

## **The Analysis of Nomads' Production Economics and Their Income (Case of Darzeh, Kahnooj, Kerman Province, Iran)**

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**Abstract:** Economics study is an important necessary factor in nomads' production. This paper studies the production attributes of nomads and related economics in Darzeh, Kahnooj. Data was collected by participatory approach (PRA) using triangulation techniques and then analyzed. The studied area included 18 tribal communities. In each tribal community data collection was done separately using participatory approaches. Stock raising and orchard (date palm) were the main sources of their income. Recently they are threatened by drought and their productivity has been decreased. So working as a labor and seasonal migration has been increased. Also handicraft industry is not common in this society. Totally, employment rate is about 68%. Findings show that although it is considered that stock raising be the main source for nomad's income, the most income of the nomads belongs to working as labor (939000000 Rials, US\$ 93900), horticulture (90750000 Rials, US\$ 9075), stock raising (77680000 Rials, US\$ 7768) and handicraft (25000000 Rials, US\$ 2500), respectively. Per Capita is about 564000 Rials (US\$ 56.4) that is so low. Designing proper strategies for their sedentarisation, programming for agricultural education development in order to increase their farm productivity, paying attention to cultural affairs, bank facilities and organizing nomads in local associations and also designing for building local dams are some of the paper suggestions.

**Key word:** Economy • Nomad • Production • Productivity • Income • Kahnooj

### **INTRODUCTION**

Community of Iran includes three distinct groups: Urban, Rural and Tribal (Nomadic). The percent and geographical distribution of the communities are different in country. These three societies have different economic structures [1-3]. This research paper is going to discuss about economic structure of nomads' community (Case of Kahnooj, Kerman province, Iran) and compares it with rural poverty index. During last 30 years, Iranian policy makers paid especial attention to nomads' development program because:

- Reducing poverty in the society
- Nomads have an important role in farm production cycle.

According to social scientist, nomad community has three specific characters:

- Their economic mainly depends on stock raising especially sheep keeping and livestock are grazed and fed on pasture.
- Their social structure is based on tribal/ clan/ family/ kindred.
- Decamping (twice a year) is a part of their living style. They live in summer-quarters during spring and summer and then transfer to winter-settlement and stay there during autumn and winter.

It is mentioned that there are more than 95 clans (with population of 225860 persons) in Kerman province.

Findings of different researchers show that animal husbandry is the main sources of nomads' income [1-4, 6]. According to Dehghanian and Kohansal [7, 8, 2], about 80% of nomads' revenue belongs to stock raising and Dairy products. Finding of Kafilzadeh and Esmailzadeh [3] confirmed

that economic of nomads' households depends on sheep keeping and dairy cattle keeping. Also they have mentioned that flock structure model of nomads varies in different situation which some of them are not economic.

## MATERIALS AND METHODS

This paper is based on a field research which was done and implemented using participatory rural appraisal (PRA) and triangulation techniques. Studied area was Darzeh area, Kahnooj, Kerman Province, Iran, which included 18 tribal communities (like temporary villages) with 466 households (total population: 2007 persons). According to qualitative and participatory research method, sampling didn't do. So all of the tribal communities were studied and data were separately collected from all of tribal communities using participatory techniques such as semi-structure interview, pair wise matrix, village section, questionnaire with open-ended questions and etc. Collected data were analyzed using statistical methods and qualitative approaches.

## RESULTS AND DISCUSSION

**General finding:** There are 466 households with total population of 2007 persons. So average household population is about 4.3 persons. According to finding, 46% and 21% of population are under 15 and between 16-24 years old, respectively. It means that the society has young structure Table 1. Also sex rate is 108 that mean there are 108 male for each 100 females. More than 70% of population are absolutely illiterate.

Table 1: Demography information

Population (according to age)								
No. of household	Less than 15 years old	Between 16-24 years old	Between 25-64 years old	More than 65 years old	Total	No. of Male	No. of Female	No. of literate
466	928	422	635	22	2007	1044	963	648

Table 2: Animal husbandry structure model (sheep and goat)

	Giving birth	New born kid/lamb	1-2 years old kid/lamb	Ram	Total
Sheep	51	30.6	15.3	3.1	100%
Goat	50.5	30.3	15.7	3.5	100%

**Job and Occupation:** Normally, the main job of the nomads is animal keeping (stock raising) and at the second rank crop production and gardening. But recently due to draught, the quality and quantity of agricultural production have been decreased. Obviously, it has a unfavorable consequence such as: unemployment, poverty, immigration and social difficulties and psychological stress on people especially youth. So job pattern has been shift from animal husbandry and crop production to labor force and fake jobs. According to survey, employment rate, depending burden (the rate of number of unemployment to number of employed persons) and dependency ratio are 685, 2.26 and 1.71, respectively. The community activity rate (the ratio of active actual population to active potential population) was computed about 85.5%.

## Production Economic

**Animal husbandry section (sheep, goat and dairy cattle keeping):** Until about ten years ago sheep keeping, dairy cattle keeping where the main job of nomads in the studied area. But today there are little sheep flock. Now there are totally 35 cows and 4425 sheep and goats and total 4277 animal units. Computing shows that 9.1 and 2.1 animal unit exit per household and per person, respectively, in the event that according to local economic committee at least 190 animal units per household is necessary to have a normal life. It shows a huge gap between desired and present situation.

To analyze the cost and income of animal husbandry section, the sheep keeping structure model should be estimated Table 2. It shows that the existing model is not economic because reproduction rate is low and death rate is high.

Table 3: Products and gross income of a model of sheep keeping and goat keeping per year

Product	Sheep keeping Model				Goat keeping Model			
	Amount of product per head (kg)	No. of Sheep	Unit cost	Total value (Rials/ US\$)	Amount of product per head (kg)	No. of Goat	Unit cost	Total value (Rials/ US\$)
Fresh meat	20.15	15	17000 Rials (US\$ 1.7)	5140000 Rials (US\$ 514)	15.9	17	17000 Rials (US\$ 1.7)	4615000 Rials (US\$ 461.5)
Milk	3	100	2000 Rials (US\$ 0.2)	600000 Rials (US\$ 60)	4.5	100	2000 Rials (US\$ 0.2)	900000 Rials (US\$ 90)
Wool/fuzz	0.4	196	7000 Rials (US\$ 0.7)	549000 Rials (US\$ 54.9)	0.15	198	3500 Rials (US\$ 0.35)	104000 Rials (US\$ 10.4)
Dung	7	196	100 Rials (US\$ 0.01)	137000 Rials (US\$ 13.7)	7	198	100 Rials (US\$ 0.01)	138000 Rials (US\$ 13.8)
Gross income per Model			6426000 Rials	Gross income per Model (US\$ 642.6)				5757000 Rials (US\$ 575.7)

Table 4: Products and gross income of cattle keeping per year

Product	Amount of product per head	No. of cattle	Total products	Unit cost	Total gross income (Rial/ US\$)
Milk (kg)	200	25	5000	1800 Rials (US\$ 0.8)	9000000 Rials (US\$ 900)
Calf (head)	0.5	25	12	1800 Rials (US\$ 0.8)	7200000 Rials (US\$ 7200)
Dung (kg)	2000	25	50000	1800 Rials (US\$ 0.8)	500000 Rials (US\$ 500)
Total gross income					21200000 Rials (US\$ 2120)

Table 5: Cost and income of date palm orchard per year

Product	Cost per ha (Labor, Machinery and etc.)	No. of trees per ha	Amount of product per tree (kg)	Amount of product per ha (kg)	Unit cost	Gross income per ha	Total cultivated orchard (ha)	Total cost	Total gross income	Total net income
Date palm	1050000 Rials (US\$ 105)	150	25	3750	500 Rials (US\$ 0.5)	1875000 Rials (US\$ 187.5)	110	115500000 Rials (US\$ 11550)	2062500800 Rials (US\$ 20625)	907500000 Rials (US\$ 9075)

Table 6: Sources of nomads' income

	Stock raising	Horticulture	Handicraft	Working as Labor	Total income	Population	Per capita per year
Rial	77680000	90750000	25000000	939000000	1132430000	2007	564000
US\$	7768	9075	2500	93900	113243		
%	6.9	8	2.2	82.9	100	-	-

The main sheep and goats products are: fresh meat, dairy product, wool, fuzz and dung Table 3. The main sheep and goat cost include feeding, labor, stable, veterinary services and medical drug.

According to economic calculation, the total gross income and cost of sheep and goat keeping are 148139700 Rials (US\$ 14813.97) and 79409700 Rials (US\$ 7940.97), respectively. So total net income per year in the studied area is about 68730000 Rials (US\$ 6873). Considering the number of household, the average net income of sheep and goat keeping per household per year is 147490 Rials (US\$ 14.749) that is very low amount.

Also the total gross income Table- 4, total cost and total net income of dairy cattle keeping in the studied area per year are about 21200000, 12250000 and 8950000

Rials (US\$ 2120, 1225 and 895). So total net income of stock rising is estimated about 7768 US\$ (6873+895) per year.

**Horticulture and crop section:** This area include 380 ha cultivatable land which 270 ha and 110 ha are crop farms and orchards, respectively. None of 270 ha crop farm is cultivated due to drought since 10 years ago. So cultivation includes just 110 ha which is only date palm orchards (While until some years ago, orchards included different varieties of citrus and date palm) As shown in Table 5.

According to economic analysis of collected data, the total gross income, cost and net income per year in horticulture section are 206250000, 115500000 and 90750000 Rials (US\$ 20625, 11550 and 9075), respectively.

It is mentioned that the main cost included labor and machinery (No chemical pesticides and fertilizers are used at all).

**Handicrafts:** Although until some years ago one of income sources of people was handicraft products (such as: different kinds of carpet and straw mat made of date palm leaf), unfortunately nowadays it is not in the good situation. The only handicraft that is made is straw mat which is marketed in local and regional market (not in national market). Totally the net income of handicrafts per year is about 25000000 Rials (US\$ 2500).

**Labor section:** Considering the problem of drought, some farmers and shepherds have immigrated to work as a labor. Many of them are less literate, without technical experiences and with no capital for investing. It is clear that some social difficulties are its sequences. Their immigration is mainly seasonal. Totally 313 persons work as seasonal labor that their total income are 939000000 Rials (US\$ 93900) per year.

## CONCLUSION AND RECOMMENDATIONS

According to results, working as labor (82.9%), horticulture (8%), stock raising (6.9%) and handicraft (2.2%) are the sources of nomads' income Table 3.

Findings Table-6 show that raising livestock is not in a good situation and opposite to philosophy of nomads living style -that is productive use of pasture and green natural resources-, nomads have shifted from product jobs to working as labor.

Findings alert policy makers to pay more attention to job-shifting and its social consequences such as: unemployment, immigration, unbalanced structure of community and poverty. Meanwhile per capita income per year is too low and a lot of population in studied area are under absolute poverty line. Existing data show that calculated per capita is one-sixth of normal cost of nomads in another area.

Considering the results, following recommendations are presented:

- Designing proper strategies for decamping and settlement of nomads in order to increase their productivity and sequentially increasing their economic income. Surely, participation of nomads is a key factor in this process.
- Building watershed structures and local dams for supplying their water resources.

- Training farmers and stock farmers in order to equip them with technical knowledge.
- Paying attention to form and organize local associations and co-operations as NGOs for managing production cycle and economic structure.
- Implementing and paying attention to cultural programs for productive use of water.
- Coordinating related governmental organizations for rural development and designing comprehensive development program in nomad area.
- Designing proper strategies for proper use of bank facilities in order to increase quality and quantity of farm products [1-9].

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