

Participatory Agricultural Development in Baluchistan: A Critical Assessment

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Abstract

This study evaluates the performance of participatory agriculture sector comprising both crop and livestock sub sectors. Using two different sample survey data, the paper tries to answer the important research questions how it is more efficient and why the intended benefits of projects reach in a greater amount, to the large farmers in the context of province, The study, under the objectives of efficiency and equity, found Positive diversification towards high value crops indicating the rapid adoption of new technology. Livestock including diary farming produced more positive financial benefits. The benefits achieved, however, were found more skewed towards large farmers and feudal class. The paper therefore, suggests more pro poor and sustainable efforts to enhance the performance of farmers based agriculture development especially by balancing efficiency and equity. The lessons drawn from the experiences are important and valid for designing and evaluating the future participatory program especially in the field of farming and livestock sub- sectors.

Keywords: *Cropping intensity, Participatory Development, Social Capital and Diversification*

Introduction

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Participatory agriculture has a long history in the province of Baluchistan. The activities in irrigation & agriculture sectors used to be collectively conducted on self-help reciprocal basis. The practice of collective labour (Ashar) at harvest time & the granting of financial assistance (Bijar) to fellow tribesman are still in practice in major part of the rural areas of the province (Buzdar, 1987). Agriculture is therefore, believed to be the most important sector receiving the fruits of collective approach.

The vast part of literature confirms that participatory style of doing agriculture practices is more efficient than top down government approach in changing the character of agrarian structure. However, the nature and effectiveness of strategies have been under constant change. It travels from traditional way of solo participation to co-operative farming (organizing themselves with the help of government) and then existing collaborative participatory development. Under this new version, in addition to community, government and foreign development agencies are engaged in the development process. The current approach, which is supposed to be more effective than the previous strategies, revolves around the fact that the effective participation of farmers with the partnership of government and international development institutions can play key role in enhancing productivity of irrigation and agriculture sectors.

The scope of social capital is also widened during participatory engagement of stake holders which can facilitate the adoption of new technology rapidly and can advance the crop and livestock genetics and therefore, can promote diversification in crop and livestock development.

The cursory review of research based on impact studies of participatory projects; however, contradict the claimed benefits rather found out that the intended benefits have gone to the politically more powerful and economically better off groups of the society Baluchistan Community Irrigation Projects (BCIAP). The experiences shared by the regional studies are consistent with the findings of cross-countries studies

of integrated rural development programs that services do not reach the poorest families but mainly benefit farmers with medium or large farmers (Iha, 1987). To assess the situation in the context of province, we need to review and evaluate the performance of participatory agricultural development in terms of following objectives

Objectives of Study

- a) To assess the impact of crop sector from the perspective of efficiency
- b) To review the impact of cropping sector from equity point of view
- c) To evaluate the performance of livestock sector by the criteria of efficiency and equity

Materials and Methods

Mostly the nature of data is quantitative, cross-sectional and sample based on Pat Feeder Command Area Development Project & Baluchistan Area development program. These projects carried out in different major areas of province and were completed in 2002 and 2012 respectively providing both old and recent empirical evidence about the performance of participatory agricultural development. The major part of analysis on the components of crop and livestock sub sectors was developed from the previous PFCAD project conducted in Naseer Abad area. While some portion of assessment was based on the subsequent survey BADP conducted in (Quetta, Khuzdar and Loralai regions). The documentary evidence from the project documents' Governments reports and scholarly literature were also used to supplement the judgment.

The overall method of data analysis was based on descriptive way of assessment. Using descriptive statistical techniques, the effects of PFCADP project in terms of growth in Rabi and kharif crop production levels were assessed and compared in terms of pre and post implementation situation. Efficiency in cropping intensity is measured by $\text{area} / \text{net land area} * 100$. Whereas growth rate in production level were

measured by Area Cropping intensity= total cropped = $P_n \times 100 / P_o$ (1997—2002). The distributional effects of crop sector were assessed by the percentage change in average income of farming category (large, medium and small).

Moreover, the time series data based on BADP was used to compare changes in the monetary benefits from livestock and poultry. Finally examined data were presented and compared in the tabular and graphic forms.

Results and Evaluation

Improving efficiency through diversification in Cropping Pattern

A diversified agriculture sector can be a major engine of income and employment growth. The sector, as a whole is of particular significance. In this context, it would enhance the well-being of small holders whose dependency is increasing rapidly due to shrinking size of holdings due to population growth in rural areas (Qureshi, 2005). In view of its importance, the focus of participatory agricultural development has been on adopting new cropping pattern suitable for sustainable agricultural growth.

The results about change in cropping pattern summarized in table (1) based on (PFCADP) indicate new emerging trend in the cultivation of major crops. The overall cropping intensity for new crops has increased on average by (150%) in the study area due to factors such as increased water, introduction of high value variety crops, cultivating more than one crop in cycle of one year as such confirming the benefit of participatory approach for introducing new methods and ideas in the farming sector (Impact Study, 2003). The results were almost in line with the study conducted earlier by Baluchistan Irrigation and power Department ((BIPD, 2001) as finding out the summer

cropping intensity (120%) much higher than winter cropping intensity mainly due to increased area for cotton. This achievement was mainly attributed to cotton research and program.

Comparing the results of Kharif season with Rabi cropping pattern, Rice was widely cultivated crop at the inception of project, while Rabi cropping pattern was mainly dominated by wheat. Under the crop diversification other than cotton promotion, the project-cropping pattern is more productive in the sense that per hector income from the crop Cotton, Onion, and Garn is much higher than the traditional crops like Rice and Wheat. The percentage change in area of pulses was found negative (67%) and in case of wheat was noted marginal change hardly (2%). Increasing trend is noticed in the cultivation of all major crops especially in cotton more than (400%) increase in production as is evident from the following table (1). Favourable change in Cotton scenario was believed to be providing better prospects for future employment and exports. change in the cropping pattern also brings positive change in the cropping intensity of area. As per survey results, the average cropping intensity has increased for both Rabi and Kharif crops due to increase both in water quantity and increase in the efficiency of irrigation measured in terms of hour. For example, it was noted that almost (100%) efficiency has been increased in terms of time. Consequently it resulted in bringing more area into cultivation and introducing high yielding crops implying that cropping intensity in the study area has also increased. The positive change towards cash crops such as cotton, oil seeds indicates emerging progressive thinking of farmers.

**Table: 1: A Comparative Analysis of Change in the Cropping Pattern (1997- 2002)
Kharif (Summer Crops)**

Crops	Area (acres)		Production (tons)		Change in Yield per Acre
	1997	2002	1997	2002	
Rice	2,525	5,542 (119%)	92,484	276,595 (199.07%)	13.28
Cotton	115	350 (204%)	428	2,171 (407.24%)	2.48
Sorghums	650	798 (22%)	7,372	5,767 (-21.77%)	Minus 4.11
Pulses	143	77 (-46, 85%)	657	1,078 (64.07%)	9.41

Rabi (Winter Crops)

Wheat	2,321	2,364 (1.85%)	40,727	52,570 (29.01%)	4.69
Gram	548	1,475 (169%)	4,231	12,906 (205.03%)	1.03
Oil Seed	224	399 (78%)	801	1,589 (98.37%)	0.40
Peas	323.9	355 (9.60%)	1,118	2,625 (134.79%)	

Source: - Estimated from the survey results, 2003 Patfeeder command area development project.

Distributional Effects of project in terms of equity

Assessing the results pertaining to average household income of all the categories from income distribution point of view, it is found that large farmers are taking major share (125%) whereas the average income of medium farmers has increased by almost (78%). The percentage increase in income of small farmer is lowest (73%). The results clearly indicate that large farmers have the highest share in the growth of income while small farmers who are in majority witnessed the lowest increase in their income. Explaining the variation in the level of income and its growth, the highest degree of dispersion is found among the small farmers followed by medium farmer. The dispersion in the income of large farmer was found more consistent. This implies that the income of large farmer is comparatively stable, because of their permanent sources of income, which is associated not only with the large size of holding but also engagement in other economic

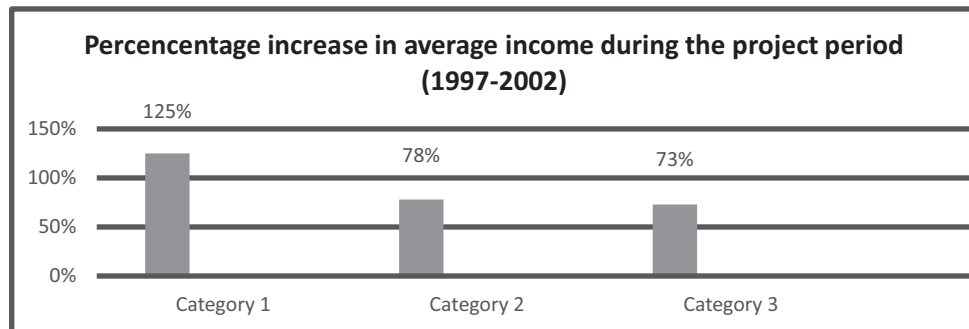
activities. The second most beneficiaries are medium farmers from the participatory agricultural development. They are like middle men who pursue benefits and capitalize the opportunities and may be more progressive in thinking and adoptable to the changing environment. Whereas the income level of small farmers has not proportionally increased despite adopting the poverty-focused strategy. These results are consistent with the rural integrated development programs showing that most of their services do not reach the poorest families but benefit mainly large farmers (Jha, 1987).

Table 2: Change in the Average Income of Large, * Medium* & Small farmers

	1997	2002	1997	2002	1997	2002
<i>Total</i>	2644242	5949544	1331368	2380250	636953	1106514
Average	264424.2	594954.4	133136.8	238025	63695.3	110651.4
S. deviation	79,327	152,689	39,942	71,408	19,109	33,195

Source: Field survey Results, 2003

Note: Large*(40-100) Medium*(17-40) Small (1-16acres)



Analysing the pattern of above income distribution from equity perspective, one may explain the paradoxical results about the question why the small farmers are relatively

the least beneficiary from the participatory agricultural development as it generally reduces poverty by reducing prices and generating employment.

First, one of the plausible reasons is that generally poor farmers cannot keep pace with the large farmers in adopting the new technology as most of them are risk averter. Rather their income is squeezed in real terms simply because during this process their cost of production increases

Second, the large farmers reap the benefits of market by selling their produce with greater margin as they follow new technologies in order to reduce the marginal cost of producing one unit of output thus, confirming the idea that agricultural productivity in terms of profitability has benefited the large farmers.

Third, as regards income by farming category, the owners realize more income than other farming categories. In other words, the net farm income received by the tenants is the lowest, because of sharing the crop outputs with the landlords as per prevalent tenure system.

Fourth, the net farm income is also proportional to the number of crops grown by the farmers'.since the scale of economic activities of large land lords are wider than the small or tenants as such it can be inferred that they benefited much more from the increase in agricultural productivity.

Fifth, better access of big land owners to government agricultural department for inputs/services is also biased in their favour due to feudalistic political structure in the study area.

Sixth, the rapid population growth in the study area approximately, 4 to (5 %) per annum subside and counter balance the price reducing effects of increased

productivity in the rural area. Total average Inflation remained(7%)during (1997-2002).

Seventh, On the bases of benefits (accruing to the different farming categories in case of canal irrigation, it can be claimed that in feudal society, the landlords who are dominant and powerful vested interest group receives greater portion of water as right determined by size of land holding.

Finally, it is worthwhile to mention that social capital as a result of constituting farmer organizations and water user associations have , somewhat, facilitated the small farmers to use credit, agro chemicals as is also evident from the impact study (2003). However, even then, they were found in a weak position in the farmer organizations hardly representing 20 percent, therefore; they were found more vulnerable to purchase production inputs as well as to sell their marketable surplus.

Evaluating the performance of Livestock sector against the criteria of efficiency and equity

Baluchistan has a vast rangeland and therefore, livestock can provide substance to survive against the poverty (BCS, 2005). Investment in livestock has almost definite returns and number of livestock especially sheep and goat may increase soon. Considering the forward and backward linkages in the livestock sector, one may argue that increase in the production of livestock can substantially reduce poverty, as the majority of tenants and poor women are involved in the livestock sector. Different studies found high degree of positive correlation between poverty and livestock development in the context of Pakistan (Faruqee, 1995Dr. Qureshi, 2005).This relationship is even much higher in case of province where more than (70%) of rural population are living below poverty line.

Keeping in view its importance, the participatory development projects in case, introduced different interventions both for rangeland and farm based production system. The objectives of livestock sector development were not only to increase the number but also to enhance the productivity of its various components. The initiatives such as artificial insemination, husbandry, supply of vaccines and medicines brought about positive change and therefore, it has emerged as a growing sub-sector of the economy

The overall performance in terms of indicators was found more satisfactory as is evident from the survey results of PFCADP, (2002) and BADP, (2012). Evaluating the performance of livestock sector, the surveys found that the projects have been successful in achieving most of their objectives. Assessing the results from highest to lowest order, in case of PFCADP, Increase in income of livestock was found (100%), similarly change in Vaccination habit was noted (90%), and Adoption of main improved practice was recorded (83%). Likewise, linkage of Agriculture Development with livestock department was found (50%), Training in vaccination (31%), Job creation in livestock sector and Diseses control (26%), (20%), respectively were recorded.

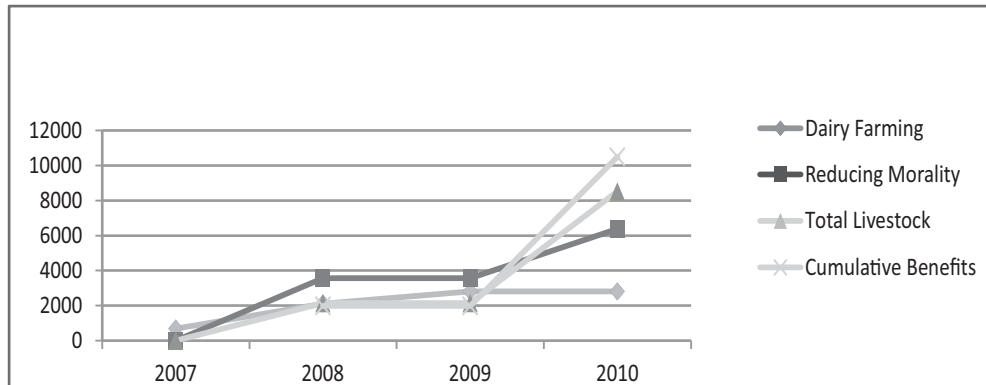
Comparing the crop sector to live stock sector, the results indicate that crop sector could not materialize its targeted results. The livestock sector, on the other contrary, was found quicker in response towards generating income and job creation. Similarly, the livelihood training such as poultry farming, poultry and livestock vaccination have shown promising results which can lead to sustainable income generating activities. The recent evidence based on the time trend data under Baluchistan area development program (Figure2) also confirms highest positive increase in cumulative monetary benefits of livestock and dairy interventions.

Evaluating the cumulative benefits in terms of equity, it can be safely concluded that participatory element plays a significant role in enhancing not only efficiency but equity of both dairy farming and livestock sectors. Landless tenants, women who are

engaged in these activities, in larger number, are the direct beneficiaries. Constituting one hundred and sixty women community organizations under BADP have enhanced networking and thus, have increased their access to social and economic resources of the program. Similarly, trainings of women in livestock have improved their capacity putting positive effects on their empowerment.

In a nuts hell, the increased holding and controlling of livestock by women implies the reducing of poverty and income inequality in the study area.

**Figure: 2 Time Trend analysis of Livestock Benefits in terms of Rupees (000)
Base on Impact survey 2012**



Conclusions

Summarizing the main findings of the study, it can be claimed that Participatory development is more effective for agricultural development as is evident from the indicators such as, yield of existing crops, introducing high value crops, diversification in crop, livestock sector suggesting that the study areas have tremendous potential for agricultural development. Assessing the overall results against the research question whether the participatory approach has increased the overall efficiency of productive sector, the answer is in affirmative; the overall productivity of agricultural including livestock has increased and thus has contributed to the development process of study

areas of province. However, assessing the benefits of projects from equity perspective, the study found them to be more skewed towards the large farmers due to big differences in the social and economic assets prevalent among different categories of farmers in the study area suggesting more efforts for the small farmers especially for the poorer of poorest, tenants and landless who are who are believed to be the least beneficiaries from the increased productivity of crop sub-sector of agriculture. Moreover, the study has found the livestock sector more favourable area for evenly income distribution.

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