

---

**TIME BUDGETING AND RURAL WOMEN PARTICIPATION IN  
LIVESTOCK MANAGEMENT OF SINDH**

---

*Urooj Talpur  
Dr.Imdad Ali Khowaja*

**ABSTRACT**

*The rural women take a part in livestock management and household activities regularly. Despite of that their contributions are undervalued. Agricultural and livestock activities are the most important source of income for rural households in Pakistan. In 2016- 17 livestock contributed 58.33 per cent of the overall agricultural contribution to Pakistan's GDP. The rural women actively participate in the crop production from the sowing to the harvesting of major crops like wheat, cotton, rice and sugarcane and the allied fields of the agriculture sector like livestock management. Majority of rural women involved in livestock activities such as cleaning animal sheds, feeding of animals, caring of animals, gathering dung, preparing milking products and market activities such as ghee, eggs milk, butter along with the household chores. However they spent some time on leisure activities. This study was conducted to explore rural women's time framework in livestock management in terms of work structure in rural areas of Sindh. A multi-stage sampling was used to collect the information from the sampling size of 323 women respondents. Data was collected with a combination of quantitative & qualitative data with the help of interview, questioner participant observation, focus group discussion, analyzed using descriptive statistics and correlation analysis. The study shows that the female respondents spent more than 50 percent of their time on the above activities out of which on average livestock management occupies more than 5 hours in a day, whereas, proportionately marketing activities comprise less than one hour.*

---

**Keywords:** Time Budgeting, Livestock, Participation, Management, Women, Rural Sindh.

**INTRODUCTION**

The estimated population of Pakistan is 199.10 million, comprising 118.38 million in the rural areas and 80.72 million in the urban areas. Pakistan is fundamentally the agricultural country and agriculture sector provide livelihood to the 70 percent rural population. The sector accounts 19.5 percent of the gross domestic product and absorb 42.3 percent labor force comprising the male and female participate in the agro based

activities and livestock management. The livestock accounts huge share 58.33 percent in the agriculture sector in the gross domestic product of Pakistan which is 11.4 percent of the overall gross domestic product of the country. Livestock plays major role in the development of the rural economy and poverty reduction. More than 35 percent income is generated from the livestock production by the 8 million families of the rural population (Economic Survey of Pakistan, 2016-17).

**TABLE-1**  
**AGRICULTURE GROWTH (%)**

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17
<b>Agriculture</b>	<b>1.96</b>	<b>3.62</b>	<b>2.68</b>	<b>2.5</b>	<b>2.13</b>	<b>0.27</b>	<b>3.46</b>
Crops	0.99	3.22	1.53	2.64	0.16	-4.97	3.02
i)Important crops	1.5	7.87	0.17	7.22	-1.62	-5.47	4.12
ii)Other crops	2.27	-7.52	5.58	-5.71	2.51	0.59	0.21
Cotton ginning	-8.48	13.83	-2.9	-1.33	7.24	-22.12	5.59
<b>Livestock</b>	<b>3.39</b>	<b>3.99</b>	<b>3.45</b>	<b>2.48</b>	<b>3.99</b>	<b>3.36</b>	<b>3.43</b>
Forestry	4.76	1.79	6.58	1.88	-12.45	14.31	14.49
Fishing	-15.2	3.77	0.65	0.98	5.75	3.25	1.23

**Table no.2**

**Livestock Products**

(000 Tonnes)

Fiscal Year	Milk	Beef	Mutton	Poultry Meat	Wool	Hair	Bone	Fats	Blood	Egg (Mln. Nos.)	Hides (Mln. Nos.)	Skins (Mln. Nos.)
2010-11	37,475	1,711	616	767	42.5	23.2	735.1	234.8	58.3	12,857	13.5	48.5
2011-12	38,617	1,769	629	834	43	23.8	757.5	241.7	59.8	13,114	13.9	49.6
2012-13	39,855	1,829	643	907	43.6	24.4	780.5	248.8	61.3	13,813	14.4	50.7
2013-14	41,133	1,887	657	987	44.1	25.1	802.9	255.8	62.8	14,556	14.9	51.9
2014-15	42,454	1,951	671	1,074	44.6	25.8	827.2	263.3	64.4	15,346	15.4	53.1
2015-16	43,818	2,017	686	1,170	45.1	26.5	852.3	271	66.1	16,188	15.9	54.3
2016-17	45,227	2,085	701	1,276	45.7	27.2	878.2	279	67.8	17,083	16.4	55.5

Source: Economic Survey of Pakistan 2016-17

The participation of the rural women in the labor force is about 53 percent out of the total labor force there and spent more than 20 extra time in comparison of their male counterpart in the activities of crop production and livestock management. Despite of that their role and contribution the productive activities have not been recognized due to the socio cultural factors (Humera & Zafar, 2012).

The rural women devote approximately 15 hours from dawn to dusk to participate in the task in the agricultural field, to nurture livestock and household activities. Women contribute 5 to 6 hours daily to solely fulfill the responsibilities to nurture the livestock such as feeding, watering, milking, cleaning the animal sheds, and etc. The level of intensity of contribution of rural women of Sindh related to livestock management is very high except the herding and marketing.

#### **REVIEW OF LITERATURE**

Bhanotra, Wankhade, Kandey & Kumar, 2015, the researchers has conducted study to find out the status of the rural women decision making particularly in the activities of livestock management for this purpose the researcher has used statistical tools to measure the level of intensity of their contribution in front of male counterpart and their reward or right in the decision making. The authors state that in the rural economy of India the agricultural sector and its allied field like Livestock are to be considered major source of livelihood. The contribution of the rural women in the crop production and live stock is unrecognized and unrewarded. They perform various activities during the twenty four hours of the day such as she work in the crop production activities and livestock management activities like feeding, watering, milking, cleaning the animal sheds, and etc. However, their level of intensity of their contribution particularly in the task management is that she spends more than 60 to 80 percent of her time in the activities of the livestock management. Despite of that high level of intensity of the participation in these activities but they have not the right to decision making like the sale animals and marketing.

A.S. Al-Rimawi (2002), the rural women are more sensitive about livestock farming, they provide different environment for their protection, caring of animal and the nature of reproductive function.

(Octavia and Coriano, 2013), they researchers have found in their study that rural women in developing countries spend about 7-8 hours for daily household work whereas 6-7 hours in livestock management activities. Working style of rural women may differ in different societies according to their culture and customs however women are an ideal

division of labor in livestock everywhere around the world. Economic contemplations, settlement models, wide-ranging labor accessibility and other aspects can enforce people to take on extra labor divisions. In fact in some societies women also slaughter animal and perform many tasks which are considered as men job only.

(2012) IFAD research indicates that looking after these animals can probably be more complicated than managing of camels and cattle, since women frequently ought to spend hours for collection and store of fodder, fetching water for the animals and other relevant works. The allocation of time in agricultural activities has also climbed up to 1.28 hours per day from 1.11 hours each day.

Devendra and Chantalakhana (2002), women play an energetic role in livestock sector and contribute with their men like gathering fuel wood, pulling water for animal and taking care of animals. The rural areas women improvement their experience efforts to produce more production of crop, vegetable, grasses for animal foods.

Tipilda and Panhwar, 2008, the participation of the rural women in the livestock management is very high in comparison of the male because it has been considered livestock Management is the duty of the women. The level of their contribution in the livestock management in the different region based on the nature of agricultural sector, socioeconomic, cultural, religious and other factors.

#### **OBJECTIVES OF THE STUDY**

To analyze the contribution of rural women in livestock management and marketing their by-products along with household chores with regard to the time budgeting.

#### **HYPOTHESIS OF THE STUDY: ANALYZE**

The rural woman significantly spends more time on livestock management to that of other activities carried out under time budgeting framework.

#### **METHODOLOGY AND DATA COLLECTION**

The research was conducted in the rural areas of Sindh. A multi-stage sampling was used to collect the information from the sampling size of 323 women respondents. The sample size was selected on the basis of herd size from all district of Sindh provinces' statistical data of Bureau of Statistics and interviewed. The size that is used in this research is comprised of nine categories from where using probability

proportion to size the samples. Sample size mainly takes into account confidence intervals, variances and sampling error.

The data collected through the questionnaire based survey of the study area. The questionnaire structured to collect the data regarding the rural female participation in the livestock management and average size of the birds and animals per household. The collected data is analyzed with statistical tool regression equation with the help of SSP software to draw conclusion. The data is summarized and presented by statistical means tables and charts comprising means, frequencies values and percentage to compare between various groups.

## RESULT AND DISCUSSION

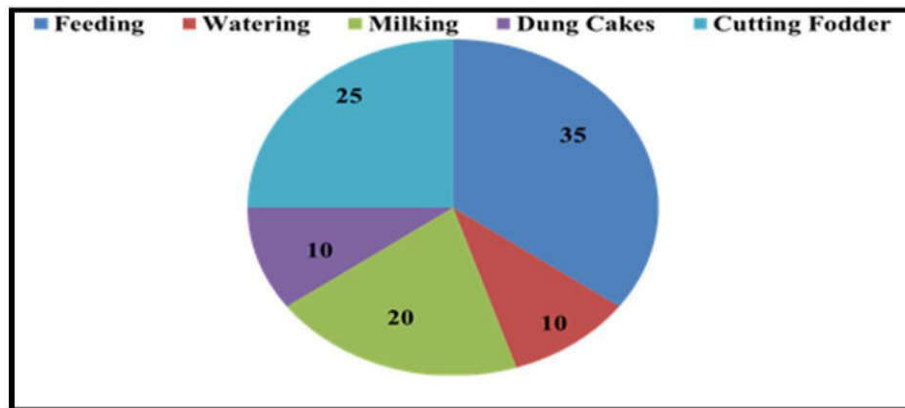
**Table: 11**  
**Time Budgeting (24 Hours)** (%) n=323

	Livestock	Household	Market	Leisure	All
<b>Mean</b>	6.29	5.1722	2.232	2.9055	16.5997
<b>Median</b>	6.27	5.15	2.21	3	16.63
<b>Mode</b>	5.55	5	2.1	2.9	15.55
<b>Std. Deviation</b>	3.3	0.1781	0.27559	0.43824	4.19193
<b>Minimum</b>	5.05	5.3	2	2	14.35
<b>Maximum</b>	6.45	6	3.09	4.35	19.89

The table revealed that the rural women time distribution in the tasks like household chores, livestock and marketing of its by-products and leisure in timeframe budgeting. It is found that the rural women spent almost 16 and half hours of a day in the above mentioned activities exclude the time consumed on the sleeping, washroom and other activities. The data collected from the sample symmetrically distributed and has indicated median and mode on a normal distributing curve. It has been ascertained that the respondents approximately utilized 50 percent of their time on above activities in a day and from that time spend 6 hours and 29 minutes to feed, watering, milking of the animals or to livestock management, less than 3 hours on the marketing and, 3 hours and 40

minutes on leisure activities like watching TV, gossiping with family and friends attend social ceremonies. The rural women spent more than 5 hours in the household task such as cooking, cleaning, washing clothes, look after the seniors and the kids, and etc., while the remaining time spend in the activities of sleeping, washroom, and etc. The distribution of time spent on the livestock management can be glanced from the figure No.1.

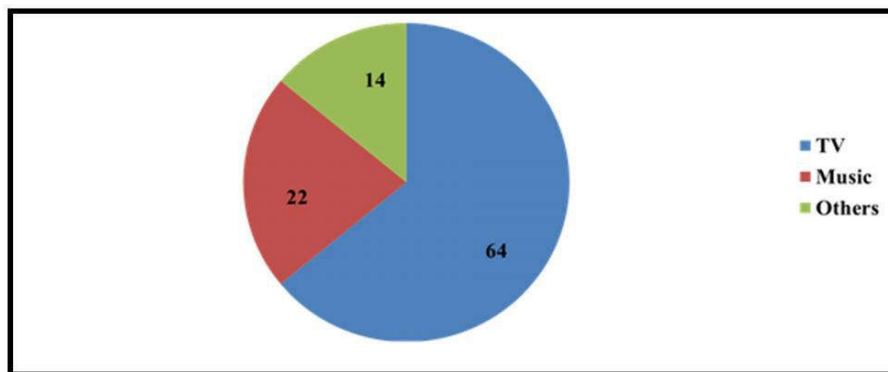
**FIGURE-1**  
**TIME SPENT ON LIVESTOCK MANAGEMENT OF RESPONDENTS WOMEN**



Source: Field Survey 2015-16

The Figure 1 describe that the female respondents utilized 50 percent of their time on livestock management activities in a day that is approximately equal to 6 hours and 29 minutes to cutting fodder for animals, watering, cleaning sheds, milking feeding and preparing dung cakes for fire use for preparing food and etc. The primary data shows around 35 percent respondents perform the activity of cutting fodder, 25 percent respondents which consumes their time feeding the animals, 20 percent respondent spent their time on the milking, while the 10 percent on used time on milking and on dung cakes respectively. In other words approximately 6 hours and 29 minutes are spent daily out of total allotment as per budgeted hours for livestock management.

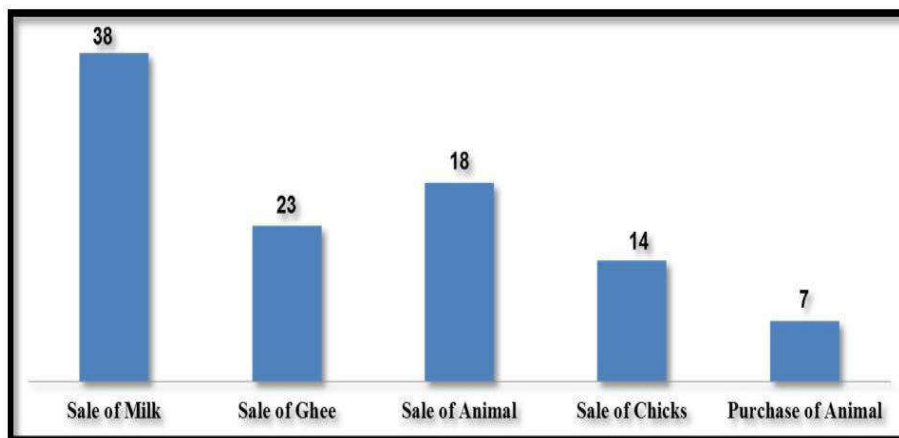
**FIGURE-2**  
**LEISURE TIME DISTRIBUTION BY FEMALE RESPONDENTS**



Source: Field Survey 2015-16

It can be glanced from Figure 2 that the respondents spent 3 hours 30 minutes on the activities like 64 percent of her time on TV, 22 percent on music, 14 percent on gossip with family and friends attend social ceremonies out of total time spend on the leisure activities.

**FIGURE-3**  
**MARKETING ACTIVITIES OF SAMPLE RESPONDENTS**



Source: Field Survey 2015-16

Figure 3 reveals that the rural female respondents in research area responsible for the marketing activities pertaining to the livestock and its by-products like milk, ghee, eggs and purchase and sale of birds and animals. The rural women who are engaged in the livestock management

are responsible to divide the quantity of total milk of her animals into sale and for family consumption as well for processing. The 38 percent female respondents found were actively engaged in the selling of milk which is largest number of research area, followed 23 percent sell Ghee that is by-product of milk, 18 and 14 percent respondents were performing the marketing activity of sale of animal and birds. While the least number of the female respondents involved in the marketing activity of the purchasing of animals. That all identify at what extent the women have right of marketing in rural economic activity while she is performing economic and social activity. Economic by generating income from doing marketing activity and social activity to provide food for their family.

### CORRELATIONS

		All	Household	Livestock
Pearson Correlation	All	1.000	.432	.711
	Household	.432	1.000	-.206
	Livestock	.711	-.206	1.000
Sig. (1-tailed)	All	.	.014	.000
	Household	.014	.	.156
	Livestock	.000	.156	.
N	All	26	26	26
	Household	26	26	26
	Livestock	26	26	26

### Regression Analysis 1

- $Y = a + bX_1 + bx_2 + e$   
 $Y$  = All activities during the day (in 24 hours)  
 $X_1$  = Total time spend on livestock management  
 $X_2$  = Time spend on household activities  
 $e$  = Sampling error



Model Summary<sup>a</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.924 <sup>a</sup>	.854	.841	1.473791790795958	.854	67.355	2	321	.000	1.701

a. Predictors: (Constant), Livestock, Household

b. Dependent Variable: All

ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	292.598	2	146.299	67.355	.000 <sup>b</sup>
	Residual	49.957	23	2.172		
	Total	342.556	25			

a. Dependent Variable: All

b. Predictors: (Constant), Livestock, Household

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	2.203	1.323		1.664	.110	-.535	4.940
	Household	1.156	.156	.604	7.420	.000	.834	1.478
	Livestock	.903	.088	.835	10.263	.000	.721	1.085

a. Dependent Variable: All

## Correlations

		All	leisure	Market	Livestock
Pearson Correlation	All	1.000	.260	.218	.711
	leisure	.260	1.000	.346	-.289
	Market	.218	.346	1.000	-.065
	Livestock	.711	-.289	-.065	1.000
Sig. (1-tailed)	All	.	.099	.143	.000
	leisure	.099	.	.042	.076
	Market	.143	.042	.	.376
	Livestock	.000	.076	.376	.

## Regression Analysis 2

$$Y = a + bX_1 + bX_2 + bX_3 + e$$

Y = All activities during the day (in 24 hours)

X<sub>1</sub> = Time spent on livestock activities

X<sub>2</sub> = Total time spent on Market activities

X<sub>3</sub> = Time spent on leisure

e = Sampling error

Model Summary<sup>b</sup>

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.924 <sup>a</sup>	.854	.841	1.473791790795958	.854	67.355	2	321	.000	1.701

a. Predictors: (Constant), Livestock, Household

b. Dependent Variable: All

ANOVA<sup>a</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	292.598	2	146.299	67.355	.000 <sup>b</sup>
	Residual	49.957	23	2.172		
	Total	342.556	25			

a. Dependent Variable: All

b. Predictors: (Constant), Livestock, Household

Model	Coefficients <sup>a</sup>						
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
	B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	6.256	1.326	4.716	.000	3.505	9.006
	leisure	1.387	.348	.469	.398	.665	2.109
	Market	.831	.845	.111	.984	-.921	2.584
	Livestock	.923	.120	.854	.000	.675	1.171

a. Dependent Variable: All

Regression shows satisfied relationship between time spent on livestock and household activities by the sample respondents. This relationship is further correlated with total hours i.e. 24 hours per day. The  $R^2$  0.85 confirms the significant relationship under average line and T values shows that dependent variable is significantly (85) percent influence by independent variable i.e. household activates and livestock. The second regression analysis using OLS finds out the relationship of total time with spent on livestock activities, market and leisure. The  $R^2$  i.e. 0.75 shows that 75 percent influence on dependent variable is caused by independent variables which shows the significant variations with F value in terms of time spent on all activities under independent variables. Market activities show insignificant relationship; this is understandable because market activities are predominately carried by male members of the family. Study finds out that female respondents also perform some market activities that includes largely sale of milk to neighboring household within family relatives whereas sale of animals is largely done by male counterparts is some occasions female respondents within households. Tag price of animals once is ready for sale especially within the neighborhood which includes same community or else relatives. Outside the premises animal is taking out by the male counter parts for selling the animal which might include taking animals for sale in same town or elsewhere even up to Karachi or else outside the province.

The study shows that the rural women is the main part of the labour force who contribute more than the male counterpart in the livestock management and crop production from sowing to the marketing. This high level intensity of their work and contribution of their time and efforts

must be acknowledged at the local and national level and also their labour should be paid.

## REFERENCES

- Abdelali-Martini, M. Patrica, Goldey Gwyn, E.Jones and Elizbeth Bailey. (2003). Towards a Feminization of Agricultural Labour in Northwest Syria, *The Journal of Peasant Studies Routledge*, Part of the Taylor and Francis Group, 30(2):71-94.
- Amin, H., Tanvir, A., Munir, A., & Zafar, I. M. (2012). Participation of Rural Women Regarding Post Harvesting Activities in Pakistan, *Journal of Social Science*.
- Akther, S.K. Banu, S. Sarker, N.J. Joarder and R.R. Saha. (2003). Women in Farming and Income Earning: Study of a Gazipur Village, *Journal of Rural Development, Bangladesh*. 25(2):79-98.
- Akmal, N. and Sajida Taj. (2004). Women and livestock management in Sindh, *Pakistan Agricultural Research Council*, Islamabad, p.15.
- Amin, S. (1997). The Poverty-Purdah Trap in Rural Bangladesh: Implications for Women's Roles in the Family Development and Change, Vol.28, No.2, April 1997:213-233 (21) Blackwell Publishing.
- Afridi G.S., Ishaq M., and Ahmad S. (2009) "Estimation of Costs and Returns and Factor Productivity in Livestock Enterprise in Northern Areas, Pakistan", *Pakistan Journal of Life and Social Sciences*, Vol.7, No.1:43-51.
- Amin H., T. Ali, M. Ahmad and M.I. Zafar (2010) Gender and Development: Roles of Rural Women in Livestock Production in Pakistan, *Pakistan Journal of Agricultural Sciences*, Vol. 47, No. 1.
- Amin, Humera., Ali,Tanvir., Munir, Ahmad., & Zafar, Iqbal, Muhammad., (2012) Participation Level of Rural W omen Regarding Post Harvesting Activities in Pakistan, *Journal of Social Sciences*, Faisalabad, University of Agriculture.