developed aiming to poverty eradication, increase welfare and income and ultimately the sustainable development of this community that unlike the past which the purpose of organization was forced settlement of nomads, based on this plan today organization programs is carrying out according to nomad trends and considering socio-economic problems for three beneficiary groups of nomads society(dwellers together, ranchers and migration providers).In East Azarbaijan province also nomad life organization programs carry out in the form of following plans:

A) provision of support services to emigrants
B) Studies of development clubs of nomadic areas
C) Executive operations of nomad settlements
D) Replacement of fossil fuel

Its north worthy that the plan of executive operations of nomads settlement is carried out in order to settlement of volunteer nomads and construction and infrastructure projects such as construction of dam, barrier, pumping facilities, irrigation and land drainage networks, improvement of development clubs, roads, educational space and watershed operations are done in line of this plan's objectives [14]. If nomad settlement plans increase welfare and nomad income and sustainable development of this society, required trainings in the context of new methods of production and life should be given to them. Based on the tendency of 88% of Gharaghiye nomads who are settlement volunteers [2], and with considering to economic, social and cultural conditions of this area, the authorities and programmers of province have constructed Arasbaran dam aiming to settlement and increase welfare and income of nomads. The capacity of this dam was 25 million cubic meters which by using of that more than 3200 ha of watershed dry lands will transform to water lands. 60% of lands are considered for farming and 40% of them are considered for garden and the possibility of settlement and utilization of nomads of 12 watersheds winter quarter, including 607 households with the population of 3460 persons will be provided. Also the pattern of cultivation and sufficient irrigation systems of these lands are selected and suggested based on carried studies.

Arasbaran dam's watershed developmental programs include:
1 - Replacement of cow breeding with sheep breeding.
3 - The encouragement and persuasion of users to water farming.

Given that these nomads only do sheep breeding traditionally, so they don't have enough knowledge and skill for achievement of mentioned programs objectives. Therefore it is necessary that their technical and professional skills should be raised and they should get needed training. It's necessary that the amount of their knowledge about needed contexts should be determined and their educational needs should be measured before the designation and execution of user's training and extension programs. If nomad's educational needs in the context of cow breeding were

measured and prioritized by scientific and documentary method, the authorities and programmers of agriculture extension and training would be able to design their programs carefully and easily using the plan's results and would be able to provide facilities, capital and educational materials timely for execution of these programs. Consequently time, capital and facilities wasting would be prevented and these programs will sooner achieve their goals. Also authorities and researchers can use obtained information in the context of personal, social and economic features of the studied nomads in their decision, programming and next researches. Accordingly by performing another educational needs assessment plan after developing and implementing training programs for studied nomads, it can be understood that how much these program achieve their goals. Vitkin and Altschold (1995) believe that needs review should be performed in three levels, first level is related to service receivers in system such as students, propagator and producers, second level is related to service, education and technology providers and third level is related to resources and facilities such as buildings, equipment's and technology [16]. In many cases we are faced with this situation that people considered existing status as desired status and do not attempt to change it when people are not aware of the favorable situation and what is exist they know as the best, naturally no need would be formed in them. From the viewpoint of an external observer who believes in conceivability of changing the existing status toward desired direction or is aware of the difference between these two situations, these differences and distances are some needs which have not been felt so if these people expose to desired situation, need buds will be formed within them, for example in agricultural extension programs, establishment of specimen farms and provision of background of farmers visit of these farms is a method for conversion not-tangible needs to tangible needs, in fact, it's a mechanism for farmers motivation and awareness towards the problems or deficiencies of the current situation. Thus, one of the agricultural promoters duty is provision of conditions whereby not-tangible needs of farmers reach to the level of tangible needs and they consider a certain value for changing the existing status and achievement of optimal condition in fact mentioned process which the essence of work is development and evolution mainly refers to farmers attitude conversion of farmers and other several methods can be used for its realization in addition to modeling [11]. Dare to be said that most of farmers and villagers need training for performing their duties exactly and at least to raising the level of their work's qualification and quantity. Furthermore numerous numbers of new forces are added to this section annually. In the other hand, as mentioned, increasing progresses in science and technology, changes in production path, evolution in cultural, economic, social objectives reveal the needs to new training [7]. Today one of the main problems in the process of training needs assessment is the lack of unique and clear picture of favorable situation. In many cases, the view of experts and villagers is different from each other it seems that one of the duties of extension training system is determination of favorable situation standards if these standards have been determined, need assessment process would be very easy and far from the view's turbulence and dispersion. So there is an urgent need for preparation of educational standard tests in order to measurement of knowledge, attitude and skills. If standard tests for measurement of this issue which in fact is measurement, analysis and retrieval of information became true in the context of agricultural knowledge you can easily do the needs assessment and any distance from the desired situation can be identified. In fact, a standardized test is "a means for gathering information" and "a base for determination of learners distance from optimal level [11]. The following methods and patterns of training needs assessment were studied: Kaufman inductive pattern, Klein pattern, Delphi technique, Fish Bull technique, Tel Star technique, Kaufman three-dimensional model, Lorigan and Johnson technique, important events technique, job analysis techniques, problems analysis techniques, test and polling techniques.

Considering that the test technique is selected as a basic method for this plan, its description has been written:

Test can be written or oral or practical. If desired person has insufficiency in the context of knowledge, skills or favorable behavior in a particular field, it would be determined by the test [12].

The ideal perspective of extensional polling is a combinatory and comprehensive perspective. This means that firstly it should be paid attention to a variety of needs, and secondly all affected groups from needs assessment should be used. Thirdly, the combination of methods has been used and finally the needs assessment has been done at all levels and based on a comprehensive needs assessment plan. Implementing a comprehensive and combinatory perspective in extensional needs assessment may not be simple and it needs extension system's willing, material and human facilities and adequate welfare [12].

Chizari's research results (2000) about the "Educational needs of semi-migrant nomads of Chaharmahal Bakhtiyari province of Iran regarding the management of goats, sheep and production" show:

1) These nomads need more training in the context of livestock nutrition, livestock shelter and equipments and rangelands management.
2) The low level of literacy, migration patterns and professional learning needs have created some problems for Agricultural Extension and Education Department for provision of required training.

Sarah Padaryamchy's research findings (2004) in dairy cattle of Marand County show that about 77 percent of respondents use artificial insemination method. People's technical knowledge in this context is in a moderate level and their priority of educational needs include respectively: breeding management, health of artificial insemination, identification of cow's estrus and nutrition also there is a significant and positive relationship between ranch's age and background with educational needs of ranchers and there is a significant and negative relationship between the level of literacy and technical knowledge with educational need. Haji Mir Rahimi (2003 [3]) has done a research entitled "Study of training needs of semi-industrial cattle's employees, in Qom province" which its results show that three factors of reproductive management, nutrition management and breeding management are important factors which explain knowledge and skill variance of studied units employees in the context of cattle's issues. Training needs of mentioned people in order of priority are allocated to milking, reproduction, cow breeding, health of cattle unit, diseases of fattened and dairy cows, economic management of cattle unite and nutrition of fattened and dairy cows. Iravani and Ghafari Turan have done a research entitled "Study of educational-extensional needs of Kurdish migrant nomads and Turkoman semi-migrant and their comparison in pastures of Ajayso area, East of Mazandaran" which its results show that the literacy level of both groups is very low and there is a significant difference between the averages of two group's opinions on some studied traits. Also the knowledge of principles of conservation, reclamation, reformation and development of both groups is low. Khazarlo (2003) has done a research under the title of "study of educational and extensional needs of rural women of West Azerbaijan province", and has expressed its results as follows:

There has been a positive and significant relationship between the amount of land and the number of livestock and the level of educational and extensional needs of rural women.

The rate of participation in agricultural activities variable, the rate of participation in related decisions to productive matters variable and ethnicity variable have been effective on the level of educational and extensional needs of rural women.

The variables of household's original job, literacy level of household, rate of participation in related decisions to productive matters of and the rate of contact with promoters have had first priority in the influence on the dependent variable.

MATERIALS AND METHODS

This research has been done with the overall goal of "Determination of educational needs of Arasbaran dam's watershed nomads in the context of cattle breeding" and partial goals of "study of personal, professional and social characteristics of utilizer nomads"," The determination of knowledge and educational needs level of studied nomads in the context of cattle breeding "and" prioritization of educational needs of studied nomads". This research is an applied research because its results will be used in programming of education of Arasbaran dam's watershed nomads and it is descriptive research based on research's objectives and it's a survey research based on the method of data collection. The major mean of gathering information in this research is questionnaire with interview which designed questionnaire includes two parts: the first part is related to personal, professional and social characteristics of utilizers and the other part is related questions to study of educational needs of utilizers in the context of cattle breeding. Independent variables include personal and professional characteristics of utilizers (age, name of winter quarter, literacy, lifestyle, dry farming land, amount of crop production, number of large livestock, number of small livestock, amount of dam's watershed land, background of cattle breeding, rate of usefulness of courses, rate of satisfaction of farming, rate of satisfaction of livestock, rate of satisfaction of lifestyle, their views towards the dam's impact on area) and the dependent variable is the rate of utilizers knowledge (score) in the context of cattle breeding.

For ranking of utilizer's educational needs, a common method which is used in agriculture's educational and extensional needs assessment plans has been used. In this method the rank of educational need is determined based on the rate of issue's importance. In this way, the absolute value of subtraction of "issue's importance" from "rate of

person's knowledge about the issue" is multiplying to "issue's importance" and the obtained number shows the rank of need [3]. The statistical population in this research is utilizer nomads (settlement volunteer) of 12 coastal winter quarters of Arasbaran dam in 2007 which includes 607 households with the population of 3460 people. Note that these nomads are owners of lands in this watershed or the land will be conceded to them and they will change their job activities from sheep breeding and rain fed farming to water farming, gardening and cow breeding.

According to the Cochrane formula 150 samples were selected from 607 people who have been reduced to 120 people using the adjustment formula and simple random technique of sampling was used.

Cronbach's alpha coefficient of designed questions is 0.94 showing that using questionnaire measures with high accuracy.

For determination of questionnaire confidence in this study, relevant experts and researcher's comments have been used.

Significance level of different topics of cattle breeding is determined using the average of relevant expert's comments.

Regarding that the full score of each question in the questionnaire is considered 2, so the level of knowledge is classified as follow:

(Less than 0.5)=low (0.5-1) =downward middle (1-1.5) =upward middle (1.5-2) = good to excellent

Considering that the importance rate of topics is ranked 1 to 5 based on expert's opinion, the lowest priority number is 0 and the maximum number is 25. Priority levels are classified as below:

Weak= (0-5) rather weak= (5.1-10) middle= (10.1-15) high= (15.1-20) very high= (20.1- 25)

By studying the mentioned various definitions in previous sections and by regarding this research's traits and objectives it can be said that the concept of educational need in this plan is "the difference between the desired situation and the existing status." So if we know current and favorable situation and measure the distance between them, we have determined educational needs. After review and study of various patterns and methods which have been provided in the context of educational - extensional needs assessment, given that the objective is measurement of knowledge need and considering the characteristics and circumstances, the key test method was selected for implementation of this plan. This method can be implemented in three form of written, oral and practical which this plan was conducted orally because the tribes have low literacy level. The most important part of our work in this way is provision of standard test which this test is a device for gathering information from existing status and it will show the desired state.

For preparation of standard test, at first job tasks for optimal implementation of desired productive activities were determined by the help of experts and then based on these tasks, the titles of abilities which utilizers educational needs should be measured in the context of them were determined. Finally, relevant experts designed questions in the form of these titles:

The titles of abilities in the context of correct principles of cattle breeding:
A) Health Management (livestock public Health, maternity and deliveries health, milking and udder health, hoof health, nutrition health and health of livestock's purchasing and transferring)
B) Nutrition management (livestock nutrition with a balanced ration of food, feeding, preparation and usage of silage, quality of consumable forage and consumable water conditions)
C) Reproduction and breeding management (improvement of environmental conditions, timely detection of estrus, insemination and reproductive appropriate records)
D) Livestock position management (required buildings and installations, the familiarity with the principles of livestock positions construction and selection of appropriate place for dairy farms)
E) Fattening calves (selection of fattened cattle and starting of fattening, nutrition and feeding and detection of fattening end)

F) Marketing (observance of marketing principles in preparation of inputs, observance of marketing principles in production supply and the knowledge and information of the effective factors on marketing)

RESULTS AND DISCUSSION

Personal, socio-economic and professional characteristics of utilizers

1 - Age: Based on obtained information, the average of respondent's age is 43 years and the largest frequency of people (46%) is within age group of (19-40) years and their lowest frequency (12.5%) is within age group of (61-75) years, the majority of these people are within a age group which is suitable for participation in required training courses to start new productive activities.

2 - Level of literacy: The average literacy level of respondents is tow classes and most frequency of people were illiterate (57%) and lowest frequency of them (1%) have educated only 12 classes. It is necessary that the authorities consider these people's very low literacy level in setting required curriculum.

3 - Lifestyle: 99% of respondents are now immigrants and only 1% of them are inhabitants.

4 - Current job: now 10.5% of respondents are engaged in rain fed farming activities, livestock (small livestock) and other occupations and 89.5% of them are only engaged in livestock activities (small livestock), given that they didn't have any background in cattle breeding, gardening, water farming, so it was anticipated that their level of knowledge is very low in these contexts. The obtained results confirm this anticipation.

5 – The amount of farming dry land and the name of crop: 60.4% of respondents don't have farming dry land and 75% of them do not farming and 25% of them cultivate only wheat and barley.

6 - Livestock: Based on obtained information, only 20% of respondents do not have small livestock. While 96% of them do not have heavy livestock and they have mentioned 14 reasons for lack of maintenance of heavy livestock which the cases of (due to nomadic), (transportation is difficult) or their settlement and the cases of (we don't have features), (Financial problems), (no interest), (not place) are solvable by sharing facilities and features and the case of (we don't have skill), by training courses and the case of (we don't have forage) by being watery of coastal lands are solvable.

Is noteworthy that only 38.5% of respondents are aware that heavy livestock (cattle) is recommended to them rather than small livestock breeding based on regional development programs. This result shows that the authorities have not informed utilizers about regional development programs and necessary information has not been provided to them. Results indicate that people, who are engaged in heavy or light cattle breeding, have gained their knowledge and skills from their experience or family. This result suggests that these people don't have participated in any related training or if they have participated, it had not been useful for them.

7 - Cattle breeding: According to the obtained results 70% of respondents have not yet breed cows and other 28% have a background of 1-50 year in cattle breeding. Also, 61% of them have not ever seen the cattle industry while another 38% have seen it.

8 - Knowledge of the purpose of dam's construction: The obtained results indicate that 83% studied people are informed about the purposes of Arasbaran dam's construction and have mentioned being watery of farming lands, nomad's settlement, nomad's employment in the agricultural.

9 - Participation in educational - extensional programs: The obtained results suggest that only 36% of studied people have participated in various related courses to light and heavy livestock breeding and range management.

10 – Utilizer's activities of interest in water lands: all of the people have interest that work in coastal water lands of dam in three contexts of gardening, water farming, heavy cattle breeding or in two contexts or in one context of them. This result confirms the results of another study (Taghavi, 1994) based on that study, 79.8% of households of Gharaghiye area consider water farming and animal husbandry in the form of combination, 14.6% of them consider water farming and 3.9% of them consider animal husbandry as their household sufficient productive activity. It also suggests that the necessity of the present investigation was very high.

11 – The rate of respondent's satisfactory with job and lifestyle: Based on obtained results, the rate of respondent's satisfaction with livestock job (small livestock by traditional form), rain fed farming and lifestyle (which is nomadic) is low and their satisfaction with other jobs (gardening and livestock purchasing and selling) is good. So that the average rate of respondent's satisfaction that do farming is 3.92% of farming, ranchers of livestock is 3.54%, from other jobs (buying and selling livestock and gardening) is 7.2% and from their lifestyle is 4.13 of 10.

This result also shows the high importance of the present investigation, and suggests that utilizers are fully prepared to changing productive activities and settlement in dam's watershed.

These people have pointed 8 reasons as the cause of dissatisfaction with farming (low benefit, low crop of rain fed farming, low and untimely precipitation and water shortage, farming land shortage, expensive inputs and lack of features) that most of them are solvable by changing dry farming to water farming.

Also ranchers have pointed 16 reasons which 3 cases are related to expensive inputs and low benefit from small cattle breeding, 4 cases are related to lack of forage and pasture and other cases are related to nomadic and summer quarter problems. Most of these issues will be solved by replacement of sheep breeding with cattle breeding.

Also respondents have mentioned low income, low welfare, lack of facilities, high torment of migration, lack of farming land, lack of educational opportunities for children as reasons for dissatisfaction with their lifestyle which these problems will be solved by settlement, sustainable employment creation, increasing of welfare services at the center of settlement, water lands conveyance.

It is noteworthy that this finding is similar to results of mentioned study [2], which based on this study, 88% of studied nomads were settlement volunteer and 10% tend to migration continuation, 2% tend to ranching. While 70% of people, who tend to migration, consider migration continuation depend on provision of life conditions, 16% consider it depend on provision of Income and 10% of them consider it depend on (enough provision of land and pasture).

12- Socio-economic effects of dam's construction in the region:
The review of respondent's view in the context of socio-economic effects of Arasbaran dam's construction in the area shows that these people believe that the construction of this dam will have positive effects on area's development so that based on their opinions, the average effect of this dam on development of farming, animal husbandry, gardening, conversion industries, increasing of income, employment creation, reducing of migration, increasing of family welfare, improvement, environment and lifestyle changing is between 7.96-9.09 to 10.

The level of knowledge:
According to table (1) respondent's knowledge level about different topics of cattle breeding is very low so that the highest level of knowledge was related to "marketing", " nutrition management" and health management, with the average of 0.2847, 0.2837, 0.2781 respectively and the lowest level of knowledge was related to "livestock position management," " calves fattening," "reproduction management", with the average of 0.2005, 0.1753, 0.1155 respectively. The review of standard deviation distribution shows that the difference between the respondent's scores of "Marketing" is more than other subjects. Given that the highest average of knowledge level is also related to this subject.

Table1. Statistical distribution of utilizer's knowledge level in the context of educational subjects

Subjects	Average	Standard deviation	Score
Marketing	0.2847	0.42365	1
Nutrition management	0.2837	0.27368	2
Health management	0.2781	0.24081	3
Livestock position management	0.2005	0.20737	4
Calves fattening	0.1753	0.28266	5
Reproduction management	0.1155	0.21913	6

The rate of importance: According to table (2), from the perspective of experts, the average of importance of some subject such as "marketing", "reproduction management" "calves fattening," "nutrition management", "livestock position management" and "health management" in cattle breeding is 4.39, 4.36, 4.33, 4.18, 5 and 4 from 5 which

they have had the most importance to marketing and the least importance to the health and treatment management, the results of the findings show that the amount of importance which is given to subjects by experts is proportional with the level of utilizer's knowledge in those subjects.

Table2. Statistical distribution of importance score of cattle breeding subjects from the related expert's view

Subjects in the context of cattle breeding	Rating mean of importance	Standard deviation	Final rate
Marketing	4.39	0.69631	1
Reproduction management	4.36	0.90235	2
Calves fattening	4.33	1.02198	3
Nutrition management	4.18	0.66606	4
Livestock position management	4.12	0.58258	5
Health management	4.05	0.88535	6

Educational Needs: Based on the information in Table (3) utilizer's educational needs in the context of cattle breeding subjects was high and in order of preference include, " reproduction management" "marketing", " calves fattening," "nutrition management", " livestock position management "and" health and treatment management ". This result is similar to results of Padar Yamchi's study (2003 [1]) in which educational needs of Marand county's ranchers in order of preference is mentioned "breeding management," "artificial insemination health," "identification of cow's estrus" and "nutrition".

Because it's first three priorities can only be considered as part of "reproduction management" which are the first priorities of this research.

Also this result is similar to the results of Haji Mir Rahimi's research (2003 [3]) in which educational needs of semi-industrial cattle breeding employees of Qom province in order of preference issues are mentioned as milking, reproduction, cattle breeding, cattle units health, and disease of fattened and dairy cows, economic management of cattle unit and nutrition of fattened and dairy cows. But in this research nutrition management has priority rather than health management while it is contrary in Haji Mir Rahimi's research.

Table3.the distribution of related data to prioritization indices of utilizer's educational needs in the context of educational subjects of cattle breeding

Subjects of cattle breeding	Rating average of importance	Level of utilizer's knowledge	Subtraction of "subject's importance" from "utilizer's knowledge" multiplying to "subject's importance"	Priority
Reproduction management	4.36	0.1155	18.6784	1
Marketing	4.39	0.2847	18.0222	2
Calves fattening	4.33	0.1753	17.9896	3
Nutrition management	4.18	0.2837	16.2866	4
Livestock position management	4.12	0.2005	16.1483	5
Health management	4.05	0.2781	15.2761	6

Based on the data of table (4) there isn't correlation between independent variables such as age, education, farming dry land, under cultivation area, amount of crop production, number of small livestock, number of large livestock, amount of dam's coastal land and the background of cattle breeding with a score of cattle breeding. Lack of correlation between dependent and independent variables is affected by this issue which based on previous results the level of all studied people's scores in studied subjects was very low.

Based on these results, utilizer's age and literacy level doesn't affect the amount of their knowledge in different fields. This conclusion about the age is similar to another study (Haji Mir Rahimi, 2003 [3]) in which there wasn't a relationship between the ages of cattle breeding employees with their knowledge in the context of cattle breeding. But based on mentioned research, the literacy level of cattle breeding workers have been effective on their knowledge.

Based on these results, the number of utilizer's livestock does not affect on their level of knowledge. While based on the results of another study (Khazarlo, 2003) there is a positive and significant relationship between the number of livestock and the amount of educational-extensional need of rural women.

Table4. Relationship between independent variables with dependent variable of cattle breeding score

Independent variables	Scale	Correlation coefficient
Age	Relative	0.162
Literacy	Relative	0.044
Farming dry land	Relative	0.124
Under cultivation area	Relative	0.022
Annual rate of production (crop)	Relative	0.238
Numbers of small livestock	Relative	0.09
Numbers of large livestock	Relative	0.157
Amount of dam's coastal land	Relative	0.093
Cattle breeding	Relative	0.141

Review of different levels effect of some independent variables on utilizer's knowledge level

According to Table (5), different levels (winter quarter's name), (the amount of courses usefulness), (satisfaction of farming), (satisfaction of ranching) and (their views towards the effect of dam in area) have not created a significant difference in the amount of their knowledge in cattle breeding. Only the rate of satisfaction with lifestyle has created a significant difference between their knowledge about cattle breeding at level of 0.05.

These results confirm previous results which all people's knowledge level was low in studied subject and there is no difference between their scores.

Table5. The results of variance analysis of different level's effect of some independent variables on dependent variable

Independent	Winter quarter's name		The rate of courses usefulness		The rate of satisfaction with farming		The rate of satisfaction with ranching		The rate of satisfaction with lifestyle		View of dam's effect on area	
Dependent	p	f	p	f	p	f	p	f	p	f	p	f
Score of cattle breeding	0.795	0.576	0.771	0.504	0.102	1.845	0.137	1.575	0.04	2.028*	0.756	0.798

Factor analysis

Factor analysis has been used in order to provision a new classification of studied variables (educational subjects of cow breeding) and provision more accurate analysis of educational program set.

For this purpose, studied variables that are grouped according to the experts view had been entered in factor analysis.

A - Health management: 1 - public health of livestock 2 - health of maternity and childbirth 3 - health of milking and udder 4 health of hoof 5 - health of nutrition 6 - health of purchasing and transferring of livestock

B - Nutrition management: 1 - balanced nutritional ration 2 – consumption of livestock feed 3 - Preparation and usage of store pit 4 – quality of consumable forage 5 – consumable water

C - Reproduction management: 1- improvement of environmental conditions 2 – timely identification of estrus 3 - inoculation 4 - reproduction proper records.

D - livestock position management: 1 - buildings and installations 2 - stations construction principles 3 - appropriate place selection

E – Calves fattening: 1- cattle breeding selection 2 - nutrition and feeding 3 - end of fattening

F – Marketing

Considering that obtained value for KMO is 0.813 and Bartlett value is 1289.57 and is significant at level of 0.01 suggesting that these variables are suitable for factor analysis. 5 factors that their Eigen values were more than 1 are selected and Varimax rotation is used for items simplification and variables which their factor load were more than 0.5 are selected. The first 4 obtained factors explain 62.1% of total variance.

The first factor is improvement of livestock quality and nutrition which includes: variables of milking and udder health, hoof health, nutrition health, livestock purchasing and transferring health, livestock feed consumption, quality of consumable forage, improvement of environmental conditions (improvement of reproduction), timely identification of estrus, fattening livestock selection, fattened livestock feed and nutrition which explains 40.04% of total variance so it's essential that these variables have been considered in educational and extensional programs more than others.

The second factor is management of health and reproduction which includes variables of livestock public health, maternity and deliveries health, water consumable, buildings and installations management, reproduction proper records explains 8.95% of variance, third factor is nutrition and marketing management including variables of balanced feed ration, preparation and usage of silage, principles of stations construction, marketing which explains 6.73% of variance and fourth factor is inoculation and end of fattening variables which explains 5.49% of total variance.

Table6. Distribution of obtained factors characteristic from factor analysis

Factor	Variables	Factor load	Percent of total variance	Nomination
First	Milking and udder health	0.556	40.036	Improvement of livestock and nutrition's quality
	Hoof health	0.577		
	Nutrition health	0.813		
	Livestock purchasing and transferring health	0.75		
	Livestock feed consumption	0.607		
	Quality of consumable forage	0.530		
	Improvement of environmental conditions (improvement of reproduction)	0.778		
	Timely identification of estrous	0.565		
	Fattened livestock selection	0.646		
	Fattened livestock nutrition and feed	0.788		
Second	Livestock public health	0.770	8.950	Health and reproduction management
	Maternity and delivery health	0.670		
	Consumable water	0.691		
	Reproduction proper records	0.606		
	Building and installation management	0.589		
Third	Balanced feed ration	0.511	6.733	Nutrition and marketing management
	Preparation and usage of silage	0.666		
	Stations construction principles	0.754		
	Marketing	0.708		
Fourth	Inoculation	0.905	5.486	
	Fattening end	**0.703**		

Suggestions

According to obtained results the following suggestions are offered:

1 – Educational subjects such as "reproduction management", "marketing", "calves fattening", "nutrition management", "livestock position management" and "health and treatment management" have been considered in order of priority in related educational-extensional programs to cattle breeding.

2 - Considering that based on factor analysis, factor of improvement of livestock and nutrition quality includes milking and udder health, hoof health, nutrition health, livestock purchasing and transferring health, livestock feed consumption, consumable forage quality, improvement of environmental conditions (reproduction improvement), timely identification of estrus, fattened livestock selection, fattened livestock feed and nutrition explains 40.04% of utilizer's knowledge variance about cattle breeding so it's essential that these variables have been more considered in educational-extensional programs.

3 - Considering that there isn't significant difference between the scores of studied inhabitant in winter quarter, planners can provide same training programs for all of winter quarters.

4 - Considering that utilizers have low level of literacy so it's essential that their educational-extensional programs have been developed proportional to their literacy level.

5 - Considering that a small number of utilizers have been trained about cattle breeding and because their scores are very low, it's essential that a comprehensive and complete program has been designed and implemented for their success in these activities.

6 - Given that the studied people have a little knowledge about dams coastal development programs based on recommendation of cultivation pattern and replacement heavy livestock with small livestock so it's essential that planners provide necessary information for their further coordination and participation.

7 - Based on obtained results the following five-year educational-extensional program has been planned and implemented.

Year	Title
First	Reproduction management- marketing management
Second	Marketing management-fattening management
Third	Fattening management- nutrition management
Fourth	Nutrition management-livestock position management
Fifth	livestock position management-health management

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