AGRICULTURE STRATEGY FOR POST FY 1987 PROGRAM

AND

POSITION PAPER ON AGRICULTURAL POLICY AND INSTITUTIONAL REFORM

Office of Agriculture and Rural Development

USAID/Islamabad

January 1986

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I. INTRODUCTION

The need for policy and institutional reform in agriculture has been recognized by the Government of Pakistan (GOP) for several years and is described in detail in its Revised Action Plan (1979) and National Agriculture Policy (1980). USAID and the major multilateral donors support reforms outlined in the plan, including:

- o Pricing levels for key inputs such as water and fertilizer that reflect the true cost of these goods and services;
- o Procurement prices for major crops that establish adequate incentives for increased production;
- o Increased private sector participation in agricultural-related activities, including the distribution and marketing of inputs and outputs; and
- o Emphasis on proper operation and maintenance (O&M) of existing institutions and systems rather than increased public funding for new large-scale infrastructure projects.

The basic concern, which affects nearly every other agriculture-related policy issue, is to simultaneously move both inputs and outputs to economically-determined pricing levels. On the input side, this means reduced subsidies in order to lower public spending and encourage more efficient resource utilization. On the output side, this means higher procurement prices that provide adequate production incentives for Pakistani farmers.

Consensus on the need for policy reform rarely translates into immediate implementation of detailed action plans. Reform is especially difficult during times of economic and political instability. However, significant elements of policy reform have been achieved between 1979 and 1984. For example, prices for most crops were raised to border parity and the prices for key inputs such as fertilizer were also increased. Pesticide distribution was privatized and the subsidy eliminated in Punjab and Sind. Funding for irrigation O&M also increased and investment patterns reflected a clear shift to rehabilitation and management improvements in the existing system. In recent months the momentum has somewhat slowed, in part due to the uncertainty over a return to civilian government.

Yet there are some developments that look quite promising. The fact that a national assembly was elected and martial law was terminated in 1985 offers hope for stability and promise for a more broad-based

national consensus. These political developments bring with them both problems and opportunities for the post 1987 period. On the one hand, the hard policy decisions which need to be made are in the hands of an assembly that is even more dominated by the conservative agricultural elements than those in a martial regime. They will welcome higher procurement prices but will be reluctant to remove the large input subsidies that continue to divert scarce public funds. An example is the recent increase in wheat prices which presented a good opportunity to decrease the subsidy on phosphatic fertilizers. Wheat prices were raised but fertilizer prices were not. On the other hand, opportunities do exist for effective long term policy goals once the magnitude of the problem is better understood. A consensus for acting on appropriate policy measures may emerge and be supported by a broader national constituency. Recent pronouncements concerning edible oil marketing are exemplary.

Section II provides an overview of the agriculture sector. It contains comments on Pakistan's agricultural resource base, production and yield trends, the role of government and a look into the agriculture future. The third section looks more closely at major policy and institutional constraints affecting agricultural sub-sectors. The fourth section describes agriculture sector goals, targets and key elements in USAID's suggested policy reform agenda. The paper then concludes with a discussion of the strategy that will be used to implement the post 1987 agriculture program including plans for a complementary PL-480 Title I program..

II. OVERVIEW OF THE AGRICULTURAL SECTOR

A. Role of Agriculture in Pakistan's Economy

Agriculture dominates Pakistan's economy, accounting for more than one-fourth of Gross Domestic Production (GDP) and employing over half the country's workforce. Pakistan's growing industrial sector also depends on the nation's farms, both as suppliers of raw materials and as buyers of finished goods. Directly or indirectly, agriculture accounts for over two-thirds of all export earnings. Rice and cotton are especially important since Pakistan is the world's third largest exporter of rice (after the US and Thailand) and fourth largest exporter of cotton (after the US, Egypt, and Turkey). The country also claims self-sufficiency in sugar, vegetables and pulses (rice, maize, barley, gram, etc.), but continues to face deficits in dairy products, meat and edible oils. Wheat, the largest commodity, verges on self-sufficiency.

Real agricultural growth averaged 3.1% annually between 1949 1950 and 1983. This compares favorably with other countries within the region. Pakistan's annual economic growth averaged 5.1% during the same period. Though agriculture's relative importance to the economy is declining, agricultural performance remains critically important to the economic health of the country. Poor cotton and wheat harvests in 1983-1984 seriously affected Pakistan's balance of payments situation and led to a crisis in the textile industry. However, improved productivity and a GOP policy environment favorable to long-term agricultural growth can play a key role in raising rural incomes and stimulating economic development in other sectors.

B. Performance and Potential

1. Pakistan's Agriculture Resource Base: Agriculture in Pakistan is highly labor-intensive. Nearly 72% of a total population of more than 90 million live in rural areas and more than half the labor force works on farms. About half the estimated four million farms are less than three hectares; these together represent only 15.5% of total farmland. Land tenure arrangements vary from region to region. Owner-operated farms account for 55% of the total, while the remainder are rented either wholly or in part. Though the relative proportion of workers involved in agriculture is declining, high population growth rates mean the agricultural sector must continue to absorb large numbers of workers each year. Despite increases in agricultural production and substantial growth in remittance income from rural workers employed in either Pakistan's cities or the Middle East, rural poverty persists on a large scale. Poor tenants and marginal land owners are particularly victimized by the situation.

About 40% of Pakistan's total land area of 804,000 square kilometers is suitable for agriculture and forestry, of which nearly two-thirds is cultivated and one-third used for forest and range. Crops account for about 70% of total agricultural GDP. Wheat is grown on nearly 36% of the cultivated area, with various other food grains and pulses representing another 24%. Important cash crops include cotton, sugarcane, rapeseed and mustard which together account for 18% of the cultivated acreage. About 75% of the wheat and sugarcane, 60% of the cotton and 50% of the rice is grown in the Punjab.

Insufficient or variable rainfall is a limiting factor to satisfactory agricultural yields in Pakistan. Thus, the efficient use of irrigation water is a key to increased agricultural productivity in this basically arid country. About 70% of all cultivated land is irrigated, largely through a network of 40,000 miles of canals and 750,000 miles of publicly-owned watercourses that constitute the largest contiguous irrigation system in the world. Poor operations and maintenance programs have seriously weakened the efficiency of the system. Reports indicate water losses may be as high as 60% in parts of the system. In addition, inadequate drainage leading to salinity is a problem of enormous proportions. Changes in elevation only average about one foot each mile in much of the Indus command area. Thus, poor gravity flow constitutes an especially serious engineering problem. The water table now lies within twelve feet of the surface in 60% of the area commanded by government canals, and the area affected by salinity is estimated to be at least 28% of the commanded land When the water table reaches five feet, plant growth and yields are seriously affected. Critical water table levels will soon be reached with levels rising as fast as one foot per year in many parts of Sind and Punjab.. Each year, rich farmland numbering in thousands of acres is lost to salinity and waterlogging.

Livestock represents about 28% of the agricultural GDP and is integral to the rural system. Animals are used as a source of locomotion, food, and energy. Ownership is widely distributed in rural areas and few farms have no livestock at all. Much of the sub-sector is subsistence in nature, with livestock maintained primarily to meet basic diet and work requirements. However, some dairies and a large-scale poultry industry have emerged to service urban markets over the last two decades. The potential growth for both these agricultural sub-sectors is great, especially as migration to cities continues and Pakistan's urban markets expand. Nevertheless, further expansion of the livestock industry is severely restrained by lack of adequate feed supplies and sound management practices.

The forestry sub-sector is limited in terms of its contribution to GDP but remains vital to the rural economy, especially as an energy source. Per capita wooded area is estimated at only 0.03 hectares per person (compared with a world average of 1.4 hectares) and is especially low in Punjab and Sind. Nevertheless, forests and woodlots play an

important role in supplying forage and medicinal plants, improving soils and providing watershed protection. Timber production is also used in construction. Fuelwood meets more than half of Pakistan's household energy requirements, about 80% of the fuelwood produced being grown on private farms. There clearly is room to expand farm production through an aggressive socially responsive forestry program by using improved species and better cultural practices.

2. Production and Crop Yields: Growth in agricultural output has averaged more than 3% annually in the nearly forty years since independence. However, it has been erratic growth and the expected improvements in productivity have often been disappointing. Output depends not only on climatic factors, floods, droughts, pests, etc., but also on the quality and improvements of policies, especially those relating to input and output pricing. Production increases were highest during the late 1960s, when high yielding varieties (HYVs) for wheat and rice were introduced and a corresponding increase in fertilizer availability occurred. During this time, the agricultural sector also benefited from higher and more stable procurement prices and a more liberal trade policy that encouraged the import of farm machinery. Input subsidies were very substantial especially in fertilizer, water and plant protection. Growth slowed considerably in the 1970s and despite some recent new spurts, an erratic trend continues to be the norm. Crop failures in wheat and cotton during 1983/84 were major setbacks and resulted in a 6.2% decline in agriculture's contribution to GDP. The 1984/85 crop year had serious set backs in wheat production due to a second consecutive drought year. It appears doubtful that crop targets set forth in the GOP's Sixth Five-Year Plan (1983-1988) can be achieved.

Agricultural production varies between regions and among the various agricultural sub-sectors. Although the Punjab accounts for most of the agricultural output in Pakistan, it has not been a leader in terms of growth. The performance of both Sind and Baluchistan has consistently been better, and the NWFP has performed at least as well. As a result, Punjab's share of total agricultural production declined from 68.4% to 62.6% between 1959 and 1980. Sind's proportion grew from 19.2% to 25.1% and Baluchistan's share increased from 1.7% to 3.3% during the same period. There is also a significant disparity in growth rates among districts within provinces. Generally speaking, the more newly settled "canal colony" areas of southern and western Punjab perform better than the rest of the province. Yet progress in the Punjab remains the key to improving agricultural performance in Pakistan. Improvements in more efficient use of water and other inputs such as fertilizer would have a significant impact.

Up until the mid 1960s, agricultural growth was largely the result of new acreage and increased water supplies. With the advent of "green revolution" technology, the use of inputs such as the HYVs and fertilizer became more important. Limited growth was achieved during the

1970s as a result of increased acreage and improved productivity. However, for a variety of reasons, the early momentum generated by the "green revolution" was not sustained. Crop yields in Pakistan have remained substantially lower than those in many other developing countries. This suggests that the country has not yet taken full advantage of proven and available agricultural technologies. (One should not lose sight of the fact that the 1970s was a period of tumultuous political events and the follow on undulations greatly undermined the stability of existing agricultural organizations).

Emphasis on improved productivity through more efficient use of existing resources is all the more critical as major factors of production such as land and water become scarce. High costs make it difficult to bring additional acreage under cultivation. Yet at the same time, farms in many areas are becoming less productive because of increasing salinity. Water supplies are also limited, magnifying the need for more efficient irrigation systems. With respect to other inputs such as fertilizer and seed, the problem is often less one of availability than of proper and efficient use. Such measures as better management, improved timeliness, quality of inputs and a reduction in the distortionary effects of inappropriate policy measures are all needed to bring about improvements in both production and productivity across the full range of agricultural subsectors.

3. Role of Government: The GOP is heavily involved in Pakistan's agricultural economy. Presently, government institutions set prices for agricultural products and control the price for major inputs such as fertilizer and water. To a lesser extent, they also participate in the production, processing and marketing of major crops and key agricultural inputs. Government investment is critical for the establishment and maintenance of a large agriculture-related infrastructure, including support for transportation, irrigation, education and research. Finally, the government intervenes directly through taxes and subsidies.

The multitude of agricultural-related institutions at both the federal and provincial levels makes effective policy coordination difficult. Provincial priorities and perceptions vary considerably, and provincial development agendas are at times in conflict with those set by the federal government. Provincial views are often parochial and not always geared to the national interest and are frequently self-serving. All of this has caused and continues to cause misunderstandings and implementation delays. The government regulatory structure also often works against private sector participation, whether implicitly or explicitly. In particular, erratic official attitudes toward commercial initiatives mean that a good deal of suspicion on both sides needs to be removed before private sector involvement can substantially expand.

Support prices for all major crops are set by the GOP. In recent years, the government has followed the advice of the Agricultural Pricing Commission (APCOM) and set price levels that reflect international trends as well as production costs and net returns to

farmers. As a result, procurement levels for both wheat and IRRI-6 rice (coarse) have risen to roughly parallel those in international markets. Two notable exceptions to this general trend are prices for sugarcane and the other major variety of rice, a fine aromatic rice called basmati. Pakistani farmers receive about twice the world price for their sugarcane, while procurement prices for Pakistan's high-quality basmati rice are only 60% of international levels. This low procurement price contributes to the high export margins which the Rice Export Corporation (REC) enjoys each year.

With respect to inputs, the government is most heavily involved in subsidizing fertilizer and irrigation. The net subsidy for fertilizer has been declining since FY 1979, but the subsidy was not eliminated in 1985 as planned by the GOP. (The subsidy cost Rs. 1.5 billion and represented 5.1% of the total federal development budget in FY 1985, contrasted with Rs. 2.5 billion and 13.3% in 1979). The decline in the fertilizer subsidy has been offset by a more rapid than expected increase in net irrigation subsidies which grew from Rs. 715 million in FY 1983 to Rs. 1.3 billion in FY 1985. Unless user costs are increased to cover needed irrigation O&M, budgetary demands will continue to increase.

The GOP's involvement in commodity procurement and input distribution has been noted. A reduction or elimination in these marketing and distribution costs would lead to substantial public sector savings. Some of this could be passed on to farmers in the form of improved incentives. During FY 1984, marketing "incidentals" represented about 30% of the export price for rice and 20% of the export price for cotton. While a weak marketing infrastructure raises costs, it is clear that public sector inefficiencies contribute to expensive marketing practices and poor services to farmers. Indeed, incentives to raise marketing efficiency is often hampered by the fact that public sector agencies with high marketing costs tend to be those with high profits. Some progress has been achieved in fertilizer, with commercial firms now distributing 50% of all fertilizer imports. However, even this important sub-sector continues to be hampered by excessive regulation. Government reimbursement of "actual" freight costs to various regions of the country has lowered cost-cutting incentives and may lead to abuse by private distributors.

There is no shortage of agricultural-related institutions in Pakistan, but their capacity to the deliver needed services on a timely, continuing basis in the right quantities is erratic . Planning and implementation of these services at the field level is particularly weak, due in part to poor collaboration among the various institutions. For example, agricultural education, research and extension have in the past developed largely in isolation of each other with little thought given to how activities in one area can directly benefit effectiveness in another. Relationships between federal and provincial research institutions has been tenuous at best. Irrigation is another important area where delivery institutions are in major need of change. Numerous

organizations at both the federal and provincial level are involved in water delivery services and overlapping responsibilities are often uncoordinated. Substantial investments over several decades give Pakistan the capacity to provide adequate water to its farmers, but efficiency in the irrigation system is very low and worsening as critical operation and maintenance needs expand.

While pricing levels and institutional support are used as GOP policy instruments, the government also intervenes through taxes and financial subsidies. Taxation, whether direct or indirect, is comparatively light. Overvalued exchange rates no longer discriminate against agriculture as they did during the 1960s. Export duties placed on rice and cotton during much of the 1970s have also been removed. However, "profits" reported by the public-sector rice and cotton export corporations have in effect become an indirect tax on agricultural income. The provinces also raise some revenue under an antiquated land tax system administered by local patwaris (land and revenue records keepers). A recent tax, ushr, is being used to mobilize public funds in rural areas. This tax, a religious levy on agricultural production authorized in March 1983, is collected on a self-assessment basis and used for welfare activities within the local community.

Low user charges for fertilizer and water remain the two main budgetary subsidies. Fertilizer is subsidized at the federal level and water delivery costs are largely borne by the provinces. Both federal and provincial governments officially recognize the need for higher user costs and have begun to increase user charges. However, pricing targets in both areas need to be reached more quickly. Recent studies indicate that the terms of trade within agriculture have not deteriorated significantly during the last decade. The results of these studies in addition to the higher procurement prices now offered for major crops suggest that the agriculture sector should pay for an increasing proportion of its key inputs.

4. Potential for Growth: There is scope for at least a 30% increase in agricultural production, primarily through yield improvements. Despite greater water availability, improved seed varieties and increased use of fertilizer and pesticides, yield improvements during the 1970s and early 1980s were modest. Per hectare production levels remain lower than those of many other developing countries and compare unfavorably with those achieved in "model" farms within Pakistan. There is also great potential for production of "new" crops (soybeans, sunflower seeds), expansion of seed, feed, horticulture, poultry and daily industries.

The key to improved agricultural productivity is more efficient use of existing resources and institutions. "Right" policies are critical to this process and need to be extended to all significant agricultural sub-sectors. Major areas needing improvement include input pricing that encourages efficient resource allocation and output pricing

that provides farmers with adequate production incentives. Institution strengthening is particularly needed in agricultural education, research and extension. While increased budgetary support is helpful, real change will only come through policies that encourage initiative, promote coordination and maximize returns on scarce public funds.

C. Foreign Assistance and Donor Coordination

Nearly all bilateral and multilateral donors active in Pakistan have programs in either agriculture or rural development. Individual countries involved include Australia (sheep and wool development), Canada (research, irrigation, drainage, rainfed agriculture), Germany (livestock and forestry development), the Netherlands (fertilizer, veterinary activities, irrigation) and Great Britain (irrigation and drainage). USAID and the two major multilateral donors, the World Bank and the Asian Development Bank (ADB), are involved in nearly every major agricultural sub-sector, including food policy, irrigation, and agriculture education, research and extension.

Coordination among the largest donors takes place on both a formal and an informal basis. There is substantial agreement within the donor community on the basic agricultural reform agenda as reflected in the GOP's Revised Action Plan (1979) and National Agricultural Policy (1980). USAID pioneered the development of an On-Farm Water Management (OFWM) program in the 1970s which later received extensive World Bank and ADB support. Many of the concepts developed under OFWM are also being implemented under an Irrigation Systems Management (ISM) project co-financed by the World Bank and USAID. The OFWM project provides technical assistance to upgrade the capability of the provincial OFWM direcorates to design, implement, coordinate and monitor on-going and future water management projects. In addition, USAID along with the World Bank (and hopefully ADB) share nearly identical views on the institutional and policy reform measures needed to strengthen Pakistan's system of agricultural education, research and extension.

Macro level policy objectives are stated most clearly in balance of payments support agreements such as the World Bank's Agricultural Sector Loans and USAID's PL-480 and Agricultural Commodities and Equipment (ACE) programs. While mutually supportive of initiatives taken by individual donors, an informal "division of labor" has also developed. USAID is most active in discrete sub-sectors such as policy dialogues on edible oils and fertilizer, while the World Bank takes the lead on sector-wide pricing and resource mobilization issues. USAID and the World Bank take similar policy positions on irrigation reform programs and are active in their implementation.

III. INSTITUTIONAL AND POLICY CONSTRAINTS

Qualitative improvements in the supply of the inputs and services are urgently needed. Despite gradual increases in fertilizer offtake in recent years, the overall nutrient balance in FY 1984 was no higher than in FY 1978, with the N:P ratio particularly unfavorable for kharif (summer) crops. Similarly, as the cotton crisis of FY 1984 demonstrated, availability of pesticides is no guarantee of their effective utilization. Increasing the efficiency of irrigation supplies, strengthening the seeds program, enhancing the impact of agricultural credit, improving marketing and distribution and upgrading extension services are key initiatives necessary for better management and use of inputs.

On the output side reform in price policy, freeing of markets and greater participation of foreign companies and a general lessening of public sector involvement will result in a more vigorous agriculture. Greater delegation of authority to the provinces and more well defined lines of authority are needed in public sector activities in irrigation and in agriculture research, extension education.

A. Inputs

1. Water: As previously mentioned about 70% of Pakistan's cropped land is irrigated. This area covers 34 million acres and generates 90% of the country's agricultural production. Water delivery is supported by an enormous infrastructure that begins at the farm level and includes both provincial and federal bureaucracies. At the federal level, water allocations are controlled by the Ministry of Water and Power and the public-sector Water and Power Development Authority (WAPDA). Combining water responsibilities with power sometimes leads to difficulties, since the demands of one sector are often in conflict with the requirements of the other. Failure to resolve the issue of provincial water rights is also a major constraint to rational planning and efficient water use. Historic "water rights" are jealously guarded, with little thought to returns on investment or the waterlogging problems caused by excessive water use in some areas.

a. Surface Water: Surface irrigation is hampered by a tight web of design and operational constraints that prevent efficient use of limited water supplies. Design presents difficulties due to the special characteristics of the Indus basin, including low land slope, high sediment levels, and salinity in much of the ground water. Efficient use is also hampered by design systems based on supply rather than demand, making water delivery schedules rigid and complicating efforts to match water consumption with optimum crop yields. Water course efficiencies in some command areas are as low as 50%, and farmers at the tail end of the system often receive no water at all. Water availability is 30% below annual requirements, with shortages highest during the rabi (winter) season.

Administrative responsibility for surface water is divided among federal ministries (Water and Power, Food and Agriculture) and provincial departments (Irrigation, Food and Agriculture). In addition, Water User Associations (WUAs) involving an even wider array of development organization are being established at a local level to increase community involvement. About 70% of the water loss within individual command areas is linked to operational weaknesses and poor water management at the farm level. Poor collabroation between provincial irrigation and agricultural departments is an especially serious problem. As a result, water distribution is not based on either optimal water use or efficient cropping patterns. In addition, routine maintenance of watercourses falls between the two administrative "cracks" since neither irrigation nor agriculture agencies accept responsibility for their maintenance. Farmers are theoretically reponsible for upkeep, but their efforts are often hampered by poor community cooperation and limited technical expertise.

Inadequate O&M represents the most serious single problem in the water sub-sector. Public investments have largely been targeted toward capital-intensive Indus Basin projects such as the construction of Mangla and Tarbela dams. Canal and watercourse maintenance was left to provincial departments and individual farmers. These investments did expand the overall capacity of the system but at the expense of efficient water delivery. Common and persistent problems include inadequate freeboards, deteriorated embankments and poor compaction. The entire system is in need of rehabilitation as well as remodelling to allow equitable water distribution and delivery of the larger flows made possible by increased reservoir capacity.

In recent years, a consensus has been growing that something has to be done about facilitating services to farmers who are dependent on water as the primary input. Seven pilot projects in major command areas are now underway to test this concept with collaborative World Bank/USAID input. The Command Water Management (CWM) program will provide the basis for all relevant agencies to cooperate, with the active participation of water users, to match water supplies with crop requirements and to provide other necessary inputs and services in a coordinated and timely manner in order to increase agricultural productivity.

The revenue-expenditure gap in the irrigation system is very large and continues to widen. Low user charges are partly responsible, which in turn contribute to inefficient water use and inadequate O&M funding. The enormous investments required to halt deterioration of the irrigation infrastructure can only be mobilized if farmers pay user charges commensurate with their economic returns. Target levels and phased tariff increases based on changes in price levels and the cost of cultivation are being developed to reduce this subsidy and relieve pressure on public budgets. However, considerable political support will be needed to bring about this important policy change and increase levels of user-generated O&M support. This is proving to be a difficult "nut to crack"!

b. Ground Water: The use of ground water for irrigation purposes is increasing in importance. Use of public tubewells became widespread during the 1960s, when programs were developed to control waterlogging. However, their operational efficiency has declined due to high energy costs and inadequate attention to O&M. Pumping targets are unlikely to be met without increased private sector involvement. Effectiveness is inhibited by load shedding, the high costs of diesel fuel and lack of institutional support. In addition, subsidies on public tubewells not only strain provincial budgets but are disincentives for private sector expansion.

Large-scale irrigation has upset the natural balance in Pakistan's ground water system. Seepage from unlined canals and water channels leads to a rising water table and waterlogging, bringing toxic salts to the surface in NWFP, Punjab and Sind. Poor natural drainage (as noted, the average change in elevation in the Indus Basin is one foot each mile) as well as the construction of roads, railways and canals which block water flows compound the problem. According to one WAPDA study, two-thirds of the cultivable command area is at least somewhat waterlogged and one-third is classified at "disastrous." Dealing with the worsening situation will require both long-term planning and enormous public investment. Government and donors are responding as evidenced by the $600 million World Bank outfall Drain Project and other ongoing and planned drainage projects.

2. Fertilizer: Pakistan has been highly successful in developing a domestic fertilizer industry. Fertilizer use has increased 1,000 fold since the late 1950s, and commercial fertilizer is used by 70-85% of Pakistan's farmers. Nonetheless, several problems--including expensive subsidies, production surcharges which discourage private sector expansion and uncoordinated policy formulation--constrain more rapid growth of this industry and impose a heavy financial burden on the GOP.

Pakistan currently meets all of its nitrogenous fertilizer requirements through domestic production. On the other hand, the production of phosphatic fertilizer is only 28% of the total consumption. The private sector's share in total fertilizer production capacity is 46.5%, which is all in urea. Urea dominates in the total production (74.6%) followed by nitro-phos (NP [12.0%]), Calcium Ammonium Nitrate (CAN [0.1%]), Ammonium Sulphate (AS [1.7%]), and Single Super Phosphate (SSP [1.6%]). The imports of phosphates have steadily increased over time. With the current static production, the import dependence for phosphates will continue in foreseable future. The current capacity for continuing self sufficiency in nitrogenous fertilizer is projected not to last beyond 1988. The foreign exchange burden will probably increase from the 1983/84 level of $121 million to $400 million in 1991/92 (current prices).

The fertilizer industry is highly regulated. The GOP fixes the sale price of all fertilizers and allocates imported fertilizer between public and private sector distributors. Due to the controlled regime of

prices, subsidy is paid to inefficient punlic sector companies while on the other hand efficient private sector producers are penalized through a development (the difference between the fixed price and the ex-factory price). The subsidy costs accounted for 58% of the total agricultural budget during the Fifth Five-Year Plan. If there is no change in the subsidy policy, it will absorb 95% of the agricultural budget during the Sixth Plan. The development surcharge also has a negative effect on the development of the agriculture sector in general and the fertilizer industry in particular by absorbing funds which could be used for other purposes including new investment in plant and equipment by the taxed firms. It also discourages entrance of new investors in the industry.

Fertilizer distribution is in the hands of both public and private agencies, with provincial distribution agencies and National Fertilizer Marketing Limited (NFML) being the major public entities. Distribution is hampered by several constraints, including transportation bottlenecks and excessive regulation.

While fertilizer use has substantially increased , it is often inefficiently used. Several factors lower plant response including inadequate technical expertise, poor soil preparation and saline and waterlogged soils. Over-watering in fields where irrigation water is available is also common, leading to leaching of both fertilizers and soil nutrients. Improved outreach competence plus more private sector involvement by commercial concerns could do much to improve on-farm use and yields.

3. Seed: The "green revolution" was successful in introducing HYVs for rice and wheat. However, yields remain far below potential due to an inability to maintain a high quality seed. Most farmers use either their own seed or buy local seed, which has poor germination properties and contains impurities such as pests and diseases. Processing plants need to be commissioned to provide clean high quality seed that meets basic certification, registration and variety standards. The GOP must provide the necessary policy framework to encourage the establishment of a viable commercial seed industry. Several positive incentives have recently been introduced, including credit facilities, tax relief and authorization to form joint ventures with foreign firms. This needs to be pursued with greater vigor.

4. Credit: Credit programs have been operating in Pakistan's rural areas for many years. These have been administered largely by public sector banks and other lending agencies, such as the five nationalized banks, the Federal Bank for Cooperatives (FBC), and the Agricultural Development Bank of Pakistan (ADBP). Several constraints limit the effectiveness of credit delivery programs, including the high costs of loan administration, obligatory below cost lending rates, high default rates, low saving levels and lack of political will. While the skeleton of a credit system exists, self-sustaining rural credit markets are slowly being developed. Small farmers in particular still have difficulty in obtaining credit from government institutions though the efforts of ADBP are encouraging.

B. Outputs

1. Food Grains: Wheat and rice are the two major food grains of Pakistan. Rice has the added importance of being a major export crop and foreign exchange earner. As noted, wheat is on the verge of self-sufficiency, however, productivity is low and a series of poor years would cause severe shortages. Wheat pricing is not a major issue since floor prices set by the government now parallel those prevailing at an international level. More serious concerns relate to marketing and stock and trade management. About one-third of the total wheat production is procured by the GOP at regional procurement centers where underweighing, delayed payment and waste are serious problems. Stronger competition from more highly developed private markets would undoutedly improve service and provide farmers a higher share of the profits. Accelerated private sector participation is also needed in storage. While the government maintains an extensive storage network that gives Pakistan a measure of food security, operation of the system is constrained by management weaknesses, poor design and inadequate operation and maintenance. Overall post-harvest grain storage losses are thought to be as high as 18% annually.

GOP rice policies are different from wheat. With rice, the goal is to maximize foreign exchange earnings by enforcing low farmgate prices and then selling high in international markets. The export trade is controlled by the public sector Rice Export Corporation of Pakistan (RECP) which operates a network of storage facilities and cleaning and grading mills in Karachi. Production is mainly confined to selected areas in the Punjab and Sind which are "sealed" during harvest to avoid leakage. While procurement prices for IRRI-6 are now 5% below international levels, those for high-quality basmati are only 67% of parity, suggesting a net economic tax on rice growers. Inefficient handling by the RECP (procured rice is kept in the open or stacked at railway platforms in bags before shipment to Karachi) results in transit losses in the range of 10-12%. Inefficiencies of this kind not only reduce potential export earnings, but also lower returns to farmers who implicity bear a portion of the marketing costs.

2. Edible Oils: Traditional oilseed crops are cotton, mustard and rape, with about two-thirds of domestic edible oil production coming from cotton seed. During the past decade production stagnated while consumption nearly doubled leading to foreign exchange costs of crisis proportions. The country now imports four-fifths of its edible oil requirements at a cost of $500 million annually in scarce foreign exchange. Approximately $140 million is also spent each year in subsidies to keep the price of edible oils artificially low. Neither technical nor ecological obstacles prevent self-sufficiency. The crisis is instead largely the result of an inadequate policy environment, including the adverse affects of price and trade controls and restrictions on private processing firms.

There is now wide recognition within the GOP that rising demand combined with stagnating production is a serious and long term problem. Several changes have taken place that improve the overall policy climate, including deregulation of the cotton seed market and free movement of

vegetable ghee among provinces and districts. More far-reaching changes are expected to come out of recommendations made by the Deregulation Commission established in July 1985.

At the production level, farmers cannot be expected to grow more unless the pricing incentives are right. The GOP also accepts in principle the need for more private sector participation in ghee production. Since 1980, more than a dozen private sector plants have started operations, while two inefficient public sector units were closed. Continued expansion by the private sector should reverse the current 65/35 ratio of public to private sector capacity by 1990. Such a change is also contingent on positive pricing signals.

3. Cash Crops: Cotton and sugarcane are the two major cash crops. Cotton and cotton products such as yarn and cloth figure prominently as major foreign exchange earners. Floor prices for cotton are set by the government, but this intervention is not considered a major policy issue since these prices provide stability and usually parallel those in the international market. Still, the monopoly enjoyed by the Cotton Export Corporation (CEC) in exports as well as its participation in procurement does increase marketing costs. Stimulating more private sector involvement could improve marketing efficiency and help preserve Pakistan's competitive export edge.

Pakistan's sugar production is heavily subsidized with support prices about twice the international levels. Yields continue to be quite low. The price of Pakistan sugar is not competitive on the world market, therefore, exporting surpluses is not a viable option. There should be no further increase in procurement price. Farmers should receive higher earnings because of increased yields an agronomic possibility. Some sugar mills have helped farmers attain record yields by providing private extension services.

4. Livestock: The livestock industry is about 28% of agricultural GDP. Though Pakistan is a relatively high cost livestock producer, the sub-sector makes important contributions to the rural economy. Animals provide food and fuel and are used to power agricultural equipment. Ownership is widely dispersed and herd sizes are restricted to levels where feed can be met through scavenging and semi-controlled grazing of wild vegetation or uncropped land. As previously noted, a sizeable commercially oriented chicken industry has grown up during the past twenty years, while milk has more recently been marketed by private firms on a large scale. There is a consensus that feed availability is the most critical and binding constraint to further devlopment. There is considerable scope for an expanded livestock industry to meet the milk and meat requirements of Pakistan's growing urban sector.

C. Agricultural Education, Research and Extension

Education, research and extension programs in agriculture have been chronically plagued by the inability to forge productive coordination within the appropriate federal and provincial institutions. Traditional "turf" mentality prevails in addressing this issue. Students

from the agriculture universities often graduate with minimal practical awareness of real problems which farmers face every day; little field experience is built into their curriculum. While there has been appreciable improvement in the past five year period, there is still a tendency to conduct research that is one step removed from the needs or interests of the farmer. In instances where research findings do have relevancy, their spread is constrained by poor packaging of the information to the client. Important steps are being taken to remove some of the more serious constraints, but it is clear that linkages at the operational or farm level need to be intensified.

1. Education: The three agricultural universities at Faisalabad (Punjab), Tando Jam (Sind), and Peshawar (NWFP) provide the main source of educated agricultural manpower in Pakistan. Although all three institutions depend on the federal government for financial support, individual programs are geared to the provinces. The main mission of each institution is to teach students and grant degrees. In the past there has been little interchange among either students or faculty. Durable linkages to national and provincial research and extension programs are either weak or non-existant. The country is now faced with the need to allocate scarce resources to universities, whose graduates are inappropriately trained and whose faculties are insufficiently funded to undertake productive activities in research and development. USAID support for the Agricultural University at Peshawar is to provide a model for strategies to reduce duplication of effort and increase coordination. By encouraging students and professors to learn, teach and conduct research and extension work in a developmental, problem solving context, the project will also provide a model strategy.

2. Research:

Pakistan has 65 research institutes and 162 stations, substations, centers and laboratories, all competing for operating funds estimated to be between 10 and 20% of total agriculture development budgets which are grossly inadequate to undertake meaningful research activity. Although there is a centralized institution, the Pakistan Agricultural Research Council (PARC), with a mandate to coordinate research efforts, the provincial institutions still remain independent, conducting mainly discipline and commodity oriented research with little emphasis on small-holder production problems. One of the basic problems of agricultural research is that the rapid growth of the institutional infrastrucutre has surpassed the country's capacity to manage it. The World Bank and AID are actively engaged with the GOP in strengthening the performance of the agricultural research system.

3. Extension: Agricultural extension services are deficient both in coverage and effectiveness. Funding levels are low and extension activities are isolated from both research and education. There are less than 7,000 extension workers in the entire country, and their effectiveness is limited by inadequate training, weak logistic support

and poor working conditons. Lack of mobility and poor performance incentives in particular reduce the effectiveness of extension services in Pakistan. Public sector extension services need to be strengthened, and private sector participation has to be stimulated, especially in conjunction with the sale of inputs to farmers. Yet, the fundamental issue is how and when to restore the over all superstructure of the extension organizations and give it the mandate it needs to be a vital force in agriculture development. Unfortunately these are few models to emulate and Pakistan extension experiments have yet to provide the answer.

D. Other Constraints

1. Land Tenure: Pakistan at independence inherited a highly skewed land tenure system. Most of the land (51%) was owned by a small number of landlords (7%), with cultivation carried out mainly by sharecroppers or small farmers on fragmented land holdings. Land reforms of 1959, 1972 and 1977 did not significantly alter the high concentration of land ownership in most areas. Wealthy land owners continue to enjoy a highly visible place in development programs and exert the most influence in both private markets and public sector activities. The position of small farmers continues to erode, especially as fragmentation increases due to rapid population growth and laws of inheritance that cause further land divisions every generation.

Evidence of the impact of farm size and tenure status on agricultural productivity is limited. One study indicates that the smallest farms (less than five hectares) are more productive than middle size farms (five to twenty hectares), though no significant productivity differential was noted between small and large farms. This suggests that middle size farms are not using inputs very efficiently. Among other factors, a high level of input use per unit of land by both small and large farms is probably responsible, with small farms biased toward labor intensive activities and large farmers emphasizing heavy capital investments. The value added per unit of land also appears to be higher on owner operated farms than on tenant farms. Though land tenure policy issues have been dormant over the past decade, it is a politically charged subject that could once again become prominent as Pakistan moves to civilian rule.

2. Food Security: Despite increases in production, Pakistan's food security situation can be improved. The risk of periodic shortages is aggravated by increased volitility in world agricultural markets, uncertain weather, and grain storage and distribution problems. Though the government maintains buffer stocks equalling about 40% of annual wheat marketings, storage efficiency is low and loss rates far higher than they should be. The private sector role in the handling, storing and transporting of wheat is minimal.

At present the analytical research by the Pakistani institutions (public and private) relies heavily on basic summarization of existing data devoid of any in-depth analysis. The principal constraints to higher quality analysis are: the lack of trained manpower,

inadequate data and processing capability, lack of support and guidance from the policy level. The current system of data collection is mainly constrained due to unaccessibility of mapping material, unclear and overlapping responsibilities and inefficient use of existing data processing facilities. The major problems in the public sector post-harvest management sub-system are grain losses in storage (5.1 % and 3.8% for wheat and rice respectively), inefficient management system, inadequate quality control measures and poor integrated pest management practices and complete lack of appropriate technology.

3. Agribusiness: The potential of agriculture, agribusiness and agro-industry in Pakistan is considerable and progress to date, while not outstanding, is good. The country feeds itself, has sizeable agricultural exports and is developing an infrastructure to support its agriculture sector. Full development of the sector's potential requires the full participation of the private sector. Government does not have the political will, financial resources or managerial capabilities to duplicate what the private sector can and will do if unleashed. By encouraging and facilitating agribusiness, government revenues from taxes and investments will increase, employment opportunities will expand and all the traditional economic multiplier effects will be realized. However, before the full potential of the sector is realized, policy changes must occur and government procedures must be reformed.

Recent studies revealed that out of $100 million of immediately realizable agribusiness investment opportunities (from the standpoint of technical feasibility) 35% require significant modification of existing government policies and regulations. Unfortunately these 35% also required more than a pro rata share of the investment and would have contributed the bulk of employment and income producing opportunities. Ten projects--integrated fruit and vegetable marketing, fruit and vegetable processing, canning, edible oil processing, fertilizer manufacturing, corn by-products manufacturing, animal feeds, specialized agricultural machinery and implements, groundnut cultivation, integrated dairy operation, manufacture of commercial refrigeration units for retail food stores and cotton delinting--would require modification of existing government policies, regulations and practices before they would appeal to the private sector. Three areas were identified which defy private sector implementation without substantive change in GOP policies and regulations. These are: livestock breeding, fattening, processing and marketing, livestock feeds and commercial farming.

4. Environmental: Pakistan's rapid population growth of 3% per annum is the highest in Asia and places severe strains on the environment. Increasing demands for cropland, fuel and timber are causing widespread deforestation, erosion and flooding. Inappropriate farming practices aggravate natural and man-made problems. Lack of proper livetock management is causing loss of vegetative cover of already overused rangeland and accelerating desertification. As mentioned,

waterlogging and salinity are also serious problems with severe economic consequences. Though numerous agencies have responsibility for discrete activities which affect the environment, there is no national planning or implementation mechanism for addressing country-wide environmental problems.

5. Government: Until the GOP literally gets out of business and streamlines its bureaucracy, especially in those agencies concerned with approving new business ventures and infrastructure development, little progress will be made in Pakistan's agricultural sector nor the general business environment.

Among the more obstructive GOP constraints are:

a. Price controls
b. Questionable direct and indirect subsidy programs which unitentionally reward inefficiency and hamper development of national self-sufficiency
c. Export and import prohibitions, duties and taxes
d. Business income and excise tax inequities
e. Uncertainities concerning "day to day" GOP economic policies
f. Restrictions on the acquisition of arable land for large scale commercial farming
g. Inefficient and understaffed agricultural extension and marketing services
h. Inadequate credit for farmer subsistence and working capital loans
i. Cumbersome bureaucracy
j. Deficient infrastructure, roads, utilities, etc. and GOP inability to finance substantative development due to strained financial resources

6. Non-Government: Among the more serious non-government constraints are:

a. Poor productivity due to small farm size, infrastructure weaknesses and inadequate availability and use of agricultural inputs
b. Uneconomic land utilization due to questionable GOP subsidy programs and absence of an effective agricultural extension service
c. Inexperienced management
d. Lack of produce marketing and food merchandising outlets

Collectively, these government and non-governmental constraints will continue to inhibit Pakistan's agricultural development.

IV. An Agenda for Institutional and Policy Reform

A. Major Goals

1. Food Security:

   a. Increased self-reliance in food grains, edible oils and animal products
   b. Maintain and improve nutritional status.
   c. Maintain reasonable consumer prices.
   d. Protection of society from famine situations or major regional shortages.

2. Management and Sectoral Efficiency:

   a. Improve managerial capacities and remove sectoral subsidies to insure efficient allocation of resources.
   b. Increase transfer of technology and improve linkages between education, research and extension in both public and private sectors.
   c. Improve management of irrigation system.
   d. Decrease cost of production relative to total revenues. Increase farm productivity.

3. Agribusiness:

   a. Expand the role of private enterprise.
   b. Remove obstacles to agribusiness growth and development.
   c. Encourage private sector assumption of some public sector activities in import and export commodity management and internal marketing and processing of major foods and raw materials.

4. Environment:

   a. Protect the natural resource base and safeguard the environment.b.
   b. Slow down deforestation and degradation of watersheds.
   c. Increase private production of fodder, timber and fuelwood.

5. Quality of Life:

   a. Increase market access and employment opportunities for the majority of rural peoples.
   b. Increase rural incomes, providing raw materials and markets for indigenous industry.
   c. Increase access to education and health services and improve communicatioins.

B. Targets

1. Policy Reform:

a. Greater Private Sector Participation in Agriculture Including Delivery of Agricultural Technology and Service: Detailed benchmarks regarding the required policy reforms necessary to facilitate agribusiness require additional study and research. However, broadly defined recommendations are provided below and will serve as points of departure for future work.

b. Recommended Policy Changes: Acceleration of Pakistan's agribusiness development will require the following minimal actions by the GOP:

i. Improve agricultural productivity by increasing farmer accessibility to new technology largely through a strengthened research extension education network.

ii. Remove constraints to private sector investment and drastically revise subsidy programs which promote uneconomic use of land.

iii. Revise import duty and subsidy programs to encourage areas of self-sufficiency in the dairy and animal feed sectors and reduce imports of edible oils.

iv. Increase the availability of credit on a timely basis for small farmers.

v. Remove constraints on the development of poultry businesses.

vi. Acquire additional funding for improving infrastructure namely, utilities, roads, railroads, irrigation and land reclamation with emphasis on energy generation.

vii. Streamline government organization and procedures to enhance private sector participation and potential for joint ventures.

viii. Revise or remove price control, subsidies, and taxes which discourage investment in agribusiness.

c. Irrigation: Covenants are already in place between the GOP, AID and the World Bank providing for full funding of O&M costs by the following dates:

Sind	July 1, 1988
Punjab	July 1, 1990
NWFP	July 1, 1991
Baluchistan	July 1, 1992

On-going activities related to this which will lead to required policy decisions are summarized below:

i. Full-Funding Level Studies

Accurate estimates of full O&M funding requirements and improved technical and financial procedures upon which they are based, will be available in April 1986. Acceptance of these levels by provinces for achievement by the above dates can be expected by June 1986.

ii. Water Charges and Cost Recovery Studies

By June 1986 studies will have been completed and recommendations made for each province as to (1) farmers' payment capability under different situations, (2) recommendations for assessing the cost of irrigation water relative to farmer income and (3) alternative water pricing policies. Adoption by provinces of an acceptable policy in this regard can be expected by the end of 1986.

iii. Independent Inspection System

To insure that budgeted funds are adequate and used properly for maintaining the irrigation system, an Independent Inspection System (IIS) has been developed. It provides for documentation and prioritization of maintenance needs by independent irrigation department organizations, as well as a monitoring system to insure its successful implementation. A timetable for implementation of the IIS is as follows:

Acceptance by provinces	March 1986
Interim staffing and training by consultants	June 86-January 88
Staffing by irrigation departments	January 1988

These on-going activities imply the need for continued dialogue, monitoring and studies under the post-1987 program. However, details of such efforts will depend on responses from provincial governments to current activities and experience in implementing proposed interventions.

iv. Privatization of Tubewells

Expenditures for public tubewells consume about 20% of the irrigation department budgets in Sind and NWFP and over 50% in Punjab. Tubewell O&M is not being addressed in planning interventions to support full O&M funding as the GOP favors divestiture of these tubewells. Therefore, it is important to accelerate the schedule for privatization to the extent possible. A three and one-half year International Development Association(IDA) financed Salinity Control and Reclamation. Transition Pilot project (SCARP Transition) is scheduled to start on July 1, 1986. Under this project a number of divestiture approaches, e.g.

transfer, transfer/replacement, and termination/replacement, will be applied on 213 SCRAP tubewells in Khangah Dogran of SCARP I (Punjab). Project experience will help determine the most effective approach to replicating the SCARP transition concept in other SCARP areas having fresh groundwater.

The post 1987 program can tie sector funding to significant progress in the privitization of tubewells. Illustrative targets are:

Pakistan Fiscal Year	Number of Tubewells Divested	Dollar Transfer (Million)
1988-89	200	5
1989-90	600	5
1990-91	2200	5
1991-92	3000	5
1992-93	4000	5

The post 1987 program should also make the recurrent use covenants into conditions precedent prior to disbursement of funds earmarked for major new drainage or rehabilitation work. Implementation of water charges according to the following schedule can be tied to AID to GOP dollar transfers.

Pakistan Fiscal Year	Target Percentage of Full Funding Requirements				Dollar * Transfer (Million)
	Baluchistan	Sind	Punajab	NWFP	
1988-89	56	68	76	60	5
1989-90	67	76	82	70	5
1990-91	78	84	88	80	5
1991-92	89	92	94	90	5
1992-93	100	100	100	100	5
Total:					25

* For procurement of PID spare parts, machinery and equipment

d. Better Integration and Productive Linkages in Agricultural Research, Extension and Education System:

A key variable for enhancing agricultural productivity is to devlop and manage technology in consonance with national physical and cultural endowments. To organize and sustain institutions that generate and disseminate scientific knowledge is critical to this function. Having the right policies in place that contribute to a national commitment to agriculture and an improved institutioinal capacity to carry out this commitment is requisite. A conducive environment for change agents and recipient client groups is of strategic importance if Pakistan is to meet food self-reliance for its fast growing population. The following are targets for achieving better integration and productive linkages between research, extension and education:

i. Institutional merger of research and educational programs in Sind and Punjab with appropriate extension linkages in place. The NWFP merger will advance to "second generation issues."

ii. A systematic approach in effect which allocates resources to agricultural research on the basis of opportunity to advance knowledge and technology and the economic demand for technology.

iii. Quality control standards in place for curricula at the three agricultural universities, scientific investigation and peer review in research and in knowledge dissemination.

iv. Joint planning with financial and material support between province and federal agencies for up to eight coordinated programs in such commodities as wheat, rice, corn, oilseeds, fruits and vegetables.

v. Private sector participation including funding commitments through private or public resources in research activities with special emphasis on poultry, animal husbandry, oilseed production and farm mechanization.

vi. In country sabbatical program instituted between research institutions and universities and a graduate student interchange in place among Pakistani agriculture universities.

vii. Public policies which foster or enhance social values that are in tune with economic realities, and which reinforce the national will and commitment for sustained investments to agriculture.

viii. Scientific endeavours with accompanying ten year strategies that focus on the health and safety of agricultural producers, the nutrition of all people and the quality of the environment.

e. Price and Regulation Decontrol for Agricultural Commodities and Inputs: Agricultural input and output prices are mostly administered by the government. GOP fixes the support, procurement and export prices. In doing so government bears the burden of a huge subsidy and earns profit over and above the support price (for example, through the export of rice and cotton).

These activities distort the input and output markets and put a heavy financial burden on the public sector. The GOP annually spends $246 million in subsidies to support price controls of wheat, fertilizer and edible oil. The system, however, is quite complex and its management is costly to the economy. Subsidies lead to distorted prices and result in misallocation of resources. Price controls hinder expansion of output and productive capacity resulting in shortages and more increases in prices. This situation demands a massive decontrol of the input and output prices which AID's post 1987 package envisages.

Pakistan achieved a fragile self-sufficiency in wheat three years ago but due to persistant drought in the past two years it has imported about two million tons of wheat. The supply and demand equilibrium is at a razor edge (current net supply is 11.32 m tons and demand stands at 12 m tons). To help sustain the self-sufficiency the GOP should de-ration wheat flour (this involves $78 million subsidy) by the end FY 1986/87. AID will meet the burden of this import bill, if need be, provided GOP follows rational stocking policies based on our studies. This will also save government expenditure being incurred administering the ration shops.

The crisis in Pakistan's edible oil sector is due to high edible oil imports which have increased at 20% per year over the past decade, high foreign exchange costs and a heavy public sector financial burden. The GOP annually spends $140 million in subsidies and operating capital to support edible oil price controls and the Ghee Corporation of Pakistan (GCP). Pakistan's annual oil seed acreage has never exceeded the 1971 level and oil production has declined to a drastic level (as low as 69 % of that realized in 1971). Consumption is increasing at 11% per year. Faced with this alarming situation in the edible oil sector the GOP should decontrol oil seed and oil prices by FY 1986. This will save $60 million subsidy costs. AID can provide an additional $30 million in to the private sector over and above the existing PL-480 provision provided GOP does the following:

i. Divest the public sector investment in oil processing and manufacturing.

ii. Deregulate the edible oil processing industry. Abolish licensing procedures and restrictions on production levels.

iii. Remove GCP monopoly on domestic oil procurement.

iv. Allow the private sector to import oil according to its requirement.

v. Adopt the long run import cost trend for edible oil as the import floor price.

f. Fertilizer

The fertilizer subsidy uses two-thirds of the federal agricultural development budget and, as such, seriously limits the availability of funds for other developmental activities. The estimated subsidy for FY 1985/86 is Rs.1,500 million ($93.8 million). Efficient producers are penalized and inefficient ones subsidized by the GOP control of fertilizer prices. The development surchage (Rs.949 or $59.3 million in 1984-85) absorbs funds whch could be reinvested by the private sector in the fertilizer industry. The need for new investment is evident from the fact that two thirds of the phosphatic fertilizers are imported and future projections indicate that in the next ten years it will be necessary to invest one billion dollars in new nitrogen facilities. The elimination of both subsidy and development surcharge will result in net budgetary gain to the GOP, will leave a reinvestable surplus with the producers and should lower prices to consumers.

Currently, 54% of the domestic fertilizer production and 50% of the imported fertilizer distribution is in the public sector. Further, there is a fixed quota of imported fertilizer for each province based on population, and allocations between and within the public and private sector distributors are made by the government. This excessive control and regulation must be phased out for long term healthy growth of the industry.

USAID supports the World Bank's recommendations for subsidy elimination and privatization of fertilizer distribution under the proposed IBRD Agricultural Sector Loan. USAID should continue providing $30.0 million per year for the importation of phosphatic fertilizer if the GOP meets yearly fertilizer targets. The World Bank objectives are to remove the economic subsidy on urea by the end of FY 1986 and on phosphatic fertilizers by the end of FY 1987. Benchmarks for privatization of fertilizer distribution call for increasing the private sector share to 60% by the end of FY 1986, 70% by the end of FY 87, and 80% by the end of FY 90. In addition, the USAID Mission should propose the following policy action:

i. There should be no provincial quotas for any province. Let market forces determine how much is needed and where. This action should be taken by the end of FY 1987.

ii. There should be no new public sector investment in the fertilizer industry. Existing public sector investment should be divested in a phased manner, completing it by the end of FY 1990.

iii. Change the policy of keeping a fixed percentage of total annual demand of fertilizer as reserve. Instead, make the reserve variable based on seasonal requirements which will substantially reduce the storage costs borne by the GOP. This action should be taken by the end c' FY 1987.

g. Grain Storage: The recent increases in food grain production, especially in wheat and rice, have created a need for improvements in grain storage and distribution systems. Pakistan looses $80 million worth of wheat and rice every year due to poor management of storage facilities. GOP control of the grain trade and combersome regulations restrict private sector participation in wheat and rice storage. Until recently a grain merchant could not possess more than 100 bags of wheat during any two-week period until provincial food departments reached their procurement quotas. Flour and rice mills carry some stock but feed millers complain about their inability to store grain. The GOP is now becoming more receptive to private sector involvement in basic grain storage. The lifting of limitations on off-farm storage and rescinding of the ban on inter-provincial trucking of wheat are two indications of such a trend. The GOP has also allowed the private sector to construct storage facilities for rental to the provincial storage authorities, financed in part by loans from the government. Response to this initiative has been lacking due to inadequate incentives and GOP's control of the grain trade. The GOP's phasing out of trade is certainly a prerequisite to private sector participation. USAID, under its on-going Food Security Management Project (FSM), will study issues in storage and distribution of grains. The research agenda includes studies on partial food rationing system, buffer stocks, recurrent cost analysis and management audit and an assessment of the rehabilitation requirements of existing wheat godowns (warehouse). A clear picture of problems and needed corrective actions will emerge after completion of these studies, and will form the basis for further policy negotiations with the GOP. AID leverage in these negotiations can come from funding of godowns rehabilitation.

2. Production and Yield Targets:

Production Targets

	1982/83 Actual	1987/88 a/	1992/93
Wheat (000' MT)	12,350	15,500	18,800
Rice (000' MT)	3,440	4,200	4,800
Corn (000' MT)	1,010	1,380	1,679
Oilseeds (000' MT)	2,081	2,853	3,900
Cottonseed	1,642	2,066	2,500
Traditional	415	437	530
Non-traditional	24	350	870
Fertilizer (000' Nutrient MT)	1,029	1,706	2,150
Nitrogenous	932	1,274	1,600
Phosphatic	97	432	550
Fuel Wood (Million Cubic Meters)	0,480	1,193	1,850
Canal Rehabilitation (Km)	-	18,000	20,000
Open Drain Rehabilitation (Km)	-	4,000	5,000
Watercourse Rehabilitation (#)	2,000	8,000	12,000
New Drainage System (Ha Affected)	N.A	500,000	500,000

a/ Sixth Five-Year Plan Target

C. Implementation Strategy

USAID will achieve its post 1987 goals and pursue meeting targets by using a combination of programs and projects to encourage Government to take needed policy reform measures and to provide the public and private sectors financial and technical support for mutually agreed upon activities.

The core projects consist of Forestry Planning and Development (FPD), MART (Management of Agricultural Research and Technology), ISM (Irrigation Systems Management) and TIPAN (Transformation and Integration of the Provincial Agricultural Agricultural Network). Sufficient progress and reform in these projects will justify their continuance during the later portion of the FY 1988 through FY 1992 period. A second phase of TIPAN is planned. Forestry will require support for the implementation of the Management Plan developed under the project and an environment profile of Pakistan may be conducted. MART may be amended to include work in rice and/or irrigation management. ISM will require some continuing technical assistance and funds for rehabilitation to demonstrate the techniques developed by the current project. These amendments will require authorization during the FY 1988-92 period and $50 million of additional obligations. (See below for project time lines.) Numbers of technical assistance contractors will decrease as Government assumes more responsibility for project implementation and as the number of projects decrease.

The OFWM, Strengthening of Water Management Activities(SWMA), ACE and FSM (Food Secruity Management) all terminate during the post 1987 planning period. OFWM and SWMA type activities will continue under the Command Water Management (CWM) component of ISM.

AGRICULTURE SECTOR PROTFOLIO

Life of Project (Auth to PACD)

Proj. Title & # /FY	84	85	86	87	88	89	90	91	92
On-Farm Water Management (OFWM) 391-0413				6/30/87					
Agricultural Commodities and Equipment (ACE) 391-0468						11/26/88			
Food Security & Management (FSM) 391-0491						6/30/89			
Management of Agricultural Research & Technology (MART) 391-0489						9/30/89			
Transformation & Integration of the Provincial Agricultural Network (TIPAN) 391-0488							9/30/90 (First Phase Only)		
Irrigation Systems Management (ISM) 391-0467								2/15/91	
Forestry Planning and Development (FPD) 391-0481									8/30/91
Agriculture Sector Support Program (ASSP) 391-XXX									

A major new initiative during the upcoming program period has been identified and is called the Agricultural Sector Support Program (ASSP). ASSP will supersede Food Security Management (FSM) and Agricultural Commodities and Equipment Program (ACE). This program is designed to instigate and sustain policy reform within the sector and to supply needed complementary training, technical assistance, support and studies (TTSS). It is further designed to decrease the project management work load, increase the quantity and quality of AID intellectual involvement in the sector, increase the rate of disbursement of AID assistance and provide those supporting services that will allow these goals to be realised.

One ASSP component is a "sector loan", a new venture for AID in Pakistan. The sector loan will be quick disbursing and keep the pipeline down to a reasonable size. Multimillion dollar funds transfers, contingent on successfully carrying out policy reform measures or attaining other performance targets, will increase USAID's leverage at the negotiating table and will improve GOP "project" performance. Examples of sector L/G disbursement include: reforms in fertilizer distribution, pricing and private sector participation; changes in the funding and operation of the irrigation system; changes in edible oil production and distribution; changes in agricultural education and research strategies; and changes in the current practices of sanctioning agribusiness and pricing of agricultural commodities. When targets are attained, funds are transferred to the GOP treasury.

Reforms required in the price structure and marketing of fine rice (basmati) have been discussed and are used here to provide an example of how a sector loan might work. By allowing private enterpreneurs to market basmati and by removing the fixed procurement price the GOP would lose approximately $75 million per year, the difference between its procurement and sales price. Assuming full private sector participation, the price differential would be passed on to farmers, production would increase, local consumption would increase and export levels would be maintained. (Maintenance of export levels is becoming more difficult as price and quality competition from South East Asian countries increase.) USAID can instigate reform by decreasing the financial burden on the GOP by providing compensating grants over five years on a decreasing basis. (See the schedule below):

Year	Basis	Dollar Value(Million)
Year 1	Full value (Average "tax" past three years)	75.00
Year 2	3/4 first year amount	56.25
Year 3	1/2 first year amount	37.50
Year 4	1/4 first year amount	18.75
Year 5	1/8 first year amount	9.38
TOTAL:		196.88

The sector loan disbursement can be used to finance specific activities. The drainage and reclamation required during the next GOP planning period, an additional five million acres, is one such target as is the construction of the Kalabagh Dam-Hydro Works. Both GOP budget line items fall within AID's area of interest; Kalabagh, because it supplies electricity for tubewells, rural development and agro-industry, as well as water for irrigation (its major purpose). Drainage is tied to AID's interest in increasing agricultural productivity and improving the operations of the irrigation system. This component of ASSP can absorb $400 million easily.

The second component of ASSP is a modified commodity import program (CIP) similar to ACE. With this component AID can continue to finance private agribusiness foreign exchange needs and provide modest equipment financing for public sector agriculture and irrigation organizations. The bulk of ASSP/CIP funds would be used to finance the foreign exchange costs of edible oil, fertilizer and wheat, provided the Government meets established benchmarks related to policy reform. This component can absorb $400 million.

3. In support of both ASSP and the USAID's total agricultural and irrigation program, a Training, Technical Assistance, Support and Studies (TTSS) component will be instituted. TTSS will finance (a) pre-and post-project support for those aspects of Food Security Management (FSM) which require continuing AID support, e.g. agriculture data collection and economic policy analysis activities, (b) special support for private sector activities and financing of studies for use in the policy dialogue. Finally, this component (c) will finance public and private sector training not covered under AID projects.

D. PL-480

1. The PL-480 Title I program in Pakistan provides $50 million for the importation of edible oil. This program is part of the overall six year program of economic and military assistance. It is expected that PL-480 Title I also will be part of the multiyear economic and military assistance program that will begin in FY 1988.

   The PL-480 Title I program is an integral part of the USAID Mission strategy to provide balance of payments support while strengthening the foundation for continued long term economic growth. It is one of the three commodity import programs in the current program. The post FY 1987 program probably will emphasize resource transfer activities more heavily and PL-480 will be an important component of this strategy. Through Self-Help measures the PL-480 program also supports Mission efforts towards privatization, deregulation and price liberalization in oilseeds and edible oil industry.

2. Pakistan in recent years has been self-sufficient in wheat, rice, sugar, cotton and maize while it has imported large quantities of edible oil, tea and dairy products. Exports of rice and cotton help to pay for these imports. Depending upon the price of edible oil, the PL-480 program meets

between 10 and 13% of total oil import requirement. GOP had to resort to wheat imports this year due to two consecutive wheat failures. A major portion of their imports was financed by AID under the ACE Program complimented the PL-480 Title I program; while other wheat imports were commercial (cash or barter).

The Afghan refugee program receives large quantities of food assistance from the U.S. and other countries for distribution to the refugees. The World Food Program manages this program without any direct U.S. involvement.

3. Agricultural and food policies in Pakistan are in reasonably good shape with some exceptions. The support prices for all crops except basmati rice are at or above world market levels; sugar and cotton procurement prices exceed world prices by substantial margins. Nitrogenous fertilizer is sold at approximately the world market price but the price of phosphatic fertilizer is only half of the world price. Controls and subsidies on sugar price were removed several years ago. The major food subsidy is for wheat in which sales from ration shops (about 1/4 of the total) are made below the procurement price. Edible oil in the form of vegetable ghee (hydrogenated oil) is subsidized to a minor degree at the present time. The subsidy had been much larger before import prices declined.

   The U.S. is supporting elimination of the subsidies on food and agriculture; it is paying special attention to the edible oil industry.

4. All the oil imported under the Title I program has been, and will continue to be, used for the manufacturing of vegetable ghee. It is combined with lower price imported palm oil in the process. Cottonseed oil is the only local oil that can be used in substantial quantities for this purpose. The amount of cottonseed oil is limited by the size of the cotton crop and is unlikely to increase substantially.

5. The Self-Help measures call for the deregulation of the vegetable ghee industry, free importation of vegetable oil by the private sector and elimination of price control on edible oil and vegetable ghee. Annual benchmarks are used to improve the policies surrounding this subject.

6. Local currencies are deposited in a special subsidiary account of the consolidated fund of the GOP. The Mission discusses the use of these funds as well as broader budget topics before the beginning of each fiscal year and before the funds are generated. The local currencies are used to support GOP programs in irrigation, agricultural research, population planning and education.

7. Storage and distribution systems are adequate for handling both imported and domestic oil. The Mission recently completed a study that confirms that the private sector responds to market conditions by building additional storage facilities.

8. The PL-480 program is a small part of total edible oil imports and thus is not a disincentive to local production. Overall imports probably are a disincentive because the imported oil is the same price or cheaper than domestic oil and easier to obtain. USAID will have to make sure that the GOP sales price for PL-480 oil does not become a disincentive to local production of edible oil seeds or beans. The nontraditional oilseeds that have potential for increased production are not very well known in Pakistan and the marketing infrastructure is very poor. The Mission has been trying to create conditions that will increase the demand for domestic oilseeds and edible oil through market mechanisms involving private sector oilseed and oil processors.

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