

SUSTAINABLE DEVELOPMENT IN PAKISTAN

By

Dr. Akmal Hussain

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After almost a decade of development within the framework of the World Bank/IMF structural adjustment programme it is pertinent to ask, how is Pakistan's economy doing? I will examine this question in terms of the sustainability of the present form of development. In this context four issues will be discussed:

1. The sustainability of the GDP Growth.
2. The economic structure and social consequences.
3. The energy problem.
4. The environmental problem.

I. THE SUSTAINABILITY OF HIGH GDP GROWTH

Those policy makers who sought comfort in the 6.5 percent growth rate of GDP during 1977-87, may well pause and ponder now, as they examine the trends in the variables that sustain GDP growth: low domestic savings rate, slow export growth together with rising debt servicing expenditure and a growing energy import bill. These together point to the fact that two critical constraints to growth have now begun to bite: The budget shortfall and the balance of payments deficit. A third factor that is likely to depress GDP growth at current rates of fixed investment, is the tendency for the capital output ratio to rise over the next few years: Over the last decade, investments even for the maintenance of physical infrastructure have been deferred.¹ This combined with the fact that projects which had been set up

before the 1977-87 period and had begun to generate output during this period,² enabled a high growth rate of GDP to be achieved with relatively low levels of fixed investment. A large increase in investment in physical infrastructure especially in energy production cannot now be delayed any further. (If it is, it will merely increase the energy import bill, thereby accentuating the BOP constraint; or further accentuate the under-utilization of productive capacity in industry through load shedding, and hence slow down growth³). When the long deferred investment in physical infrastructure is made, the overall capital output ratio in the economy will rise thereby slowing down GDP growth at current investment rates.

It appears that if present trends continue, we may be faced with the stark possibility that high GDP growth may not be sustainable over the next five years. I had during 1985-86 drawn attention to the fragile economic structure that the particular form of growth process in Pakistan was engendering. I had predicted that we may soon be entering a situation where high GDP growth may not be sustainable.⁴ Unfortunately, such a situation appears close at hand.

It is ironic that the very loan giving agency which was closely associated with the formulation of Pakistan's economic strategy during the last decade, and which had been patting us on the back for our high growth performance has now begun to voice concern at our prospects for the future. For example, a 1986 World Bank report states:

"The Pakistan economy is in certain important respects living on borrowed time".⁵

A more recent report evaluating the Sixth Five Year Plan points out the serious budgetary crunch Pakistan is facing. It shows that the overall budget deficit has

increased dramatically from Rs. 15 billion in 1980/81 to Rs. 44 billion in 1986/87. The result is that not only has the foreign loan requirement increased but also domestic borrowing has shot up from Rs. 7 billion in 1980/81 to Rs. 28 billion in 1986/87. The report concludes:

"It is clear that Pakistan cannot continue on this path much longer without seriously adverse consequences...."⁶

The latest USAID report has been equally candid about the difficulty of sustaining high growth over the next few years:

".... Pakistan is likely to suffer severe economic distress over the next six years unless serious underlying constraints are addressed and corrected....."⁷

The USAID report is essentially descriptive rather than analytic, and is unable to show why the budgetary and balance of payments constraints have emerged, and how the inability to mobilize domestic resources for infrastructure are linked with the structure of power in Pakistan. The report does however emphatically point out the consequences of these constraints:

"Although the foregone investments in education, health transportation and irrigation may result in higher growth rates in the very short run, the longer term growth will be definitely lower; the future definitely has been mortgaged."
(Emphasis mine)⁸

II. THE SUSTAINABILITY OF THE ECONOMIC STRUCTURE AND SOCIAL CONSEQUENCES OF CURRENT "DEVELOPMENT"

Underlying the difficulty of sustaining GDP growth is a more fundamental problem: The current growth process has engendered a fragile economic structure and disparity both between social groups and various regions of Pakistan. It is this fact that makes the current development strategy itself unsustainable. Let us briefly examine this, the second dimension of sustainability.

1. Fragile Economic Structure

As argued in Section I, Pakistan's growth is heavily dependent on exogenous factors such as good harvests, workers remittances and foreign aid.

(a) Agriculture and Land Reform

Growth in agriculture and the food supply situation is dependent not on an institutionalized process of technical change but on the weather. There were seven good harvests during 1977-82, when the average annual growth rate was 3.9 percent, and the government claimed self-sufficiency in wheat. Then one bad harvest in 1983-84 pushed the growth rate down to minus 6.14 percent, and the government was forced to import 1.5 million tons of wheat.

Pakistan's food supply situation over the next decade, based on existing trends is not secure. According to simulation studies by the International Food Policy Research Institute, production of food commodities will be less than demand over the next decade⁹, if population continues to grow at over 3.1 percent. The basic reason for this is that as we reach the limits to the extensive margin further growth cannot be based on bringing more land under cultivation. At the same time,

time, growth in yields cannot be based simply on productivity gains from High Yielding Varieties of food grains (HYV's) as the switch from traditional to HYV's is almost complete. To achieve the substantial increases in yield/acre that will be necessary, and for which we have the potential, two kinds of institutional changes would be required:

- i) Providing an improved input package (seed, fertilizer, water) and better capacity for timeliness of application to the small farms (less than 25 acres) which constitute over 90 percent of all farms, and 52 percent of farm area. The prerequisite for providing the political/economic ability to the small farmer to raise yields is a land reform.¹⁰
 - ii) A new institutional framework based on village level community organization to provide research, extension and education at the farm level.¹¹
- b) Balance of Payments and Economic Structure

The foreign exchange situation is based not on a sustainable export of manufactured goods, but essentially on remittances and agricultural exports (the value of both these depends on external factors). Agricultural and agricultural related goods constitute 91 percent of the total value of major commodity exports.¹² In a situation where workers remittances have fallen (from a peak of US\$ 3 billion to 2.3 billion in 1986) and terms of trade are declining against agricultural exports, it is not surprising that our balance of payments deficit gives cause for concern. Since 1975 imports on average have been twice as large as exports. With actual trade deficits and debt service higher than projected and

actual aid disbursements lower than projected in the Sixth Plan document, the government has been obliged to finance the gap by reserve draw downs and short term borrowing. According to World Bank estimates of June 1987, if short term liabilities (consisting of foreign currency deposits of non-resident banks and foreign exchange bearer certificates) are excluded, adjusted reserves represent only 2.1 weeks work of imports.

The BOP crisis cannot simply be overcome by getting more foreign aid. What would be required is a diversification of exports towards manufactures. This means a fundamental shift of development strategy towards industry. The establishment of an indigenous technological capability, and developing a new-institutional framework for linking research with industry, to achieve improved product design better quality and higher productivity.

2. Poverty, Unemployment and Child Work

In an economy where productive assets are concentrated in a few hands, and in a few regions, if market forces are given free play as required by the World Bank/IMF loan conditionality, income distribution tends to become increasingly unequal, both between social groups and regions. The growth process while enriching the few perpetuates poverty for the many. In Pakistan's rural sector (where about 70 percent of the population resides) agricultural landownership is highly concentrated: 30 percent of agricultural land is owned by less than 0.5 percent of the total landowners. Urban assets are also highly concentrated, though to a lesser extent. It is not surprising therefore that a recent IFAD study shows that 63 percent of the population in agriculture is in the category of "unequivocal poverty".¹³ According to the Government of Pakistan figures,

in 1979, 48 percent of the households fell below the poverty line in the urban sector in 1979, and 44 percent in the rural sector.

Not only are levels of poverty high in Pakistan, but public services (such as health and education) through which the worst consequences of poverty for Pakistan's citizens could be mitigated, are in an even worse condition. There is a whole range of indicators which express this fact: For example, Pakistan has a very high infant mortality rate (115 deaths per thousand live births, compared to only 8 in the Netherlands, and 9 in Britain); similarly, Pakistan has one of the lowest primary school enrollment rates (42 percent)¹⁴, and literacy rates (26 percent), in the world.¹⁵

For those who are enrolled, what they imbibe, could only be called "education" by a considerable stretch of the imagination. In the rural areas, 30 percent of the classes meet in the open air, with no facility other than a blackboard. Where school buildings exist 70 percent are without learning materials, and many without teachers. At the higher education level, most universities cannot qualify for that name, given the abysmal academic standards. The state of education alone in Pakistan is such that the supply of trained manpower could become a major constraint to sustainable development.

Other quality of life indicators show that 62 percent of the population does not have access over piped drinking water, and 84 percent of the population does not have sewage facilities.¹⁶ The result is that approximately 40 percent of all deaths are brought about by water borne diseases.¹⁷ The condition of housing is equally grave. There are over one million families without shelter. In the housing units that do exist congestion is so acute, that 81 percent of housing units have on average 1.5 rooms, inhabited by on average 7 persons.¹⁸

The employment problem in Pakistan is reaching crisis proportions. With the labour force rising at 3.1 percent, and the net return flow of migrants from the Middle East occurring, over one million new jobs need to be created annually just to absorb the additions to the labour force. While the demand for jobs is going up fast, the employment generation capacity of the economy is declining rapidly. According to a recent study on the large scale manufacturing sector, the number of jobs generated per unit of investment has been declining at the rate of 11 percent per annum since 1977.¹⁹ The major reason for this is the growing introduction of automation in large scale industry.²⁰

Similarly, the labour absorptive capacity in agriculture is declining due to rapid labour displacing mechanization. This is associated with land resumption by large landowners for owner cultivation on large farms.

While the problem of unemployment of adult workers in the formal sector is growing, an increasing number of families under poverty pressure are sending their children to work in the informal sector. The reason is that even though child workers are extremely poorly paid, their wages are a significant contribution to family income. A survey I conducted in 1985 on child workers in Lahore showed for example that on average a child worker was being paid Rs. 322 per month (cash plus kind wage) and this constituted 13 percent of family income. On the other hand, employers in the informal sector find it profitable to hire child workers rather than adults because there is no law specifying the rights of child workers. Employers can pay them a wage below the legal minimum of Rs. 480/month, fixed for adults, avoid giving benefits such as houses, etc., required under the law for adult employees, and also make them work longer hours than those legally specified for adult workers.

My estimate is that there may be as many as 4.1 million children working in Pakistan's urban areas alone.²¹ Most of them are working long hours for a pittance, suffering from malnutrition, and facing acute work hazards, because of the absence of work safety precautions by employers. Consequently, weak with hunger, fatigued with extended work hours, many child workers operating lathes and printing presses lose their hands; others suffer severe eye damage through welding without goggles, or suffer tuberculosis weaving carpets under unhygienic conditions.

The discussion in this section suggests that the high GDP growth rate while it produces affluence for the few, reproduces poverty for almost half the population. The mechanism of this particular growth process is such that it is reducing the employment generation capacity of the economy, and perpetuates conditions in which the majority of the population does not have even the minimum conditions of civilized life: Clean drinking water, health, housing and education facilities. As a consequence, almost 670,000 children die due to preventable diseases annually; of those that have survived millions are working long hours for a pittance, under extremely hazardous work conditions which threaten to mutilate them physically and mentally. A development strategy which perpetuates such inhuman conditions, cannot be sustainable. It is unsustainable if building a civilized society is to be a credible national objective for the future.

III. THE ENERGY CRISIS AND ECONOMIC GROWTH

The third dimension of unsustainability of the present growth pattern is the energy constraint. There are two aspects to this constraint:

- (a) There is a growing divergence between the demand for energy and the measures taken to increase its supply. The major implication of this is the loss of credibility of the official energy production targets.
- (b) The impact of the energy shortage on domestic industry and investment. Let us briefly consider each of these aspects.
 - (a) Imtiaz Ali Qazilbash has shown that electricity demand projections in the past have been based on suppressed demand figures and have therefore remained inadequate when compared with other underdeveloped countries. However, we have failed even to keep up the supply with these suppressed demand figures.²² The 1968 WAPDA project for West Pakistan in 1980 was 4444 Megawatts. We failed to achieve a generation capability to meet even this modest target.²³ Consequently, an acute power shortage has continued during the 1980-87 period. Inspite of the acute shortage of energy, the growth rate of installed capacity has been actually declining: From 1960 to 1976 the average annual growth rate of installed capacity was 31.1 percent. From 1977 to 1985 the average annual growth rate declined to 10 percent.

Not only is there a growing shortfall between demand and supply of energy, but also a massive shortfall between targets and actual

achievements. For example, the Sixth Five Year Plan promised an additional 3400 MW over the Plan period. Yet, a total of only 1420 MW could be added by 1986.²⁴ The World Bank estimates that even if the plans for 1986-88 are completely fulfilled, by the end of the Plan period, the shortfall from target level will be as much as 1800 MW.²⁵ As a result of the failure to meet power generation targets the percentage level of load shedding in the WAPDA system near the end of the Sixth Plan in 1987 is the same as at the beginning of the Sixth Plan in 1983 (i.e., approximately 1800 MW which is equivalent to one third of the system's capacity).²⁶ Similarly, the Government of Pakistan's stated goals of electrifying 90 percent of Pakistan's villages and eliminating load shedding by 1990 do not appear credible to even a rudimentary scrutiny.²⁷

- (b) Let us very briefly consider the impact of the existing energy crisis on Pakistan's industry. The annual amount of value added in manufacturing lost due to load shedding is estimated at US\$ 500 million, while new investment has been decreased by an estimated 35 percent per annum.²⁸ The impact on small scale industry has been much more than on large scale industry. (The loss in value added due to load shedding, for SSI has been 18 percent compared to 5.5 percent in LSM).²⁹ The impact of the energy shortage on the balance of payments has also been severe: The import bill for oil has increased from 8 percent of total import expenditure in 1973, to 30 percent today.³⁰

Given the serious shortfall of energy even at the existing suppressed demand levels, the energy sector would be a critical constraint to industrial growth in the future. Yet, the crisis could be overcome if we were to systematically fulfill the potential for

hydroelectric power. For example, there are 8 sites upstream of Tarbela on the main gorge of the Indus upto Skardu. These together could provide 30,000 MW. (In fact work on 2 of these sites, i.e., Basha and Dassu could start right away since the preliminary investigations are already complete. These two dams alone could give an additional 7000 MW). Apart from the Indus, an additional 10,000 MW potential is available on the rivers Jhelum, Kunhar, Swat and Shiyoke.³¹

An important point to note in this context is that the controversial Kalabagh dam cannot be justified on purely energy production grounds: The reason is that with the money required for the Kalabagh dam (approximately US\$ 6.3 billion) at least three times more power could be added if the smaller upstream dams were constructed instead.³² In any case, if the hydroelectric power potential is to be fulfilled a considerable improvement would be needed in the institutional frameworks within which decisions are taken and implemented.

IV. THE ENVIRONMENTAL DIMENSION

The question of whether or not economic growth can be sustained, is inseparable from the processes that operate in the physical environment. However, since for example, the condition of the top-soil in which wheat grows, changes much more gradually than the price of wheat, the literature on Pakistan's economy has paid considerable attention to the latter and has virtually ignored the former. Evidence is now beginning to emerge that in Pakistan environmental damage in some spheres may be reaching threshold levels, because of the failure to integrate the environmental impact of economic growth into policy choices.

A recent report of the Government of Pakistan dramatically acknowledges the grave threat to Pakistan's physical environment:

"There are substantial evidences of widespread environmental degradation throughout the terrestrial eco system of the country."³³

The World Bank report on Pakistan's environmental condition brings home the urgency of the problem in saying:

"In many instances (such) degradation is already far advanced and may be difficult if not impossible to arrest.... in other areas, the process of ecological deterioration has recently begun to accelerate and threatens to present insoluble problems unless remedial action is taken very soon..."³⁴

Similar ominous conclusions were made by the most recent workshop of the International Union for the Conservation of Nature (IUCN) on Pakistan's physical environment:

"The groups concluded that rapid environmental degradation has taken place in Pakistan in the past fifteen to twenty years...."³⁵

1. Ecological Degradation

Visible ecological degradation in Pakistan can be classified into four categories:

- (a) Deforestation
 - (b) Soil Erosion and degradation
 - (c) Desertification, and
 - (d) Species extinction.
- (a) Deforestation
- Pakistan belongs to the group of countries with the lowest per capita forest area in the world (0.05 hectares per capita or 5 percent of the total land area). Because of such low area under forest, the country can ill afford the unplanned rapid cutting of trees and overgrazing of range lands. "Extensive deforestation" which is occurring particularly in the watersheds "is a major threat to the nation as a whole."³⁶
- When the tree cover is lost on slopes, the top soil is washed away. This leads to decline in fertility, flash flooding desertification and finally a rapid siltation of expensive reservoirs above the major dams. The degradation of overgrazed ranges threatens the survival of the nomadic communities.³⁷

(b) Soil Erosion

Apart from wind and water erosion there is accelerated man caused erosion in extensive areas in Pakistan. This has resulted from overgrazing, intensive cultivation without suitable soil protective and water management measures. The result is a rapid increase in the sediment load of rivers. For example, recent estimates show that the sediment load in the Indus is one of the highest in the world. "Without effective watershed protection.... Tarbela might be completely silted up in about 35 years, resulting in massive financial losses."³⁸

(c) Desertification

Desertification is a set of processes which lead to a reduction in the biological potential of the land which ultimately lead to desert like conditions and complete loss of production. Desertification although a worldwide problem is particularly serious in Pakistan where 75 percent of the land is under this threat. There has been a reduction of 25 percent in the rainfed cultivated area due to erosion in the past few years. Similarly, rapid desertification is also affecting the irrigated cultivated area. Extensive surface irrigation has raised the water-table to within 6 feet in 25 percent of the Indus Basin. Consequently, more than 40,000 hectares of irrigated land are being lost each year. WAPDA in 1981 estimated that about 21 million hectares of land has been severely affected by waterlogging and 4.2 million hectares by salinity. This has affected a population of 3.5 million.³⁹

(d) Species Extinction

The 1986 IUCN et.al. workshop estimated that due to shrinking forest cover and rapid population growth, "half the species of wildlife known to live in Pakistan are now considered to be endangered or have become extinct.⁴⁰

This devastation of Pakistan's wildlife will not only impoverish the colour and music of our landscape, but will also adversely affect agricultural production. For example, several species of birds (insectivorous) consume harmful insects which would otherwise damage crops. Such birds if allowed to multiply could reduce our dependence on pesticides. At the moment, indiscriminate use of pesticides is destroying a wide range of not only harmful insects but also those that are beneficial to crops. For example, the honeybee (apart from producing honey) helps pollination of agricultural crops. Indiscriminate pesticides use kills away honeybees too, resulting in a large reduction in oil seed crops.⁴¹

2. Water Pollution

The IUCN et. al. workshop concluded that water pollution in Pakistan has reached an alarming condition and like other issues in this section needs the immediate attention of policy makers and concerned citizens. Water pollutants are transmitted to human beings in the form of chemical impurities, bacteria and viruses; they can also enter through the food supply built up of chemicals in fish, growth of bacteria and viruses in vegetables irrigated with contaminated water, or through body contact with such water. As indicated earlier, polluted water is responsible for 40 percent of all deaths in Pakistan.

In many reaches of the river Indus wastes loading has exhausted the wastes assimilation capacity of the river system. It has been established that major changes in the salt content of rivers can decrease the value of water for irrigation and water supply purposes. The 1985 data for the Indus river for example, shows "a drastic degradation of water quality in terms of salinity." It suggests that water reaching downstream users "will soon be unfit for most purposes."⁴²

3. Urbanization

Ayub Qutub who has done pioneering work on Urbanization and Regional Planning in Pakistan has shown that if present trends continue, the urban population by the year 2000 will be about 58 million compared to about 31 million today.⁴³ If the present pace of labour displacing mechanization continues in agriculture alongwith land resumption from tenants by big landlords, then the urban population is likely to be much larger.

It is estimated that 90 percent of the estimated increase in urban population during the next 12 years will be absorbed in existing cities and towns placing an extremely heavy load on the already weak infrastructure facilities. Costs of population absorption are 6 times higher than in rural areas at existing infrastructure. Even if substantially reduced standards are implemented in urban areas population absorption costs would still be 3.7 times higher. Consequently, a very severe resource constraint will be faced in providing even the minimum facilities of health, transport, sewage disposal and housing. Even with an optimistic 6.9 percent GDP growth over the next decade (which I have suggested earlier is unlikely) resources will be less than 33 percent of infrastructure requirements at current standards.⁴⁴

In this essay I have indicated four dimensions of the existing pattern of economic growth which make it unsustainable in the near future: The savings and foreign exchange constraint; the adverse structural features and social consequences; the energy constraint; and finally the environmental dimension. It is clear that we are living on "borrowed time".

The development strategy followed so far has pushed us into a major economic, social and environmental crisis. Urgent economic and institutional changes need to be made if we are to survive as an independent people and retain any hope of building a civilized society.

V. POLICY FRAMEWORK FOR SUSTAINABLE DEVELOPMENT.

The following could be the elements of a sustainable strategy in Pakistan:

I. Alternative Planning Mechanism

Decentralization of planning from the federal to the provincial, district and village/mohallah level. In this context, Village Development Councils could be established on a voluntary basis by the citizens in villages/mollahs. District Planning Boards could be established and staffed with professionals who could work with the Village Development Councils to formulate development projects and monitor implementation at the grass-roots level. Planning at the moment is a top-down process consisting of allocating funds for various sectors by the federal authorities. The planning exercise should start more concretely at the project level and would have two basic advantages over the existing one:

- (a) Village/mohallah level organizations would be involved in the process of project formulation and implementation. Here the people would be both the subject and the object of the development process rather than as mere objects of a "development" handed down by a central bureaucracy.
- (b) Such a planning mechanism would introduce a regional dimension into the planning exercise. The projects specified at the village/mohallah level would be aggregated into district, provincial and then national plans in an iterative way so as to simultaneously achieve not just aggregate growth targets but also the objective of regional equity and employment.

2. Establishing a Heavy Industrial Base for Self-reliance.

Achieving a resilient and self-reliant economy requires a major industrialization programme, the heart of which would be the establishment of a heavy industrial base in Pakistan. This would include industries such as heavy engineering, heavy chemicals, transport and communications, electronics and high technology industries such as computers, lasers and fibreoptics. Such an industrial base would fulfill three national objectives:

- (a) It would enable the development of technologies which are best suited to domestic resource endowment, rather than being locked as we are into high cost, capital intensive imported technologies, which are designed for labour scarce Western economies.

- (b) It would enable the production of high quality consumer products and an increase in cost efficiency thereby imparting an export capability to the consumer goods sector.
- (c) It would increase the secondary multiplier effects of domestic investment through a linkage between consumer goods and machine production sectors. It would also drastically reduce foreign exchange requirements for imported machines and intermediate goods.

3. Small Scale Industries Sector and its Linkage with the Heavy Industries Sector

Rapid acceleration in the development of small scale industry and the associated development of small towns in which they could be located.

- (a) Employment Generation and Efficiency of Capital Use.

There is strong evidence to suggest that in the case of Pakistan, small scale industry generates both more employment per unit of investment as well as more value added per unit of investment compared to the large scale manufacturing sector. The evidence suggests that the average capital intensity (K/L) in large scale manufacturing sector is 5 times that in small scale industry, i.e., the number of jobs generated in small scale industry per unit of capital is 5 times more than in large scale manufacturing. Similarly, when we compare the efficiency of capital use in the two sectors, i.e., value added per unit of capital (VA/K) we discover that VA/K is almost twice as much in small scale industry compared to large scale

scale industry.⁴⁵

(b) Domestic Linkage.

Let us now consider the two important domestic linkages of small scale industry. The first operating through employment generation and the second through increased demand for capital goods. We have already shown that investment in small scale industry generates several times the number of jobs compared to LSM. As for its effect on the demand for domestically produced goods the available evidence shows that most of the machinery and equipment used in small scale industry is locally produced. For example, the UNIDO survey shows that 76 percent of all machines in use were of Pakistani origin.⁴⁶ In view of the evidence presented in this section one can suggest that growth of small scale industry can help release three structural constraints to sustained GNP growth in Pakistan: Unemployment, capital shortage and foreign exchange constraints.

4. Social and Economic Infrastructure.

In view of the discussion in the earlier part of this paper it is clear that a major initiative will have to be taken to improve the social and economic infrastructure in Pakistan. This would be particularly necessary if the policies proposed in items 1, 2 and 3 above are to be implemented. Rapid improvement in the provision of health, housing and education would have to be made not only to provide the conditions of civilized existence to our population but also to be able to develop a healthy and educated manpower for the achievement of the industrialization objectives. At the same time, rapid development of

dams especially in the upper reaches of the Indus between Terbela and Skardu would have to be made in order to fill the major energy gap Pakistan will face if it embarks upon the development drive indicated above. Provision of transport, communications and construction infrastructure would also be essential for the fulfillment of the development targets over the next two decades.

5. Agricultural Development.

As Pakistan approaches the extensive margin of cultivation, future in agriculture would have to be based on substantial increases in yield per acre. This would be necessary not only to meet the foodgrain requirements of a population growing at the rate of 3.1 percent per annum but also the provision of an investable surplus for industry. Future agriculture growth would have to be based on realizing the considerable yield potential of the small farms sector (less than 25 acre farms) which constitute 54 percent of the total farm area and 90 percent of the total number of farms. Achievement of this important national objective would require effective and reforms if small tenant farms are to be given both the incentive and ability to increase their yields. If small farms are to increase their yields, provision of technical know-how, high quality seeds, fertilizer, water and pesticides would be essential alongwith water management, transport and social infrastructure facilities. The achievement of this task would require the establishment of a three tiered institutional structure for small farms. These tiers should be:

- i) Village Development Councils. (Discussed above).

- ii) Teams of high quality professionals, in the field of agricultural technology, marketing and engineering, should be available at the district level to provide back up support to Village Development Councils (VDC).
- iii) Development Catalysts Team.

This third tier would bridge the above two tiers. These catalysts, who would, on the one hand, monitor the progress of projects at the village levels and on the other hand, specify and overcome project bottlenecks by bringing in support from the professional teams available at the district level. If this institutional framework is to function it is necessary to severely constrain the power of big landlords through an effective land reforms.

6. Saving the Physical Environment for a Sustainable Development.

In order to prevent further damage to the fragile physical environment in Pakistan urgent steps are needed to set up an inter-ministerial environmental policy planning cell. The purpose of this cell would be to assess the environmental impact of the planned projects and to suggest policies for a better relationship between economic growth and ecology. Some of the urgent policies that are needed in this regard are as follows:

- (a) The grass-roots people's organizations at the village and mohallah level as discussed earlier are needed to develop a new relationship between man, nature and economic growth. Professional expertise and education packages on environmental awareness are needed to be developed by the inter-ministerial cell and the ideas inculcated at the level of VDC/mohallah.

- (b) Introduction of broad legislation of control air and water pollution and toxic substances. In case of industrial waste, facilities for safe recycling and disposal of toxic substances should be established. Similarly, controls are required on pesticides, air, water and noise pollution. Pesticides and chemicals which are currently banned in originating countries should be banned in Pakistan also.
- (c) Monitoring stations should be established across the country in association with the VDC and Mohallah organizations to ensure that the environmental protection law is not violated. The already poor forest cover in Pakistan is being rapidly depleted as discussed in the earlier sections. Urgent measures are needed for reforestation especially in the watershed areas. Planting of multi-purposes trees, shrubs and grass and their protection should be initiated at the local level across the country. At the same time, improvement in soil stabilization should be undertaken through bench terracing, gully plugging and torrents control.⁴⁷

7. Overcoming the Financial Constraint.

Overcoming the financial constraints in order to establish a diversified, resilient and technologically self-reliant economy would require new resources. With the budgetary deficit already as high as Rs 44 billion it is clear that new financial resources would have to be mobilized from the domestic economy. Three social classes in whose hands much of Pakistan's income is concentrated, would have to contribute to the national effort of achieving a strong economy. These classes are land-owners, traders and industrialists. Mobilization of the required resources would mean placing direct taxes on each of these three classes.

FOOTNOTES

1. USAID Report: *Country Development Strategy Statement. FY 1988-FY 1993.*

Pakistan April 11, 1987, p.4.

2. *Ibid.*

3. *Already the gap between domestic energy production and demand is necessitating an energy import bill that constitutes 30 percent of total foreign exchange earnings.*

*Moreover, the annual amount of value added lost in manufacturing due to load shedding at current level of energy supply has reached US\$ 500 million. See USAID: *Country Development Strategy Statement FY 1988-FY 1993. Pakistan April 11, 1987. p. 20.**

4. *See Akmal Hussain:*

i. *The Political Economy of the Problems of Nation Building in Pakistan. Paper presented at the Lahore Conference of the UNU Asian Perspectives Project October 1985.*

ii. *Pakistan's Economy under the Zia Regime. Paper presented at the Chinese Academy of Social Sciences, Beijing, August 1986.*

iii. *Socio Economic Prospects in Pakistan. Report for the Swiss Development Corporation, March 1987.*

5. *John Lewis et. al: World Bank in Pakistan, Review of a Relationship, 1960-1984.*
World Bank Report No. 6048, January 27, 1986.
6. *Pakistan, Sixth Plan Progress and Future Prospects World Bank Report No. 6533-PAK, February 26, 1987. p. 81.*
7. *USAID. Country Development Strategy Statement. Pakistan FY 1988-FY 1993.*
April 11, 1987 p.4.
8. *Ibid. p.10.*
9. *IFPRI, cited in USAID Report op. cit. p.*
10. *For details of the proposal for land reform and associated institutional changes, see: Akmal Hussain: The Institutional Framework for the Development of Small Farms. Recommendations to the National Commission on Agriculture. (Mimeo).*
11. *See National Commission on Agriculture: Village Organizations. Chapter on Small Farmers.*
12. *Calculated from data available in Pakistan Economic Survey 1985-86, table titled Major Export by Value Quantity and Unit Value, p.124. Government of Pakistan, Economic Advisor's Wing, Islamabad.*

13. *International Fund for Agricultural Development (IFAD): Agricultural Policy and Rural Poverty in Pakistan. Report of the Special Programming Mission January 1984 (Draft) p. 40.*
14. *World Development Report 1987. World Bank. Oxford University Press 1987 Tables 29 and 31.*
15. *Pakistan Economic Survey 1985-86. op. cit.*
16. *World Bank in Pakistan, Review of a Relationship 1960-1984, January 1986, p. 188.*
17. *Ibid.*
18. *Pakistan Economic Survey 1983-84. op. cit.*
19. *M. Irfan and M. Ahmad. Changes in Output, Employment, Costs and Productivity (Mimeo) 1985.*
20. *This is partly due to the attempt by industrialists to reduce their employees to avoid "labour trouble", and partly due to the fact that technologies required for improving product quality and efficiency have to be imported from the West in the absence of an indigenous technological based which could design efficient labour intensive technologies to suit our factor endowments.*
21. *Data Sources used in Calculation of this figure:*

1. *Urban population estimate for 1987 is based on the Urban Population Projections of the Experts Group on Population and Urbanization. (Working Paper).*
 2. *Percentage of Urban Population in the age group 5 to 14 is based on the 1981 Population Census.*
 3. *Estimate of Urban Households below the poverty line is based on G.O.P. 1979 figure of 48 percent.*
22. *Imtiaz Ali Qazilbash: The needed Electrical Energy Scenario for Pakistan towards the end of the Twentieth Century. Paper presented at the inaugural seminar of the Pakistan Futuristics Institute Islamabad, April 26, 1987.*
23. *It has been estimated that if demand had not been suppressed it would have been 12000 Megawatts by 1985 while the available supply was less than 5000 MW.*
Instead of 5700 MW planned officially for 1980, only about 3200 MW capacity could be installed by that date. Tarbela Units 11 and 12 which were supposed to have been installed by 1980, were delayed by 8 years. See Qazilbash op. cit.
24. *WAPDA could add 1000 MW in generating capacity and KESC another 420 MW.*
25. *Pakistan Sixth Plan Progress and Future Prospects. World Bank Report 6533-PAK. Feb. 1987, p. 52.*
26. *Ibid.*

27. *Consider the Problem: Leaving aside the industrial power needs, to achieve electrification of 90 percent of the village (there are 50,000 villages in the country) would mean moving from 19000 villages currently electrified to 45000, i.e. the target would require electrifying an additional 26000 villages. Now the provision of power for one fan and four light bulbs per household means 270 Watts per household. On the basis of this minimum load, electrifying an additional 26000 villages would require an additional power of at least 3000 MW. This means that given the actual growth rate of power production during the Sixth Plan period, electrifying 90 percent of the villages would take at least ten more years (assuming that the entire electricity produced during this period is directed to the rural sector).*
28. *USAID Country Report op. cit.*
29. *Ibid.*
30. *World Bank in Pakistan, op. cit. p. 161.*
31. *Qazilbash op. cit.*
32. *Ibid.*
33. *Environmental Profile of Pakistan. Government of Pakistan. Environment and Urban Affairs Division, January 1987, p. 31.*

34. *IBRD: Pakistan Environmental Rehabilitation, Protection and Management: Reconnaissance Mission Report 1985.*
35. *The proceedings of the Pakistan Workshop have been edited by Ayub Qutub and published as a book: "Towards a National Conservation Strategy for Pakistan." IUCN/CIDA/GOP, December 1987, p. 13.*
36. *Environmental Profile of Pakistan. op. cit. p. 32.*
37. *Ibid.*
38. *Ibid.*
39. *Ibid. p. 43.*
40. *Ayub Qutub (ed.). Towards a National Conservation Strategy for Pakistan. IUCN/CIDA/GOP. p. 13.*
41. *Environmental Profile op. cit. p. 48.*
42. *Ibid. p. 286.*
43. *Ayub Qutub: See his work for the National Human Settlements Policy Study (PEPAC). Ministry of Environment and Urban Affairs Division 1983.*

44. Ayub Qutub: *Walking Lightly: A Conservationist Viewpoint on the Social Sectors*, in *IUCN/CIDA/GOP Report on Proceedings of the Pakistan Workshop: Towards a National Conservation Strategy*, 1986, p. 356.
45. See Akmal Hussain: "National Perspective on Industrialization and Small Scale Industry" paper presented to the Pak Holland Metal Project Formulation Team, January 6, 1988, p. 10.
46. *Ibid. P. 11.*
47. See: *Towards a National Conservation Strategy for Pakistan, Proceedings of the Pakistan Workshop August 1986, op. cit 216.*