
Sindhu farm: A medium sized entrepreneurial venture - A Case Study



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ABSTRACT

Muhammad Akram Zia, former Assistant Professor of Agri-science at University of Agriculture, Faisalabad (UAF), developed a strong fancy in his college days to make an enterprise in agribusiness. He had read about many energetic persons who had made fortunes in this business. He was particularly very much impressed by his former principal, Sir William Robert, who had after his retirement, taken up cotton cultivation in Khanewal as a corporate business under the name of BCGA and had become a multi-millionaire. Zia was, therefore, on the look out for an opportunity to start his own business as soon as possible.

This long awaited opportunity came to him in Sep, 1987 while he was in active service at UAF. He inherited 35 acres of tube well irrigated loamy land in village NO 138 ED, Burewala, District Vehari.

He at once jumped at this opportunity and got his family settled there in a make-shift, thatched farm house on his own farm land (0447-371064) and established his business. By 1987 Zia had acquired state of the art knowledge of crop production and had gained much needed experience in this field as a consequence of teaching at UAF, frequently visiting various agri-research institutes and participating in numerous seminars, conferences and workshops. Since he was in active service and could not give whole time attention, he asked his wife, who too was a practical farmer, to give day-to-day supervision. The policy issues were handled and major decisions were made by him during his frequent visits from Faisalabad to his farm.

PHASE I: 1987-91

Bench Mark Analysis of the Situation:

Climate was good and quite favorable for growing cotton during summer (May-Nov) and wheat

during winter (Nov-May).

Land was level, well layed out. It was sand-loam in texture, which means it was very easy to cultivate and plough. Water and air could easily enter into it; crop roots could also easily grow into it. There was no iota of salinity or water logging in the farm.

All required agricultural machinery and equipment were easily available on rent from the neighboring farmers and from the local dealers.

Electricity powered tube well was already installed with sufficient water for growing two crops a year over the entire farm. The quality of water was good. Electric supply was, however, not reliable. There were frequent load shedding closures for varying durations.

Professor Dr. Masood Quraishi wrote this case with the assistance of Assistant Professor, Shahid Qureshi**. This case has been developed solely as the basis for class discussion. It is not intended to serve as endorsement, source of primary data, or illustration of effective management.*

Agri-inputs such as quality seed, balanced fertilizers, pesticides, and diesel oil were also conveniently available. Zia had the added advantage of having personal contacts with a number of Government / Semi government N.G.O's and agri-business personnel who could facilitate the availability of agri-inputs. He could, for example, easily get best quality seed directly from the breeders.

Semi skilled and unskilled labor, which is very vital for crop business, was readily available all around the year at modest wages. The labour was reliable, hard working and well behaved.

Market for cotton and for wheat such as local grain markets, Govt. purchase centers, Punjab Seed Corporation, private ginneries and textile mills were quite a few in number and were easily accessible. The grower, however, was required to have up-to-date information about marketing and was required to make intelligent choice while selling his produce. Agri- credit was conveniently available from private sources as well as various financial institutions.

Operations Management :

Thirty-three out of 35 acres were regularly planted with American cotton each year. The crop was there from May-June to Oct-Nov. It was followed by wheat crop from Oct-Nov to May. Two acres were reserved for growing fodder crops for his milch animals and for vegetables for domestic usage.

Various inputs such as seed, water, fertilizer, and pesticides were added in quantities, at timing and with methods as close to expert's advice as possible. These practices continued with success till Sep 1991.

Productivity and Profitability :

The average crop yields during this period (1987-1991) were

Cotton: 15-25 maunds per acre
(1 maunds = 40 Kgs)
Wheat 30-40 maunds per acre

Cost of production of cotton and wheat were in the range of Rs. 2,500-3,000 / acre

The average profit was as follows.

Cotton: 80%-100% over current investment
Wheat: 60%-70% over current investment

Problems Encountered:

1. Quality of labor supervision was rather poor because of gender issue. His wife could not meticulously supervise certain farm operations at night. Similarly she had difficulty in supervising wheat-harvesting operation for long hours under scorching sun.
2. A third party who was somewhat indifferent and neither so much concerned nor committed carried out marketing of agri-products casually.
3. Electric power failures became increasingly frequent and of longer intervals. This led to insufficient, delayed and uneven irrigation. These power failures, furthermore, caused tremendous inconvenience and trouble to farm workers.
4. Business unit was small and economies of scale could not be properly harvested.

PHASE II: 1991-1996

Operations Management:

Partnership with a Friend

Since M.A Zia could not conduct his business by himself because of his service at UAF, he, therefore, opted for a partnership with a friend.

As a result of the partnership

1. Farm size increased from 35 to 143 acres (30 acres belonged to the partner and 78 acres were obtained on lease).
2. Purchased core farm machines and equipments such as a tractor, a disc plough, a trolley and a rotavator, etc.
3. Irrigation water problem was wonderfully solved through a creative idea. A 1.5 acres above ground water reservoir having 5 feet depth was constructed beside the tube well. The tube well was

run all the time or as long as possible to keep the reservoir full of water. Irrigation of crop field thus became a very quick and easy operation with much better control over timing duration and quantity of water. In addition there was significant economy of irrigation water.

4. Farming and harvesting of wheat was made easy and extremely quick by discovering and contracting a local "Combine Harvesting Party" who will do this most unpleasant farming job at a cost of Rs 1,000/- per acre in 2 hours as compared to Rs 2,500/- per acre by manual cum thresher method in 3-5 days.

5. Zia was rightly expecting a better supervisory role by his family during this phase. This is so because his sons had grown up to complete their F.Sc and Matric exams and were about to contribute to their family agri business and to significantly assist their mother in supervision of various farm operations. This was in addition to the major managerial role of the partner.

6. Cropping pattern of Phase 1 was practiced in this phase too but with following incremental differences.

- Various inputs were applied vigorously and in strict compliance to the recommendations of the experts (Punjab Agri. Department).

- Selective weedicides were increasingly used to suppress weeds especially in those fields, which are reserved for production of certified seed.

- Wheat harvesting combine was regularly used which increased grain yield by 2 maunds/ acre (It may be recalled that this much wheat grains are shattered and get lost in the field if harvesting is done by manual method).

- Special attention was paid to train cotton-picking women labor to ensure quality picking as emphasized by experts of Punjab Agri-Dept. This practice ultimately gave premium price.

- Water reservoir primarily constructed for crop irrigation was also used for fish production. Crop weeds were use as feed for fish.

- A sharp watchful eye was kept focused on market situation. Close contacts were made with officials of Punjab Seed Corporation for selling certified wheat seed crop at premium price. Similarly officials of Punjab Food Dept were identified and contacted so that they would readily purchase their produce without any excuse or reluctance. Contacts were also made with dealers in grain markets, ginneries and textile mills for better prices.

- ADBP officials were particularly approached for ensuring easy credit.

Productivity and Profitability :

Average yields during this phase were significantly better than earlier phase but not as high as expected because of reasons mentioned on next page and were as under:

Cotton: 22-27 maunds/acres
Wheat: 35-42 maunds/acres

Average price was as under:

Cotton: Rs 950-1050 per maunds
Wheat: Rs 350-362 per maunds

Average profit was as follows

Cotton: 90-100%
Wheat: 70-80%

Sale of fish: Rs 60,000-70,000 per year

Problems Encountered During Phase II

1. Heavy infestation by leaf curls virus disease on cotton. There was no immediate solution to this problem. Even now no effective treatment is in sight.

2. The partner did not turn out to be as responsible as originally conceived. He was increasingly indifferent to this business. In fact he got interested in some other business of his own. The present farming business, therefore, continued to suffer for want of quality supervision as before.

3. In view of cotton failure over sizeable area due to LCV, about 20-25 acres were diverted to sugar

cane cultivation. This provided some rescue against failed cotton crop.

Friend got disinterested in the partnership.

PHASE III: 1996 to date

In view of above cited problems, partnership was discontinued in Sep 1996. Zia obtained premature retirement from UAF and permanently shifted to his home to devote all his energy, experience and knowledge to give a boost to his business. By this time two of his dynamic sons had grown up and had joined his father in his enterprise. He took full charge of his business.

Operations Management :

- First thing Zia did was to purchase 13.5 acres of additional adjoining farmland even at the cost of selling his tractor.
- He renewed and strengthened his earlier contacts for timely procuring better quality inputs and for obtaining premium prices of his commodities. He developed contacts with all cotton breeders of the country. In other words, he assured maximum cooperation and support of various institutions.
- For better marketing and achieving economies of scale he informally organized a kind of loose association of adjoining producers to attract Combine Harvesting owners to promptly come to their farms and do good job at relatively lower rates and sell their bulk produce directly to the industry at a better price.
- Straightened, re-aligned water channels, brick lined water channels at weak points and selective precision-leveled fields for improving irrigation system.
- Procured better seeds, better fertilizers and better pesticides; trained laborers about best methods and best timing of application.
- Trained women cotton pickers for better quality produce and provided them necessary facilities.
- Provided basic amenities to himself and his family (a respectable home, a good quality all weather road to his home, radio, TV, phone (0447-371064) freezer, refrigerator, transport (motorcycle, Suzuki

car). All family members were without any serious tension or stress. They enjoyed a relaxed weekly-shopping visit to Burewala city. They were all happy, satisfied highly cooperative and were deeply committed to the success of their farm business.

- He was very successful in labor management as he practiced various H.R strategies such as:

1. Paid better wages i.e. about 5-7% higher wages than what neighboring farmers paid.
2. Gave occasional/seasonal supplemental commodity gift such as Wheat grain, Wheat straw, Cotton and Cotton sticks etc.
3. Extended pleasant manners and good etiquettes to them.
4. Extended special respect and treatment to female labour who enjoyed full respect confidence and security. His female-labor was therefore steady, reliable, efficient and cooperative.
5. As a consequence of his holding the post of Assistant Professor at UAF and because of his curiosity and go-getter attitude he was particularly watchful of any technical development and innovation anywhere in the country having any possible implication on his business. He is for example, presently exploring possibilities of adopting Australian cotton growing technology, which will shorten cotton-growing period by about 1.5 to 2.0 months and is expected to save significant quantities of major inputs such as water, fertilizer and pesticides.
6. He has developed capacity (vision, willpower, resources and contacts) to tackle any untoward farming problem.

Crop Productivity and Profitability:

Average cost of production during this phase was as under
Cotton & wheat: Rs 10,000/- acre

Average profit of cotton (6 months): 100%

Average profit of wheat (5 months): 100%

Zia was able to sell irrigation water to neighboring farmers for Rs 90,000 / year. In addition he sold fish from his water reservoir for Rs 80,000-100,000 per year, against a cost of Rs 10,000.

Problems Encountered :

1. Water table has gone down from 30 feet to 50 feet in 20 years. Consequently electricity bill has gone up by 20%. He is, therefore, planning to get supplemental canal irrigation water from a nearby canal.
2. Farm size is still small. Additional land is not easily available for purchase or for rent.
3. LCV is still not under control; It is haunting cotton growers as much today as before. No definite solution is in sight. There is urgent need for LCV resistance varieties.
4. There is urgent need for short duration cotton varieties. This will have direct positive effect on following wheat crop yield.
5. Capacity of soil to regularly supply water and nutrients to crop roots is highly deficient. A consistent and massive input of organic matter (cotton sticks, wheat straw, sugarcane bagasse and any other crop waste, leaf manure, dung manure etc) is required which is not forthcoming. Synthetic organic amendments (polymers) are not available.

Comments

1. Agri business builds wealth as well as health, promotes respect and love for environment. It yield more profit than any other lawful business or industry
2. In Pakistan, scale of economy is, however, small. Our social system, land tenure system and inheritance system are such that scale of economy is expected to further grow smaller and smaller.
3. Growers are not conscious of their being businessmen. They never undertake proper feasibility study based on hard facts and on genuine estimates; their decisions are generally based on unauthentic hear say reports.
4. Their continuous education, enrichment of experience as businessmen and access to market and market information is a necessary pre- requisite for success.

5. Insufficient capital, post harvest family feuds and litigation, wasteful spending on births, marriages and other functions are very serious hurdles in the way of their success.

6. Lack of governmental, non-governmental and private institutional support and even hostility is another major cause of substandard performance of agri-business. It may be pointed out that timely and reliable support by various institutions is the major cause of better performance of farmers of Indian Punjab.

7. Existing system of private land holdings and present shape of implementing inheritance system do not permit growers to go beyond minimum scale of business and do not provide necessary lasting incentives to them.

Future Challenges :

- Retaining present size of farm in view of looming subdivision as a result of operation of prevailing inheritance system.
- Establishing a Corporation whereby size of the agri business can be vastly enlarged horizontally and economies of scale are achieved. Furthermore, various inheritors can simultaneously easily get their due share of property without destroying and damaging the business.
- Exploring the possibility of both vertical as well as backward (supplying inputs) as well as forward (processing and marketing others produce) growth of farm business.

Objectives of the Case :

- To expose young business persons to potential of farm crops business.
- To let them identify and experience various real problems/challenges.
- To let them figure out, analyze and evaluate various solutions to above cited problems.
- To let them develop a feedback mechanism to monitor the effects of various remedial measures adopted.

EXHIBIT 1
VEHARI DISTRICT AT A GLANCE

1	Population (000 Numbers)	=	2,090
2	Area (Square Kilometers)	=	4,365
3	Population Density (per sq.Km.)		479
4	Tehsils	=	Vehari, Burewala and Mailsi.
5	Main Towns	=	Gagoo, Tibba Sultanpur, Machiwala, Sheikh Fazal, Karampur, Decota, Garaha More and Ludden.
6	Main Crops	=	Cotton, Wheat, Sugarcane, Maize and Rice.
7	Main Fruits	=	Citrus, Mango and Guava.
8	Main Vegetables	=	Onion, Potato, Cauliflower and Bitter Gourd.
9	Forest (Area in Acres)	=	489
10	Total Metalled Roads (Km)	=	1,296.36
11	No. of Grid Stations	=	8
12	No. of Telephone Exchanges	=	29
13	Number of Industrial units	=	1,109
14	Major Industries	=	Cotton Ginning & Pressing, Flour Mills, Oil Expeller Machinery, Oil Mills, Poultry Feed, Rice Mills, Textile Composite, Textile Spinning, Textile Weaving and Vegetable Ghee / Cooking oil

EXHIBIT 2-A

NATURAL RESOURCES
AGRICULTURE (Main Crops)

Sugarcane, Wheat, Cotton, Rice and Maize are the main crops grown in the district. Production of these crops during the period 1998-1999 to 2000-2001 is given in Table.

PRODUCTION OF MAIN CROPS
(1998-99 to 2000-2001)

CROP	PRODUCTION (000 M.TONS)		
	1998-1999	1999-2000	2000-2001
Sugarcane	754.80	624.20	572.70
Wheat	615.09	861.72	813.19
Cotton (000 Bales)	741.19	837.00	1010.26
Rice (cleaned)	23.02	27.59	26.31
Maize	13.90	52.10	21.60

Besides, Jawar, Bajra, Moong, Mash, Masoor and Oil Seed Such as Rape/ Sunflower/ Mustard are also grown in minor quantities in the district.

Main Fruits

Citrus, Mango & guava are main fruits grown in the district. Production of these fruits during the period 1998-1999 to 2000-2001 is given in Table.

PRODUCTION OF MAIN FRUITS (1998-99 to 2000-2001)

FRUIT	PRODUCTION (M.TONS)		
	1998-1999	1999-2000	2000-2001
Citrus	53655	62398	71581
Mango	44114	46338	48192
Guava	17397	18402	19384

Besides, Jaman, Pomegranate, Phalsa and Banana are also grown in minor quantities in the district.

Main Vegetables

Potatoes, Onion and Cauliflower are main vegetables grown in the district. Production of these vegetables during the period 1998-1999 to 2000-2001 is given in Table.

PRODUCTION OF MAIN VEGETABLES (1998-99 to 2000-2001)

VEGETABLE	PRODUCTION (M.TONS)		
	1998-1999	1999-2000	2000-2001
Potatoes	17821	19916	20495
Onion	14510	14904	13437
Cauliflower	6047	6047	5871

Besides, Bitter Gourd, Carrot, Ladyfinger, Turnip, Peas, Tomato and Garlic are also grown in the district in minor quantities.

EXHIBIT 2-B Forests

a) Location of Forest and Area Under Afforestation.

An area of 489 acres is under forest in the district. There is also linear plantation of 2034 Km alongside the roads/ rails/ canals in the district. Trees grown in the area are Kikar and Shisham.

b) Production of Timber and Fire-wood

The production of Timber and Fire-Wood in the district during the period 1998-1999 to 2000-2001 is given under Table.

YEAR	PRODUCTION (CUBIC FEET)	
	TIMBER	FIRE-WOOD
1998-1999	18000	Nil
1999-2000	111000	Nil
2000-2001	Nil	Nil

LIVESTOCK POPULATION

The animal population of the district is given in Table.

ANIMAL POPULATION	
ANIMAL	POPULATION (000 HEADS)
Cattle	208
Buffaloes	470
Sheep	117
Goats	515

Poultry Population

As per Punjab Development Statistics, 2000 there are 175 broiler and 89 layer poultry farms in the district Vehari having rearing capacity of 2250 and 545 thousand birds respectively.

Availability of Hides / Skins and Slaughter House Wastes.

As per Punjab Development Statistics, 2000, 74400 animals were slaughtered in recognized /un-recognized slaughter houses in the district during the year 1999-2000 which is a fair estimate of the availability of hides and skins in the district. The availability of slaughter house by-products is estimated as under: -

Blood	205 M.Tons
Bones	556 M.Tons
Tallow	278 M.Tons

Production of Wool

The sheep population of 17 thousand heads in the district is expected to yield about 117 M. Tons of wool annually.

DESCRIPTION OF EXISTING INDUSTRIES.

There are about 1,109 cottage level and small/ medium/ large scale industrial units operating in the district. The installed capacity of major industrial sectors is given in Table-9 and details regarding major industrial units are given at Annex-A.

EXHIBIT 3

Existing Pattern of Agri-Industries

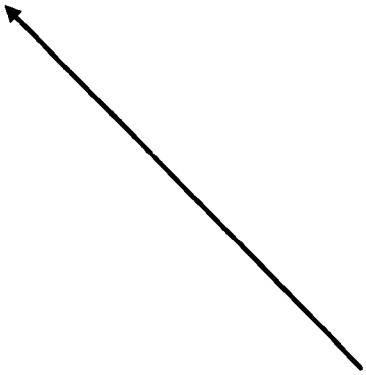
INDUSTRY_WISE INSTALLED CAPACITY

Sr.No.	INDUSTRY	NO. OF	UNITS INSTALLED CAPACITY
1	Cotton Ginning & Pressing	144	576 Sawgins, 144 press
2	Flour Mills	11	850 M.Tons/Day
3	Oil Expeller Machinery	11	245 Nos.
4	Oil Mills	192	638 Expellers
5	Poultry Feed	1	500 M.Tons
6	Rice Mills	25	62 Hullers
7	Textile Composite	1	62912 Spindles, 312 Looms
8	Textile Spinning	3	29376 Spindles, 800 Rotors
9	Textile Weaving	6	436 Looms
10	Vegetable Ghee / Cooking Oil	4	226800 M.Tons

EXHIBIT 4

MAP OF VEHARI DISTRICT

Sindhu Farm



Above ground 1.5 acre water pond beautifully constructed for storing irrigation water but later also used for fish production.

Another view of water pond for irrigation and for fish production.

Cotton field with Farm house in the back ground.

Sindhu Farm house, a comfortable spacious house.

Mr. Zia in his cotton field.

Pesticides being sprayed in cotton field.

Mr. Zia driving his tractor.