



Analysis of gender participation level in agricultural extension and livestock Management: A case study of district Mastung, Balochistan, Pakistan.

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Abstract

The study aims to analysis of gender participation level in agricultural extension and livestock management: a case study of district Mastung, Balochistan. The study was based on primary data collected. District Mastung was purposively selected due to the enormous orchard loops, and potential area for agriculture production and as universe with its two tehsils i.e. Dasht and Khad Kucha. A cross sectional survey design and multistage random sampling process was employed to approach the respondents and collect data. The sample size for both populations was determined by using Wunsch (1986), Fitzgibbon and Morris (1987) table of "selecting sample sizes" at the 0.05% possible error rate. Finding revealed that more than half (57.7 %) respondent's fall in the age categories 31 to 40 years. More than half (55.4%) of the female respondents had age between 31 to 40 years. Sizable majority (54.6%-77.7%) of the male and female respondents were illiterate respectively. Significance differences were observed 6 out of 10 categories regarding participation of agriculture extension and livestock management at ($p \leq 0.05$). Neighboring farmers and mobile phones was the most efficient source of information as identified by male and female respondents respectively. It is suggested training centers for capacity building should be run-up for both (male as well female) respondents regarding agricultural extension activities and livestock management. Gender discrimination need to be eliminated at gross root level.

Keywords: Agricultural Extension, Balochistan, Gender, Livestock, Mastung, Participation.

Introduction

Agriculture regarded as life-line and energetic segment of Balochistan economy, which constitute in excess of 52% of the provincial GDP, and contributes more than 40% of the labor forces. Overwhelming majority of the rural people (their livelihood and socio-economic conditions) have been directly and indirectly revolved

around the agriculture and livestock sectors. However, in this regard the agricultural sector and agricultural crops contribute about three-fifths of Balochistan's agriculture value-added. As a consequence, crop production/yield was crucial to levitation rural incomes and reducing poverty at a greater extent (World Bank, n.d.).

Balochistan is a water sporadic province of Pakistan and is recognized as the 'fruit basket' of Pakistan because of (low and high delta) production high quality fruit, which are the major sources of income of the province farmers. It is almost covered around one-half (approximately 43%) of the land area of the country, but accounts for just 5% total population of the country. Balochistan is rich in minerals and its eastern districts account for a large part of the natural gas output of Pakistan. Balochistan province is extensively acknowledged deprived and water rarity province of Pakistan. In Balochistan context, the economic development faces austere challenges in terms of water scarcity, pathetic human resource development, worse human index, poorer physical infrastructure, immoral social indicators, obstinate/prolongs drought, remoteness, and under-developed communication pattern. The bulky role of women in agriculture and livestock sectors, such as weeding, picking, firewood collection, harvesting, stall feeding, watering, milking, animal health care, shed cleaning, making dung cakes, making lassi, yoghurt, butter, ghee, and other dairy products however, this task involves a substantial amount of time and physical exertion (Vinning, 2007). Risk-prone nature of rural women is completely ignored by government (Whiteside, 1998). The use of technology is obliging in reducing the assignment on rural women and proves helpful in improving her state of drudgery (Harding, 2000).

Problem statement:

Rural women are perceived as unseen farmers working in the field of agriculture. Of late, rural women have promptly exercised their abilities in all fields such as administration, economy, manufacturing, livestock, agriculture and the like (UNIFEM, 2000). Rural women appearance as several difficulties such as decision-making power, husbands' negative attitude, harassment, customary norms, unsupportive behavior of family and friends, lack of transportation, however, in this concern women are prone to gender violence (Tagwireyi, 1997; JICA, 1999; Gender Watch, 2001 and Mudukuti, 2003). Men and women play their roles in agriculture, livestock, crop production and other field operations, but all the agricultural extension activities and efforts are inclined towards the men farmers rather than women (Dunn, 1995) in this connection, just about 5% of extension services are directed to women farmers (FAO, 1993). In broad perspective, entirely the extension activities are rendered by men rather than women and, in this

regard, the perceptions are developed that only males are regarded as farmers (Okorley *et al.*, 2004). By dint of economic enslavement, vulnerability, social taboo, women had no authority in decision-making in domestic particularly in the agriculture field (Meng, 1998). Women regarded as oppressed strata of the society and had lacking in value, norms, myths, decision-making process, unequal access to control over resources, lack of social services, poor access to extension/ marketing facilities; gender violence (including verbal, physical and economic etc.) (Mashkoor, 1995; Rangnekar, 1998; Barton & Nazombe, 2000; Whitehead & Tsikata, 2001 and OECD, 2002). Opportunities to engage and access women directly in agricultural activities are restricted, predominantly in the conservative culture, social fabric and tribal-based society of Balochistan. Likewise the other provinces of Pakistan the agricultural extension services are responsible to improve the process of agricultural development to meet the food needs of swiftly growing population. However, regrettably socio-economic and livelihood conditions of the farming community not yet improved. Which showed that the practically role of womenfolk are invisible and hidden in agricultural extension activities. As a result, the current roles of women in extension activities and control over resources are limited and denied. For that reason, keeping in view the above said mentioned facts, figures and ground realities the present study had been developed in order to analysis of gender participation level in agricultural extension and livestock management special references in district Mastung, Balochistan province.

It is visualized that the outcomes the present research based on gender study would be obliging and fruitful in encompassing womenfolk in agricultural extension activities and by this means identifying the obstacles and issue of gender equality in extension services. Strategies will be implemented to ensure that gender issues are addressed so as to giving support to women in existing roles in the field of agriculture as well as encourage than in equality, social participation and decision-making process (Geisler, *et al.*, 1999).

Objectives:

The general objective of the present research study was to analysis of gender participation level in agricultural extension and livestock management especially female participation in agricultural extension services along with performing various farming activities: A gender-based study in district Mastung, Balochistan Pakistan.

1. To find out the demographic attributions of the respondents.
2. To evaluate the participation level of respondents in agricultural extension activities and livestock management in the study area.
3. To determine the sources of information of as perceived by respondents related agricultural extension activities and livestock management.
4. To propose measures for policy guidelines and implications for improving capabilities of respondents regarding agricultural extension services and livestock management.

Materials and Methods

The present research was purposed to identify the respondent's participations level in agriculture extension and livestock management activities. This study was conducted in the district Mastung Balochistan province. Rural area of district Mastung was purposively selected due to the enormous orchard loops, and potential area for agriculture production and as universe with its two tehsils i.e. Dasht and Khad Kucha. A cross sectional survey design and multistage random sampling process was employed to approach the respondents and collect raw data (information). From selected tehsils, five villages were selected randomly and from 5 villages 20 male and female respondents of each village were further selected. In addition, the selected farm families were selected as respondents (100 male and 100 female respondents) was cross-examined, thereby making a sample of 200 respondents. The sample size for both populations was determined by using Wunsch (1986), Fitzgibbon and Morris (1987) table of "selecting sample sizes" at the 0.05% possible error rate. The research instrument constructs were tested for its validity and reliability. However, reliability coefficients ranged from .70 to .81, demonstrating that the interval reliability of the instrument was first-rate Nunnally (1978). Due to the social constraints and tribal-based province for female respondents, a female

enumerator was hired. The data were collected with the help of a comprehensive and validated interview schedule. The collected data were analyzed by using Statistical Package for Social Sciences IBM-(SPSS®) version 19 and Microsoft Excel in order to draw results, conclusions and present recommendations accordingly. Moreover, data were analyzed by calculating simple frequencies, percentages, mean scores, standard deviation, standard error differences, paired t-test and rank order (Eck and Torres, 1996). The essentials requirement of the respondents in different areas such as agricultural extension activities and livestock production and its management were measured through the help of five point Likert scale i.e. (1=strongly disagree, 2=disagree, 3= undecided, 4= agree, and 5= strongly agree).

Results and Discussion

Selected socio-economic profile of the respondents: The socio-economic characteristics are very significant to contribute firsthand information about the existing phenomena, social set up, social interaction and educational level of the community. In the present study two characteristics age composition and educational level were selected. Age composition and factor is very central among several socio-economic characteristics of an individual as it influences one's behavior, rapid the rate of adoption process and widens the vision of an individual through experience. Age of respondents makes him mentally mature and able to take action about decision making process. The data about age composition depict that more than half (57.7 %) of the male respondents fall in the age categories 31 to 40 years. Followed by most (23.1%) of the male respondents belonged to 41 to 50 years. While more than half (55.4%) of the female respondents having age between 31 to 40 years, whereas most (25.4%) of the female respondents had 41 to 50 years as shown in **Table-1**.

Table-1: Distribution of EFS according to demographic characteristics (n=200)

Demographic characteristics	Male Respondents			Female Respondents		
	<i>Age composition</i>	<i>F</i>	<i>%age</i>	<i>Age composition</i>	<i>F</i>	<i>%age</i>
	18 to 30	14	10.8	18 to 30	20	15.4
	31 to 40	75	57.7	31 to 40	72	55.4
	41 to 50	30	23.1	41 to 50	33	25.4
	51 and above	11	8.5	51 and above	5	3.8
	Total	130	100.0	Total	130	100.0
	<i>Educational Level</i>	<i>F</i>	<i>%age</i>	<i>Educational Level</i>	<i>F</i>	<i>%age</i>
	Illiterate	71	54.6	Illiterate	101	77.7
	Matriculation	35	26.9	Matriculation	25	19.2
	Intermediate	13	10.0	Intermediate	3	2.3
	Bachelor	7	5.4	Bachelor	1	.8
	Master	4	3.1	Master	---	---
	Total	130	100.0	Total	130	100.0

Another imperative independent variable and factor is educational level of the respondents: The other important demographic factor is education. In this regard, the capacity building of respondents had enhanced through educational activities, which influence the adoption power of the respondents (Cho and Boland, 2003). However, in Balochistan province prospect particular, women faced myriad numbers of impediment in development process due to their low educational level. The findings about educational level of the male respondents were revealed that more than half (54.6%) of male respondents was illiterate. Followed by (26.9%) of male respondents who were acquired matriculation level of education. Among the literates, trivial numbers (5.4%) of male respondents were achieved up to bachelor. On the other, hand vast majority (77.7%) of female respondents were illiterate. Whereas number most (9.2%) of the female respondents had educational level up to matric, and only (2.3%) of the female respondents having intermediate degree. These findings indicate that lack of education among women farmers blocked their participation in agricultural extension activities. Overwhelming majority of the women is under privileged and neglected of scholastic learning ability despite of their great involvement in agricultural and livestock production.

The rank order was given on the basis of mean scores so as to observe the relative ranking of each category regarding effectiveness and level of participations of agriculture extension activities and livestock management. The respondents were enquired to give their perceptions and visions regarding level of participation as perceived respondents on five point

Likert scale was used where 1 stands for “strongly disagree”, 2 for “disagree”, 3 stands for “undecided”, 4 for “agree”, and 5 stands for “strongly agree”. Paired t-test was used to test for any statistically significant differences on statements related to various possible variables concerning to the participation level of intended beneficiaries as shown in **Table-2**. Results illustration that all the sixteen variables examine in present research was perceived by the respondents as being important. Farm visit (m=3.61 “Male respondents”, m=3.03 “Female respondents”), home visit (m=3.15 “Male respondents”, m=3.82 “Female respondents”), group discussion (m=3.02 “Male respondents”, m=3.22 “Female respondents”), marketing (m=2.48 “Male respondents”, m=3.35 “Female respondents”), water management (m=3.51 “Male respondents”, m=3.35 “Female respondents”), crop production (m=3.16 “Male respondents”, m=3.02 “Female respondents”) and Farmer Field Schools (FFSs) (m=3.77 “Male respondents”, m=2.92 “Female respondents”) were highly significant difference at the ($p \leq 0.05$). While field day (m=2.97 “Male respondents”, m=3.61 “Female respondents”), agronomic practices (m=3.05 “Male respondents”, m=2.98 “Female respondents”) and animal production (m=2.64 “Male respondents”, m=3.24 “Female respondents”) was significant at confidence level ($p \leq 0.05$). However, demonstration plot (m=2.95 “Male respondents”, m=2.37 “Female respondents”), plant protection measures (m=3.53 “Male respondents”, m=3.48 “Female respondents”), crop protection (m=2.91 “Male respondents”, m=3.85 “Female respondents”), transplanting (m=3.49 “Male respondents”, m=3.36 “Female respondents”), animal protection (m=3.00 “Male respondents”, m=4.11

“Female respondents”) and livestock (m=2.31 “Male respondents”, m=3.22 “Female respondents”) were non-significant ($p \leq 0.05$).

Table -2: Respondents perceptions regarding participation of agriculture extension and Livestock management (n=200)

Variables description	Male Respondents (n=65)			Female Respondents(n=65)			Std. Error Diff.	t-value	Sig**
	Mean	SD	RO	Mean	SD	RO			
Farm visit	3.61	1.191	2	3.03	1.099	10	.111	5.209	.000**
Home visit	3.15	1.135	7	3.82	.876	3	.096	-7.054	.000**
Demo plot	2.95	1.160	12	2.37	1.189	13	.134	4.360	.082 ^{NA}
Group discussion	3.02	1.151	9	3.22	1.161	9	.112	-1.710	.000**
Field day	2.97	1.174	11	3.61	.952	4	.119	-5.359	.025*
Agronomic Pra:	3.05	1.092	8	2.98	1.158		.120	5.78	.002*
Marketing	2.48	1.051	15	3.35	1.105	7	.108	-8.024	.000**
Water management	3.51	1.036	4	3.35	1.091	7	.108	1.496	.000**
PPMs	3.53	1.091	3	3.48	1.013	5	.121	.444	.921 ^{NA}
Crop production	3.16	1.193	6	3.02	1.306	11	.186	.786	.000**
Crop protection	2.91	1.096	13	3.85	.910	2	.129	-7.295	.491 ^{NA}
FFSs	3.77	.867	1	2.92	2.062	12	.216	3.926	.000**
Transplanting	3.49	.998	5	3.36	1.042	6	.131	1.000	.441 ^{NA}
Animal production	2.64	1.037	14	3.24	1.171	8	.152	-3.929	.013*
Animals protection	3.00	1.093	10	4.11	1.163	1	.146	-7.576	.300 ^{NA}
Livestock management	2.31	.979	16	3.22	1.176	9	.144	-6.372	.094 ^{NA}

Scale: 1= Strongly disagree, 2= Disagree, 3= Undecided, 4= Agree, 5= Strongly agree

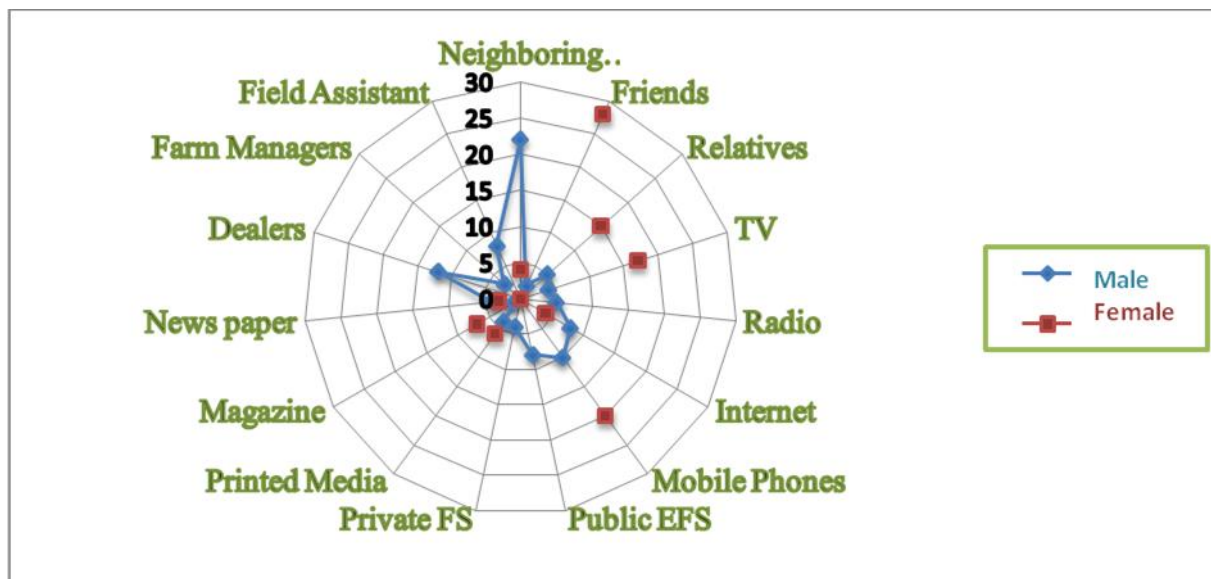
* Significant at 0.05 Level

SD = Standard deviation

RO = Ranked order

**Significant at 0.01Level

Figure-1: Respondents perception regarding major sources of information (n=200)



Present research study probed about the sources of information as rummage-sale by male and female respondents as shown in radar chart. The segregated data based upon sources of information as used by male respondents exhibited that neighboring farmers (22%) dealers (12%) and mobile phones (10%) was the most efficient source of information as employed by male respondents. Whereas, prime and leading sources of information as utilized by female respondents were: friends (28%), mobile phone (20%) and television (17%) respectively, as shown in **Figure-1**. However, radio, public extension field staff, private extension field staff, farm manager and field assistant were as least efficient source of information as perceived by the male and female respondents.

Conclusion and Recommendations

Rural women are perceived as invisible farmers working in the field of agriculture. Gender-based progress and approach will promote and encourage in every step of development in order to tailoring interventions to confirm more equity in the roles and responsibilities of mutually. Present study opening-up new window of opportunities and road map for women regarding in agriculture extension activities. The finding of the present study was revealed that more than half (57.7 %) respondent's fall in the age categories 31 to 40 years. Followed by most (23.1%) of the male respondents belonged to 41 to 50 years. While more than half (55.4%) of the female respondents having age between 31 to 40 years, whereas most (25.4%) of the female respondents had fall in 41 to 50 years age categories. Considerable majority (54.6%-77.7%) of the male and female respondents were illiterate respectively. Significance differences were observed 6 out of 10 categories regarding participation of agriculture extension and livestock management at 0.05 alpha level. Neighboring farmers, dealers, and mobile phones was the most efficient source of information as employed by male respondents. Leading sources of information as utilized by female respondents were: friends, mobile phone and television respectively. On the basis of results findings the following recommendations were suggested and made for the interventions concerned: Female is one of the key system actor therefore it is suggested that at least district level a female extension workers should be recognized, in order to women participation should be encouraged at all level. For both respondents (male and female) training centers for capacity building should be functioned under the Union Council (UC) level, where

short as well long term training-courses for rural women and male regarding agriculture extension activities and livestock management practices accessible so that enhanced their competency level and professional skill. Gender discrimination need to be eliminated at gross root level and promote their involvement in agriculture extension activities. Mobile phone should be assumed due to consideration because it comes out as most actual communication tool and most prominent medium.

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