

Educational Needs of Semimigrant Nomads of Charmahal va Bakhtiari Province, Iran Regarding Sheep and Goat Management and Production

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Abstract

The purpose of this study was to describe the perceptions of semimigrant nomads in Chaharmahal va Bakhtiari Province, Iran with respect to sheep and goat management and production practices. A random sample of 368 semimigrant nomads was selected using stratified random sampling techniques. Data were collected through personal interviews with each selected participant. The highest overall learning needs of participants were animal nutrition, shelter and equipment, and rangeland management. Participants indicated a preference for hands-on programming over other types of delivery methods. Nomads thought winter was the most appropriate season for offering educational programs. Nomads wanted to attend programs in their villages. Low literacy rates, migratory patterns, and specialized learning needs present a special challenge for Extension and the Ministry of Agriculture in regards to developing and delivery needed training.

Introduction

One of the overarching goals of Extension and the Ministry of Agriculture in Iran is self-sufficiency in the production of food and fiber. Iran has limited arable land, compounded by high soil erosion. Its population is growing. It is dependent on rice, wheat, and meat imports. It is also dependent on pesticide and insecticide imports. Recent research conducted to address these problems has focused on planning and needs assessment of various extension partners (Chizari, Lindner, & Karjoyan, 1999); farmers and ranchers role in needs based Extension programming (Chizari, Lindner, & Noorabadi, 2000); systems approaches for developing programs based on needs (Chizari, Lindner, &

Zoghie, 1999); decentralized control of agricultural programs (Chizari, Lindner, & Zoghie, 1999); role of women farmers (Chizari, Lindner, Bashardoost, 1997); and participatory approaches to development and delivery of educational program (Chizari, Karbasioun, & Lindner, 1998). An important component of agricultural systems in Iran that has received little attention are nomadic systems. Nomadic systems in general and nomads in specific have historically been ignored by Extension and the Ministry of Agriculture, perhaps due to the private nature of nomads and limited access to information. Recent institutional concerns over environmental degradation have resulted in increased attention to Iran's nomadic system.

The nomadic system is one of the oldest migratory sheep and goat husbandry techniques.

In nomadic systems, families move with their flocks in constant search of grazing and water. Nomadic systems are used primarily in the cold arid and semi-arid regions of Asia, followed by East Africa. The largest concentration of sheep and goats managed under a migratory system of production are in Asia and in countries located on the range of mountains extending West of the Pamirs to Hindu Kush in Afghanistan. This region extends to the Elburz and Zagros mountains in Iran and to the Taurus and the Black sea range in Turkey. Almost 200 million sheep and goats are located in these regions.

Although nomads make up less than three percent of the population of Iran, they control 30% of the livestock. In Iran, nomads are major providers of meat, wool, and dairy products. Recently, the nomadic system has been associated with poor quality of life issues and environmental degradation (Russell, Emadi, & Bawden, 1992). Further, governmental officials have shown little concern for these issues because few social or economic costs of nomadic systems are borne by the government. That is, it is not a very “squeaky wheel.”

Access to Extension educational programs is obviously limited because of the constant migration of nomadic families. Emadi, Fisher, and Woog (1992) noted that nomadic families desired better access to electricity, water, health services, and social welfare services. Further, these authors noted that nomadic families perceived an increased need for providing additional education to future generations. If Extension is to address these issues and play a larger role in addressing the nomadic population in Iran, more information is needed.

The development and delivery of sound educational programs, based on the learning needs of those responsible for the production and management of food and fiber, is necessary for such programs to be efficient and effective (Chizari, Lindner, & Noorabadi, 2000). Recent

Extension programming has been linked with Iran’s movement towards its goal of self-sufficiency in the production of food and fiber (Chizari, Lindner, & Zoghie, 1999; Chazari, Karbasioun, & Lindner, 1998). These authors have found that building Extension programs around the needs of learners results in greater participation and learning. The research presented here is an extension of these efforts to include populations not previously explored.

Purpose

The purpose of this study was to describe and explore the educational needs of semimigrant nomads with respect to sheep and goat management and production practices in Chaharmahal va Bakhtiari Province, Iran.

Specific objectives of the study were:

1. Describe semimigrant nomads by selected personal characteristics;
2. Describe semimigrant nomads preferred learning needs regarding overall management and production programs, animal nutrition, shelter and equipment, and reproduction;
3. Describe semimigrant nomads’ preference for educational methods and appropriate season and place for programming; and
4. Describe semimigrant nomads preferred source of information with respect to animal husbandry.

Methods

Semimigrant nomads ($N=7,931$ households) in the Charmahal va Bakhtiari Province, Iran were the target population for this study. The Administration of Nomad Affairs of Charmahal va Bakhtiari Province provided a complete up-to-date list of semimigrant nomads in each township to the researchers. The list included the seasonal locations of nomads. Semimigrant nomads ($n= 368$ households) were selected by

stratified random sampling to participate in this study and subsequently interviewed (Krejcie & Morgan 1970).

The research design for this study was a descriptive and correlational survey method. From a review of the literature, the researchers developed a survey instrument to collect data. The survey was divided into four sections. The first section included personal characteristics on the target population. The remaining three sections contained questions related to the study's objectives. Likert-type scales were used to quantify the responses.

Content and face validity were established by a panel of experts consisting of faculty members and graduate students at Tarbiat Modarres University, Tehran, Iran. A pilot study was conducted with 20 semimigrant nomads in the Farson Township a few weeks before the study. Minor changes in wording were made as a result of the pilot study. Questionnaire reliability was estimated by calculating Cronbach's alpha. Reliability for the overall instrument was estimated at .96. Data were collected through personal interviews with the nomads in the field. Appropriate statistical procedures for description frequencies, percents, means and standard deviations were used to summarize the data.

Findings

The following section presents findings by objective.

Objective 1

The first objective was to describe semimigrant nomads by selected personal characteristics. A majority of nomads (55%) were 40 to 60 years old. Forty-nine percent of the respondents were illiterate. Seventy-eight percent of respondents ($n=286$) had no formal education. Twenty percent of respondents ($n=74$) had some elementary education. Approximately two percent of the respondents ($n=8$) had at least a

high school diploma. All respondents were male. Forty-three percent of nomads had six or more children. Nomads had an average of 34 years of experience in total livestock production.

Forty-eight percent of the nomads tended goats. Forty-six percent tended goats and sheep. Six percent tended only sheep. The average number of animals owned was 100. Forty-nine percent of the participants had fewer than 100 animals. Forty-seven had between 100 and 200 animals. Approximately four percent of nomads had more than 200 animals. Additionally, fifty-two percent of nomads used public pastures for their livestock feeding.

Objective 2

The second objective was to describe the preferred learning needs of semimigrant nomads regarding overall management and production programs, animal nutrition, shelter and equipment, and reproduction. Learning needs of nomads for overall livestock management and production practices are presented in Table 1. Using means as indicators, semimigrant nomads perceived the highest level of learning needs were: Animal nutrition ($\underline{M} = 3.6$); Shelter and equipment ($\underline{M} = 3.5$); Rangeland management ($\underline{M} = 3.5$); and Reproduction ($\underline{M} = 3.4$). Lowest perceived level of learning needs were: Animal diseases ($\underline{M} = 3.3$); Vaccination, injections and giving drugs ($\underline{M} = 3.3$); Animal breeding and fattening ($\underline{M} = 3.0$); and Shearing ($\underline{M} = 2.0$).

Learning needs of nomads for with respect to animal nutrition are shown in Table 2. Using means as indicators, semimigrant nomads perceived the highest level of learning needs were: Methods of enriching straws ($\underline{M} = 4.1$); Consumption of enriched straws ($\underline{M} = 4.1$); and Various concentrated feeds ($\underline{M} = 3.9$). Lowest perceived levels of learning needs were: Nutrition value of feed stuffs ($\underline{M} = 3.2$); Preventing mold growth in hay ($\underline{M} = 2.9$); and Nutrition requirements ($\underline{M} = 2.8$).

Table 1

Learning Needs of Nomads for Livestock Management and Production Practices

| Rank | Learning Need | N | M ^a | SD |
|------|--|-----|----------------|-----|
| 1 | Animal Nutrition | 368 | 3.6 | 0.7 |
| 2 | Shelter and equipment | 368 | 3.5 | 0.8 |
| 2 | Rangeland management | 368 | 3.5 | 0.8 |
| 4 | Reproduction | 368 | 3.4 | 0.7 |
| 5 | Animal diseases | 368 | 3.3 | 0.6 |
| 5 | Vaccination, injections and giving drugs | 368 | 3.3 | 0.7 |
| 7 | Animal breeding and fattening | 368 | 3.0 | 0.8 |
| 8 | Shearing | 368 | 2.0 | 0.8 |

Note: ^a1 = very low need, 2 = low need, 3 = average need, 4 = high need, 5 = very high need

Table 2

Learning Needs of Nomads for Animal Nutrition

| Rank | Learning Need | N | M ^a | SD |
|------|---|-----|----------------|-----|
| 1 | Methods of enriching straws | 368 | 4.1 | 0.9 |
| 1 | Consumption of enriched straws | 368 | 4.1 | 0.8 |
| 3 | Various concentrated feeds | 368 | 3.9 | 0.9 |
| 4 | Diet formulation on different stage of growth | 368 | 3.3 | 0.9 |
| 5 | Nutrition value of feed stuffs | 368 | 3.2 | 0.7 |
| 6 | Preventing mold growth in hay | 368 | 2.9 | 1.0 |
| 7 | Nutrition requirements | 368 | 2.8 | 0.8 |

Note: ^a1 = very low need, 2 = low need, 3 = average need, 4 = high need, 5 = very high need

Table 3 shows learning needs of nomads with respect to livestock shelter and equipment. Using means as indicators, semimigrant nomads perceived the highest level of learning needs to be: Various chemicals for use in sanitation of barns ($\underline{M} = 3.8$); Controlling parasites ($\underline{M} = 3.4$); Knowing how to build a dipping vast ($\underline{M} = 3.4$); and Importance of a well lighted and vented barn ($\underline{M} = 3.4$). Lowest perceived levels of learning needs were: Providing a satisfactory sanitation program ($\underline{M} = 3.3$); Safety instructions for spraying barns with chemicals ($\underline{M} = 3.3$); and Appropriate locations for building barns ($\underline{M} = 3.0$).

Table 4 shows learning needs of nomads for with respect to livestock reproduction. Using means as indicators, semimigrant nomads perceived the highest level of learning needs were: Drugs for treating navel cord of newborn ($\underline{M} = 4.0$); Practices for disinfecting the navel cord ($\underline{M} = 3.9$); and Gestation and parturition care ($\underline{M} = 3.4$). Lowest perceived levels of learning needs were: Number of rams and male goats needed to flock ($\underline{M} = 2.8$); and Appropriate age and season for breeding ($\underline{M} = 2.8$).

Table 3

Learning Needs of Nomads for Shelter and Equipment of Livestock

| Rank | Learning Need | N | M ^a | SD |
|------|---|-----|----------------|-----|
| 1 | Various chemicals for use in sanitation of barns | 368 | 3.8 | 0.8 |
| 2 | Controlling parasites | 368 | 3.4 | 0.9 |
| 2 | Knowing how to build a dipping vast | 368 | 3.4 | 0.9 |
| 2 | Importance of a well lighted and vented barn | 368 | 3.4 | 0.8 |
| 5 | Providing a satisfactory sanitation program | 368 | 3.3 | 0.8 |
| 5 | Safety instructions for spraying barns with chemicals | 368 | 3.3 | 1.0 |
| 7 | Appropriate locations for building barns | 368 | 3.0 | 0.8 |

Note: ^a1 = very low need, 2 = low need, 3 = average need, 4 = high need, 5 = very high need

Table 4

Learning Needs of Nomads for Reproduction of Livestock

| Rank | Learning Need | N | M ^a | SD |
|------|---|-----|----------------|-----|
| 1 | Drugs for treating navel cord of newborn | 368 | 4.0 | 0.9 |
| 2 | Practices for disinfecting the navel cord | 368 | 3.9 | 0.9 |
| 2 | Gestation and parturition care | 368 | 3.4 | 0.7 |
| 2 | Feeding during gestation and lactation | 368 | 3.2 | 0.9 |
| 5 | Helping livestock during birth | 368 | 3.1 | 1.0 |
| 5 | Number of rams and male goats needed to flock | 368 | 2.8 | 0.9 |
| 7 | Appropriate age and season for breeding | 368 | 2.8 | 0.9 |

Note: ^a1 = very low need, 2 = low need, 3 = average need, 4 = high need, 5 = very high need

Objective 3

The third objective was to describe semimigrant nomads preference for educational methods and appropriate season and place for programming.

Table 5 shows participants perceptions with respect to education delivery methods. Using means as indicators, semimigrant nomads perceived the following educational delivery methods as most useful: Hands-on experience ($\underline{M} = 4.2$); and Films and slides ($\underline{M} = 3.7$). Least useful educational delivery methods were: Questions and answer meetings ($\underline{M} = 3.5$) and Distance education ($\underline{M} = 1.8$).

As shown in Table 6, most semimigrant nomads thought Winter (61%) was the most appropriate season for offering educational programs.

Spring (3%) was the least appropriate season. Eighty percent of participants indicated that their own village was the most appropriate setting for programming to occur.

Objective 4

Objective four was to describe the preferred source of information with respect to animal husbandry held by semimigrant nomads. It should be noted in Table 7 that the veterinaries and other nomads combined accounted for more than half (57%) of the preferred sources of information. This is in agreement with work of others (Rogers, 1995) pertaining to adoption-diffusion research.

Table 5

Perceptions of Nomads with respect to Educational Delivery Methods

| Rank | Learning Need | N | M ^a | SD |
|------|-------------------------------|-----|----------------|-----|
| 1 | Hand on experience | 368 | 4.2 | 0.9 |
| 2 | Films and slides | 368 | 3.7 | 0.8 |
| 3 | Short term course | 368 | 3.6 | 0.8 |
| 4 | Questions and answer meetings | 368 | 3.5 | 0.7 |
| 5 | Distance education | 368 | 1.8 | 0.8 |

Note: ^a1 = very useless, 2 = useless, 3 = neutral, 4 = useful, 5 = very useful

Table 6

Appropriate Season and Place to Conduct Educational Programs as Perceived by Nomads (N=368)

| | N | Percent |
|--|-----|---------|
| <u>Season</u> | | |
| Winter | 268 | 73 |
| Fall | 55 | 15 |
| Summer | 35 | 9 |
| Spring | 10 | 3 |
| <u>Place</u> | | |
| Village | 295 | 80 |
| Summer quarters | 40 | 11 |
| Administration of nomad affairs office | 32 | 8 |
| Winter quarters | 1 | 1 |

Table 7

Preferred source of information with Respect to Animal Husbandry (N=368)

| Sources of Information | N | Percent |
|--|-----|---------|
| Veterinaries and other nomads | 211 | 57 |
| Veterinaries | 106 | 29 |
| Other sources | 34 | 9 |
| Ministry of Agriculture employees, other nomads | 11 | 3 |
| Extension agents, veterinaries, and other nomads | 6 | 2 |

Conclusions

The findings presented here support those of Chizari, Lindner, Noorabadi (2000), Chizari, Lindner, and Zoghie (1999), and Chizari, Karbasioun, & Lindner (1998) who found that learners wanted a more active role in the planning and implementation of Extension programs. Learners preferred hands on and experiential learning methods over other methods. Nomads thought winter was the most appropriate season for offering education

programs. Nomads wanted to attend programs in their villages.

The highest learning needs of semimigrant nomads for livestock management and production practices were animal nutrition, shelter and equipment, and rangeland management. In respect to learning needs of nomads for animal nutrition, methods of enriching straws, consumption of enriched straws, and various concentrated feeds were shown to be of the highest need. With respect to shelter and equipment, various chemicals for

use in sanitation of barns was shown to be the highest need. With respect to reproduction, drugs for treating navel cord of newborn and practices for disinfecting the navel cord were shown to be the highest need.

The results presented here show that Extension was not perceived as a primary information source with respect to semimigrant nomads' animal husbandry information needs. This is due, perhaps, to inflexibility of Extension programming, and its pedagogical approaches to teaching. The findings of this study should be implemented by Extension when developing and delivering programs to this population. Low literacy rates, migratory patterns, and specialized learning needs, presents a special challenge for Extension and the Ministry of Agriculture in regards to developing and delivery needed training to semimigrant nomads. The results, however, are predictable, progress towards Iran's goal of self-sufficiency in the production of food and fiber.

Educational Importance

The educational importance of this study is focused on two areas: program development and educational needs assessment. The results of this study will help Iran's Extension service develop better programs based on the identified gaps between the needs of nomadic families and Extension's goals and objectives. These results provide Extension with a better understanding of the educational needs of nomadic families with respect to program methods, timing, and location. Of particular interest was the desire of nomads to be more actively involved in Extension education programs . . . towards a participatory approach.

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