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ANALYSIS OF RICE PROFITABILITY AND MARKETING CHAIN: THE CASE STUDY OF TALUKA PANO AKIL DISTRICT SUKKUR SINDH PAKISTAN

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ABSTRACT: *The purpose of this study was to investigate rice profitability and marketing in taluka Pano Akil district Sukkur Sindh. This study was based on primary data, which was collected from rice farming in study area. Analysis was done by using statistical technique like means, comparison of means and frequency distribution etc. Results shows rice farmer's on average per acre spent a total cost of production of Rs.41910.00, this included Rs.15200.00, Rs.2350.00, Rs.2900.00, Rs.7460.00, Rs.7400.00 and Rs.6600.00 on fixed cost, Land preparation, Seed and sowing, Farm inputs, Harvesting and threshing marketing costs respectively on capital inputs. Rice farmers on average per acre gross return of Rs.80200.00, Rs.70200.00 on rice grain, Rs.10000.00 on straw in taluka Pano Akil district Sukkur Sindh. The rice farmers on an average per acre earned during study, Rs.38290.00 on net income, Rs.80200.00 on gross income and Rs.41910.00 on total expenditure in taluka Pano Akil district Sukkur Sindh. Rice farmers on an average per acre gross income Rs.108400.00 and total expenditure is Rs.68310.00 in taluka Pano Akil district Sukkur Sindh area therefore they availed input output ratio of 1: 1.58 from ricegrowing in the study area. The selected rice farmers on a net income per acre earned Rs.38290.00and total expenditure Rs.41910.00 in taluka Pano Akil district Sukkur Sindh area th Rice is the staple food for more than half of the world's population. In Asia, more than 80% of the people live on rice, and their primary food security is entirely dependent on the volume of rice produced in this part of the world. However, rice production increases are now lagging behind population growth. Overall, the total global rice is declining gradually even with the extensive use of the modern varieties such as high yielding and hybrid varieties.*

KEYWORDS: Rice, Profitability, Marketing Costs, Net Returns, Cost-Benefit Ratio.

INTRODUCTION

Rice (*Oryza Sativa L.)* is the seed of the monocot plants. Rice production in Pakistan holds an extremely important position in agriculture and the national economy. Pakistan is the world's fourth largest producer of rice, after China, India and Indonesia. Each year, it produces an average of 6 million tonnes and together with the rest of the South Asia, the country is responsible for supplying 30% of the world's paddy rice output. Most of these crops are grown in the fertile Sindh and Punjab region with millions of farmers relying on rice cultivation as their major source of employment. Rice is a high valued cash crop and is also a major export item. It accounts for 5.7 percent of the total value added in agriculture and 1.3 percent to GDP. Production of rice is provisionally estimated at 4991 thousand tons, which is 2.9 percent higher than last year. Rice was cultivated on an area of 2503 thousand hectares, showing an increase

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of 1.7 percent over last year. The higher production is due to favorable weather condition. Major producing areas include Larkana, Jacobabad, Shikarpur, Badin, Dadu & Thatta districts of Sindh and .Gujranwala, Hafizabad, Sheikhupura, Sialkot, Jhang & Okara of Punjab (GOP, 2012).

Rice occupies 2.5 million hectare that is 10.9% of the total cultivated area with production of 5.1 million tonnes of milled rice. In Pakistan's agrarian economy rice plays multifarious roles. Firstly, it is second staple food and contributes more than 2 million tonnes to our national food requirement. Secondly, rice industry is an important source of employment and income for rural people. Thirdly, it contributes in the country's foreign exchange exchequer. For instance, about 2 million tonnes rice of worth 26 billion rupees was exported. The barter trade on Afghanistan border was in addition to this export. The significance of this commodity in our economy is evident from the above facts. Therefore, it is imperative to focus on the efforts needed to further improve its competitiveness in the international market. In Pakistan, rice is grown under diverse climatic and seraphic conditions. Basmati predominates in traditional rice. In Swat (zone 1) at high altitude mountain valleys, temperate Japonica rice's are grown. In the South of KPK, Sindh and Balochistan IRRI type long grain heat tolerant tropical rice is grown (FAO, 2007).

Rice is an important food crop and a major export item of Pakistan. It has been a major source of foreign exchange in recent years. Pakistan grows a high quality rice to fulfill domestic demand and also for exports. Rice account 4.9 percent of the value added in the agriculture and 1.0 percent of GDP. The area under rice crop in Pakistan during 2011-12 was 2571 hectares with total production of 6160 thousand Tons; whereas the total area of rice crop in Sindh was 361.2 hectares with total production 1230.3 Tones. Pakistan is an Agricultural country due to high increase in population it face major challenges of food scarcity, so for the completion of food needs of the peoples, need to grow high yielding varieties (GOP, 2012).

Objectives

1. To describe socio-economic characteristics of the rice farmers in the study area.
2. To analyze the structure of rice productions costs and determine profitability of rice production in the study area.
3. To identify major constraints and opportunities in rice production and supply to market.
4. To suggest policy recommendations for rice policy on the basis of estimated rice yield response function.

MATERIALS AND METHODS

The present study was conducted carried out with Rice varieties in Sindh province. This study was conducted through primary data collection from rice growers who had planted rice in taluka Pano Akil district Sukkur Sindh. Primary data were collected using a well structured pre-tested questionnaire. The information was collected on farm size, varietal composition, labour costs, inputs costs, transportation and net returns of major rice varieties produced by the growers. The selection of rice grower was based on the criterion that they had planted seed on their field.The study was restricted generally to gather primary data from taluka Pano Akil

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district Sukkur Sindh. It was selected as the universe of the study because it represents study rice production activities. The district is gifted naturally with fertile soil. The sample was supposed to contain rice farmers. A sample size of 60 respondents was selected through random sampling. As described above, the data was collected from taluka Pano Akil district Sukkur Sindh, Villages and respondents from this area were randomly selected.

Estimation of Cost of Production

Net value of the produce and cost involved were estimated. Cost of variable inputs such as deep ploughings, ploughings, plankings, seed rate, canal and tube well irrigations, FYM, DAP, urea were computed. To calculate net return and cost per 40 kg of cane were computed by the method adopted by Manan 2001.

Net Returns = Gross Returns – Gross Cost

Cost per 40 kg = Gross Cost/ yield in 40 kg

Cost-benefit ratio: It is defined as the amount received in the shape of profit on the cost of one rupee invested. The CBR was calculated as

Cost-benefit ratio = Gross return/ total cost

RESULTS AND DISCUSSION

Socio-economic Profit and Farmers

The socio-economic features of the farming families like personal characteristics of the farmers and socio-economic attributes related to their families and farms generally considered important in receptivity of innovations and farm productivity. The mean age of the respondents was about 49 years with 56 percent primary level education. The farming experience of respondents was 14 years on an average. The average household size was about 8 persons per family. In rural setup, farm size and its composition have a significant bearing on the social and economic position of the farmers. On an average 77 percent of respondents having less than 10 acres and remaining 23 percent have more or equal to 10acres.

Table No. 1 Social Character of Farming Community Social Characters	**Findings**
Average age	49 years
Primary Level Education	56 % of respondents
Farming Experience	14 years
Average Household Size	8 persons per family
Less than 10 acres of land	77 % of respondents
More than 10 acres of land	23 % of respondents

Fixed cost

Fixed costs are expenses that are not dependent on the level of goods or services produced. They tend to be time related, such as tax, rents being paid per month/year and are often referred to as overhead costs.

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Per acre on fixed costs by the selected rice farmers in the study area

Particulars	Rate/Unit
Land Tax (per year)	200.00
Rent of Land (per year)	15000.00
Total	15200.00

This table is indicated that on an average per acre rice farmers spent a sum of Rs. 15200.00 in taluka Pano Akil district Sukkur Sindh included Rs. 200.00 for land tax, Rs. 15000.00 for rent of land.

Land preparation

The first and important step in wheat cultivation is land preparation that enhances the water holding capacity of the soil for long time and also it maximizes the ability of wheat plant to get required nutrients from soil. Land preparation typically involves plowing, harrowing and leveling the field to make it suitable for crop establishment.

Per acre on land preparation used in the study area

Particulars	Unit	Quantity	Rate/Unit	Total cost (Rs.)
Tractor	Hours	3.92	400.00	1600.00
Labour	PDs	2.50	300.00	750.00
			Total Rs.	2350.00

This table is indicated that the per acre rice farmers average cost of land preparation came to be Rs. 2350.00. 00 in study are this included Rs. 1600.00 for tractor and Rs. 750.00.00 for labour .

Seed & sowing

Sowing cost is the cost incurred on seed and labor used in the application of seeds. Sowing is the process of planting seeds.

Per acre on seed and sowing used in the study area

Particulars	Unit	Quantity	Rate/Unit	Total cost (Rs.)
Seed	Kg	34	48.57	1700.00
Labour	PDs	4	300.00	1200.00
			Total Rs.	2900.00

This table is indicated that on an average per acre rice farmers spent a sum of Rs.2900.00 in taluka Pano Akil district Sukkur Sindh this included Rs. 1700.00 for seed and Rs. 1200.00 for labour.

Farm inputs

The resources that are used in farm production, such as chemicals equipment, feed, seed, and energy. Most farm inputs are purchased (a change from the days when animals powered most operations), making production costs susceptible to nonfarm economic conditions. Over time prices of farm inputs have increased relative to commodity prices, creating what farmers

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describe as a cost-price squeeze. The relationship between prices paid for inputs compared to prices received for output is quantified in the parity ratio.

Per acre expenditure incurred on farm inputs used in the study area

Particulars	Unit	Quantity	Rate/Unit	Total cost (Rs.)
Urea	Bags	2	2250.00	4500.00
DAP	Bags	1	5360.00	5360.00
Application (Labour)	PDs	2	300.00	600.00
			Total Rs.	9860.00

This table is shows that each selected ric farmers of taluka Pano Akil district Sukkur Sindh on an average per acre of Rs. 9860.00, which included Rs. 4500.00, Rs. 5360.00 and Rs. 600.00 on urea, DAP and labour.

Harvesting/ threshing

Per acre expenditure on harvesting/threshing in study area

Particulars	Unit	Quantity	Rate/Unit	Total cost (Rs.)
Harvesting	Per acre	4	300.00	1200.00
Threshing	Mounds	3	1200.00	3600.00
Empty bags	Per bag	40	55.00	2200.00
			Total Rs.	7400.00

This table is the average cost of harvesting is Rs. 1200.00 per acre, Mechanical thresher was used for threshing of the crop. Threshing charges were paid in kind and were converted to monetary unit on per acre basis. Per acre cost of harvesting/threshing was Rs. 7400.00 showing production of rice.

Marketing costs

The marketing cost may include expenses associated with transferring title of goods to a customer, storing goods in warehouses pending delivery, promoting the goods or services being sold, or the distribution of the product to points of sale.

Per acre expenditure incurred on marketing cost in study area

Particulars	Unit	Quantity	Rate/Unit	Total cost (Rs.)
Loading	PDs	5	300.00	1500.00
Transportation	-	-	3600.00	3600.00
Unloading	PDs	5	300.00	1500.00
			Total Rs.	6600.00

it's clear from result that each selected rice farmers in taluka Pano Akil district Sukkur Sindh area on average per acre spent a sum of Rs. 6600.00, this included Rs. 1500.00 for loading, Rs. 3600.00 for transportation and Rs. 1500.00 of unloading .

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Total cost of production

Per acre total cost of production in the study area

Particulars	Rate (Rs.)
Fixed cost	15200.00
Land preparation	2350.00
Seed and sowing	2900.00
Farm inputs	9860.00
Harvesting and threshing	7400.00
Marketing cost	6600.00
Total	44310.00

This table is the selected rice farmers on average per acre spent a total cost of production of Rs. 44310.00, this included Rs. 15200.00, Rs. 2350.00, Rs. 2900.00, Rs. 9860.00, 7400.00 and Rs. 6600.00 on fixed cost, Land preparation, Seed and sowing, Farm inputs, Harvesting and threshing marketing costs respectively on capital inputs.

Gross returns

Gross returns depend on; 1) rice grain and 2) rice straw/plal from rice production. The returns from rice also depend on prices of these products received by the farmers.

Per acre expenditure incurred on gross returns in the study area

Particulars	Unit	Quantity	Rate/Unit	Total cost (Rs.)
Rice grain	Mound	78	900.00	70200.00
Straw	Mound	50	200.00	10000.00
			Total Rs.	80200.00

This table is the selected rice farmers on average per acre gross return of Rs. 80200.00, Rs. 70200.00 on rice grain, Rs. 10000.00 on straw in taluka Pano Akil district Sukkur Sindh.

Net Income

Net income is gross profits remains cash operating expenses and depreciation cost of machinery and equipments costs could be obtained by subtracting the gross revenue from cash operating expenses.

Per acre net income realized by the selected wheat in the study area

Particulars	Rate (Rs)
Gross income (Rs) A	80200.00
Total Expenditure (Rs.) B	44310.00
Net Income (Rs.) A-B=C	35890.00

This table is the rice farmers on an average per acre earned during study, Rs. 35890.00 on net income, Rs. 80200.00 on gross income and Rs. 44310.00 on total expenditure in taluka Pano Akil district Sukkur Sindh.

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Input-output ratio

Per acre input-output ration calculated by the selected rice farmers in the study area

Area sown	Gross income (Rs.)	Total expenditure (Rs.)	Input-output ratio
Acre	(A)	(B)	A/B=C
1	80200.00	44310.00	1:1.80

This table is showed that the selected rice farmers on an average per acre gross income Rs. 108400.00 and total expenditure is Rs. 68310.00 in taluka Pano Akil district Sukkur Sindh area therefore they availed input output ratio of 1: 1.80 from rice growing in the study area.

Cost benefit ratio

Table 22: Per acre cost benefit ratio calculated by the selected rice farmers in the study area

Area sown	Net income (Rs.)	Total expenditure (Rs.)	Input-output ratio
Acre	(A)	(B)	A/B=C
1	35890.00	41910.00	1:0.85

This table is showed that the selected rice farmers on an net income per acre earned Rs. 38290.00and total expenditure Rs. 41910.00 in taluka Pano Akil district Sukkur Sindh area therefore, they availed input output ratio of 1:0.85 from rice growing in the study area.

CONCLUSION AND RECOMMENDATIONS

The purpose of this study was to investigate analysis of rice profitability and marketing in taluka Pano Akil district Sukkur Sindh. The study was based on primary data, which was collected from rice farming in taluka Pano Akil district Sukkur Sindh. A random selection of rice farming in taluka Pano Akil district Sukkur Sindh was carried out to insure the generalization of research finding. From the sample of 60 rice growers, this equally distributed from different areas of in taluka Pano Akil district Sukkur Sindh. Analysis was done by using statistical technique like means, comparison of means and frequency distribution etc. results shows that on an average per acre spent a total cost of production of rice farmers Rs.44310.00, this included Rs.15200.00, Rs.2350.00, Rs.2900.00, Rs.9860.00, Rs.7400.00 and Rs.6600.00 on fixed cost, Land preparation, Seed and sowing, Farm inputs, Harvesting and threshing marketing costs respectively on capital inputs. Rice farmers on an average per acre gross income Rs.108400.00 and total expenditure is Rs.68310.00 in taluka Pano Akil district Sukkur Sindh area therefore they availed input output ratio of 1: 1.58 from ricegrowing in the study area. The selected rice farmers on a net income per acre earned Rs. 38290.00and total expenditure Rs.41910.00 in taluka Pano Akil district Sukkur Sindh area therefore, they availed input output ratio of 1:0.91from rice growing in the study area.The production rate per acre is not sufficient even with the presence of general assistance. Following suggestions are put forwarded to improve the peasant situation.

- Advising proper combination of inputs to the farmer and giving subsidy on the inputs will result in enhanced farm production.

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- Credit facilities must be provided to farmers.
- The new technology must be provides to farmers
- Government should provide subsidies on fertilizer, pesticides and other micro nutrients for wheat.
- There is need of proper guide to farmers about rice arming so Government should provide and activate researchers and extension department for proper guideline of farmers.

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