PAKISTAN'S QUEST FOR FOOD SECURITY
(1978 — 88)

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CERTIFICATE

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We recommend that this dissertation be placed before the examiner for evaluation.

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DEDICATED TO THE POVERTY-STRICKEN AND HUNGRY

PEOPLE OFTEN CALLED "THE MASSES"

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ASMI RAZA

PREFACE

The present study intends to examine the Pakistan's quest for food security which is mainly dependent upon the level of agricultural development. The main focus of the study is to examine Pakistan's domestic efforts to achieve self-reliance in foodgrains production during the Fifth Five Year Plan (1978-83) and the Sixth Five Year Plan (1983-88). And at the same time external dimension of food security in the context of U.S. Food aid under PL-480 and also the role of regional cooperation in the context of South Asia Food Security Reserve (SAFSR) have been examined. The present study is an humble attempt at laying the basis for future research on food security in South Asia which will go a long way in eradicating hunger and malnutrition from this region.

Food Security is generallu understood to imply arrangements whereby the population of a country would be assured a minimum adequate level of foodgrains supply in years of normal as well as of poor harvests. There is general agreement that to achieve food security it is essential to accelerate foodgrains production in the most seriously affected countries.

Pakistan was a surplus country in foodgrains at the time of its independence. But rapid increase in the population on the one hand and

relative neglect of agricultural sector in the development plans of the country in early years on the other, turned it into a net importer very soon. The deficit was however met easily by food aid from U.S.A. under PL-480 Programme. Agricultural Sector achieved high growth rate of 4.9 per cent during (1969-70), with the result that the country had no serious food problem to face till the early seventies. During 1960's particularly after 1965, high yielding grain varieties adopted to local conditions were evolved on the basis of Philippine and Mexican wheat. The development of "Green Revolution" marked a significant leap in the development of the agricultural productive forces.

It was only after 1971-72 that food situation in Pakistan began to assume serious proportion. The food import bill began to rise shortly almost at the same time as the OPEC countries hiked the oil prices, thereby making the balance of payments position of the country quite difficult. The Non-Plan Period (1970-78) was marked by many institutional changes, political setbacks and a series of natural disasters in the form of floods (1973 and 1977) and draughts with consequent failure of crops. The other important point of view is that the slowdown in economic activity in the country could be attributed to the various reforms carried out by the Pakistan People's Party (PPP) during its rules between 1972-77. These reforms are said to have created a climate of uncertainty and fear among the dominant

interests on land. The same argument has been used to discredit the pricing and marketing policies of PPP. These arguments naturally surfaced following the imposition of Marital Law, which removed PPP from power in July 1977.

Most of the studies on the agricultural development and food problem of Pakistan cover the period upto 1970. The present study is mainly concerned with the pattern of agricultural development in Pakistan's drive towards self-reliance in the recent years.

The period 1978-88 has been chosen to see the pattern of agricultural development and Pakistan's efforts to achieve self-reliance in the food sector during President Zia's regime. This period also marked the end of Pakistan's Non-Plan Period and the beginning of Fifth Plan. During the Fifth and Sixth Plan agricultural Sector in Pakistan achieved stability in the production of cereals and to some extent in non-cerals. For our analysis, we have selected four food crops, two of which are cereals viz. wheat and rice, the other two being non-cereals viz., pulses and edible oilseeds. The present study is expected to fill the gap in existing literature on Pakistan's food problem covering the trends and policies over the last decade.

The basic premise underlying the analysis in the study is that the objectives of agricultural policies in general and of food policies in particular are diverse and often incompatible. To varying degrees governments in different countries are concerned with attempting to

to secure stable flow of supply of foodgrains to the population, ensuring minimum nutritional requirements for consumers below the poverty level, stable prices and an adequate income for farmers. To cope with their food problems, governments can implement many different policies including buffer stocks, internal price and income programmes, direct government procurement and distribution and various trade policies including regional cooperation. The food problem of Pakistan has been examined keeping in view the above proposition. A work on the subject of food security cannot possibly leave one aloof, however analytical the study may be.

In the first chapter, an overview of Pakistan's agricultural development since independence with special reference to food production upto 1977, has been presented. This gives a brief analysis of pattern of agricultural development in the different five year plans.

In the second chapter, recent trends in food production during fifth and sixth plan have been examined.

The third chapter includes input policies relating to H.Y.V., credit, fertilizers, irrigation and subsidies on inputs.

The fourth chapter includes output policies relating to procurement, marketing, agricultural price policies and subsidies on them.

In the fifth chapter external dimension of food security relating to food imports and recent efforts at regional cooperation has been examined.

The last chapter is an evaluation cum conclusion which assesses the attainment of self-reliance and food security in Pakistan.

CHAPTER - I

PAKISTAN'S AGRICULTURAL DEVELOPMENT 1947-77 : AN OVERVIEW

Agriculture is the mainstay of Pakistan's economy accounting for over 23 per cent of gross domestic product (GDP), employing about 50 per cent of the labour force, and accounting for about 70 per cent of export earnings, including processed agricultural exports. Although the share of agriculture in GDP has declined over the years due to diversification towards industry and infrastructure, it continues to remain the most important sector of the economy providing livelihood to over 70 per cent of the rural population. Over the last two decades, agriculture has advanced rapidly and has maintained an average growth rate of 3.3 per cent per year.[1]

Economic regeneration attempted in the successive Five Year Plans has made agriculture a crucial sector in the national economy of Pakistan. It supplies the bulk of wage goods required by the non-agricultural sector and raw materials for a large section of industry. Moreover, transport, marketing, processing and other aspects of agricultural production also have a strong bearing on the tertiary sector of the economy.

Agriculture was the "sick man" of economic development in Pakistan during the 1950's. A stagnant agriculture in a predominantly agricultural economy meant a slowly growing economy. Pakistan was not unique in this respect; agricultural development has been a problem in all the underdeveloped countries with peasant rather than commercial agricluture.[2] Crop production

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1. 7th Five Year Plan 1988-93 and Perspective Plan 1988-2003. Planning Commission, Government of Pakistan, vol.II, p.1.
2. Gustav F. Papaneck, Pakistan's Development Social Goals and Private Incentives, Harvad, 1967, p.145.

in Pakistan, influenced by irrigular monsoon rains, varies considerably from year to year. Feelings of optimism and pessimism fluctuated with weather. During 1953-55, for instance, two good crops years caused widespread optimism, especially since the two previous years' output was below trend, and this made for a larger apparent gain. For a more reliable picture of changes in crop production, one must eliminate the effect of random fluctuations due to weather. In Pakistan, we find that the output of agriculture did not keep up with population growth in the 1950's despite statement in the First Five Year Plan that the agriculture must be given the "highest priority".

The stagnation in agricultural production and the emergence of a food deficit in the fifties can be attributed to massive poverty, skewed distribution of landownership, technological problems and above all, absence of any integrated policy framework to tackle them. Except for the construction of a number of irrigation projects, the agricultural sector failed to stir itself out of a state of inertia.[3] By the end of the fifties, however, pressing problems like food shortage, foreign exchange scarcity, and raw material constraints on industrial development were responsible for forcing the planners and policy makers towards an integrated policy framework for the development of agricultural sector so that the problem of food could be adequately tackled. In this way,we see that the during 1948-55 the agricultural sector went through a period of acute stagnation arising out of a number of factors.

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3. Viqar Ahmad and Rashid Amjad, The Management of Pakistan's Economy, 1947-82. Karachi 1986, p.108.

Agricultural Development During Five Year Plans

The agricultural sector grew at an annual rate of 1.8 per cent during the First Five Year Plan (1955-60). In the agricultural field, the target fixed was an increase of 9 per cent in the production of foodgrains, progressive narrowing of the gap between consumption and production of food in the country, achievement of major expansion in the production of commercial crops including sugarcane by 33 per cent, cotton by 21 per cent, and jute and tea by 15 per cent each and extension of irrigation facilities to 1.6 million of acres of unirrigated land and provision of improved irrigation facilities to another 4.2 million acres of cultivated land.[4]

Another feature of the agricultural sector during the First Plan (1955-60) period was the growing shortage of food grains and increasing dependence of the country on food imports. Except for two years during the early fifties, wheat production did not show very significant year to year fluctuations. This is explained by the fact that wheat is grown during winter season mostly on irrigated land such that farmers have fairly good control over factor inputs. The same was not true of rice production in East Pakistan (Now Bangladesh) where both floods and draught can cause wide year to year fluctuations in output. These fluctuations made storage and price stabilization difficult problems. Taking the production statistics and indices together, it appears that, over the entire sixteen year period since partition, agricultural production barely kept ahead of population

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4. First Five Year Plan (Draft), Planning Commission, Government of Pakistan, Karachi, May 1956.

growth and in some cases (e.g. wheat), it decreased far behind the requirement per person at a constant level.[5]

At the time of partition, Pakistan was, on the whole, a surplus state in food grains. In the next ten years, the per capita availability of foodgrains had declined and Pakistan became a net importer of foodgrains. Instead of giving top priority to food self sufficiency, Pakistan resorted to asking for massive food aid. The rapid growth of PL-480 import and their impact on Pakistan's economy in the early 1950's shows the weakness of development programmes and planning in the country.

The First Plan claimed to have given priority to agriculture. This is surprising at first sight because the share of the total investment going to agriculture as well as the contribution to additional output that it was expected to make was much less than industry. It is clear, therefore, that the Plan gave priority to agriculture in special sense of the word. It is only in the perspective of the past level of investment in agriculture that the 'priority' given to agriculture by the Planners becomes understandable. The First Plan had projected an increase of 1.2 million tons in the production of foodgrains (9 per cent) while the actual increase was 1.7 million tons (13 per cent). It is clear that the Plan target was wholly inadequate to take care of the 12 per cent increase in population during this period as well as to meet the increase in food consumption resulting from rising per capita income. Despite an overfulfilment of the

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5. Christoph Beringer, 'The use of Agricultural Surplus Commodities for Economic Development in Pakistan'. *The Institute of Development Economics*, Karachi, 1962, p.7.

foodgrains target, 1959-60 was still a year of considerable food imports. It was, however, in the case of commercial crops that major shortfalls were reported.[6]

In this way, we see that by end of the First Five Year Plan, the stagnant character of the agricultural sector was emerging as the most important bottleneck in the way of rapid economic growth, industrialization efforts and export promotion schemes.

In the Second Five Year Plan (1960-65) the highest priority was attached to increasing agricultural production. It was stipulated that the gap in food supply should be closed and foodgrains production raised to the level of self sufficiency. An overall increase of 14 per cent in agricultural output was projected.[7]

At the core of the agricultural development programme was the determination to feed the nation with food grown on its own soil. For achieving these objectives, the Second Plan allocated 24 per cent of the total investment funds to agriculture and irrigation. It is also observed that the Second Plan first fixed its target in agriculture and industry independently and later on, derived targets for other sector on that bssis. In agriculture, the starting point was the target of self sufficiency in foodgrains. In fixing this target, the planner stretched the term 'self sufficiency' because the idea was to provide for domestic consumption requirements at the

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6. Mahbubul Haq, The Strategy of Economic Planning : A Case Study of Pakistan, Oxford, 1963, p.157.

7. Second Five Year Plan and Revised Estimates, Planning Commission, Government of Pakistan, Nov. 1961.

existing level of per capita consumption after taking into account the growth of population, making no allowances for increasing per capita consumption. In fact, the Plan expected sizeable imports of foodgrains under PL-480 programme in order to increase per capita consumption above the pre-plan levels. Thus the agricultural programme took shape on the basis of the twin objectives of self sufficiency in foodgrains and the maximization of export earnings from primary crops and by projecting certain input-output relationship derived from experimental farms.

After stagnating in the 1950's, agricultural production in Pakistan rose substantially in the early 1960's because of the increased area under cultivation and higher crop yields made possible through greater availability of controlled water and the use of fertilizers. Agricultural production staged quite a remarkable upsurge during the Second Plan period. After having failed to match population growth for more than a decade, farmers responded well to the combination of goods weather, increased irrigation water supplies, and to increased availability of fertilizer and other non conventional inputs.

The Second Plan while according high priority to agriculture through necessary public sector intervention and extensive tapping of private sector initiatives, abandoned compulsory procurement and introduced subsidization to promote the use of fertilizer and pesticides.[8]

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8. Tariq Husain, 'Potential for Irrigated Agricultural Development in Pakistan', in Pakistan's Development Priorities, Oxford, edited by Shahid Jawed Burki and Robert Laporte Jr, 1986. pp 49-51.

These steps led to increase in the foodgrain output to 7 millions tons by 1965. During this period ground water supply increased two and a half fold and fertilizer offtake by a factor of four.

During the Third Five Year Plan (1965-70), the annual rate of growth in agricultural sector further improved when it reached the level 4.1 per cent and again surpassed the population growth rate of 3.0 per cent during the corresponding period. It is estimated that the value of crop output increased by 49 per cent during the five years of the Third Plan. Encouraged by satisfactory performance of agricultural sector in the Second Plan, adequate attention for the sector continued to be emphasized. In this plan only, the development and spread of high yielding varieties of wheat, rice and maize took place. The discovery and development of high yielding seeds amount to a technological change and this created a large potential for raising the production of certain crops provided the necessary inputs were properly used.

High yielding varieties of wheat were introduced in Pakistan in 1965. They not only have a higher yield potential, but also are relatively more costly to cultivate as they require more water, fertilizers, human and animal labour, when compared withthe local varieties. During the Third Plan, the high yield potential of Mexican wheat raised the hopes of achieving the national objective of food-self sufficiency and even introduced the possibilities of exports. Since Mexican wheat requires higher resource cost, problems of fixing the support at the proper level and of examining the economics of importing and exporting became inevitable during this period 1965-70.

In this period we find that foodgrains output had increased by 50 per cent to 11 million tons. Political factors in the wake of 1965 war with India caused the USA to change its foodgrain export policy under PL-480 programme and the Government of Pakistan was obliged to import foodgrain from its own exchange resources. The availability of the Green Revolution potential and this external pressure induced the government to 'target' for food self sufficiency by the end of Third Plan and special programmes to achieve food self sufficiency by 1970 were launched. The important components of the proposed programmes were a continuation of the instruments promoted during the Second Five Year Plan.[9]

During the Third Plan period agricultural development strategies included the following measures :

a] Increasing the use of fertilizer through subsidization (35 per cent of cost) and ensuring adequacy through imports and domestic production, improving the fertilizer distribution system, and expanding the facilities for financing its purchase;

b] increasing the use of plant protection material through 75 per cent subsidization and an expanded programme for ground and aerial spraying;

c] provision of seed of high yielding varieties by expanding supplies through imports and local multiplication and subsidization;

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9. Ibid., p.52-54.

d] increasing water supplies by developing public tubewells, encouraging installation of private tubewells, and expanding surface water supplies (completion of Mangla dam and initiation of Tarbela);

e] improving cultural practices through expansion; and providing greater economic incentives through subsidization of inputs and better prices of output.

During the Third Plan period it is observed that the agricultural performance was impressive indeed. Value added in agriculture increased at an annual rate 6.3 per cent; value of major crops increased at 9 per cent per annum while foodgrain output increased at 8.5 per cent per annum. This was the first time in Pakistan that crop yields became the principal source of agricultural growth.

One can easily say that during 1960's covering the period of Second Five Year Plan and the Third Five Year Plan growth rates in agricultural sector were significantly high. During the first half, the years of high agricultural growth were between 1960-61 and 1962-63 and then between 1963-64 and 1964-65. There was marked slowing down during 1965-66 and 1966-67. There was a very slow recovery in food crops in 1966-67 although overall agricultural growth was positive from a very low base of the previous year. The first significant year of the so-called 'Green Revolution' is between 1966-67 and 1967-68 when agricultural growth increased by 11.7 per cent after which there were significant increases in the next two years especially between 1968-69 and 1969-70.

Non Plan Period (1970-78)

Agricultural growth slowed down again in the seventies. The average annual compound growth rate of agriculture fell from 7.5 per cent during 1966-70 to 1.9 per cent 1970-78. The momentum of 1960's could not be maintained during the period 1970-78 on account of following factors :

a] The early seventies brought setback to Pakistan economy especially to its agriculture with the seperation of Pakistan into two countries;

b] usually unfavourable weather and disturbed politico-economic scenario prevailed during 1970-72;

c] three major droughts and one major flood (1973) and Tarbela mishap during 1974-75;

d] OPEC oil price hike and increase in world fertilizers prices by 300 per cent;

e] The water availability increased by about 15 per cent only during 1970-77, against an increase of 23 per cent during 1965-70.

These setbacks virtually stopped agriculture in its tracks : value added in agriculture increased at 0.8 per cent per annum, foodgrain output increased at 0.6 per cent per annum, while population growth continued at 3 per cent per annum.

Taking these factors into account, we can say that the "Green Revolution" came in on a wave of rising significant increases in public expenditure on

(productive and consumptive) subsidies which propelled the initial stage of break through.[10] But the development of support services and especially agricultural extension, research, education and training had been almost totally neglected. Despite a greater availability of key inputs like fertilizers, high yielding varieties of seeds and water, the agricultural sector begain to experience diminishing return since adequate attention had not been given to the efficiency of their use. Thus, despite land reforms which were introduced in the early seventies, the institutional failure to supplement the 'magic formula' of the 'Green Revolution' proved crucial in slowing down agricultural growth during the seventies.

In the late seventies agricultural production once again showed an increasing trend because of favourable weather conditions and a better distribution of inputs, but also because more appropriate price incentives were offered to the farmers.

It is estimated that during 1970-77 agricultural sector as a whole grew at an annual rate of 1.5 per cent while the growth rate for major crops was about 0.7 per cent. This sectoral growth compares unfavourably with the average annual growth of 4.1 per cent and 3.4 per cent achieved during the Third and Second Plan period respectively. It is quite visible that the throughout most of the seventies, this sector was plagued by stagnation, inter-crop disequilibrium and a relative neglect of the non-crop sector. It was only towards the fag end of the decade that a modest growth was

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10. Viqar Ahmed and Rashid Amjad, op. cit., p.3.

achieved in the production of major food crops. Even though every effort was made to expand the area under crops, a sustained increase in productivity was required to secure growth of the agriculture sector. Table 1.1. shows the make-up of the increase in the value added by the agricultural sector during the seventies. There were considerable fluctuations in the

TABLE - 1.1

*GROWTH RATES OF VALUE ADDED IN AGRICULTURE**

[per cent per year]

Agricultural Sub-sectors	*1969-70 to 1976-77*	*1976-77 to 1979-80*	*1969-70 to 1979-80*
Major Crops	*1.2*	*4.3*	*1.8*
Minor Crops	*4.9*	*2.8*	*4.6*
Livestock	*2.1*	*3.6*	*2.5*
Fishing	*-9.9*	*14.6*[a]	*c*
Forestry	*c*	*25.6*[b]	*c*
Agriculture Sector	*1.8*	*4.1*	*2.3*

*NOTE : *Growth rates are trend values, significant at the 95 per cent confidence level.*
a Values significant at the 80 per cent confidence level.
b Values significant at the 90 per cent confidence level.
c Insignificant trend.

SOURCE : Based on Economic Survey 1980-81 Government of Pakistan, Islamabad.

growth rate pertaining to various sub periods and different sub-sectors. The growth rate of 4.1 per cent per annum in the agricultural sector as a while, achieved during the last three years of the decade (1976-77 to 1979-80), was quite satisfactory. This was more apparent than real : it was measured against a virtually stagnant agriculture, which crept forward

at the rate of 1.8 per cent per annum during the first half of seventies. In fact, growth rate should have been much faster to shake off the phenomena of stagnation in the agricultural sector. As such, the average growth rate for the entire decade was only 2.3 per cent per annum, which siginfied a reduction in per capita agricultural output.

From the same table, it is interesting to note that during the last three years of the decade major crops grew almost twice as minor crops. However, for the entire decade, the most important source of agricultural growth was the relatively higher growth rate of minor crops. This is an important fact which farmers and policy makers must recognize in designing a strategy for the long-run growth of the agricultural sector which will go a long way in achieving the cherished goal of food self-sufficiency in Pakistan. We find that concerted efforts were lacking. It is desirable that a comprehensive strategy of agricultural development to ensure full utilization of the potential of agricultural growth should have been launched at that time.

An assessment of the programmes during 1970-78 vis a vis the 1969-70 base will not be meaningful or appropriate because of the effect of extraneous factors which are not likely to recur in the same adverse combination. The year 1969-70 was exceptionally good with respect to weather and water availability etc, while the period 1970-78, by the large, faced usually adverse conditions. The average production during 1970-77 and the estimated actual production from 1977-78 have therefore, been compared with average production of 1967-70. In Table 1.2 it is observed that the average production of crop was higher for the period 1970-77 compared with the base average production (1967-70).

TABLE - 1.2

AVERAGE CROP PRODUCTION DURING 1967-70 VIS-A-VIS AVERAGE PRODUCTION 1970-77 AND ESTIMATED ACTUAL PRODUCTION 1977-78

	Average Production		1977-78 (Estimated) actual	Percentage increase/ decrease over 1967-70 (Average)	
	1967-70	1970-77		1970-77	1977-78
	-----000 long tons----------			-----per cent--------	
Total Foodgrains	10,020	11,430	13,115	14	31
Wheat	6,670	7,586	8,700	14	30
Rice	1,946	2,378	2,904	22	49
Maize	684	732	808	7	18
Other Foodgrains	720	734	703	2	(-) 2
Gram	497	558	610	12	23
Other Pulses	191	190	194	(-)0.5	(-) 1.6
Rape & Mustard	249	276	290	11	16
Sesamum	8	11	12	37	50

SOURCE : Based on Fifth Five Year Plan (1978-83) Sectoral Programmes (Part II). Planning Commission, Government of Pakistan, June 1978.

Pakistan like India has gone through different phases in agricultural growth. There has been a major change in sources of growth in agricultural output since 1970 compared with 1960s. Growth in production in the latter half of the 1960s was achieved by technological progress in the form of high yielding

varieties, fertilizer, and tubewell irrigation, all of which improved yields. It is estimated that as much as 74 per cent of the increase in output in 1960-65 was due to the higher yields compared with only 7 per cent from the expansion of cultivated area.[11]

In contrast, during the 1970s, growth in agricultural production has mainly come from increased cropped area made possible by the expansion of irrigation facilities. Production of wheat recorded an annual growth rate of 3.1 per cent during the 1950s and 1960s, but it improved only marginally to 3.2 per cent during 1970s. Growth in rice production declined to 2.1 per cent in 1970s compared with a growth of 5.6 per cent in the 1950s and 1960s.

The rate of population growth has been steadily rising from 1.8 per cent in the 1950s to 2.8 per cent in the 1960s and 3.1 per cent in the 1970s and early 1980s.[12] As a result, in spite of growth in cereal production, the per capita availability of cereals has shown only marginal improvement from 139 kilograms (kg) per annum in 1949-50 the 147 kg in 1979-80. The per capita availability of pulses and milk declined steadily over the last three decades.

An overview of dynamics of food sector's development in Pakistan can be deduced from the Table given below :

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11. G.H. Gotsch, "Green Revolution and Developments in Pakistan's Agriculture" in Rural Development in Bangladesh and Pakistan, ed. Robert - D. Stevens, Hamza Alavi and Peter J, Bertocci (Honolulu : University of Hawaii Press, 1976), p.360.
12. Sukhmoy Chakravarty, 'Development Experience in South Asia', *Asian Development Review*, 1988, vol.6, no.1, p.32.

TABLE - 1.3

PHYSICAL ACHIEVEMENTS PRODUCTON OF FOODGRAINS

Major Programmes	*Unit*	*First Plan (1955-60)*	*Second Plan (1960-65)*	*Third Plan (1965-70)*	*Non-Plan Period (1970-78)*
Grains	*000 tons*	*6090*	*7325*	*11050*	*12861*
Wheat	"	*3908*	*4590*	*7293*	*8367*
Rice	"	*995*	*1350*	*2401*	*2950*
Maize	"	*496*	*528*	*667*	*821*
Others	"	*701*	*857*	*689*	*723*
*Oilseeds**	"	*835*	*999*	*1397*	*1471*
Pulses	"	*837*	*875*	*679*	*813*
Gram	"	*608*	*671*	*506*	*620*
Others	"	*229*	*204*	*173*	*193*

* *Includes Cotton seed.*

SOURCE : Compiled from Sixth Five Year Plan (1983-88), Planning Commission, Government of Pakistan, Islamabad.

Table 1.3 gives the physical schievement of crops production from the First Plan to Non Plan period (1970-78).

TABLE - 1.4

AREA, PRODUCTION AND YIELD OF IMPORTANT FOOD CROPS

Food Crops	1947-48			1955-56			1960-61			1965-66			1977-71			1977-78		
	Area	Production	Yield	Area	Production	Yield	Area	Production	Yield	Area	Production	Yield	Area	Production	Yield	Area	Production	Yield
Wheat	3954	3354	949	4521	3370	747	4639	3814	820	5155	3916	756	5977	6476	1083	6360	8367	1316
Rice	790	693	876	969	841	867	1181	1030	876	1393	1317	941	1503	2200	1464	1899	2950	1553
Gram	882	472	535	1314	669	534	1106	610	553	1070	540	507	914	494	545	1099	614	559
Other Pulses	2212	95	448	195	79	405	177	81	457	187	65	347	403	175	434	446	198	444
Rape Seed & Mustard	429	175	406	576	221	369	499	214	433	442	182	415	510	269	526	412	248	573
Sesamum	26	09	346	23	06	260	32	07	226	28	07	241	31	10	322	32	19	406

NOTE : Area = Million Hectares, Production = Million tons, Yield = Kg/hectare
Yield per hectare Kg calculated on the basis of area and production.

SOURCE : Based on Economic Survey (various issues), Government of Pakistan, Islamabad.

Table 1.4 shows areas, production and yield of important crops in Pakistan from 1947-48 to 1977-78. In the table we see that yield of wheat was 849 kg per hectare in 1947-48 which declined to 747 kg per hectare in 1955-56 that is beginning of the First Five Year Plan. In the same period yield of rice too declined. This can be explained in term of stagnant agriculture, influenced by irregular monsoon rains and lcak of agricultural inputs for increasing the productivity of agricultural products. During the period 1965-70, we find that yield of wheat and rice increased from 756 kg per hectare and 941 kg per hectare in 1965-66 to 1083 kgs and 1464 kg per hectare respectively. This was due to use of New Agricultural Technology whichis characterized as Green Revolution period in Pakistan. During 1977-78 this pace was maintained to a great extent. On the other hand yield per hectare of pulses and oilseeds declined during the last three decades. Hence the imports of oilseeds and pulses became a regular feature in Pakistan in late 1970s.

TABLE - 1.5

COMPOUND PERCENTAGE GROWTH RATE OF FOOD CROPS DURING 1947-48 to 1977-78

		000 tons Wheat	Compound % rate of Growth	000 tons Rice	Compound % rate of Growth	000 tons Pulses Including Gram	Compound edible Oilseeds	000 tons edible oilseeds	Compound % rate of Growth
1947-48	Pre-Plan	3354	-0.64	693	2.40	567	2.50	184	2.54
1954-55		3186		838		691		225	
1955-56	1st Plan	3370	3.01	841	3.42	748	-1.60	227	1.70
1959-60		3909		995		690		247	
1960-61	2nd Plan	3814	3.78	1030	5.56	691	1.65	221	1.06
1964-65		4591		1350		750		283	
1965-66	3rd Plan	3916	13.24	1317	12.76	605	-1.18	189	6.83
1969-70		7294		2401		570		263	
1970-71	Non-Plan	6476	3.25	2200	3.73	669	2.45	279	-1.41
1977-78		8367		2950		812		249	

SOURCE : Based on Economic Survey (various issues) Government of Pakistan, Islamabad.

Table 1.5 exhibits compound percentage growth rate of important foods crops during Pre-plan period, three five year plan periods and Non-plan period. During Pre-Plan period 1947-48 to 1954-55 compound growth rate of wheat was negative which increased to 13.24 per cent during 1965-70. This was the period when a major break-through was achieved in the production of wheat with the help of High Yielding Varieties Seeds. This is also true in case of rice. In the case of pulses we see in table that compound growth rate

during Pre-plan period was 2.50 per cent which declined to (-) 1.18 per cent. This is due to neglect of production of pulses during Green Revolution period. But in the recent years situation has improved to some extent. Import of edible oils became a big strain on the foreign exchange of Pakistan in 70s'. In the Pre-Plan period the compound growth rate of edible oils was 2.54 per cent which declined to (-) 1.41 per cent in 1977-78.

From the above overview of Pakistan's agricultural development during the 1947-77 one can say that the food situation deteriorated markedly during the early 1950's when production of foodgrains fell by 15.1 per cent from 66.66 lakh tons in 1950-51 to 56.54 lakh tons in 1954-55 in the face of annual population growth of 2.5 per cent.[13] During the terminal year of First Plan that is 1959-60 the production of foodgrains rose by 16.6 per cent to 65.92 lakh tons whereas the real per capita income rose by 12.3 per cent respectively.

Assuming an income elasticity of 0.3 per cent,* the total effective demand for food rose by 16.6 per cent during 1955-60. Thus the gap between demand and production of foodgrains, which was about 25 per cent during preceding quinquennium did not widen during the five year ended 1959-60.[14]

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13. Irfan-ul-Haque, A Compendium of Pakistan Economy, Royal Book Company, Karachi, 1987, p.134.

14. Irfan-ul-Haque, Ibid., p.133-34.

* Annual Plan, 1974-75, Planning Commission, Government of Pakistan, Islamabad.

In the same way, during 1960-65 foodgrain production increased annually by 2.5 per cent and the real per capita income by 21.1 per cent brought about an increase of similar magnitude in the effective demand for foodgrains. During 1965-70, foodgrains production went up sharply by 44.6 per cent whereas the population and real per capita income rose cumulatively by 12.4 and 28.4 per cent.

This helped in easing the situtation of constant deficit. But this comparable situation was again disturbed by low production of foodgrain (only 1.1 per cent during 1970-77) whereas the population and the real per capita income rose by higher rates. Only in the Fifth and Sixth Plan periods agricultural sector did quite well in achieving food security in Pakistan to a great extent.

CHAPTER - II

RECENT TRENDS IN FOOD PRODUCTION

In this chapter we shall examine recent trends in Pakistan's food production over the last decade covering the Fifth Plan (1978-83) and Sixth Plan (1983-88) periods.

Recent trends in food production in Pakistan show an impressive growth in the two major crops viz., wheat and rice. During the Fifth Five Year Plan (1978-83) period agricultural growth is estimated at roughly 4.4 per cent per annum against the plan target at 6 per cent. Roughly 80 per cent of the major crop targets for incremental production envisaged in Fifth Plan Period were actually realised according to published data. Difficulty was, however, experienced in extending the dynamics of agricultural change to what are regarded as minor crops notably pulses and traditional oil seed crops.

In the food sector the theme of Sixth Five Year Plan (1983-88) was to move from self-sufficiency to export. The Sixth Plan growth strategy was based on a major break-through in agricultural production through vertical improvement particularly on the small and medium size farms. The minor crops particularly pulses and oilseeds, as a result of this strategy, were expected to grow at a faster rate than the major crops. The growth in major crops, during the Sixth Plan averaged 2.3 per cent (target 3.6 per cent) compared to 3.6 per cent (target 7.0 per cent) in minor crops. Consequently instead of 4.9 per cent growth targeted for agriculture, the growth in this sector was 3.8 per cent.

The Sixth Five Year Plan (1983-88) envisaged a sectoral growth target of 4.9 per cent per annum for agriculture. It is now estimated that actual growth in agriculture has been 3.7 per cent per annum during the last 5 years. This compares with the annual growth of 4.4 per cent during the fifth plan period. Both major and minor crops recorded significant shortfalls compared to the targets. The growth in major crops at the average rate of 2.3 per cent per annum was roughly 2/3rd of the target value and fell substantially behind the growth in population. In this way, we find that during the last 10 years, the period between Fifth Plan and Sixth Plan there has been shortfalls from targets in the production of foodcrops. Now we take up the trends in production in fifth five year plan in greater detail.

Fifth Five Year Plan (1978-83)

The high rate of growth in agriculture postulated for the Fifth Plan was based on the assumption that a modification in strategy combined with a substantial increase in supply of services and inputs would generate a momentum sufficient to overcome the constraints which have inhibited the growth in recent years.[1]

The Fifth Five Year Plan envisaged a determined and integrated effort to modernize agriculture and productivity. There was equal stress on augmentation in facilities and supplies and on improved utilization of inputs.

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1. Fifth Five Year Plan (1978-83) Sectoral Programmes, Part - II, Planning Commission, Government of Pakistan, June, 1978, p.5.

The Government of Pakistan was fully aware of the fact that the supply of inputs is not sufficient to ensure rapid growth in agriculture to achieve self reliance in food production. Determined efforts were made to extend modern technology to small farmers and to the backward areas. The plan proposed to launch IBRD - assisted extension and Development of Agriculture Projects in the Provinces of Punjab and Sind to help provide intensive extension coverage to nearly 40 per cent of the cropped area of the country by 1982-83. The Government continued the policy of providing monetary incentives to farmers for increasing agricultural output.

Objectives

The main objectives of agricultural development during the Fifth Plan, in broad terms, were to :[2]

a] achieve a growth rate of 6.0 per cent per annum for the agricultural sector;

b] make a transition from self-sufficiency in wheat as main concern, to export, as the prime objective, increase production of rice for domestic consumption and export, and to increase export of other agricultural commodities to feasible extent based on proved natural advantages and world market prospects;

c] increase oilseeds production with a view to containing imports of vegetable oil;

d] accelerate production of protein rich food such as pulses and meat, milk, egg and fish to a rate higher than the population growth in

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2. Ibid., p.7.

order to improve nutritional level of common man;

e] improve productivity of small farmers in the irrigated areas who constitute majority of the farming community;

f] diversify agriculture, possibly through multiple cropping system and by promoting such minor crops as Soyabean, Sunflower, etc.

Policy Measures

The above objectives was expected to be achieved by taking the following major policy measures :

a] encouraging a cropping pattern which, in aggregate, helps meet plan targets, while promoting a regional cropping pattern best suited to soil and other local conditions, especially the acreage under wheat was expected to increase to maintain food self-sufficiency. A significant increase in area was planned for oilseeds, pulses, fruits and vegetables;

b] launching of vigorous breeding programmes for evolution of new and improved varieties of seeds, particularly of oilseeds, pulses, feed/fodder etc and making radical improvement in the output, and distribution of improved seeds;

c] making a suitable relationship between input and output prices for adequate incentives for modernization and increased production, including gradual reduction in subsidies;

d] ensuring timely availability of at reasonable prices of such inputs as fertilizer, plant protection chemicals and equipments;

e] evolving special programmes and technologies for water management practices, particularly for small farmers to increase production from the irrigated agriculture.

These were some of important policy measures which were taken during the period of Fifth Five Year Plan. Before reviewing the Fifth Plan, it would be better for us to see targets for food crops and other targets relating to inputs and cropping pattern.

Crop Production Target

The crop production targets for the food crops was worked out keeping in view, on the one hand, the requirements for human consumption, industry and export surplus, and on the other hand, technical feasibility and resource availability. It was expected that during plan period cropping pattern would change.

The targets along with the bench mark [3] thus worked out by the Planning Commission are presented in the Table 2.1.

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3. The bench mark production figures represents the estimated production, under condition of weather, International and domestic prices, etc. They do not necessarily represent the actual production estimates for the base year, viz. 1977-78. Such an assumption is necessary to minimize distortation in the production targets likely to arise due to abnormal factors in the base year.

TABLE - 2.1

BENCHMARKS (1977-78) AND CROP PRODUCTION FOR THE FIFTH PLAN

Crop	Area		Production		Acre/Yield		Percentage Increase Over B. mark		
	1977	1982-1983	1977	1982-1983	1977-1978	1982-1983	Area	Production	Acre/Yield
	000 acre		000 long tons		mds/acre				
Total foodgrains	25200	27625	13100	18715	14.2	18.4	10	43	30
Wheat	15900	17700	8700	12800	19.7	19.7	11	47	32
Rice	4500	4900	2900	3900	17.5	21.7	9	34	24
Maize	1600	1700	800	1200	13.6	19.2	6	50	41
Jowar	1100	1150	260	310	6.4	7.3	4	19	14
Bajra	1600	16.50	305	345	5.2	5.7	3	13	10
Barley	500	525	135	160	7.4	8.3	5	19	12
Oilseeds*	5925	7240	1544	2470	7.1	9.3	22	60	31
Pulses	3725	4320	830	1125	6.1	7.1	16	35	16

SOURCE : Fifth Five Year Plan (1978-83), Sectoral Programme (Part-II), Planning Commission, Government of Pakistan, Islamabad, June 1978, p.11.

** includes cotton seed.*

Cropping Pattern

During the Fifth Five Year Plan, the estimated irrigated cropped area of 4.77 million acres was allocated to various crops, keeping in view the existing cropping pattern and allowing for certain changes in the pattern in order to : a) achieve and maintain self-sufficiency in wheat; b) increase oilseed production with a view to containing import of edible oil; c) meet the demand for pulses; and d) increase in the consumption and export of rice.

Major changes projected in the cropping pattern for 1982-83, the terminal year of plan, vis-a-vis the existing pattern were following :

a] Area under wheat in proportionate terms will decrease from about 63 per cent to 62 per cent of the rabi acreage. However, the total foodgrains acrage will slightly decrease from 54.9 per cent to 54.5 per cent of the total cropped acreage ('rabi' and 'kharif');

b] proportionate share of oilseeds acreage (excluding cotton) will increase from 3.3 per cent to 4.4 per cent, while that of pulses will increase from 8.1 per cent to 8.5 per cent.

It was also realized that it is difficult to enforce a particular cropping pattern on the farmers, changes would be brought through suitable policy measures including pricing policies.

Food Production Targets in the Fifth Five Year Plan

The food production targets for 1982-83 was worked out by estimating the additional production likely to be obtained as a result of implementation of various inputs programmes envisaging additional use of water, fertilizer, improved Seeds and plant protection measures, as well as better farm management practices promoted by more intensive and better extension activities.

The total production of crops was expected to increase by about 30 per cent during the plan, mainly on account of 13 per cent increase in the irrigated cropped acreage and significant improvement in acre-yields. The latter

would result from larger use of inputs such as fertilizers, improved seeds, plant protection and improved cultural practices. The contribution of various inputs in achieving the estimated additional production of major crops is indicated in Table 2.2.

TABLE - 2.2

ESTIMATED CONTRIBUTION OF VARIOUS INPUTS (FACTORS) TO ADDITIONAL PRODUCTION OF MAJOR CROPS DURING FIFTH PLAN

Factors/Inputs	*Wheat*	*Rice*	*Maize*	*Sugarcane*	*Cotton*	*Rape & Mustard*
	per cent					
Acreage	*17*	*10*	*7*	*-*	*14*	*23*
Fertilizer and Seed	*27*	*18*	*39*	*21*	*24*	*13*
Plant Protection	*..*	*4*	*2*	*1*	*10*	*-*
Cultural Practices	*3*	*2*	*2*	*1*	*3*	*9*
Percentage increase in Production during 1982-83 over the base year (1977-78)	*47*	*34*	*50*	*23*	*51*	*38*

SOURCE : Based on Fifth Five Year Plan (1978-83), Part-II Planning Commission, Government of Pakistan, Islamabad.

It was expected that availability of the irrigation water will increase from 91.75 million acre feet in 1977-78 to 102.90 million acre feet in 1982-83 (an increase of 12 per cent). Consequently the irrigated acreage would increase by 4.77 million acres. The plan envisaged doubling the use of fertilizers from base level of 0.68 million nutrient tons. The plant protection coverage would increase by 73 per cent i.e. from 5.41 million acres (actual) in 1977-78 to 9.36 million acres (actual) in 1982-83.

Performances of Food Production During The Fifth Plan Period (1978-83)

The complete picture regarding crop production in Fifth Plan is presented in the Table 2.3.

TABLE - 2.3

CROP PRODUCTION PERFORMANCE DURING FIFTH PLAN

	Achievements			Fifth Plan	Additional Output in Fifth Plan		%age of additional output realised
	Actual 1977-78	Actual 1981-82	Actual** 1982-83	Targets 1982-83	Envisaged***	Realised	
	----million tonnes----						
Grains	12.86	16.11	17.39	19.02	5.70	4.53	79
Wheat	8.37	11.14	12.34	13.01	4.16	3.97	95
Rice	2.95	3.43	3.44	3.96	1.01	0.49	48
Maize	0.82	0.93	1.01	1.22	0.41	0.19	46
Others	0.72	0.66	0.60	0.83	0.12	(-) 0.12	(-)100
Oilseeds*	1.48	1.86	2.08	2.51	0.94	0.60	64
Pulses	0.81	0.48	0.71	1.14	0.30	(-) 0.10	(-) 33

NOTE :

* includes cotton seed

** Actual or provisional where-actuals have not been notified.

*** Difference between the Fifth Plan targets for 1982-83 and the Bench-marks.

SOURCE : Based on Sixth Five Year Plan (1983-88) Planning Commission, Government of Pakistan, Islamabad.

We see that the limited shortfall in the production of crop from the Plan targets which were fixed in the light of maximum range of possibilities, perceived at the time of formulation in the Fifth Plan, arises from a number of factors. The tremendous increase in the world energy prices which affected international fertilizer prices, halted the consumption of fertilizer in agricultural sector in Pakistan. World recession was directly responsible for affecting the incentives for export crops notably rice and cotton where international prices had moved by the end of the Plan period below domestic support prices. Difficulties were experienced in disposing off exportable surplus even with the realised growth in output. A limited availability of improved seed, particularly of high yielding varieties arising from the delay in implementing the IBRD assisted seed industry projects in Punjab and Sind, was the important element.

Food Production During the Sixth Five Year Plan (1983-88)

The Sixth Plan focussed on attaining greater self-reliance in agricultural production. The theme was to move from self-sufficiency to export. The Sixth Plan growth strategy was based on a major breakthrough in agricultural production through vertical improvement particularly on the small and medium-size farms. The strategy was[4]:

- to increase yields through use of modern technology and balanced and timely application of inputs (chemical fertilizers, pesticides, improved seed) besides provision of agricultural credit for the purchase of these inputs;

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4. 7th Five Year Plan 1988-93 and Perspective Plan 1988-2003 Planning Commission, Government of Pakistan, vol.I, p.8.

- to utilize water efficiently by improvement in on-farm water management through organizing and training farmers in its effective use;

- to modernize the extension services in the public sector and to combine them with private sector companies engaged in marketing inputs;

- to diversify agriculture by extending the system of support prices to new high value crops and to encourage crops/cattle insurance besides introducing innovative agricultural loan programmes such as supervised credit and group loans;

- to develop the barani (rainfed) areas;

- to encourage intensive farming on medium and small size farms through use of small tractors and small farm machinery;

- to encourage farm mechanization as a new growth element;

- recognition of agriculture as an export based industry;

- to expand domestic oilseeds particularly soyabeam production, and freeze the size of edible oil deficit.

Food Production Targets and Change in Cropping Pattern

The total cropped area was expected to increase by 7 per cent during the Sixth Plan. This can be compared with 11 per cent increase in the cropped area during the Fifth Plan period. With relatively small additional acreage

under cultivation, the strategy to increase productivity and crop yields through balanced and timely application of inputs and use of improved technology was proposed. Additional area brought under cultivation was used for oilseeds and the fruit and vegetable crops. The change in the cropping pattern as expected in the Sixth Plan period is shown in the Table 2.4.

TABLE - 2.4

CHANGE OF CROPPING PATTERN DURING SIXTH PLAN

	Percentage share in cropped area		*Additional Area*	*Percentage of additional area*
	Benchmarks	*1987-88*	*[000 Hects]*	
Grains	*55.79*	*54.67*	*498*	*38.0*
Wheat	*36.25*	*35.13*	*240*	*18.3*
Rice	*9.95*	*10.02*	*146*	*11.1*
Other Grains	*9.59*	*9.52*	*112*	*8.6*
Cotton	*11.51*	*10.78*	--	--
Oilseeds excluding Cotton Seed	*2.85*	*4.56*	*393*	*30.0*
Pulses	*7.38*	*7.33*	*86*	*6.6*
Vegetables, Spices and Fruits	*2.68*	*3.69*	*248*	*18.9*
Sugarcane	*4.29*	*4.02*	--	--
TOTAL	*100.00*	*100.00*	*1310*	*100.00*

SOURCE : Based on Sixth Five Year Plan (1983-88), Planning Commission, Government of Pakistan.

The projected growth in agricultural sector was around 6 per cent per annum on the basis of a most favourable combination of inputs and environment.

The crops production targets for 1987-88, the terminal year of the plan period, took account of the additional production expected from programmes aimed at providing additional inputs of water, fertilizer, improved seeds, plant protection measures, and better management practices, promoted by more intensive and improved transfer of technology. Crop production target for the Sixth Plan is indicated in the Table 2.5.

TABLE - 2.5

CROP PRODUCTION TARGET

	Computed Benchmark	*Estimate 1982-83*	*Targets 1987-88* *	*Percentage increase over Benchmarks*[1]	
				Overall	*Annual*
	Million tonnes				
Grains	*16.72*	*(17.39)*	*21.80*	*30*	*5.0*
Wheat	*11.80*	*(12.34)*	*15.50*	*31*	*5.6*
Rice	*3.31*	*(3.44)*	*4.20*	*27*	*4.9*
Maize	*0.97*	*(1.01)*	*1.38*	*43*	*7.3*
Others	*0.64*	*(·0.60)*	*0.72*	*12*	*2.4*
Oilseeds **	*2.00*	*(2.08)*	*2.86*	*42*	*7.3*
Pulses	*0.70*	*(0.71)*	*0.79*	*15*	*2.8*

1 = Discrepancies may occur as a result of rounding.

** = The crop targets used here indicate maximum technological possibiliites. Value-added in agriculture for GDP Computation is, however, based on more conservative estimates in certain cases.*

*** = Includes cotton seed.*

SOURCE : Based on Sixth Five Year Plan (1983-88) Planning Commission, Government of Pakistan.

The crop production targets have been related to benchmark figures which have been worked out to represent more normal or firm output figures at thebeginning of the Plan. These are different from the actuals for 1982-83 to take into account fluctuations on account of weather and other factors. From the above table one l inds that the targets represent on anticipated slow-down in the growth rate recently experienced in wheat, rice and other cash crops where surpluses have already emerged. Major aceleration was attempted in the production of oilseeds pulses and vegetables and fruits crop.

Performance of Food Production During Sixth Plan (1978-83)

During the Sixth Plan the major crops grew at average growth rate of 2.3 per cent (target 3.6 per cent). The minor crops were expected to grow at a faster rate than the major crops. They grew at 3.6 per cent (target 7.0 per cent). Consequently, instead of 4.9 per cent growth targeted for agriculture, the achievement in the sector was 3.8 per cent. This has been shown in the Table 2.6.

TABLE - 2.6

SIXTH PLAN TARGETS AND ACHIEVEMENTS

	Units	*SIXTH PLAN*		*Achievements*
		Targets	*Achievements*	*[%]*
Wheat				
Gram	*000 Tons*	*15,500*	*12,926*	*83*
Oilseeds(Traditional)	*" "*	*582*	*367*	*63*
Cotton	*Min Bales*	*6.7*	*8.90*	*147*
Fertilizer Offtake	*000 Tons*	*1,828*	*1,750*	*96*
Agricultural Credit Distribursement	*Billion Rs*	*18*	*18*	*100*
Improved Seed	*000 Tons*	*186*	*133*	*.72*
Improvement of Water Courses	*Numbers*	*9,700*	*9,559*	*98*
Growth Rate	*% per Year*	*4.9*	*3.8*	
Major Crops	*"*	*3.6*	*2.3*	
Minor Crops	*"*	*7.0*	*3.6*	
Others	*"*	*6.0*	*6.2*	

SOURCE : Based on 7th Five Year Plan 1988-93 and Perspective Plan 1988-2003. Planning Commission,Government of Pakistan, 1988.

Inspite of not so favourable conditions, there was an impressive improvement in the production of wheat due to increased use of inputs and development of appropriate technology including new varieties. Wheat yields increased from 1678 kg per hectare in 1982-83 to 1707 kg per hectare in 1986-87. Crop yield in barani areas was transmitted to the farmers through agencies such as Agency for Areas Development (ABAD) and Cholistan Development Authority.

The another important aspect in the strategy for food self-sufficiency was import substitution in the edible oil. In 1981-82, a total of 624 thousand tonnes of edible oil was imported against the total requirement of 766 thousand tonnes, involving an expenditure of Rs.3449 million in 1981-82. This was 47 per cent of the total amount spent on imports of food commodities. Efforts were directed towards raising the domestic output of edible oils in this plan period. For achieving a tangible result in the oilseeds sector sunflower and soyabean were especially given attention in the strategy of achieving self sufficiency. These two oilseeds crops have the potential for becoming the major domestic oilseed sources. Suitable price support policy and other comprehensive production promotions were started in this plan period.

Major policy measures to bring drastic changes in oilseeds during the Sixth Plan were following :

a] a crash programme for the increased output of edible oil seeds - with a heavy concentration on the spring soyabean crop and intensive use of the potentially vast areas available in the different districts;

b] promoting cultivation of sunflower through a crash programme with a view to achieving twin objectives of increasing cropping intensity as well as oilseed production; and

c] a newly organized oilseeds Development and Processing Corporation (OPDC) to replace Ghee Corporation was established.[5]

From the above one can see that the policymakers and planners in Pakistan gave special attention on attaining greater self-sufficiency in the food crops which includes oilseeds and pulses. The major components of this efforts were diversification of crops, strengthening the institutional framework, structural adjustments in the pattern of production and distribution, adoption of better agronomic practices, modernization of agriculture and increasing productivity and to create exportable surplus.

It is estimated that during the Sixth Plan period agricultural Sector achieved a growth rate of 3.9 per cent against a target of 4.9 per cent. Although the growth was not achieved, it was maintained that the country had become self-sufficient in foodgrains.[6]

However, the production of rice, wheat, pulses and oilseeds were below the target set in the plan. The decline in the production of rice, was due to shortage of water at the transplating stage, low rainfall, pest

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5. Sixth Five Year Plan (1983-88) Planning Commission Government of Pakistan, Islamabad, p.172.

6. Sixth Five Year Plan 1988-93 and Perspective Plan 1988-2003 Planning Commission, Government of Pakistan, Islamabad, vol.II, p.1.

attack, lack of high yielding variety of basmati rice and its monopoly procurement at low prices. Agriculture in Pakistan was adversely affected by inclement weather during 1986-87 and 1987-88. In 1987-88 prolonged drought conditions which affected the entire South Asian Region, affected Pakistan also. This drought followed the prolonged heavy rains at the harvesting time of wheat crop in 1986-87 which damaged about a million tonnes of wheat output.[7] As a result, substantial shortfalls from the targets were experienced in the production of all major crops excepting cotton.

The data in Table 2.7 presents the production of major crops and its percentage growth rate. This has led to impressive 4 per cent growth in the

TABLE - 2.7
PRODUCTION OF MAJOR CROPS

[Million Tonnes]

	1986-87	1978-88 Target	Likely Achievement	Percentage Change	
				[3] over	[3] over
	[1]	[2]	[3]	[2]	[1]
Wheat	12.88* (12.02)** (12.45)@	15.00	12.93	(-)13.8	0.3 (3.9)**
Rice	3.49	3.62	3.27	(-) 9.7	(-) 6.3
Basmati	0.79	1.00	0.90	(-)10.0	13.9
Others	2.70	2.62	2.37	(-) 9.5	(-)12.2
Maize	1.11	1.12	1.12	0.0	0.9
Gram	0.58	0.59	0.37	(-)37.3	(-)36.2

* Without Post harvest losses due to rain damage (roughly estimated to be 0.87 million tonnes)
** If adjustment is made for total losses.
@ If adjustment is made for half the losses

SOURCE : Based on Economic Survey 1987-88,Government of Pakistan,Islamabad,1988.

7. Economic Survey 1987-88 Government of Pakistan, Islamabad,p.89.

value added to major crops during 1987-88, the terminal year of the Sixth Plan. The major crops account for 54 per cent weightage in the overall agricultural sector which recorded a growth of 4.5 per cent during 1987-88 against only 2.2 per cent in 1986-87. The relative performance of various sub-sectors in agricultural sector is presented in the Table 2.8.

TABLE - 2.8

SECTORAL GROWTH RATES PERCENTAGE CHANGE OVER PERCEDING YEAR

	1985-86	*1986-87*	*1987-88*		*1983-88 5 Years Annual Average*	
			(T)	*(A)*	*(T)*	*(A)*
All Agriculture	*6.4*	*2.2*	*4.7*	*4.5*	*4.9*	*3.7*
Major Crops	*7.4*	*(-) 1.5*	*4.4*	*4.0*	*3.6*	*2.3*
Minor Crops	*2.6*	*8.3*	*3.4*	*2.9*	*7.0*	*3.6*

T = Target, A = Achievement

SOURCE : Based on Economic Survey, Government of Pakistan, Islamabad,1988.

The Sixth Five Year Plan failed to achieve the anticipated diversification towards high-value crops and production of non-traditional oilseeds. The production of non-traditional oilseeds is estimated to be only 60 thousand tonnes against a plan target of 350 thousand tonnes. The shortfall was due to absence of any comprehensive oilseed development project. The total allocation to agricultural sector in the Sixth Plan was Rs.12.1 billion. Only Rs.7.9 billion was utilised indicating a 65 per cent rate of utilization.

TABLE - 2.9

AREA, PRODUCTION AND YIELD OF IMPORTANT FOOD CROPS

Food Crops	1978-79			1982-83			1983-84			1987-88		
	Area	Produ-ction	Yield	Area	Produ-ction	Yield	Area	Produ-ction	Yield	Area	Produ-ction	Yield
Wheat	6687	9950	1485	7398	12414	1677	7343	10882	1482	7269	12926	1778
Rice	2026	3272	1615	1978	3430	1737	1999	3340	1670	1971	3271	1659
Gram	1224	538	449	893	491	551	420	522	565	812	367	451
Other Pulses	453	198	437	442	203	451	387	188	500	409	--	--
Rape Seeds & Mustard	433	248	478	386	246	641	313	217	710	298	213	714
Seasamum	46	19	413	29	11	333	22	09	500	24	13	541

Area = Million Hectares ; Production = 000 tonnes ; Yield = Kilograms per Hectare

NOTE : Yield Per Hectare Kg calculated on the basis of Area and Production

SOURCE : Based on Economic Survey 1986-87 and 1987-88, Government of Pakistan, Islamabad.

Trends in food production during the Fifth and Sixth Plan periods is depicted in Table 2.9. The table shows area, production and yield of important crops during the Fifth and Sixth Plans. In the table we see that field of wheat in 1978-79 was 1485 kgs per hectare which rose to 1677 kgs per hectage in 1982-83, the terminal year. In case of rice, it was 1615 kg per hectare which rose to 1737 kg per hectare in the same period. In the beginning of Sixth Plan we see that this was 1482 kg per hectare for wheat and 1670 kg per hectare for rice. In case of wheat yield increased to 1778 kg per hectare in 1987-88 (Estimated Figures) but in the case of rice it had marginally declined to 1659 kgs per hectare. In the table we can also see that yield of oilseeds has marginally increased and yield of pulses has declined.

Table 2.10 shows the percentage change over previous years in the production of important food crops during 1978-79 to 1987-88. In the table we find

TABLE - 2.10

PERCENTAGE CHANGE IN PRODUCTION OF IMPORTANT FOOD GRAINS DURING FIFTH AND SIXTH PLAN
[Over Previous Years]

Years	*Wheat*	*Rice*	*Pulses including gram*	*Edible oilseeds*
1978-79	*18.92*	*10.92*	*(-) 9.36*	*7.23*
1979-80	*6.40*	*(-) 4.46*	*(-)30.43*	*(-) 0.37*
1980-81	*8.39*	*(-) 0.10*	*2.73*	*1.89*
1981-82	*(-) 1.49*	*9.83*	*(-) 7.22*	*(-) 5.54*
1982-83	*9.89*	*0.44*	*44.41*	*0.39*
1983-84	*(-)12.34*	*(-) 3.05*	*2.31*	*(-)12.45*
1984-85	*7.55*	*(-) 0.75*	*2.25*	*10.67*
1985-86	*18.97*	*11.95*	*(-) 9.79*	*6.43*
1986-87	*(-) 7.48*	*19.42*	*0.50*	*(-)14.72*
1987-88	*0.34*	*(-) 6.17*	*--*	*(-) 0.44*

SOURCE : Based on Economic Survey, 1987-88, Government of Pakistan, Islamabad.

that wheat and rice were subjected to fluctuations during Fifth Plan and Sixth Plan. Failure of monsoon and floods were responsible for this fluctuations. In the case of pulses and oilseeds the situation remained alarming.

In Table 2.11 we find that compound growth rate of wheat during Fifth Plan was 4.52 per cent which declined to 3.50 per cent in Sixth Plan and in the case of rice it became negative in the same period. Production of pulses and edible oils suffered a lot during this period due to vagaries of

TABLE - 2.11

COMPOUND PERCENTAGE GROWTH RATE OF PRODUCTION OF FOOD CROPS DURING FIFTH AND SIXTH PLAN

[Figures of food crops in 000 Tonnes]

Year	Wheat	Compound % rate of Growth	Rice	Compound % rate of Growth	Pulses including gram	Compound rate of Growth	Edible oils	Compound % rate of Growth
1978-79	9950		3272		736		267	
1982-83	12414	4.52	3445	1.03	694	(-)0.01	247	(-) 1.54
1983-84	10882		3340		720		226	
1987-88	12926	3.50	3271	(-)0.42	--	--	226	0

SOURCE : Based on Economic Survey 1987-88, Government of Pakistan 1987-88, Islamabad.

monsoons, pest attacks and lack of incentive for growers. During this period edible oil was imported in large quantum. In spite of this, per capita availablity of edible oils and pulses declined during this period.

This period can be compared with Green Revolution period (1965 to 70). In this period compound growth rate of wheat and rice was 13.24 per cent and 12.76 per cent respectively. Compound growth rate of pulses and edible oils were (-) 1.18 and 6.83 respectively. During 1970-78, we see that compound growth rate of wheat and rice declined to 3.25 per cent and 3.73 per cent respectively. And in the case of pulses, the situation improved to some extent but the situation remained critical in the production of edible oils. In spite of

claims being made by policy makers of Pakistan, they have yet to get a major breakthrough in the production of pulses and edible oils.

Recent Efforts to Achieve Food Security

The National Commission on Agriculture which was set up in April 1986 under the Chairmanship of Mr. Sartaz Aziz, submitted its report in April, 1988. The Commission has evolved a comprehensive strategy to raise the growth rate in agriculture to 5 per cent per annum during the next 15 years. The Commission has recommended among other things, the following measures and incentives :[8]

a] consolidate self-sufficiency in grains, make determined effort to regain self-sufficiency in sugar, pulses and reduce dependence on edible oil imports;

b] accelerate the modernization of agricultural sector to achieve a growth of 5 per cent per annum - substantially higher than the population growth rate, so that the sector can generate resources for the substained development of the economy with a high degree of self-reliance;

c] increase crop yields so as to realize future increase in agricultural production mainly from vertical expansion, effectively overriding the limitation on area expansion imposed by the limited irrigation water supplies;

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8. Report of the National Commission on Agriculture, Ministry of Food and Agriculture, Government of Pakistan, Islamabad, April, 1988.

d] reduce production costs through higher productivity to improve incomes as well as international competitiveness of our agricultural products;

e] bring about a major transformation in the productivity of the livestock sector to meet the growing demand for milk and meat and to contribute to the well-being of the less developed areas;

f] diversify agricultural production and the rural employment opportunities by giving more attention to the high value products like fruits, vegetables, oilseeds, meat, milk, poultry eggs and increasing their share in the agricultural GDP;

g] Strengthen incentives and institutional support for growers, livestock holders and other rural households to enable them to increase their productivity and incomes not only from primary production but also by diversifying into secondary processing and the provision of agricultural services;

h] improve rural infrastructure and living conditions within villages and establish new mandi town to check the exodus to the major urban areas and generate substantial employment within the rural areas to absorb the projected future increase in the labour force;

i] improve rural institution of village, 'tehsil/taluka' and district levels to enable farmers to take increasing responsibility for meeting their needs and solving their problems;

j] provide an improved policy framework for ensuring access of small farmers to credit and other inputs in proportion to their potential contribution to agricultural production; and

k] evolve an integrated programme for developing 'barani' river in and mountainous areas as part of long term plan to arrest environmental degradation and to conserve and improve country's resources of land, water and forests.

From the above recommendations of National Commission on Agriculture, one finds that the strategy, if fully implemented will result in exportable surpluses of one million tonnes of basmati rice and 1.3 million tonnes of coarse rice. The potential in the country for an accelerated development of food and agricultural production is recognized. The Government of Pakistan has recently given top priority to this sector, and this is reflected in the increased allocations made for tractorization, irrigation and other agricultural production programmes.

CHAPTER - III

FOOD POLICY : INPUT POLICIES

Food shortages has been a harassing problem for Pakistan. Crop production is subject to wide fluctuations in most of the developing countries, as man's control of his natural environment is fragile. One of the most important aspect of food problem in Pakistan is the general inadequacy of the total production to meet the over-all food requirements. The general concern about increasing the volume of total production, and whole range of food policies which includes input and output policies is directed towards a quest for food security in Pakistan. Crops yields in Pakistan are amongst the lowest.

The main focus of food policy in Pakistan has been to increase the yields of the main food and cash crops and increasing the area under cultivation. And the important elements to achieve self-reliance in the food sector are i) the provision of increased water supplies through large scale government projects; and ii) increased provision of all other agricultural inputs, i.e. pure seeds of improved varieties of crops, pesticides, fertilizers, tractors, improved implements and credit in a package programme for the intensive development of various project areas involving the complete reorganization of the work of the organizations with responsibilities in agriculture.

Among the factors that caused a breakthrough in West Pakistan's agriculture in the 1960s, three stand out as the most important. These are irrigation contributing to increased availability of water, fertilizers and increased use of high yielding varieties. Till 1966, the first two

factors were the main contributing factors to increase in cropping intensity and yields.[1]

Availability of Inputs

Irrigation Facilities :

Most parts of Pakistan lies in the Indus basin region irrigated by the Indus, its tributaries and a large canal net work. Outside the Indus basin is the coastal tributaries and Desert Streams region, covering most of Baluchistan and consisting of desert and semi-desert valleys and barren surfaces with rugged mountains and scantly rainfall. Pakistan gets an annually inadequate amounts of rainfall to support cultivation of land without backing of other irrigation facilities. The major source of Irrigation can be classified into surface water (canal) and ground water (tubewells).

Irrigation is of critical importance in a semi-arid area like Pakistan and is mostly based on one of the longest and oldest canal system in the world fed by the Indus river and its tributaries. Tubewell and tapping the ground water began to play a significant role in the expansion of controlled water supply only towards the end of 1950s. The Indus Basin irrigation system commands a gross area of 35 million acres.

In Pakistan surface water received a higher priority in developmental

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1. Ghulam Mohammad, 'Some Strategic Problems in Agricultural Development in Pakistan; *Pakistan Development Review*, Summer 1964, reprinted in Sayed Mushaaq Hussain and Mohammed Irshad Khan (eds.), Empirical Studies on Pakistan Agriculture, Karachi, 1970, pp.5-17.

outlays up to sixties. In the fifties, the major task in water resource management was the capturing of natural river flows for irrigation by constructing barrages and associated canals. During the First Five Year Plan (1955-60) the surface water sub-sector had received 76 per cent of the total allocation to the water sector. This declined to 51 per cent, in the second Five Year Plan (1960-65), 18 per cent in Third Five Year Plan (1965-70), and 30 per cent in Fifth Five Year Plan (1978-83).

A major thrust to the expansion of irrigation facilities was given by the rapid growth of tubewells in the 1960s, which ensured a timely and adequate water supply to crop needs. Three important factors were responsible for acceleration in the growth of tubewell irrigation :

a] active participation of the Government in promoting tubewell, irrigation, salinity control, and recalmation of land and also various types of aid given by the state for construction of tubewells in the private sector;

b] easy and subsidized availability of water, machinery and skill for installation of tubewells in the private sector; and

c] increase in tubewell irrigated farms and rise the prices of agricultural produce in the 1960s.

The rapid expansion of tubewells was accompanied by a significant decline in the cost of installation, partly because of the innovative effort of the tubewell installing firmsand farmers themselves, and partly owing to cheaper supply of steel for manufacture of pump sets and engines made

through liberal imports of steel with the help of foreign assistance.

The profitability of tubewell irrigation became strikingly visible in the early 1960s, Tubewell farmers' cropping intensity increased rapidly. The cropping intensity increased from 84 per cent on a holding before installation of the tubewell to 134 per cent after installation. Increase in the cropping intensity was thus 60 per cent over the pre-tubewell period. Fertilizer consumption increased fifteen fold and the total value of crops increased by more than 100 per cent after installation of tubewells.

One of the most severe structural constraints on the supply of agricultural output during the seventies was insufficient farm-gate availability of water. The problem of the general shortage of irrigation water supply was compounded by the phenomena of water-logging and salinity.

TABLE - 3.1

*GROWTH RATES OF SELECTED AGRICULTURAL INPUTS**

[per cent per year]

Agricultural Inputs	*1960-70 to 1976-77*	*1976-77 to 1979-80*	*1969-70 to 1979-80*
Fertilizer Consumption	*10.3*	*17.1*	*12.4*
Water Availability at Farm-gate	*2.4*	*3.0[a]*	*2.6*
Agricultural Credit Disbursed	*41.9*	*18.7*	*34.0*
Tubewells in Operation	*8.1*	*5.4*	*7.0*
Tractors in Operation	*12.7*	*17.9*	*15.3*

*NOTE : * Growth rates are trend values, significant at the 95 per cent confidence level.*

[a] Value significant at the 80 per cent confidence level.

SOURCE : Based on Economic Survey (Various Issues), Government of Pakistan, Islamabad.

Table 3.1 shows that during the seventies, among major agricultural inputs the lowest rate of growth of 2.6 per cent per annum was registered by water availability at farm-gate. Since the cultivated area increased at a slightly faster rate, the level of water availability actually declined. The improvements in the availability of ground water were significant, especially during the first half of the seventies when the number of installed tubewells increased at an average annual rate of 8.1 per cent.

Despite significant improvement in its availability from the above mentioned sources, water was, in general, insufficient to meet the seasonal requirements of different crops during (1970-78) - the Non-plan period. The use of 'fractional tubewells', with a discharge capacity of less than one cusec, could perhaps have helped in partly overcoming this problem. Their installation in areas with considerable underground water could have supplemented the available irrigation-water supply with aquifer reserves. It could also have helped to alleviate the potentially devastating drainage problem arising from a rise in the water-table. Since these tubewells benefit the small farmers as well, their installation could have been fruitfully subsidized.[2]

In the eighties particularly in the Sixth Five Year Plan (1983-88) the agriculture resource base was expanded. An additional area of 3.1 million areas (1 acre = 0.4047 ha) was cropped against the target of 3.24 million acres due to additional water availability which increased from 101.5

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2. Syed Nawab Haider Naqvi and Khawaja Sarmad, Pakistan's Economy Through Seventies, *Pakistan Institute of Development Economics*, Karachi, 1984, p.29.

million acre feet (MAF; 1 acre feet = 0.1235 hectare-metres) to 112.2 MAF at farm level mainly because of better management in the delivery system. This was an increase of almost 10.5 per cent from successful programmes of canal and drain rehabilitation besides the on - Farm Water Management Programme which emphasized imporovement and lining of water courses, precision landlevelling, formation of Water Users Association and training of farmers.[3]

Considerable progress was made during the Sixth Plan period to overcome the problems due to shortage of water. There were shortcomings also. Despite an increase of 2 MAF in water availability from lining of water courses, a concrete system has not yet evolved on how to maintain these water courses. Also projects in all provinces could not be taken up and remained pending because the issue of water distribution was not resolved at the national level and substantial amount of surface flowed unused into the sea.

High Yielding Varieties

The short-stemmed varieties of wheat and rice imported from abroad and the increased use of fertilizers dramatically enlarged the potential for rapid increases in the agricultural production in Pakistan in the mid 60's. The impressive break-through in foodgrains production is sometimes referred to as the 'green revolution'. The use of high yielding varities of seed emerged as a principal contributory factor to the increase

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3. 7th Five Year Plan (1988-93) and Perspective Plan 1988-2003, Planning Commission, Government of Pakistan, p.17.

in agricultural productivity in the Third Five Year Plan (1965-70). We know that improved seed is the primary and cheapest input for effecting responses from more expensive inputs, such as water and fertilizers and is fundamental to increase per acre productivity. The use of improved varieties of seeds became more and more popular. The use of HYV seeds offered the advantages of greater productivity through higher response to water and fertilizer and greater crop intensity.

The introduction of Mexi-Pak Seeds in wheat and IRRI-Pak in rice were particularly instrumental in bringing about the breakthrough in agricultural production in the late 60's. Table 3.2 shows the distribution of improved seeds in Pakistan during the 70's. Starting from a low base in the early 70's the distribution of improved seeds reached fairly high levels during 1975-77 but shows declining trends in the latter 70's.

TABLE - 3.2

DISTRIBUTION OF IMPROVED SEEDS

Crop	*1970-71*	*1972-73*	*1975-76*	*1976-77*	*1979-80*
Wheat	*8.32*	*0.85*	*26.35*	*50.84*	*41.01*
Paddy	*3.88*	*1.27*	*1.31*	*2.91*	*0.78*
Maize	*0.22*	*0.37*	*1.53*	*0.97*	*0.39*
Cotton	*6.57*	*5.94*	*12.45*	*35.54*	*17.20*
Gram	*0.15*	*0.56*	--	*0.15*	*0.60*
Potato	*1.12*	*0.11*	*1.16*	*0.71*	*1.04*
Oil seed	--	--	*0.15*	--	--
Others	--	--	*0.21*	*3.43*	*0.04*
TOTAL	*20.26*	*9.10*	*43.16*	*93.55*	*61.06*

SOURCE : Agricultural Statistics of Pakistan Government of Pakistan, Islamabad, 1981, p.104.

The area under the high yielding varieties of wheat has increased from 2.37 million acres (16 per cent of the total wheat area) in 1967-68 to 7.73 million acres (52 per cent of the total wheat area) in 1970-71 and further to 9.10 million acres (58 per cent of the total area) during 1974-75. This area further rose from 9.92 million acres (66 per cent) in 1975-76 to 11.38 million acres (72 per cent of the total wheat area) in 1977-78. Similarly, the area under IRRI rice varieties has increased from 10 thousand acres in 1967-68 to 1.36 million acres (37 per cent of the total rice area) in 1971-72 and to 1.80 million acres (50 per cent of the total rice area) in 1971-72. The area under IRRI varieties, therefore, has shown some decline. In 1977-78, the area under high yielding varieties, of rice was estimated at 1.89 million acres (43 per cent of the total rice area).

Special emphasis was laid during the Fifth Five Year Plan (1978-83) on evolution of high yielding varieties of all the major crops and maintenance of purity of improved varieties. High priority was given to Seed multiplication and distribution programmes. These programmes especially those relating to production of quality seeds have remained weak in the past. Seed Certification and Seed Testing Organisations were established at the Federal Level. Provincial Seed Corporations in the Provinces of Punjab and Sind have since been established for procurement and distribution of Seeds. In the Fifth Plan a sum of Rs.888.600 million was allocated for improved seed sub-sector.

Substantial increase in yields per hectare of wheat in recent years has been attributed inter-alia to the introduction of improved varieties of Seed. A quantity of 90,000 tonnes of improved seeds of different crops was distributed during 1986-87 compared to 75,020 tonnes of improved Seed proposed to be distribute during current year 1987-88. Total sale of wheat seed is reported at 58.4 thousands tonnes during 1987-88 compared to 42.2 thousand tonnes in the preceding year. Table 3.3 gives improved seeds

TABLE - 3.3

IMPROVED SEED DISTRIBUTION

Period	*(000 tonnes)*
1982-83	*70.30*
1983-84	*75.60*
1984-85	*86.39*
1985-86	*75.02*
1986-87	*90.00*
1987-88 (Estimated)	*137.00*

SOURCE : Economic Survey 1987-88, Government of Pakistan, Islamabad.

distribution during eighties, whichshow tremendous increase in improved seed distribution from 70.30 thousand tonnes in 1982-83 to 137.00 thousand tonnes in 1987-88.[4]

Seed processing plants are being setup in all the provinces to increase its availability. A great deal of work involving new higher varieties has been done at various research institutes/universities. Release of high yielding varieties of Rice - Basmati 385 and Maize, Ahsan and Sultan has

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4. Economic Survey 1987-88, Government of Pakistan, Islamabad, p.97.

helped in raising yield per hectare of rice. Efforts are continuing for evolving improved varieties of other crops as well.

Fertilizer

Greater use of chemical fertilizer has been an important part of the strategy for achieving greater productivity in agriculture. This is especially so after the introduction of HYV since the range of increase in output due to fertilizer use is higher in the case of HYV than traditional seeds. Fertilizers offer the advantage of divisibility since they allow farmer to make marginal adjustments in their application regardless of size of the farm. The application of primary types of fertilizers like Urea for Nitrogen and DAP for phosphate have shown good result.

Fertilizer distribution has been growing at a fairly rapid pace in Pakistan for the last two decades and its use has acquired fairly wide acceptance among the farmers. The average annual rate of growth in fertilizer consumtion since 1960 has been 18 per cent. Average application per hectare has reached at 63 kg by the end of the Fifth Five Year Plan (1978-83). Chemical Fertilizer, when used in correct proportion, is one of the most effective inputs for increasing crop production. Despite several constraints, the growth in fertilizer usage by Pakistan's farmers is one prominent success stories in the field of agriculture. Against a nominal use of about 31,000 nutrient long tons in 1959-60, its consumption increased to about 87,000 nutrient long tons during 1964-65, and further to 312,000 nutrient long tons in 1969-70. This showed an annual growth rate of 23 per cent

during the Second Plan period, which increased to 29 per cent during the Third Plan. This momentum could not be maintained during Non-Plan period (1970-78). The fertilizer consumption increased at the annual rate of 10.6 per cent only during this period with an off take of 531 thousand nutrient long tons in 1976-77.

The Fertilizer consumption maintained an average growth rate of 11.9 per cent per annum for the five year period (1978-83), despite a considerable slow down in the middle years of the Plan. Fertilizer Consumption during 1978-83 is presented in the Table 3.4

TABLE - 3.4

FERTILIZER CONSUMPTION DURING 1978-83

Year	*Fifth Plan Target*	*Actual Off-take*	*Per cent Achievement of Target*
	000 nutrient tonnes		%
1977-78	--	*720*	--
1978-79	*780*	*880*	*113*
1979-80	*895*	*1043*	*117*
1980-81	*1020*	*1079*	*105*
1981-82	*1185*	*1080*	*91*
1982-83	*1360*	*1244*	*91*

SOURCE : Based on Sixth Five Year Plan (1983-88),Planning Commission, Govt. of Pakistan, Islamabad

Keeping in view a sharp increase in fertilizer offtake during 1986-87, the target of fertilizer offtake was fixed at 1975 thousand nutrient tonnes for 1987-88. However, fertilizer offtake during July - March 1987-88 has

been below the target. Actual offtake was of the order of 1382 thousand nutrient tonnes as against 1446 thousand tonnes in the corresponding period last year representing a decline of 4.4 per cent. The shortfall thus was due to persistent drought conditions prevailing both at the time of kharif and rabi sowings. Table 3.5 indicates production imports, and fertilizer since 1983.83.

TABLE - 3.5

PRODUCTION, OFF-TAKE AND IMPORTS OF FERTILIZERS

Year	*'000' N/Tonnes*		*'000' Tonnes*
	Production	*Off-take*	*Import*
1982-83	*1152.72*	*1243.60*	*717*
1983-84	*1106.40*	*1202.63*	*490*
1984-85	*1117.00*	*1253.26*	*496*
1985-86	*1126.00*	*1511.79*	*544*
1986-87	*1211.80*	*1783.84*	*1018*
July-March			
1986-87	*893.00*	*1445.88*	*689*
1987-88	*903.70*	*1382.00*	*866*

SOURCE : Based on Economic Survey 1987-88, Government of Pakistan, Islamabad.

Per hectare use of fertilizer has increased quite substantially from 76 kg in 1985-86 to 89 kg in 1986-87, though it is still low compared with developed countries like USA, Japan, Germany, Italy and France. In the recent years, concerted efforts are being made to accelerate the use of fertilizer. More emphasis is being placed to promote the use of blended

fertilizers so that correct ratio of NPK is applied to different crops.

The relationship between the fertilizer prices and prices of various crops is one of the most important factors determining the demand for fertilizer. The water availability in the canals and the prospects of successful maturing of crops, in time, also determine the attitude of farmers whether he would be willing to incur the expenditure on a costly input like fertilizer. During the early 80's the 'shock-effect' of increase in fertilizer prices combined with the reduced availability of water in the irrigation system brought about a slow-down in the rate of increase in the fertilizer application. By the end of 1983, a trend growth rate in excess of 10 per cent per annum in the absorption of fertilizer had been resumed.

We know that the relationship between the cost of fertilizer and the value of the increased output to be expected from its use is the central economic relationship which determines the fertilizer use on the farms. This has two parts, the first one is (a) the crop response ratio to fertilizer use, and (b) fertilizer crop ratio, the combination of these two factors is a deciding factor for fertilizer use particularly for small farmers who grow low value foodgrains.

While dealing with input policies the policy-makers in Pakistan has maintained the cost of fertilizer at a low level in the past so as to encourage even the small farmers to use them. While other complementary inputs have not been neglected a greater measure of encouragement has been given to them to shift to more fertilizer use for increasing the foodgrains. This policy has led to

improvement in field trend. On the other hand, output prices remained favourable. Under these circumstances, an increase to a more realistic fertilizer cost to the farmer or an adjustment to foster the use of compound fertilizer can readily be absorbed. During the Sixth Five Year Plan (1983-88), we find that greater emphasis was placed on the expansion of fertilizer use but at the same time whole dynamic situation was kept under constant review and adjustments to favour one input on another to achieve greater self sufficiency in the foodgrains was considered important in the food planning mechanism.[5]

The annual growth rate of fertilizer consumption during the Sixth Five Year Plan (1983-88) is estimated to have 7.1 per cent against a target of 8 per cent. The application of fertilizer per cropped hectare increased from 63 kg in 1982-83 to 86 kg in 1987-88. The consumption of fertilizer is expected to increase from a level of 1750 thousand nutrient tonnes in 1987-88 to 2550 thousand nutrient tonnes in 1992-93. Inspite of impressive use of fertilizers in the farms of Pakistan, it is still a long way to go (c.f. Egypt where yields and fertilizers are much higher) but suggests that the increasing attention being paid to complementary inputs is justified (c.f. Indian where yields are comparable but fertilizer inputs are lower and better balanced). This can be seen in the Table 3.6 showing situation during 1980-81 the latest year for which comparable data were available.

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5. Sixth Five Year Plan (1983-88) Planning Commission, Government of Pakistan, p.112.

TABLE - 3.6

FERTILIZER USE

Country	N	P	K	Total	Wheat/ Yield/ m.t./ha
	----------kg/ha----------				
Pakistan	39.70	9.30	--	49.50	1.6
India	20.80	6.40	3.60	30.90	1.0
Iran	0.02	0.02	--	0.04	1.1
Egypt	194.00	35.70	2.80	232.50	3.2
UK	177.24	57.74	58.60	293.60	5.7
Netherlands	561.00	96.40	131.24	788.62	6.7

SOURCE : Based on Economic Survey 1987-88, Government of Pakistan, Islamabad.

From the above analysis, one finds that the use of chemical fertilizer has become fairly wide-spread. Therefore, subsidizing fertilizer prices for promoting its use is no longer required. It was felt that the keeping prices at low level is in fact, responsible for its inefficient use (low crop response ratio) and neglect of other important inputs and management measures. Many farmers have little knowledge about the proper combinations of fertilizer nutrients, especially for rice and oilseeds. They are also not aware of optimal input combination, or of the dynamics of input complimentaries as a crucial factor in increasing agricultural output. What is required is an increase in the efficiency of fertilizer consumption, and a classification of land through intensive soil testing for the use of specific combination of fertilizers.

The fertilizers response ratios for major crops adopted for working out production targets for the Fifth and Sixth Plans are given below in Table 3.7.

TABLE - 3.7

FERTILIZER RESPONSE RATIOS FOR MAJOR CROPS

Crops	*Fifth Plan*	*Sixth Plan*
Wheat	*1 : 7*	*1 : 8*
Rice	*1 : 7*	*1 : 8*
Oilseed Crops	*1 : 4*	*1 : 10*
Pulses	--	*1 : 8*

SOURCE : Based on Sixth Five Year PLan (1983-88), Planning Commission, Government of Pakistan.

These ratio, though not universally applicable, are the result of a well established formulation and are generally agreed amongst the experts.[6]

Various devices for improving the efficiency of fertilizer use during the Sixth Five Year Plan were used. Vigourous efforts were made to make farmer realise the need to use fertilizers in the balanced doses for achieving higher grain-nutrient ratio. For this information was made available to extension workers on different-aspects of fertilizer use. Soil testing laboratories were established at district/tehsil level. Improved flow of

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6. Ibid., p.114.

credit was ensured. Service cooperatives was promoted to take the fertilizers to the door-steps of the farmers to remote areas. Marketing infrastructure was improved to sell fertilizers in balanced proportions in remote and in accessible areas.

The important policy decision regarding fertilizer was decontrol of fertilizer industry. In 1986, the Government decontrolled fertilizer industry but still regulated the distribution and price of imported fertilizer. As a result, the amount of subsidy on indigenous fertilizer has been reduced substantially, though imported fertilizer is still provided to the Procincial Government at a subsidized rate. During 1986-87 an amount of Rs.2.03 billion was given on fertilizer subsidy and is budgeted at Rs.1.6 billion for 1987-88. Through appropriate price adjustment, the subsidy on imported phosphoric and potassic fertilizer will be phased out over a period of 3 and 6 years respectively beginning 1987-88.

In this way, we see that heavy investment in subsidy has diverted attention away from long term programmes for institutional development and towards short-term solutions to problems of agricultural sector through greater input consumption. In this particular case, allocation of funds for subsidies and inputs push into ground such important and difficult programmes as agricultural research, extension, and education. For example, over 41 per cent of the total public sector allocation to agriculture in the Fifth five Year Plan (1978-83) was for improved seeds and fertilizers

while research education and extension services receive only 8 per cent in all. [7]

Agricultural Credit

The provision of adequate credit facilities to the farmers, especially the small ones, is vital for making agricultural inputs accessible to the farmers. Its importance in a developing economy like Pakistan has further increased by the fact that improved varieties of crops require more water, better seeds, high doses of fertilizer and effective plant protection. The farmers also require credit for financing the long-term developments like land improvement, the installation of tubewell, the construction of storage facilities. In addition, credit is required for adoption of technological developments and provision of other long term investment aimed at increasing productivity of the farm and for cropping intensity.

The Government of Pakistan has endeavoured to meet the credit requirements of the farmers through various institutional sources. The Agricultural Development Bank of Pakistan (ADBP) advances loans on long term and medium term for purchase of tractors, installation of tubewells, land levelling, field embankments and the purchase of bullocks and petty machinery. The short term loans, are advanced, in kind, for such inputs such as fertilizers, pesticides and seed, etc which are of special significance to the small farmers. Similarly, 'taccavi' loans are disbursed through the Revenue

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7. Fifth Five Year Plan (1978-83), Planning Commission, Government of Pakistan, Islamabad, p.526.

Department and are provided to the farmers under the Land improvement Act, 1883 and the West Pakistan Agricultural Loans Act, 1958. Under the Banking Reforms Act, 1972 Commercial Banks are required to advance loans to cultivators. The loan procedure of the banks has been simplified by the introduction of "Pass Book System". These procedure, interalia, ensure that small farmers are not neglected, as happened in the past, in availing these facilities. The "Pass Book" is a document in which record of agricultural land (with encumbrances, if any) owned by a particular person is maintained. It is mandatory for the institutional credit agencies to advance agricultural loans against the Pass Book.[8]

Besides, 'Pass Book System', the new approaches as "the model village scheme" and "one man village banker scheme" of the ABDP and supervised credit programme of the National Bank of Pakistan has been expanded and strengthened during the Fifth and Sixth Plan period. Besides, the commercial banks have been asked to undertake supervised credit programmes on the lines of National Bank of Pakistan.

The timely availability of credit to farmers, plays an important role in agricultural development. Credit disbursements during the Sixth Five Year Plan increased from Rs.6.3 billion in 1982-83 to Rs.18 billion in 1987-88. The interest free loan limit was raisedl rom Rs.6,000 to Rs.12,000 during the plan period. Procedures and rules were simplified to enable small farmers to obtain credit, through the issue of "Pass Books" thereby

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8. Ibid., p.35.

minimizing documentary requirements which were to be completed by farmers to obtain loans. Supervized credit scheme was also implemented to ensure proper utilization of credit specially by the small farmers. Mobile credit officers under this programme take agricultural credit to the farmers and ensure effective disbursement, utilization and repayment. They also give useful advisory service to the farmer on input use and cultural practices. out of 45,000 villages in Pakistan, 37,000 have been covered under this scheme by the ADBP up to 1986. The rest of the villages are expected to be covered in the coming two or three years.

The total amount of credit from Institutional sources in 1952-53 was only Rs.4.23 million but since then it has increased rapidly particularly in the late 60's when under the 'green revolution impetus', the demand for outlays in inputs was high and after 1972 when commercial banks were encouraged to enter this field as shown in Table 3.8. The total amount of credit from institutional sources has gone up to Rs.15,158.90 million in 1986-87.[9] The table also showns percentage share of credit distributed by different agencies.

The cooperative movement in Pakistan is largely a rural credit movement since agencies specialising in rural credit dominate its structure. The primary cooperative credit society lends directly to farmers, mostly

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9. Economic Survey 1987-88, op. cit. p.37.

TABLE - 3.8

CREDIT DISTRIBUTED IN PAKISTAN BY AGENCIES AND PERCENTAGE SHARE

[Rs. million]

Year	ADBP	Taccvi	Coopera-tives	Commercial Banks	Total
1978-79	416.39 (18.10)	12.76 (0.55)	489.16 (21.72)	1381.20 (60.06)	2299.51
1979-80	711.55 (23.59)	8.20 (0.27)	708.64 (23.49)	1587.40 (52.64)	3015.79
1980-81	1066.62 (26.48)	8.30 (0.21)	1126.25 (27.96)	1826.77 (45.35)	4027.94
1981-82	1557.38 (30.52)	10.34 (0.20)	1100.80 (21.15)	2436.10 (47.75)	5102.14
1982-83	2310.44 (36.59)	2.69 (0.43)	1320.93 (20.92)	2680.89 (42.45)	6314.95
1983-84	3131.67 (36.08)	9.30 (0.11)	1449.89 (16.70)	4088.70 (47.10)	8679.56
1984-85	4168.00 (43.08)	--	1567.60 (16.20)	3909.00 (40.41)	9674.00
1985-86	5307.87 (40.37)	--	2048.58 (15.58)	5791.00 (44.04)	13147.45
1986-87	5350.75 (35.29)	--	2494.75 (16.46)	7313.40 (48.24)	15158.90
1987-88 July-Dec(P)	2746.74 (27.58)	--	21133.00 (21.22)	5079.20 (51.00)	9958.94

N.B. = Figures in Parentheses are percentage share of credit agencies.
P = Provisional

SOURCE : Based on Economic Survey 1987-88, Government of Pakistan, Islamabad, 1988.

against personal security. The primary societies are supported by a hierarchy of cooperative institutions like Central Cooperative Banks, Provincial Cooperative Banks, and the Federal Bank for Cooperatives.[10]

Cooperative Organisations have certain distinct advantages over other credit sources. They exist at grass roots level and are financed by the farmers. But in Pakistan, we see that one major problem with the cooperative organization is the nature of their relationship with the official controlling authority. The lending policies of the Cooperative may also possibly contain a bias against small farmers in so far as loans are granted by them in proportion to the share capital purchased by the members. In a study by Professor Gotsch, it was found that most programmes aimed at improving the capital markets faced by small farmers have left the majority of the small farmers untouched. "Even where there has been a willingness to absorb the cost of small farmer credit programmes, creating local Institutions which are responsible to the weaker sections of the farming community, it has been exceedingly difficult". He found that the direct distribution of government subsidized credit invited "extra-market activities by the socially and politically powerful aimed at securing available funds for themselves. Where credit was indirectly disbursed through organizations made up of farmer representatives, due to disparity of power, even credit programmes aimed expressly at small farmer were unsuccessful".[11]

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10. Viqar Ahmed and Rashid Amjad, The Management of Pakistan Economy 1947-82. Oxford University Press, 1986, p.163.

11. Quoted in "Small farmers and the Landless in South Asia". p.99.

The bias in the distribution of agricultural credit also found expression in its use-wise distribution the loans advanced by the ADBP in 1979-80 for the purchase of tractors used mostly by the bigger farmers which accounted for 66 per cent of the total loans. On the other hand,only about 12 per cent of the loans were advanced for the purchase of fertilizer, seeds and drought animals which constituted a major portion of the total inputs on small farms.

We know that the credit package reflects the country's economic needs and requirements as visualized by the policy-makers and credit institutions. It may also be governed by considerations of overall economic policy like yield maximization and achieving food security for the population. However, the farmer may have his own objectives of income maximization, discounting for risks, and a strong consumption preference which is not unnatural in a society living for long at subsistence level. A credit programme not taking the farmer's preference into consideration is not likely to go far. Thus neither interests, subsidies nor input subsidies, nor systems to control input-use are likely to prove of much consequence in encouraging the use of credit. The credit package must promise higher returns at reasonable risks in order to induce the farmers to borrow for higher purposes.[12]

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12. Viquar Ahmed and Rashid Amjad, op.cit., p.169.

CHAPTER - IV

FOOD POLICY : OUTPUT POLICIES

The food policy of Pakistan whichconsists of combination of output price and input subsidization policies is primarily guided by the objective of accelerating the rate of growth of agricultural output and achieving food security in the country. Government intervention in the pricing of major crops and farm inputs have been some of the most important instruments of subsidizing agriculture since at least the early 1960s. The policy of support prices for major and minor crops (wheat, rice cotton, sugarcane, pulses and oilseeds) and subsidies on prices of farm inputs particularly fertilizer and water, has been advocated on the argument of incentives to farmers to raise farm productivity.

In the 1950s the prices of foodgrains in Pakistan, mainly wheat, were fixed by Government primarily for procurement purposes and were announced at the time of harvests. The underlying objective was to enable the Government to procure foodgrains for supply to the urban population at a cheap rate. This policy was effectively carried out only in years of short crops, when there was a likelihood that prices would rise and the urban consumer would be adversely affected because of either high prices or inadequate supplies or both. In course of time it was felt that this pricing policy was adversely affecting agricultural production. The Government therefore, changed its approach and decided to use price intervention, not only to safeguard the interests of the local urban consumers but also to assure the farmers that they would get a reasonable minimum price for their produce. To achieve the latter objective, procurement prices started being announced before the sowing time of the given crop instead of at harvest time.

In the first two decades, the agricultural price policy which is an important segment of food policy, followed the development strategy of that time which sought to 'channel resources away from the massive agricultural population to the urban industrial enterpreneurs.'[1] This was done by keeping the prices of manufactured products above the world level through import controls and the prices of agricultural products below the world level through the compulsory procurement of major agricultural crops at predetermined prices and the imposition of domestic taxes and export duties on agricultural commodities thereby making the inter-sectoral terms of trade unfavourable to agriculture.

However, this policy has been changed and modified in response to a number of other considerations which included the need for the maintenance of adequate domestic food supply, export promotion, the domestic availabiity of industrial raw materials, the encouragement of a greater use of improved technology and inputs, and the stabilization of the urban cost of living.

Many economists have suggested the raising of prices of agricultural products to promote increased production. This suggestion is based on two premises : first, that the terms of trade in developing countries are maintained against agricultural products : and second, the setting of

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1. Griffin, 'Financing Development Plans in Pakistan' Paper in *Readings in Strategy and Technique of Development Planning*, edited by A.R. Khan PIDE, 1969, Karachi, p.27.

higher support prices by the government for agricultural products will place the country on the right place. In the case of Pakistan, both are questionable since data on prices received and paid by the producers are most unreliable. A major problem is that the index number of wholesale prices of agricultural commodities, or food do not necessarily indicate the prices actually received by the producers.

Output Policy

Output pricing policy includes the fixation of support or procurement prices of different agricultural crops. The food policy in Pakistan which includes both input-policies and output policies does not suggest that these two aspects of policy are independent of each other or that division regarding them are made in isolation from each other. Indeed, output pricing policies has to take into considerations the overall cost structure in agricultural sector, which includes input prices, and part of the justification for subsidizing the sale of input flows from a policy to keep agricultural output prices within certain limits.[2]

Output price policy involves three types of pricing decisions :

a] The fixation of procurement prices for wheat rice, and other food grain;

b] The determination of support prices for export crops like cotton, rice, potatoes and onions;

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2. Viqar Ahmed and Rashid Amjad, The Management of Pakistan's Economy 1947-82, Oxford University Press, 1986, p.147.

c] The fixation of prices of commodities required by indigeneous industries as raw materials, for example sugarcane etc.[3]

1.A Wheat

In Pakistan, wheat has been subjected to a most comprehensive price control system. It is procured from the cultivators at fixed prices usually announced before the sowing of the rabi crop, and according to targets laid down by the government. The control system also covers the milling process and the distribution channels for urban areas through rationing. The objective of such an operation are somewhat contradictory since the government attempts to keep the urban cost of living and urban wage levels as low as possible and at the same time provide enough inducement to the farmers to increase the area, production, and productivity of wheat (which is the main diet and the price of which influences the price of other wage goods). The procurement price of wheat remained almost stagnent during fifties and early sixties rising from Rs.10.18 for 40 kgs in 1947-48 for Rs.14.66 for 40 kg in 1966-67. See Table 4.1.It is therefore not surprising that the wheat production also remained stagnant during this period. It was generally assumed in policy making circles that agricultural production does not respond to price change and that low prices, resulting from compulsory government procurement or higher export duty on agricultural products, would not effect the output level.[4] Even the deteriorating food situation

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3. Ibid., pp.147-150.

4. Papaneck, Pakistan' Development - Social Goals and Private Incentives, Oxford University Press, 1968. pp.148-149.

TABLE - 4.1

PROCUREMENT/SUPPORT PRICES OF WHEAT AND RICE

[Rs. per 40 kgs]

YEAR	Wheat	Rice		Paddy	
		Basmati	Irri.6	Basmati	Irri.6
1955-56	9.38	.	.	.	.
1960-61	14.46	25.72	.	.	.
1965-66	14.46	30.00	0	0	0
1970-71	18.22	34.20	22.40	0	0
1975-76	39.65	96.45	42.87	47.80	26.79
1976-77	39.65	108.80	57.87	55.73	32.15
1977-78	39.65	108.80	49.30	59.48	32.15
1978-79	48.23	117.89	52.51	64.30	32.15
1979-80	58.00	117.89	52.57	64.30	32.15
1980-81	58.00	137.00	63.00	76.00	38.58
1981-82	58.00	150.00	72.50	85.00	45.00
1982-83	64.00	154.00	80.00	88.00	49.00
1983-84	64.00	157.00	83.00	90.00	51.00
1984-85	70.00	160.00	83.00	90.00	51.00
1985-86	80.00	175.00	86.50	93.00	53.00
1986-87	80.00	204.00	86.50	102.00	53.00
1987-88	82.50	250.00	89.00	130.00	55.00

NOTE : FAQ = Fair Average Quality

SOURCE : Economic Survey 1987-88, Economic Advisor's Wing, Ministry of Finance, Government of Pakistan, Islamabad, p.47.

(the per capita availability of foodgrain declined from 16 ounces per day in 1948-49 to 13 ounces per day in (1962-63)[5] failed to create much anxiety due to the easy availability of food aid under PL-480 which might even have 'blurred the government vision of the seriousness of agricultural situation in Pakistan'.[6]

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5. Beringer and Ahmed, "The use of Agricultural Surplus Commodities for Economic Development in Pakistan", *PIDE*, 1964,p.59.

6. Ibid., p.40.

In the year 1960, a liberal policy was adopted, 'Voluntary' procurement of food grain replaced the 'compulsory' procurement. Controls on the price and movement of wheat were lifted. There was also growing pressure on the government to pursue a price policy more favourable to agriculture. The reduced local production in the mid sixties also coincided with reduced availabilities under PL-480.[7] Agricultural stagnation was perceived as responsible for the growing deficit in the balance of payment, low savings and low demand for indigenous industrial goods.

It was also realized, as borne out by a number of studies,[8] that agricultural production did respond to price incentives through increases in area and yield of individual crops and changes in cropping pattern spread over a number of years. The price incentive also changes the farmer's long run expectation of profitability and this influences their decisions regarding investment and use of labour inputs and technology. The stability of net returns, rather than relative prices, is also an important aspect of inherent risks in agriculture, uncertainties of production, and the small size of cultivation units which reduce the farmer's abilities to bear losses.

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7. Government of Pakistan, "Fiscal Policy in Pakistan", *Vol.II Budget Speech* (1967-68) by the Finance Minister, Islamabad, p.557.
8. a]Bauer and Yamey, "A case study of Response to Price in an under developed country", *Economic Journal*, Dec., 1959.
   b]Clark, "The Economic determents of Jute Production" *Monthly Bulletin of Agricultural Economics and Statistics* September 1959.
   c]Falcon, "Farmer Response to Price in an under developed area. A Case Study of West Pakistan", Harvard University, 1962.
   d]Syed Mushtaq Hussain,"The Effects of Growing Constraints of Subsistence farming on Farmer Response to Price. A case study of Jute in Pakistan",*Pakistan Development Review* Autum, 1969.

Given the changed perception of the government to farmer's response to price incentives, the procurement price of wheat was raised to Rs.18.21 per 40 kg in1967-68 and Rs.39.65 per kg in 1974-75. Since then it steadly went up to Rs.80 per 40 kg in 1986-67. This we can observe in Table 4.1

1B. Rice

Rice is an important export item in Pakistan. On the other hand,wheat is mainly procured for the availability to urban consumers. Prior to 1971, rice procured in West Pakistan was shipped to East Pakistan which had a deficit in rice production. Consumption behaviour was also an important consideration. People of East Pakistan were mostly rice eaters. During the seventies, rice became an important item for export in Pakistan. Except for a few years during 1950's, the procurement of rice has been a regular feature in Pakistan. Procurement price for 'basmati' rice were fixed at Rs.22.50 for 40 kg in 1948-49 which rose to only Rs.27.86 per 40 kg for 1962-63 and Rs.33.22 per 40 kg 1967-68. Since then it has been raised to Rs.51.30 per 40 kg in 1972-73 and Rs.117.89 and finally Rs.204.00 per 40 kg in 1986-87, which may be noticed in previous Table 4.1.

We know that in developing countries the policy of procurement of food-grain usually seeks to stabilize food prices by building up buffer stocks. However, such a pllicy can succeed only to the extent of storage facilities available to the government. In many years for example in 1962-63 when there was a particularly good harvest the government was unable to procure

large food stocks mainly to storage limitations. The result was that the farmers were not able to sell their produce quickly and reap the benefits of higher production. It also made them suspicious that the government procurement policies - worked only during bad years when higher prices could have compensated than for low production.[9]

The recognition of the role of prices in agricultural development contributed to higher growth in the late 1960s. With a view to promote economic incentives to growers, a support price policy for wheat, rice, gram and non traditional oilseeds, sunflower, soyabean and safflower is being implementated. Support prices are reviewed annually and are generally announced before sowing time to enable growers to properly plan the allocation of area and input for different crops. The support prices have helped in increasing agricultural production and farm incomes. Price support incentives along with other factors have helped in achieving self-sufficiency in wheat and increasing exportable surpluses in rice during the Sixth Plan period.

Minimum support prices have been fixed in the case of oilseeds and pulses in order to protect the producers against steep prices declines, particularly in the international market, so that a certain profit margin could be guaranteed to them. In the case of oilseeds and pulses, the Pakistan Agricultural Storage and Services Corporation (PASSCO) is entrusted with the responsibility of maintaining their prices above the support level.

9. Parkerneck, op.cit pp-153-154

The support prices for major and minor crops continued in the Fifth Five Year Plan (1978-83) and Sixth Five Year Plan (1983-88). The cost of production has been the most important factor influencing the level of support prices but other factors such as international prices, the relative prices of competing crops and quality considerations have been given due consideration. The non-price measures like agricultural extension, training, development of improved seeds and adequate credit facilities etc recommended by the Agricultural Prices Commission for various crops were implemented during the last decade in order to increase the per acre yield and thus reduce cost per unit of produce and thereby increase the income of the growers.

The provision of guaranteed minimum prices for major crops has proved successful in increasing acreage and adoption of improved technology. Consequently, farm production and income increased. The programme was kept under review from time to time to provide necessary incentives for increased production.

The increase in procurement prices of wheat and rice was primarily intended to stimulate output but an important subsidiary objective was to augment the flow of supplies into Government hands, for sale to ration shops in case of wheat and for export in case of rice. Table 4.2 indicates the total procurement, releases and stocks of wheat and rice from 1970-71 to 1987-88. In the Table we see wide fluctuations in the procurement of wheat as well as rice during the last 15 years.

TABLE 4.2

PROCUREMENT RELEASES AND STOCKS OF WHEAT & RICE

[000 tonnes]

Year	Wheat (May-April)			Rice Procured		Stock Balance (on Ist July)	
	Procure-ment	Releases	Stocks (on Ist May)	Basmati	Others	Basmati	Others
1970-71	1,016.9	..	..	73.3	327.6	..	..
1971-72	841.0	..	..	35.9	287.0	..	..
1972-73	208.2	..	..	133.3	07.7	..	..
1973-74	1,341.9	1,921	..	215.6	393.8	..	..
1974-75	1,253.4	1,974	..	287.0	382.2	199.6	327.3
1975-76	1,236.1	1,986	..	318.6	408.3	314.5	427.3
1976-77	2,338.8	2,762	511	201.4	446.5	311.4	439.1
1977-78	1,842.2	2,880	503	193.3	724.1	106.9	207.2
1978-79	1,086.0	2,977	189	390.8	845.5	48.4	393.3
1979-80	2,376.0	2,746	379	382.4	761.1	265.0	400.0
1980-81	2,954.9	2,768	685	320.1	704.5	317.6	376.4
1981-82	3,988.8	3,214	830	388.2	706.3	228.3	253.0
1982-83	3,131.0	3,115	1,650	337.5	889.6	340.7	255.3
1983-84	3,821.0	3,251	1,620	264.6	883.2	454.3	471.1
1984-85	2,275.0	3,236	0,750	284.4	959.0	198.5	461.0
1985-86	2,533.3	3,338	1,245	226.5	985.8	234.8	810.4
1986-87	5,035.1	3,793	2,530	201.7	711.2	202.4	729.9
1987-88(E)	3,975	4,750*	1,488	250.0	1,110.0	275.2	349.4

E - Estimated, .. - not available, * - July-March

SOURCE : 1. Ministry of Food, Agriculture and Cooperatives.
2. Ministry of Commerce, Government of Pakistan, Islamabad,1988.

Pulses

Pulses are called the poor man's meat in view of their comparative cheap availability and for possessing high contents of protein, minerals and vitamin B. For augmenting the production of pulses, the support price programme has been extended for gram and 'masoor'. The per 100 kgs price of 120.58 for gram (black and whole) in 1976-77 was increased to Rs.380.50 per 100 kgs which remained unchanged even in 1985-86.[10]

Oilseeds

The Government for the first time announced in 1977, the support price of Rs.214.34 per 100 kgs for Soyabean, Rs.241.13 per 100 kgs for Sunflower and Rs.200.94 per 100 kgs for Safflower for 1977-78 crops. In the year 1985-86, this has increased to Rs.350.00 per 100 kgs for Soyabeen, Rs.375.00 for 100 kgs for Sunflower and Rs.312.50 for 100 kgs for Safflower. We find that support price for edible oilseeds has increased at a fast pace to augument its production.[11] Support prices for oilseeds and pulses are depicted in Table 4.3.

TABLE 4.3
SUPPORT PRICES OF OILSEEDS AND PULSES

[Rs. per 100 kg]

	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83	1983-84	1984-85
OILSEEDS CROPS									
Soyabean	214.34	214.34	214.34	267.92	267.92	292.50	305.00	350.00	350.00
Sunflower	241.12	241.13	214.13	241.13	294.72	332.50	350.00	375.00	375.00
Safflower	200.94	200.94	200.94	200.94	241.13	280.00	300.00	312.50	312.50
PULSES									
Gram(Whole)	120.58	120.58	120.58	120.58	120.87	120.87	120.87	380.50	380.50
Masoor(Whole)	187.50	187.50	187.50	187.50	187.50	187.50	187.50	187.50	187.50

SOURCE : State Bank of Pakistan, Annual Report (Various issues)

10. Irfan-ul-Haque, A Compendium of Pakistan Economy, Royal Book Co. Karachi, 1987, p.143.
11. Ibid., p.143.

The price support programme initiated by the Federal Government of Pakistan to provide incentive to growers for increasing their incomes by assuring them a minimum price for their commodities has proved very successful. For some crops, like wheat and potatoes and onions, procurement is made by Provincial Governments and the Pakistan Agricultural Supplies and Services Corporations (PASSCO) to build enough stocks for stabilization prices of these commodities, whereas the Rice Export Corporations purchases rice for export.

The Government of Pakistan has introduced voluntary procurement, in one of its Provinces that is Sind, to replace monopoly procurement of basmati rice and Irri-rice in Punjab. The ban of inter-district movement of rice has been lifted. This has been done to encourage rice production in Punjab. The 1986-87 budget provides special concessions to growers such as an increase in the ceiling of interest free loans from Rs.10,000 to 12,000 for small farmers, and lowering the price of diesel oil used in farm machinery. The budget further produced the option to electric tubewell owning farmers to avail of incentive tariff of a flat rate of Rs.60.00 per horse power per month in Punjab and Sind and Rs.50.00 per horse power per month in N.W.F.P. and Baluchistan.

Following governments' more favourable procurement policy, it has been observed that the terms of trade for agriculture has imporoved in the last ten years. This is shown by increased purchasing power of farmers, whether measured in terms of the quantity of output or in those of productive effect. This confirms that the farmer's ability to pay for farm

input has not been eroded even with the recent reduction in subsidies. This is also reflected in the evidence on the increased net returns per hectare in the 1970s. One of the major reasons for this has been the increase in the procurement prices of the principal crops.[12]

The second development is that support prices for major crops have been increasing significantly, particularly since the late 1970s. The procurement prices of wheat has almost doubled, the price of rice has been raised by 50 per cent. The most important issue is that the ratios of the procurement prices of major crops to the farms inputs have not moved adversely, and the ratio of domestic prices to international prices of these crops has improved.

In the strategy of planning for food security in Pakistan, the issue of price support and subsidies have given way to a number of controvercies. One proposition is that a price support policy, with sensitivity to changes in domestic resource cost and international prices of major crops, should be the only instrument to enable farmers to get a fair return for their effort. The another point of view is that subsidies on farm inputs, even if they had a credible case in the past, should be eliminated completely, particularly on canal water, fertilizer tubewell and tractors.

Price support for major crops can give farmers a fair deal through its effect on their incomes and provide stability to the prices in the market place. A major advantage of reliance on a price support system will be

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12. Kee-Chock Cheong, and E.H. D'Silva, "Prices, Terms of Trade, and the Role of the Government in Pakistan's Agriculture", *World Bank Staff Working Paper No.643*. Washington D.C. April 1984.

the likely distribution of benefits between large and small farmers. Small farmers account for about two-thirds to three-quarters of the cropped area of major crops and their cropping intensity is 30-40 per cent higher than that of large farms. This is depicted in Table 4.4

TABLE - 4.4

DISTRIBUTION OF CULTIVATED AND CROPPED AREA BY FARM SIZE IN PAKISTAN

Farm Size	*Percent of Cultivated Area*	*Percent of Cropped Area*	*Percent share of Major Crops in Cropped area*	*Cropping Intensity*
Less than 2.0	*8*	*9*	*63*	*147*
2.0 to less than 10.0	*56*	*58*	*66*	*130*
10.0 to less than 60.0	*30*	*28*	*57*	*111*
60.0 and over	*6*	*5*	*59*	*100*

SOURCE : Complied from : Pakistan, Federal Bureau of Statistics Household Income and Expenditure Survey 1971-72 & 1979.

In such a situation a price incentive would tend to affect the small farmers more favourably. The only problem which one encounters is the observed difference in the marketable surplus of grains between large and small farms. The evidence of lower marketable surplus on small farms reflects partly the subsistence requirements of these house holds.

This can be seen in Table 4.5. It also indicates the problems the small farmers usually face in marketing their grains even through the government

TABLE - 4.5

DISTRIBUTION OF MARKETABLE SURPLUS BY FARM SIZE IN PAKISTAN

Farm Size (hectares)	*Percentage of Total Output in Markets*		
	Wheat	*Rice*	*Maize*
Less than 5.0	*28*	*50*	*20*
5.0 to less than 10.0	*60*	*88*	*35*
10.0 and over	*78*	*98*	*59*

SOURCE : Based on Data provided by United Consulting Group Ltd., Report on Agricultural Marketing in Pakistan, Lahore,1984.

procurement centre.[13]

It is suggested that for a better food planning system the government should focus on alleviating the marketing and storage problems of the smaller farmers in order to encourage them to sell higher proportion of their agricultural output. This policy will the help the small farmers as well as consumers in term of reduced unit cost.

A price support policy works smoothly if the government is aware of and sensitive to changes in the factors that affect prices in markets both at home and abroad. Among these considerations, the most important are :

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13. P.A. Cornelisse, & Syed Nawab Haider Naqvi, "The Anatomy of the Wheat Market in Pakistan" Rotterdam; Erasmus University, Islamabad, *Pakistan Institute of Development Economics*. October 1984.

a] domestic resource costs or crop parity ratios;

b] border or international prices;

c] relative prices of major farm inputs and manufactured goods,

d] domestic demand conditions; and

e] marginal cost of crop production under various farming systems and areas.

True, these consideration are difficult to put into practice, but without taking these consideration into account, government might lead to distortion in objectives of efficiency and equity.

The Agricultural Prices Commission of Pakistan has given some consideration to these aspects in the recent years to formulate a well determined price support policy which takes into account the aspirations of producers as well as consumers.

Marketing

Another important area of concern for an effective price support system is that of institutional support to facilitate the disposal of agricultural surplus, particularly that of small farmers. It is suggested that the Government should pay special attention to the development of a decentralized storage system which is accessible to the farmers with small amounts of surplus. Both the private and public sector should be geared up to develop large scale and strategically located storage facilities. Private sector can start with construction of small scale storage facilities.

Finally, an efficient marketing system increases availability through minimising losses between production and consumption centres, ensures better return to producer as well as reasonable prices for consumers. To achieve these objectives, several developed countries (e.g. Australia) channel marketing of primary commodities through commodity marketing boards. In Pakistan, the Federal Government has set up the Pakistan Agricultural Storage and Service Corporation to provide credit and marketing facilities to farmers. Similarly, the Goverment has also set up Cotton and Rice Export Corporations to boost up their exports.

The competitive conditions in the rural marketing structure in Pakistan are thus far from satisfactory and it is the producer who usually suffer by failing to get a profitable price for his output. The consumers also suffer because the price he is made to pay is inflated by the profits of the long chain of middle men. The large number of middle men and the high profits earned by them have often provoked comments and criticism. Since their number is large, they obviously do not have the advantage of monopolistic conditions unless all the middlemen of a market act in collusion. Their high profits can, therefore, be the result of the large scale of their operations, their command over capital which is scarce resource in isolated rural communities, and their own skill and knowledge of their market trends and conditions in which they have a definite edge over the farmers.

During the various five year plans, the Government has, therefore, expanded the system of regulated market in the country to safeguard the interest

of both the growers and the consumers. Efforts are also being made to regulate markets in backward provinces like NWFP and Baluchistan. During the Fifth Five Year Plan (1978-83), the market committees were streamlined. The system of price reporting and market intelligence was strengthened. To reduce the non-functional marketing margins, cooperative marketing was encouraged during the Fifth Plan Period. In order to facilitate the working of such cooperatives, facilities such as transport, proper places in the market, retail outlets and interest-free loans were provided. Arrangements were also made to improve the marketing structure for products facing special problems such as oilseeds, pulses and potatoes through stabilization of prices at levels which would help maintain production incentives. Facilities for quick transport of the commodities by rail and road were expanded during the Fifth Plan period. A sum of Rs.31.8 million was proposed for the implementation of the Public Sector Agricultural Marketing Programme during 1978-83.

During the Sixth Five Year Plan (1983-88) it was recognized by the policy makers that an efficient marketing system was a pre-requisite both to increase agricultural production and meet the requirement of consumers. The main elements of marketing system that was given priority attention include pricing, procurement, transport, storage and processing; product grading; quality control and merchandising and especially management at the different levels of the marketing channel.[14]

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14. Sixth Five Year Plan (1983-88) Planning Commission, Government of Pakistan, October 1983, p.118.

Along with institutional developments, the required infrastructure vital to an efficient marketing system were also give appropriate attention. Although construction of farm-to-market road was given due attention in Fifth Five Year Plan period, many inadequacies in the road net work system still exist especially in remote areas. In this regard, a farm to market road construction as well as repair programme received adequate attention in the Sixth Five Year Plan. In this way, we see that marketing and storage facilities have been given due attention in the output policies in Pakistan.

Continuing the previous debate about too much reliance on a price support policy as a substitute for subsidies on inputs, it is opined by some economists that a price support policy is likely to raise directly the prices of food and raw material which will be borne by urban consumers and industrial sector of the economy. The experience in Pakistan shows that support prices of almost all major crops have been below their domestic resource cost of border prices. Urban consumer of foodgrains, particularly of wheat, have been protected through a rationing system. In fact, it can be argued that all poor consumers, rural and urban can be subsidized through some kind of a rationing system, implying a subsidy given to farmers on inputs. A wheat rationing system for the poor households may be one of the few ways to protect their real incomes.[15]

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15. M. Thobani, "The Effects of a change in Wheat Prices on Incomes". *Pakistan Development Review*, Vol.XVIII, No.4, Winter 1979.

CHAPTER - V

EXTERNAL DIMENSION OF FOOD SECURITY

In several current international fora food security has been the dominant theme. World food security is generally understood to imply arrangements whereby the population of the developing countries would be assured a minimum adequate level of food grain supply in years of normal as well as of poor harvests.[1] There is general agreement that to achieve food security it is essential to accelerate food grain production in the most seriously affected low income countries. The reason why the developing countries unable to produce sufficient food to feed themselves, and their agriculture suffers from low productivity lies in the historical past. Even before the turn of the present century, the balance of advantage in agricultural production had begun to shift in favour of the New World Countries, namely U.S.A., Canada etc. against the old agricultural countries of Asia and Africa.

Another important feature of the food situation in the developing countries is the high degree of instability that characterises their agricultural production. This is due to vagaries of nature. It has been observed that there exists a precarious balance between demand and supply of food grain in developing countries even in the normal years. Any failure of crops send them scarmbling for supplies of food from the developed exporting countries. At the same time if there is a failure of crops in a developed country and it enters the international grain market in a big way, prices of food grains could rise inordinately making it all the more difficult for the poor countries to get their required supplies of grain from the food surplus countries. Taking the South Asian region as a whole, we find that it continues to be dependent on imports to meet a part of if food

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1. Reutinger, S. Food Insecurity : Magnitude and Remedies, *World Development*, vol 6, 1978.

requrements though India and Pakistan are now nearing self sufficiency in food grain production. Dependence on imports for a part of the food supply in these countries is compounded by their growing balance of payment difficulties. The economies of South Asia, with large agricultural population and dependence on exports linked with primary goods have shown a considerable degree of vulneribility to the vagaries of weather.

Taking the case of Pakistan's agricultural development and quest for food security, we can appreciate the problems and difficulties encountered by the country in achieving self-reliance in the agricultural production. Pakistan was surplus country in food grains at the time of its independence. But rapid increase in the population on the one hand, and relative neglect of agriculture in the development plans of the country in early years on the other, turned it into a net importer very soon. The deficit was however met easily by food aid from USA under PL-480 programme. The food aid helped the country to set up public distribution system through which imported grain was distributed from ration in fair price shops. Agriculture also saw the high growth rate of 4.9 per cent during the sixties (1960-69), with the result the country had no serious food problem to face till the early seventies. It was only after 1971-72 that the food situation began to assume serious proportion. The food import bill began to rise shortly almost at the same time as the OPEC countries hiked the oil prices, thereby making the balance of payments position of the country quite difficult.

The burden the food import imposed on the Pakistan's economy is brought out by Table 5.1 which gives the value of imports over 20 years. Table 5.1 shows

TABLE - 5.1

VALUE OF IMPORTED GRAIN, PULSES & FLOUR

[Rs. million]

Year	1 Food Imports	2 Total Imports	3 [1] as percentage of [2]
1969-70	55.7	3,285.1	1.7
1970-71	75.7	3,602.4	2.10
1971-72	297.4	3,495.4	8.50
1972-73	1123.0	8,398.3	12.37
1973-74	1155.4	13479.2	8.57
1974-75	2469.5	20925.0	11.80
1975-76	1792.1	20,465.3	8.76
1976-77	665.5	23,012.2	2.89
1977-78	1338.5	27,814.7	4.81
1978-79	3507.2	36,388.5	9.64
1979-80	1050.1	46,979.1	2.24
1980-81	636.6	53,543.7	1.19
1981-82	805.8	59,481.3	1.35
1982-83	880.0	68,151.0	1.29
1983-84	866.0	76,707.0	1.13
1984-85	2910.0	89,778.0	3.24
1985-86	5067.0	90,946.0	5.57
1986-87	1754.0	92,431.0	1.89
1987-88(July-Mar)	1488.0	66,038.0	2.25
1987-88(July-Mar)	1611.0	78,533.0	2.05

SOURCE : Based on Pakistan Economic Survey 1987-88 Ministry of Finance, Government of Pakistan, Islamabad, 1988.

that till 1978-79 food imports continued to form a significant proportion of the country's total annual import bill. The situation has improved since then and foodgrain imports began forming about 2.5 per cent of the total imports. It is claimed by the policy makers in Pakistan that with further improvement in agricultural production even this is likely to disappear and the country would attain complete self-sufficiency. We find that in the year 1985-86 food import as percentage of total import rose upto 5.57

per cent. This is because of failure of monsoon. This remarkable improvement in the country's food situation has been made possible by the revival of earlier dynamism in foodgrain production particularly wheat, since the beginning of the Fifth Five Year Plan (1978-83).[2]

Table 5.2 shows imports of edible oils form a significant proportion of total imports. It will be observed that in value terms, edible oil imports has been increasing steadily since the mid seventies. Its share in total imports has been fluctuating between 4-6%. Instability in the production

TABLE - 5.2

VALUE OF EDIBLE OILS AND ITS PERCENTAGE SHARE IN TOTAL IMPORTS

	1	2	3
Year	*Edible oil import*	*Total imports*	*[1] as percentage of [2]*
1974-75	*1360*	*20925*	*6.50*
1975-76	*1407*	*20465*	*6.87*
1976-77	*1478*	*23012*	*6.42*
1977-78	*1553*	*27815*	*5.58*
1978-79	*2953*	*36388*	*8.11*
1979-80	*2295*	*46929*	*4.89*
1980-81	*2625*	*53344*	*4.90*
1981-82	*3450*	*59482*	*5.80*
1982-83	*3670*	*68151*	*5.38*
1983-84	*6518*	*76707*	*8.49*
1984-85	*6954*	*89778*	*7.74*
1985-86	*6128*	*90946*	*6.73*
1986-87(July-Mar)	*4062*	*92431*	*4.39*
	3167	*66038*	*4.79*
1987-88(July-Mar)	*4937*	*78533*	*6.28*

SOURCE : Based on Economic Survey (various issues), Government of Pakistan, Islamabad.

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2. B.M. Bhatia, "Food Security in South Asia", Oxford and IBH. New Delhi, 1985, p.46.

of edible oil seeds, lack of incentives for the production of edible oils and comparatively low support prices are responsible for huge imports of edible oils. In the recent years, emphasis has been given to the production of non-traditional oilseeds along with conventional seeds to increase edible oils production. Canadian varieties of rape seeds and mustard are being encouraged to check the high imports of edible oils.

It would be more appropriate to examine the food problem of Pakistan in the beginning of planning era and the role of food imports particularly PL-480 and its impact on the agricultural sector. The surplus existing at the time of inception of Pakistan was soon dissipated by the rapid growth of population unaccompanied by a corresponding increase in production. The population increased at the rate of 2.6 per cent per annum in the first decade of the country's existence. Against, that, the growth rate of output of food grains was no more than 0.8 per cent during the period. This closed the gap between supply and demand and later led to the development of food shortages which had to be met by imports of foodgrains. In such a situation, the PL-480 supplies of foodgrains from the United States of America (USA) emerged as a significant factor in the formulation of agricultural planning in Pakistan. It would be more appropriate to point out here that importing PL-480 commodities did not involve payment in terms of real resources. It is therefore likely that a developing nation whose major aim is to industrialize as quickly as possible, will import more than what would normally be imported on hard currency commercial account. Whereas the usual rationale for importing

in a country is to equalize social marginal utility of a limited amount of foreign exchange in each of its various, uses, this criterion no longer applies for commodities included in the PL-480 programme. Instead, other considerations such as need, absorption capacity, limitations of storage and distribution facilities, became determining criteria for quantities to be imported. If, in this process, domestic farm prices become depressed, and if this has the effect of retarding the increase in domestic production, it is possible that long-run economic development of the country may be impaired.[3]

One can briefly examine the impact of PL-480 on the food sector of Pakistan's Economy. It has been argued by Professor Beringer that PL-480 imports were necessary to the development effort in Pakistan, they effectively relieved the pressure on the balance of payment as well as contributed greatly to maintain a stable domestic price level in Pakistan. On the other hand, it was also observed that the way in which these imports were handled in Pakistan, they had significant negative income-effects on domestic agriculture.

Looking at the PL-480 programme in Pakistan in a broader perspective, it is apparent that particularly during the earlier period (1955-60) it helped greatly in checking potentially dangerous inflationary trends in food prices which could have had undesirable effects on the general development effort.

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3. Christoph Beringer, 'The Use of Agricultural Surplus Commodities for Economic Development in Pakistan', *The Institute of Development Economics*, Karanchi, January 1964, p.34.

Another important finding of Dr Beringer is that in a developing country like Pakistan, it is not possible to fill the entire nutritional gap with surplus food from abroad without simultaneously affecting domestic agriculture. If this problem is to be overcome, it will be necessary, in addition to construction storage facilities, to concentrate on development projects in the food deficit areas so as to create additional effective demand. Another danger of PL-480 supplies is that relatively stable urban food-price situation which was maintained with the helo of PL-480 imports, affected the agricultural supply position.

Another vital issue relating to import of foodgrains is that if the gap between food production and demand is allowed to widen, it is quite possible that not the availability of foods from abroad, but rather domestic absorption potential (i.e. marketing and transportation facilities) would determine to what extent a stable domestic price level can be maintained.[4]

By accepting PL-480 food aid initially, Pakistan was caught in a vicious circle. So long as foodgrains remained available at highly concessional rates from the USA, they continued to be supplied from the Public Distribution System to the urban consumer at low prices. When as a result of a shortage and later stoppage of concessional supplies from abroad the government was obliged to sell it to the consumer through Public distribution shops at below cost price, the difference between the cost price

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4. Ibid., p.60.

of procured grain and the issue price at the Public Distribution Sysgem was to be made good by subsidy from the public exchequer can be directly traced to the harmful effects of food aid on Pakistan's economy.[5]

In retrospect it appears that in the long run food aid under PL-480 received by Pakistan did more harm than good to the country by stulifying the growth of agricultural sector on the one hand, and burdening the exchequer with a heavy load of subsidies on the other.

It is only towards the beginning of Fifth Five Year Plan (1978-83) that self-sufficiency in foodgrains become the most vital and crucial objective of policy-makers. An effort to cut the subsidies and providing incentives to farmers to boost agricultural production were given impetus.

The abolition of the rationing system effective since March 15,1987 in vogue since 1943, is a major step towards decontrolling and deregulating the economy. Eventually, it would allow the government to save a subsidy of Rs.3000 million which hardly ever reached its intended beneficiaries. While on the one hand only 16 per cent of the people used ration atta, record shows 50 million users against the eligible population of only 30 million. Bogus ration cards had became quite a scandal.[6]

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5. B.M. Bhatia, 'Pakistan's Economic Development, Vikas; New Delhi,1978, p.172.

6. Economic Survey 1986-87, Ministry of Finance,Government of Pakistan, Islamabad, p.71.

The derationing decision taken on the recommendation of the National Deregulation Commission will ensure supply of wheat and atta of good quality at reasonable prices. Restriction on the movement of wheat from one province to another has been lifted and wheat is released from government stocks in unlimited quantities to check price hikes in the open market. Special arrangements have been made to supply wheat to remote and far flung areas.[7]

Per Capita Availability of Foodgrains

Pakistan has been vigorously trying to achieve self-reliance in foodgrains. Pakistan has been one of the earliest adopters of national food security policy. Pakistan has been struggling to ensure adequate supply of food to its people since independence. We have seen in the previous chapters that New Agricultural Strategy has given a fillip to the production of foodgrains particularly wheat. In Table 5.3 per capita availability of

TABLE - 5.3

PER CAPITA AVAILABILITY OF FOODGRAINS

	Quantity (Kg)	*1982-83 Protein (Gm)*	*Calories*	*Quantity (Kg)*	*1987-88 Protein (Gm)*	*Calories*
CEREALS	*152*	*15,167*	*539,588*	*147*	*14,778*	*521,198*
WHEAT	*116*	*12,180*	*410,640*	*118*	*12,347*	*416,269*
RICE	*22.49*	*1,687*	*79,390*	*18*	*1,370*	*64,493*
MAIZE	*7.78*	*739*	*28,164*	*8*	*721*	*27,476*
OTHER GRAINS	*5.91*	*561*	*21,394*	*4*	*340*	*12,960*
PULSES	*5.83*	*1,224*	*20,930*	*4*	*909*	*15,545*

SOURCE : 7th FIVE YEAR PLAN 1988-93 & Perspective Plan 1988-2003. Planning Commission, Government of Pakistan, Islamabad,p.346.

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7. Economic Survey 1986-87, Ibid., p.71.

foodgrains has been presented. We find that compared to 1982-83, per capita availability of cereal and also pulses has declined. This can be explained in terms of increased population. The recent drought in Pakistan has also affected the production of foodgrains.

In Table 5.4 change in per capita availability of foodgrains has been shown.

TABLE - 5.4

CHANGE IN PER CAPITA AVAILABILITY OF FOODGRAINS

	1982-83	*1987-88 (Bench mark)*	*1992-93 (Target)*	*Percentage Change 1987-88/ 1982-83*	*Percentage Change 1992-93 1987-88*
CEREALS	*152.2*	*147.0*	*156.9*	*- 3.4*	*6.7*
Wheat	*116.0*	*117.6*	*122.6*	*1.4*	*4.2*
Rice	*22.5*	*18.3*	*21.3*	*-18.8*	*16.6*
Maize	*7.8*	*7.6*	*8.5*	*- 2.4*	*11.9*
Other grains	*5.9*	*3.6*	*4.6*	*-39.4*	*27.1*
PULSES	*5.8*	*4.3*	*5.5*	*-25.7*	*27.7*

SOURCE : 7th FIVE YEAR PLAN 1988-93 & Perspective Plan 1988-2003, Planning Commission, Government of Pakistan, Islamabad, p.344.

From this table one can deduce that per capita availability of cereals has declined by 3.4 per cent in 1987 in comparable to 1982-83. Percentage change in year 1992-93 the terminal year of Seventh Five Year Plan (1988-93) is also shown. It is expected that per capita availability of cereal would increase by 6.7 per cent.

In table 5.5 we can see the requirement and availability of cereals in

TABLE - 5.5

REQUIREMENT AND AVAILABILITY OF CEREALS

[000 matric tons]

	1982-83	1987-88 (Bench mark)	1992-93 (Target)
A. WHEAT (MAY-APRIL)			
- Opening Stocks	830	2,525	2,900
- Production*	12,415	12,926	16,380
- Deduction for seed,feed & Wastage @10%	1,241	1,293	1,638
- Imports	396	--	--
- Govvernment Procurement	3,131	--	--
- Off-take from Govt. Stocks	3,115	--	--
- Closing Stocks	2,062	2,100	3,000
- Available with private sector			
- Total domestic consumption	10,338	12,058	14,262
- Population (Million)	89	103	119
- Per capita availability (kg per year)	116	118	123
- Per capita availability (gms per day)	318	332	336
B. RICE (JULY-JUNE)			
- Opening Stocks	596	952	952
- Local Production	3,335	3,270	4,220
- Deduction for feed & wastage @10%	207	196	253
- Exports/procurement by the Govt. for Export	905	1,200	1,421
- Closing stocks	925	952	952
- Net Availability	2,004	1,874	2,546
- Per capita availability(Kg per year)	22	18	21
- Per capita availability (gms per day)	62	50	50.40
C. MAIZE			
- Production	1,005	1,128	1,470
- Deduction for seed, Feed & Wastage @10%	312	350	456
- Net availability	693	778	1,014
- Per capita availability (kg per year)	8	8	8
D. OTHER GRAINS			
- Production	627	437	648
- Deduction for Seed,Feed & Wastage @31%	100	70	104
- Net availability	527	367	544
- Per Capita availability(kg per year)	6	4	5

(*) A one year lag has been taken between production and consumption.

SOURCE : 7th FIVE YEAR PLAN 1988-93 and perspective Plan 1988-2003, Planning Commission, Government of Pakistan, Islamabad,p.347-348.

the year 1992-93. It also gives per capita availability of wheat, rice, maize and other grains. From this table we can see that production of wheat and rice in year 1982-83 was 12415 thousand metric tons and 3445 thousand metric tons respectively which is expected to rise to 16,380 thousand metric tons and 4220 thousand metric tons in the year 1992-93. This will definitely help in achieving a more reliable food security system for Pakistan.

In the same table we find that per capita availability of wheat in 1982-83 was 318 gms per day which rose to 322 gm per day, which is marginal increase. On the other hand, per capita availability of rice has declined from 62 gm per day in 1982-83 to 50 gm per day in the terminal year of Sixth Five Year Plan that is 1987-88. There was major thrust to develop rice as export item in this period. That is why domestic availability decreased.

In the sameway, requirement and avaiilability of pulses has been exhibited. In Table 5.6, we find that production of Pulses including gram has declined

TABLE - 5.6

REQUIREMENT AND AVAILABILITY OF PULSES

[000 metric tonnes]

	1982-83	1987-88 (Bench mark)	1992-93 (Target)
PRODUCTION			
*- Gram**	*491*	*367*	*695*
- Other Pulses	*203*	*215*	*205*
TOTAL	*694*	*582*	*900*
2. DEDUCTION OF SEED, FEED AND WASTAGE			
- Gram @ 31%	*152*	*114*	*215*
- Other pulses @ 11%	*22*	*24*	*23*
- Net availability of gram & other pulses	*520*	*444*	*662*
- Per capita avaiilability(kgs per year)	*5.83*	*4.33*	*5.54*

** A one-year lag has been taken between production and consumption.*

SOURCE: 7th Five Year Plan 1988-93 and Perspective Plan 1988-2003, Planning Commission, Government of Pakistan, Islamabad,p.349.

from 694 thousand matric tonnes in 1982-83 to 582 thousand metric. During this period, pulses became an important item of imports and was a big strain on scarce foreign exchange resources. We also find that per capita availability of pulses declined from 5.83 kg per year in 1982-83 to 4.33 kg per year in 1987-88.

Regional Cooperation

The concern for setting up of a food security system at the global and national level was first raised in World Food Conference held in Rome in 1974 at the initiative of the Food and Agriculture Organization of United Nations (FAO). Food security since then has became a matter of great concern for low income food-deficit developing countries of third world where more than 700 million people lack the basic food to lead a decent life.

Economic cooperation on regional or sub-regional level happens to be a means of comparatively speedy economic development. It has been more than proved that fusion of the markets of neighbouring countries through economic development/integration is sure to bring immense economic gain to the economies of member nations.

In such a prevailing scenario in this region, regional cooperation can play a pivotal role in easing the food situation. The FAO has been pursuing vigorously the aim of organizing collective action on the part of developing countries on regional basis. In pursuit of that aim regional conferences are being periodically convened in Africa, Latin America and different

parts of Asia to take stock of the measure taken to implement various provisions of the plan of action in the region concerned and indicate the directions in which further action is needed.[8]

The establishment of the SAARC Food Security Reserve is a case in point towards regional approach to the problem of world food security. The setting up ASEAN Food Security Reserve System which came into being earlier in July 1980 is another effort towards solving the problem of food with a regional approach towards food security.

The advantages of regional as distinct from global approach to the problem of food security, has now come to be recognized almost universally.[9] In the first place, global agreement on international regulation of foodgrains trade and prices might take long in materializing as the experience of the past few years has shown. In such a precarious condition the poor food deficit countries cannot be asked to wait for their food security till such a time that the proposed agreement is reached. Secondly, self-reliance is always better for nations as well as regions than looking for food-aid from developed countries and international financial institutions. Food aid cannot be a good substitute for self-reliance in food grains. Thirdly, there are economies of scale to be gained from collective regional action in the field of food security. There is a strong case for maintaining reserve food stocks to meet occasional shortfalls in crop production of a

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8. F.A.O., Regional Implications of International Action to Strengthen World Food Security ARC/8014, April 1980, p.1
9. Ibid., p.2.

country due to vagaries of weather. Much saving can be effected by having collective reserve arrangements at the regional levels in addition, of course, to national food reserves. The larger the area covered by a reserve, the smaller in size it needs to be to serve the food security purpose of the area concerned. For a poor harvest in one part of the region is most likely to be offset by a good crop in another part of that region so that deficit of the former is met atleast partly, if not wholly, from the current surplus in the latter.[10] There is thus correspondingly less need for reserve stocks to meet the emergency in the deficit country. The larger the contiguous area covered by a food security arrangement the greater is the economy in the average cost of food security reserve, say, per million persons living in that region.

It would not be out of context to point out here that the collective regional food reserve do not, of course, rule out the necessity of maintaining reserve at the national level by the countries cooperating in the regional food security system. Each member of the reserve system will still have to keep stocks at the national level, though the size of the stock in each case need be smaller than what would be required in the absence of existence of any regional collective food security system. Regional food security would thus supplement but not altogether supplant the national food stocks which is an essential need in system of food security.[11]

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10. Ibid., p.4

11. B.M. Bhatia, Food Security in South Asia, Oxford & IBH, New Delhi, 1985,p.75.

There are several other ways how regional cooperation in organizing food security could prove highly economical and cost effective compared to what the position would be in the absence of such cooperation. Collective bargaining for import of food grains, to make up deficit of the whole region would get the deficit countries grain cheaper than what they would have to pay on individual basis.

However, the most important reason for developing countries for moving towards regional cooperation is the disappointing response from the developed countries to proposals for establishment of a global food security system. There has been enough of lip sympathy for the poor of the world from them. But on the basic issue of readjusting international economic relations and reforming the world productive system, that would enable the developing countries to became self-reliant in food supply and no more remain dependent on food aid on them, the developed countries have shown the same obduracy that has characterized their attitude in discussions on other reforms of North-South relations. This has led to 'global-cum regional basis' for self-help among the developing countries.

The emergence of South Asia Association of Regional Cooperation (SAARC) From the SAARC's should be seen in the above context. 'Integrated Programme of Action', with which seven nation association of South Asia began its journey at Dhaka in December 1985, to the SAARC - Basic Needs Perspective for 2000, adopted at the Islamabad Summit in 1988 - denotes fairly the measure of advance that the South Asian Community has registered. The SAARC has indeed raised its sights higher, and yet it would be inappropriate to call this a leap forward in economic cooperation. It

is as yet firm step towards planned economic cooperation within the seven nation community.[12]

In the Third Summit of the South Asian Association of Regional Cooperation (SAARC) in Kathmandu from 2-4 November, 1987, the Head of State of Government emphasised that a fundamental goal of SAARC was to promote the welfare of the people of South Asia and to provide them with the opportunity to live in dignity and realise their full potential. It was with satisfaction the signing of the Agreement establishment a South Asian Food Security Reserve and expressed confidence that this will provide a much needed cushion against food shortages and scarcity situation in the region.

Following are some important features of the SAARC Food Security Reserve :

a] The Reserve shall consist of wheat or rice or a combination thereof (herein referred to as 'foodgraints') earmarked by member countries.

b] The foodgrains forming part of the Reserve shall remain the property of the member country that has earmarked them and shall be in addition to any national reserve that may be maintained by that member countries.

c] Each member country undertakes to earmark as its share of the Reserve the amount of foodgrains allocated to it in the schedule to this Agreement. The said schedule shall be an integral part of this Agreement.

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12. O.P. Sabherwal, 'Islamabad Summit Measured Progress', *World Focus* 109, January 1989.

d] The member countries shall keep the schedule under review and may amend it in the light of operating experience.

e] Each member country shall be entititled to draw on food-grains forming part of the Reserve in the event of an emergency. An emergency shall mean a state or condition in which a member country, having suffered severe and unexpected natural or man-made calamity, is unable to cope with such a state or condition by using its national reserve and is unable to procure the foodtrains it requires through normal trading transactions on account of balance of payment constraints.

f] A member country that has released all or part of the foodgrains forming its share of the Reserve shall replace such foodgrains as soon as practicable and, in any event, not later than one calender year following the date on which the release of the foodgrains took place.

g] A member country in need shall be entitled to withdraw food grains from its own share of the Reserve. It shall replace such foodgrains as soon as practicable and in any event not later than two calenders years following the date on which the release of the foodgrain took place.

h] There shall be a SAARC Food Security Board of which each member country shall be a member. The function of the Board shall include undertaking a periodic review and assessment of food situation and prospects in the region including factor such production, consumption, trade, prices, quality and stocks of foodgrains.

i] The Board shall be assisted by the SAARC secretariat. The Secretariat's responsibilities shall include maintaining all matters relating to the release of foodgrains from the Reserve and convening and serving meetings of the Board.

j] The following contribution figures have been recommended for the member countries.

Country	Share in the Reserve in metric tonnes
Bangladesh	21,000
Bhutan	180
India	153,200
Maldives	20
Nepal	3,600
Pakistan	19,100
Sri Lanka	2,800
TOTAL	200,000

In this way,we see that the proposed South Asia Food Security Reserve (SAFSR) of 200,000 metric tons will be able to feed 4.5 million adults for a period of 3 months and therefore would be large enough to meet the immediate food emergency in any country resulting from failure or other natural disasters. The contribution to the proposed SAFSR of the member countries has been determined on the basis of production and population figure of each member country.[13]

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13. Based on SAARC document : *Agreement on Establishing the SAARC Food Security Reserve*, November 4, 1987.

As essential pre-requisite for effective functioning of a Sub-Regional Food Security Reserve like SAFSR is the establishment of Sub-Regional Food Management information system. Such a system could be built on the basis of existing net-work of national early warning system which have already been established with F.A.O. support in Pakistan, Bangladesh, India, Bhutan and Nepal. In Maldives and Sri Lanka where such early warning system do not exist, such system will have to be established for achieving food security in this region. It is also suggested by the experts that the participating countries should also agree to furnish detailed and timely information on crop conditions, food supply situation, rainfall data on a regular basis so that developing exigencies could be foreseen and necessary remedial measure could be taken in time.

True, the regional cooperative arrangements in food security serve as an effective supplement to the national food security reserves. In an atmosphere of goodwill and friendliness regional reserves can arrange prompt shipment of foodgrains to meet actute food shortage in the affected country due to advantage of proximity.

The South Asian experience has demonstrated that political factors can cause long lasting break-downs of established economic links. Any attempt within South Asian context to rebuild the region's disrupted economies links can only come about within the context of a positive political commitment based on the clear recognition of a mutuality of benefits.[14]

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14. Rehman Sobhan, "Regional Economic Cooperation in South Asia : Legacy and Prospects", *Economic Bulletin for Asia and the Pacific*, vol XXX, no.1, June 1979, pp 16-23.

We see that the SAARC's pace and development is conditioned by mutual willingness and the obtaining of favourable political conditions in the region. This became manifest at the Islamabad Summit (December 1988) where significant consensus on a regional economic plan was made possible by a conjunction of realism and genuine conditioning. This in good measure could happen by the string of development in Pakistan - Cordiality that the upsurge of democratic forces symbolised by the SAARC Summit's, new chair-person, Ms Benazir Bhutto.

While concluding,one can only say that developing countries in general and SAARC countries in particular have explicitly eschewed any objective of ultimate economic integration from the agenda for regional cooperation. The objective which has emerged thus far in SAARC is 'Cooperation for greater self-reliance'.[15] This objective presumbaly underscores the developmental requirements of member countries in SAARC while remaining non-commital to economic integration. The expansion of intra-SAARC economic inter-action and some limited degree of economic interaction is a sine-quo-non for regional cooperation to be successful in South Asia which will go a long way in achieving food security in this region.

In pursuance of the Declaration on South Asian Regional Cooperation (SARC) signed by Foreign Ministers of South Asian countries in New Delhi, in August 1983, the Technical Committee on Agriculture met in Dhaka during 9-11 November 1983. Since then South Asian countries have been meeting

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15. Emajuddin Ahmed, 'Regional Cooperation in South Asia and India's role,*IDSA Journal* vol 15, no.3, 1988, pp.405-422.

from time to time to identity the priorities area in the respective countries.

The major objective of Technical Committee is on implementation, coordination and monitoring of the Agreed Programme of Action and identification of certain specific projects.

The Technical Committee on Agriculture (Dhaka 9-11 November 1983) adopted the following areas for implementation and for this short-term and long-term programmes were devised.[16]

Short Term Programmes

a] exchange of information;

b] study tours and short training courses;

c] exchange of frozen semen; and

d] inventory of seed companies.

Long Term Programmes

a] Degree courses & training in Agricultural Science

b] Multi-location Trials

c] Rapid Advancements of Generations for Rice & Wheat

Taking note of the need for rapid advancement of generations in rice and wheat, the Technical Committee recommended that facilities offered by the member countries may be utilized.

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16. Based on, *Report of the Technical Committee on Agriculture*, Dhaka, 9-11 November, 1983.

The Thimphu meeting of the Technical Committee on Agriculture 27-29 May 1986 pinpointed the following areas for cooperation among South Asian countries. These are following :

a] Joint exploration for the survey of and collection of Germaplasm: We know that richness of germaplasm available in SAARC countries in different crop species. There is need for systematic exploration and collection of the resource.

b] Establishment of a centre for Research on Amelioration of Problem Soil : This will go a long way in solving the problems of salinity and soil erosion in SAARC countries.

c] Establishment of a Regional Agricultural Information Centre :

d] Cooperation in the control of Hispa in Rice : This regional problem in Hispa in rice can be tackled collectively by SAARC countries.

e] Regional centre for Training in Agriculture P This will be in a position to co-ordinate the Research and Training programmes going on in SAARC countries.

f] Study on National Agricultural Policies:[17]

We find that Technical Committee on Agriculture of SAARC has been systematically striving for regional cooperation in the agricultural sector. Pakistan can play a leading role in the food security in SAARC by cooperating in the fertilizer sector, water-management, seed production research and in

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17. Based on *Report of the Fourth Meeting of the Technical Committee on Agriculture*, Thimphu, 27-29 May, 1986.

the creation of Rice Reserve in South Asia. Pakistan is self-sufficient in nitrogenous fertilizer and is a potential exporter. Pakistan can cooperate with other SAARC countries in this area. Another vital area in which Pakistan can cooperate with other SAARC countries is Water Management. This will definitely help in the stabilization of food production in SAARC countries. It may be mentioned here that Pakistan has made considerable progress in the area of irrigation and on-farm water management which can be very profitably shared by other member countries.

The green revolution has touched all the member countries of the region and each country has made advance in one commodity or the other, particularly through improved seed base. The remarkable gain by India and Pakistan in wheat and by Sri Lanka and Nepal in rice are examples. Establishment of regional germoplasm bank for all the crops, for which this region is the 'centre of origin' might be taken up on priority basis. Pakistan can contribute a lot in the establishment of germaplasm bank. Pakistan has been specially selected for further research and development in seed development programme and water management. This will help the other South Asian countries.

It is thus quite evident that South Asian countries have opportunities to cooperate in many promising areas of agricultural research, education, extension and development. The area of mutual interest may be identified and priorities sorted out through discussion. Food Security in the region as a whole would be beneficial for all the member countries including Pakistan.

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CHAPTER - VI

SUMMARY AND CONCLUSION

In the 1970s food security became the overriding concern of the government in the developing countries and the most pressing item on the international agenda. More than a billion people, almost one quarter of the world's population, live on the verge of hunger and half of them suffer from chronic undernutrition. The number of hungry and malnoruished people is likelv to double bv the vear 2000. and the food crisis mav soar out of control.[1]

Droughts, floods, and other natural or man-made calamities are only part of the problem. The central and most intransigent cause of hunder in South Asia is poverty, low productivity of agriculture and backward state of agriculture. Old remedies that focus on increasing food supply, mostly via technological innovation may not suffice to solve the problem since they will not materially change the status of the great majority of the people who are hungry and malnourished.

It is claimed by the Pakistani Economists like Professor Akmal Hussain and Prof. Rashid Amajad that Pakistan has logged a fairly impressive agricultural growth rate since independence which has brought Pakistan to the point of self-sufficiency in food. Large imports of foodgrains to feed the population has come down drastically in the recent years. But inspite of this economic achievement, almost 30 per cent of the population (i.e. 30 million individuals) have still been unable to obtain the minimum caloric requirement of 2550 calories per day - and over 0.5 million persons

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1. David Bigman, COPING WITH HUNGER, Toward a System of Food Security and Price Stablization, Ballinger Publishing Company, Cambridge, Massachusetts, 1982.

are added each year to this army of the undernourished. It is quite clear that even though the country appears to have become self-sufficient; the minimum food requirements of significant proportion of the population has still not been satisfied. The reason, of course, is the lack of purchasing power of the poor and hence the relationship with food prices. The high prices of foodgrains evade the real incomes of the net buyers of food, the weak and unprotected. Although high foodgrain prices may be able to resolve the supply side of the problem relating to availability of foodgrains, their impact on the demand side is likely to be catastrophic - they serve to worsen poverty. We have seen in the previous chapters that for several years the output of foodgrains in Pakistan has been rising steadily. Except for edible oils and pulses, the country is almost self-sufficient in food. Pakistan exports over one-third of its rice production.

But at the same time with regard to consumption of calories, Pakistani experience has not been remarkable. Although some improvement has taken place in the total consumption of calories, the daily diet still needs to be increased by about 250 calories per day per person (or 10 per cent) to reach recommended level (2550 calories per day per person).[2] About 61 per cent of calories in an average Pakistani's diet are derived from foodgrains compared to about 35 per cent in the developed countries. The

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2. 7th Five Year Plan (1988-93) and Perspective Plan 1993-2003 Planning Commission, Government of Pakistan, p.15.

contribution of oil and fats in the total consumption of calories is only 8 per cent against the recommended need of 20 to 25 per cent, and the consumption of proteins (probably of low quality) is only 60.6 grams per capita per day against 62.5 grams recommended, by experts. This indicates that an average Pakistani is not only undernourished, but his diet is also unbalanced.

Inspite of Pakistan's repeated assertion of its self-sufficiency in food-grains, the availability of foodgrains has not been satisfactory as compared to India and Sri Lanka. The question of availability of foodgrains is more relevant for the 'genuine food security' than the tall claim of schieving 'food self sufficiency'.

Before evaluating food security in Pakistan, we must see how it has been coping with the situation prevailing during the last decade. Pakistan has an extensive system of licensed ration shops (recently rationing of atta has been abolished) in which among the ordinary goods, rationed flour, sugar, edible oils etc are sold at a fix mark-up. Rationed quantities are dispensed per capita, without reference to any measure of need or income. The government procures at competitive prices from domestic producers and when necessary, from abroad. Ration wheat, thought to be lower quality than open market wheat, provides the poorest 5 per cent of the population with more than 50 per cent of their caloric intake and 66 per cent of their protein.[3]

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3. David Bigman, op. cit., p.95.

We have seen in the previous chapters that Pakistan's price and distribution policy is heavily biased against the rural sector and in favour of urban sector. This is most clearly demonstrated in its trade policy. Until 1972 multiple exchange rates were practised and agricultural exports received the lowest exchange rate. In addition, the export of most foodgrains other than rice was banned. The objective of this policy was to hold down domestic prices to urban consumers and thus facilitate the process of industrialization. This policy has had the effect of transferring income through the price system, from rural to urban consumers and to the government. We have seen in the chapters on input and output policies (3 and 4 chapters), this effect is offset by the government's subsides to agricultural inputs and price support schemes. However, these subsidies benefit mainly the larger and wealthier farmers who get most of the institutional credit for agriculture and who buy most of the subsidized fertilizers, tubewells and farm machinery. The small grower is not only deprived of the benefits from subsidies, but also pays the taxes out of which subsidies are founded. The bureaucratic maze and inefficiency involved in the public procurement and distribution system are by no means unique to Pakistan; indeed the situation is probably no worse than in other South Asian countries. It is important to emphasize, however, that corruption and incompetence, especially at lower level of the government bureaucracy, may impose considerable burdens on the system and interfere in its operation, as the following example illustrates.

"In mid-1975, the nationalization of rice and flour milling led to considerable hardship, corruption and bribery. Rice brought by farmers to the government rice mill were often rejected. The farmers were told to take their rice home and dry it for another week, or that it was too dirty or not acceptable for other reasons".[4]

The above scenario explains the food availability in Pakistan. It has affected the fair distribution of foodgrains among different sections of society. The public Distribution System has miserably failed to deliver goods to the people of Pakistan in the absence of any concrete and consistent food policy during the last two decades particularly in the late 70s and early 80s.

Though the country had done reasonably well in the agricultural sector, stable self-sufficiency in foodgrains has yet to be achieved, and hence the need for occasional food imports.

As we have seen in the first chapter, installation of private tubewells, tractorization and use of high yielding varieties got an impetus in the Second Five Year Plan (1960-65) and Third Five Year Plan (1965-70); the main aim was to achieve self sufficiency in foodgrains. We know that tractorization has progressed in those countries where land-man ratio is extremely favourable and where economic development has reached the phase in which a large quantity of accumulated capital per man would make

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4. Ibid., p.96.

the productivity of labour high and capital cost cheaper relatively to the cost of labour.[5] Since land-man ratio is worsening due to rapid population growth (the current compound growth being 3.10 per cent), capital accumulation per man will be slow in the near future. Inspite of this, mechanisation particularly tractorization took place on a large scale. This led to marginal increase in productivity of land. The main impact has been the widening of the income differentials as a result of greater unemployment following the rapid increase in mechanisation.

The Government of Pakistan has been consistently trying to move towards self-sufficiency in food since the beginning of the Third Five Year Plan (1965-70). We have seen (Chapter 3 and 4) that government promoted new farming techniques by its policies concerning the prices of inputs and outputs which enhance farm profits. On the input side (Chapter - 3) the most prominent have been subsidies on fertilizers, pesticides, agricultural credit and irrigation. Important also has been the government measure to grant tax and tariff exemptions for the imports of agricultural investment goods and to license imports at artificially low official rate of exchange.

On the output side (Chapter-4), an important feature of government policy has been price-support scheme for wheat, rice, pulses and oilseeds, in order to provide an incentive to farmers by giving them the prospects

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5. Ibid., p.102.

of a major predictable income. The production of cereals did respond to price incentives through increase in area and yield of individual crops and change in cropping pattern spread over a number of years. These policy measures have been successful to some extent in accomplishing the immediate task for which they were intended.

The goal of recent food policy in Pakistan has been self-sufficiency in foodgrain production since the beginning of Third Five Year Plan. During the Fifth and Sixth Five Year Plans, tangible results were quite visible. Measures ranging from input subsides to output support programmes have all been designed and executed for the purpose of substituting domestic production for the import of foodgrains. One can safely say that the substantial increase in yield obtainable by the progress of the 'New Agricultural Strategy' has made it possible for the mass of the nation's farmers to achieve satisfactory increases in output and solve the problem of foodgrain deficits within a short period of time.

Since foodgrains are the cheapest sources of calories, it is only natural that emphasis has been placed on the rapid acceleration in agricultural output given the shortage in food energy intake. However, simply eliminating the foodgrain deficits, do not provide a final solution to the problem of food security in Pakistan. There is a whole range of other problems such as ensuring fair distribution, lack of purchasing power, and marketing deficiencies stand out.

It has been observed that the performance of four major crops viz. wheat, rice, pulses and oilseeds have been different. There is an increasingly difficult problem of producing an improved mix to provide the country with more nutritional diet. Pakistan's deficit in edible oils and pulses are quite obvious. As the pattern of consumption has changed in response to an increase in per capita income, there is more demand for 'protective foods' that are rich in vitamins and high quality proteins. The country is yet to get breakthrough in the production of oilseeds and to some extent in pulses. There ia an urgent need to plan for changes in the cropping pattersn by shifting attention to crops such as edible oils and pulses. Since the production of oilseeds has not kept pace with the rapid growth in domestic demand, re-examining the structure of output prices has become necessary. In the Fifth and Sixth Plans appropriate incentives were given to increase the producton of these two important crops.

We have seen in the previous chapters that there is lack of diversification in Pakistan's agriculture. For diversification, policy measures should be designed to change the cropping patterns to bring forth this result. We know that the major determinants of the net profitability are physical yield per acre and the price per unit of output. A new set of comparative yield performance and a new set of relative prices among crops have to be devised. The current system of support prices needs re-examination and

determined efforts to improve yields of crops other than rice and wheat are called for a more balanced diet for the people of Pakistan.

"Oilseeds represents the most notable agricultural policy failure of the past" says Pakistan's National Commission on agriculture headed by Mr Sartaz Aziz in its final report (April 1988)[6]. From a position of self-sufficiency the country has now turned into a major importer of edible oils with imports currently accounting for as much 65 per cent of domestic consumption. The edible oil issue is quite similar to our country. The faulty pricing policy is responsible for huge imports of edible oils. Due to excessive concern for consumers, particularly in urban areas, the prices of vegetable oils have been deliberately kept low, encouraging a rapid increase in domestic consumption and a loss of incentives among growers in raising oilseeds production.

Now coming to the possibilities of regional cooperation in the food sector, it can be said that it would be a right step towards achieving food security in the region. In the fifth chapter we have seen that in early phase of its development, Pakistan was a net importer of foodgrains particularly from USA under PL-480. True, in the initial stage, it helped in the stabilization of food prices in Pakistan and helped in the proper maintenance of Public Distribution System (PDS). We have seen that massive imports of food grains from abroad affects domestic agriculture in several ways. It affected the farmer's incentive to produce more foodgrains.

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6. Surinder Sud, "New Blueprint for Pak Agriculture", *The Times of India*, May 17, 1989.

Professor Beringer has clearly shown that without creating additional effective demand, food aid could retard agricultural supply response. According to him more important is domestic absorption potential i.e. marketing and transportation facilities which degermine the availability and price of foodgrains. One can only say that US food aid to Pakistan has done more harm than good to the country by sultifying the growth of agricultural sector and at the same time it has burdened the exchequer with a heavy load of subsidies to maintain the entire framework of food system in Pakistan.

Given the vicissitudes of agriculture in Pakistan and in the region, adequate reserve stocking both at the national and regional levels appears plausible. The establishment of South Asian Food Security Reserve (SAFSR) in SAARC Kathmandu Summit in November 1987 is a welcome step towards food security. It has further been suggested that a 'Food Bank' for South Asian countries may be established. For purpose of this bank, the countries in South Asia should be divided into (i) food surplus (ii) near self-sufficient (iii) deficit countries and (iv) food donor countries. An agreed percentage of the annual production of foodgrain of each countries should be earmarked for food reserve which will be handled by the SAFB. This will definitely improve the situation.

Another vital issue is that countries of this region should cooperate with each other in the different spheres of agricultural research programme and training. A necessary complement of these measures has to be a well thought out programme of action for strengthening the agricultural base in the South Asian countries. In this way, not only will Pakistan be benefited, but the other member countries of SAARC as well.

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