

Socio-Economic Characteristics of Agro Pastoralist communities in the Upland Balochistan, Pakistan: Implications for policy action

Social sciences

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Abstract

The main aim of this study was to give an overview of agro pastoralist's socio-economic conditions in the upland Balochistan province of Pakistan. A sample of 200 agro pastoralists were surveyed from may 2011 to December, 2012. Simple random sampling was used to select the respondents. Primary data were collected through structured questionnaire and Focus group discussions. Descriptive statistics and priority index (PI) were used for the analysis of data. Results showed that large family sizes exist in the area with almost nine persons per family. Majority of the surveyed population was illiterate. Results also revealed that only male population in the area was engaged in agricultural activities, whereas majority of the females served as housewives due to religious and cultural norms of the society. Not a single agro pastoralist had access to any formal agricultural credit source. The study therefore, suggests that both governmental and non-governmental organizations should provide adequate amenities to improve the livelihoods of the poor farmers.

Key words: Agro pastoralists, Pakistan, Pishin sub-basin, Socio-economics

Introduction

Pakistan is an agricultural country. Besides cultivated lands, there are rangelands which are used by pastoralists or agro-pastoralists for livestock rearing. Although the Afghan nomads can be considered as pure pastoralists, there are no pure pastoralists in Balochistan. The people in Balochistan, once pure pastoralist have now been changed to agro pastoralist system (Saleem, 1998). Knowledge about the social and economic attributes and agricultural production of the rural communities is imperative for devising policies for socio-economic uplift of the poor. This is because a healthy and sustainable socio-economic condition guarantees improved living standards. It also helps communities better understand the environment they are living in and apply those practices that assists them in better management of available natural resources. Agro pastoralists are the major stakeholders in land related issues. Their socio-economic conditions have a great impact on agricultural production and adoption of improved land management methods. The variables for instance size of a family, information of their schooling and livelihood, land tenure insecurity, agricultural land use, yield, cropping system, rearing domestic animals, livelihood sources, costs and access to credit may serve as important indicators for their socio-economic development (Qasim et al., 2011). Researchers have studied the socio-economic characteristics of pastoralists (Patel et al., 2012, Jasra et al., 2001), dairy farmers (Shinde, 2011), paddy farmers (Alam et al., 2011) and shrimp farmers (Lekshmi et al., 2005). Singh (2003) have also studied the socio-economics of the farmers and animal feed sources. This study tried to find out the socio-economic characteristics of the agro-pastoralists in the Upland Balochistan province of Pakistan. The results of this study are considered to bear important policy implications for the agro pastoralists in Pishin sub-basin, Pakistan.

Research Methodology

The research area consisted of Pishin, Quetta and Killa Abdullah districts. The total population of the area was 471,316. The Yamane equation (1967) was preferred for sample size calculation. The equation proposed a sample size of 200 with 95% confidence level. Due to homogenous nature of population, Simple random method was used for selecting the respondents. The survey was conducted from May 2011 to December, 2012. A structured questionnaire was used to collect the primary data. Focus groups were also interviewed to know about the problems faced by the respondents. The female respondents were not surveyed due to the cultural norms or parda system. The data were then entered in to SPSS software, version 16 for analysis. The questionnaires were filled by the research team of three

students of Geography students. Focus groups were then performed by the first author of this paper. The focus group included eight to nine persons. Descriptive statistics and PI were used for the analysis of data. Although female were not allowed to participate in the interview, but the information about their number, age and occupation was given by the male respondents.

Results and discussions

Family size

The family size in the area was 9 individuals in a single family. The lowest and highest numbers being 5 and 14 for the family size, suggested that the family size should be arranged in to three groups of small (1-5), medium (6-10) and large (11-15). A large preponderance of the agro pastoralists (77%) belonged to the medium category. However, the large and small category of the households had 18 and 5% of the households, respectively.

Age composition of the respondents

Results showed that out of the surveyed population, a large preponderance of the respondents (nearly 58%) fall in the young age group (15-50 years). Almost 27% of the respondents fall in the 0-14 and about 15% to the 50 plus age groups. The economically active households (15-50 years age groups) were more than 50%. In the male respondents, 23.7%, 61.8% and 14.5% of the respondents fall in the 0-14, 15-50 and 50 plus age groups, correspondingly. Out of the female surveyed households, 32.8%, 51.7% and 15.4% of households belonged to the 0-14, 15-50 and 50 plus age groups correspondingly. Sex ratio of male and female was 1.4 males to 1 female, correspondingly. This shows that the number of female were less as compared to male members.

Educational achievements

Table 1 show that majority of the surveyed population (> 75%) were uneducated. However, female proportion in the uneducated class was found much higher (almost 91%) than male (nearly 63%).

Table 1: Educational status of the respondents

Educational qualification	Male members	Female members	Total
	Percent		
Uneducated	63.43	91.28	75.06
Primary	6.83	5.77	6.39
Secondary	25.99	1.74	15.86
Higher education	3.75	1.21	2.69
Total	100.0	100.0	100.0

Note: Kids below 5 years of age are excluded. Source: Primary data collected through field survey

Nearly 6% of the total population had achieved primary level education. The gender wise status in primary education shows 5.8% male and 6.3% female. Overall 16% respondents reported about completion of secondary level education. The gender proportion shows that female percentage in secondary education was very low as compared to male. This may be due to the fact that adult female get less opportunities of education than male. Very few respondents were reported to have achieved higher education. Here also, the male outnumbered female in higher studies. The low ratio in the higher education level is because of dropout of students at secondary schools. The students after quitting education engage themselves in other activities in agricultural, trade or any other profession.

Employment

Fewer female of the area were found either students or employed and a large majority worked as housewives. This is because about 2% of the females were employed in schools as teachers and some as lady health visitors. Out of the whole female respondents, only 10% of female were found students and majority (85%) of female worked as housewives. The housewives work inside their home. They cook meals, take care of children and embroidery work. In case of males, almost 85% work in fields and graze animals. 4.7% male were working as wage labourers. Only 3.7% were in government jobs, 4.9% were students and nearly one percent had their own business (Figure 1). The reasons for the lesser male in student category as compared to female are because their drop out ratio is much higher before or after completion of secondary schools.

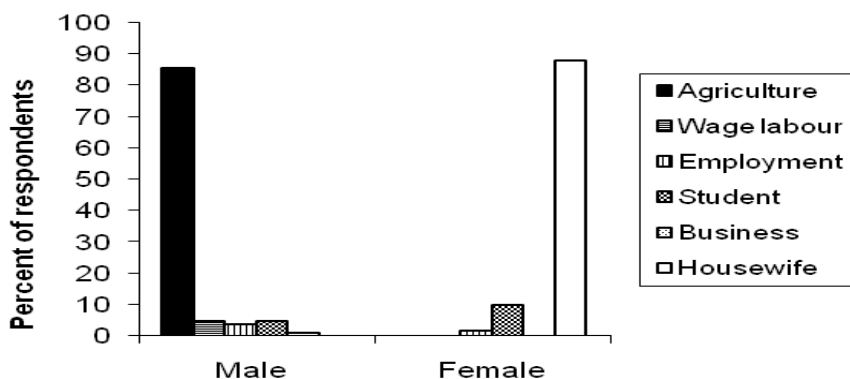


Figure 1: Gender wise employment in the area

Major earning means

Table 2 shows that the respondents were inquired to prioritize their earning means. Formula given by Miah (1993) was chosen to come up with the priority index for the income sources. Results showed that agriculture is the main source of income of the respondents. Business, wages, employment and selling of livestock were ranked 2nd, 3rd, 4th and 5th, correspondingly. So we conclude that agriculture and livestock rearing were the main economic activities of the area. Here in this paper, we refer agriculture to growing of vegetables, fruits and crops.

Computation of $PI = \sum Sifi/N$

In the above equation, I = PI whose value can be $0 \leq I \leq 1$

S_i = Value at the ith priority

f_i = Frequency of ith priority

N = Number of observation

Table 2: Income sources of the respondents

Perceived Priority for income	Agriculture	Selling livestock	Employment	Wages	Business
	Frequency				
Most important	189	13	10	18	5
Very important	-	136	25	16	4
Important	-	-	-	-	-
Least important	-	-	-	-	-
Not important	-	-	-	-	-
Total	189	149	35	34	9
Priority Index (PI)	1.00	0.77	0.82	0.88	0.89
Rank order	1 st	5 th	4 th	3 rd	2 nd

Note: To compute PI for the income, 1.0 value was allocated to most important, 0.75 to the very important, 0.50 to important, 0.25 to least and 0.0 to the not important.

The higher profit received by the households was from fruits. Results showed that fruits and domestic animal sale gave higher financial returns to the respondents. Considerable money was also earned through wages and employment. The respondents reported that they earn less money from crops (wheat, maize and barley) which were also used by the respondents for their own family (Table 3).

Table 3: Means of earnings for agro pastoralists

Earning sources	Amount (Rupee)	
	Average	Standard deviation
Fruit	2,017,618.0	1,932,328.2
Vegetable	16,710.0	46,809.7
Domestic animal selling	44,410.0	35,315.4
Small Business	15,900.0	79,180.4
Employment	30,750.0	32,484.0
Wages	32,484.0	77,533.3
Cereals	500.0	7,071.1

Source: Primary data collected through field survey

Expenses

Transporting the agricultural commodities to the market was considered as more expensive than other expenditures (Table 4). The reason for this may be due to carrying fruits to the markets in other provinces of the country that needs higher amounts of money. Labour was needed to harvest, clean, pack and load the crops. Therefore, a good amount was spent on hiring labour as well. The use of pesticides, irrigation, fertilizers and tractors was also expensive. The reason for this may be that the orchards and vegetables are sprayed with pesticides, irrigated through electric tube wells, and are applied with fertilizers and preparation of land through tractors for increasing yield. The money spent on buying seeds, farm equipments and feed for domestic animals was less due to low priority attached by the agro pastoralists to them (Table 4).

Table 4: Expenses of agro pastoralists for different activities

Expenses	Expenses (Pakistani Rupees)	
	Average	St. Deviation
Transportation	545,410.0	620,591.7
Labourers	260,380.0	22,1076.0
Pesticides	133,110.0	154,068.9
Irrigation	74,580.0	55,446.5
Fertilizer	73,760.0	94,792.6
Ploughing (Tractors)	30,196.0	21,682.6
Feed for animals	13,094.0	2,312.0
Farm equipments	2,312.0	1,710.5
Seeds/seedlings	908.0	3,154.1

Source: Primary data collected through field survey

Raising livestock

Livestock rearing was common and the small ruminants were preferred by the agro pastoralists. These livestock were mostly grazed by the young members of the families. Some of the surveyed people also reported that they hire the Afghan refugees for grazing their livestock. This is because

bulk of the households (80%) were observed raising livestock. Due to easy access to unrestricted rangelands, small ruminants were grazed by the people. The ruminants were mainly reared for milk and cash income in needy times. Results indicate that Sheep and Goats were proffered by the pastoralists than other livestock types.

Credit: Sources and accessibility

Only 37.5% respondents had access to credit. A large preponderance of the respondents had no means of getting credits. The agro pastoralists were incapable of applying conservation measures for their dealing with animal diseases and also on conservation methods on their farmlands. We also tried to know if there is any difference in access to credit by land holding size. With the minimum holding of 2 acres and maximum reaching 300 acres, we organized the land holding data (in acres) in to 5 classes. These classes included marginal (0-25), small (26-50), medium (51-75), large (76-150) and very large (151-300) categories. The credit access by farm classes revealed that the marginal and small farm classes had more access to credits than other farm classes (Table 5). The reason may be that the agro pastoralists with minimum agricultural land were more eager to increase the crop yield to meet their food needs. Though, this was not supported statistically because the chi-square test.

Table 5: Credit access by land holding classes

Holdings	Respondents with	Respondents with	Total
	access to credit	no access to credit	
	Percent households		
Marginal	32.0 (24)	44.8 (56)	40.0 (80)
Small	33.3 (25)	29.6 (37)	31.0 (62)
Medium	14.7 (11)	8.8 (11)	11.0 (22)
Large	17.3 (13)	14.4 (18)	15.5 (31)
V. Large	2.7 (2)	2.4 (3)	2.5 (5)
Total	100.0 (75)	100.0 (125)	100.0 (200)
Chi test Sig. Level	0.424		

Note: Numbers of observation are shown in parentheses.

The agro pastoralists reported that they were not provided credits by the government banks. They received credits from neighbors and relatives. No collaterals and interest were needed for taking credits from their relatives and neighbors. This indicates a very sound system of social capital. The respondents reported that they were unable to get credits due to unavailability of collaterals needed by the banks.

Sources of farm power

Mechanical (tractors) and Humans were used as power for land preparation and other activities. Weeding and crops harvesting were mainly achieved through human labour. But tillage and land preparation was achieved through both human labour and mechanical power (Table 6). Pesticides application was also done through humans and tractors. Out of the surveyed respondents, not a single agro pastoralist had reported about the use of animal for agricultural activities. This may be because bulk of the livestock found in the area were in the form of small ruminants and cattle were only reared for milk and meat production.

Table 6: Power used for agricultural activities

Power type used in agricultural activities	Activity		
	Tillage and preparation of land for cultivation	Harvesting	Pesticides
	Percent respondents		
Human	50.3	100.0	42.1
Mechanical (Tractor)	49.7	–	57.9
Total	100.0	100.0	100.0

Source: Primary data collected through field survey

Conclusions and recommendations

Large size families were noticed in the area due to predominance of joint family system. Bulk of the agro pastoralists in the area was uneducated. Female of the area were not given proper attention in education sector. Farming and animal rearing were the main activities of the male in the area. Major part of the agro pastoralist's income was used for transporting agricultural commodities to the far away markets in the country. A large preponderance of them reported ownership of their lands. The farmers were not provided any support in the form of agricultural credits by the government and NGOs. Human as well as mechanical power was used in almost equal proportion for agricultural activities. The substandard living style of the people calls for governmental as well as non-governmental organizations to help improve the living standards of the poor agro pastoralist communities in the area. The government should also focus on provisions of education, agricultural credit and extension services to these people in the area. This may boost the agricultural and meat production in the country.

Acknowledgement

This article is a part of the PhD dissertation of the first author. The author is thankful to Mr. Zia-ul-haque, Lecturer in the Government Science College, Quetta, for his support during the data collection period.

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