The Structural Adjustment Process and Agricultural Change in Pakistan in the 1980s and 1990s

MAHMOOD HASAN KHAN

BACKGROUND

Pakistan has gone through many eventful political and economic changes since the late 1970s. Some of them have been transient, but many were deep and structural, hence even irreversible. Their consequences have been both promising and disturbing. The political system, since at least the mid-1980s, has been gradually democratised, but it is by no means stabilised as the events of 1993 clearly indicate. The economy has grown and transformed, but its management has been erratic. Many of the changes in the economy have come with the growth of the informal sector, both visible and invisible (illicit), which remains unaccounted for in the official statistics. In several urban and rural areas, persuasive though mainly anecdotal evidence suggests that the average standard of living far exceeds the impressions one gets from the national income accounts, household income and expenditure surveys. The growth of rent-seeking in the public and private sectors, illicit trade in drugs and smuggling across borders, informal activities in the rural and urban areas, and evasion of taxes have all contributed to the growth of the economy and distribution of assets and income.

The role of the public sector in the economy has also been changing, haltingly but almost irreversibly, from controlling and regulating the production and distribution systems across all sectors of the economy to providing macroeconomic stability and institutional support to the private sector. The impetus for this shift has come mainly from the international organisations whose financial support was found necessary to keep the economy from an unsustainable course. The economic

Mahmood Hasan Khan is Professor of Economics at Simon Fraser University, Canada.

reforms were also affected by the policy of Islamisation adopted in the early 1980s. But the institutional and policy reforms under the Islamisation policy have not necessarily been consistent with the desiderata of economic reforms under the stabilisation and structural adjustment programmes adopted by governments throughout this period. Several of the legal measures under the umbrella of Islamisation have been contested on religious, political and economic grounds, causing confusion and instability.

This background will remain incomplete if we did not take into account the shocks to which the economy was subjected throughout the 1980s. In the early 1980s, there was, at least on surface, a stable military government, but the country and its economy were traumatised by the war in Afghanistan. The inflow of over 3.0 million Afghan refugees imposed serious economic and social costs, particularly in those areas which were directly affected by these temporary migrants. A substantial part of the domestic resources and output had to be diverted to accommodate the needs of the refugees and to meet the commitments on the war front. The burden was alleviated somewhat by the international assistance throughout the decade. The political conditions in Afghanistan have remained unstable and probably still affect Pakistan's economy.

The process of democratisation, which started somewhat reluctantly with the partyless elections in 1985, was hastened in August 1988 after the sudden death of General Zia-ul-Haq. But it has not been an altogether smooth ride for the country. Far from it. A caretaker government was installed in August 1988 for three months to conduct the first party-based general elections since 1970. In November 1988, the elected government—formed by the Pakistan People's Party (PPP)—inherited the first medium-term economic adjustment programme (1988-89–1990-91) negotiated by the caretaker government with the International Monetary Fund (IMF) and World Bank. The PPP government was dismissed in August 1990, followed by a second caretaker government for three months until the next elections in November 1990.

The second elected government was formed by the Islami Jamhuri Ittehad (IJI)–a coalition of three major political parties led by the Pakistan Muslim League (PML). It continued to follow the terms of the existing three-year medium-term adjustment programme, which was extended by one year to 1991-92. This government was dismissed by the President in April 1993, following a period of legislative and extra-legislative contests between the party in power and the opposition groups. A caretaker government was formed amidst constitutional confusion about the division of powers. The annual meeting of the Aid-to-Pakistan Consortium in Paris was cancelled because of the government's dismissal in April 1993. The Supreme Court, in response to a petition by the ousted government, restored the National Assembly and the government in May 1993. More confusion and political wrangling followed.

In July, the President and the government stepped down and a caretaker government was formed to conduct fresh elections. This caretaker government, unlike the last three since 1988, made some very significant but arguably contestable decisions on a large number of issues affecting the affairs of the state and the economy. The government was also able to get interim assistance from the IMF and World Bank until the next medium term adjustment programme could be concluded after the elections.

The third national and provincial elections since November 1988 were held in October 1993 and a new coalition government was formed by PPP. In all Pakistan has had seven governments—four caretaker and three elected—in just over 5 years from August 1988. Much of this period was spent by the political elites in seating and unseating friends and foes and at the same time running the affairs of the state and the economy. Periodic ethnic violence, particularly in the urban areas of Sindh, in the late 1980s had also seriously damaged the economic environment.

The country's economy was also adversely affected by external economic shocks in the late 1980s, first by the decline in export prices and then by the Gulf Crisis in 1990. In the last two years, natural calamities in the form of floods in September 1993 and the virus attack on cotton crop have exacerbated the fragile economy. Will the wheat crop betray the economy this year after the failure of cotton last year?

MACROECONOMIC CHANGES

What has been the track record of the economy since 1980-81? The Gross Domestic Product (GDP) grew at an average annual rate of 6.2 percent, but the growth rate has come down from 6.6 percent in the early 1980s to 5.4 percent in the early 1990s. In fact, except for 1991-92 when GDP grew at 7.7 percent, the growth rate has stayed at less than 5 percent in the last five years (Table 1). Part of the time it was the industrial sector which did not perform well and in the last two years the agriculture sector has suffered.

Who has participated in and benefited from the growth of the economy? We are less certain about the distribution of income by income groups, rural-urban residence and regional (provincial) location. We have almost no idea about the regional gains in income. It seems that income inequality in Pakistan decreased in the 1960s when the rate of growth of GDP was reasonably high; increased in the 1970s when the growth rate was relatively low; decreased in the 1980s when the growth rate was high again; but it seems to have increased since 1987 as the growth rate has declined. Apparently income inequality was lower in rural than urban areas throughout the 1980s. The average rural-urban income gap has fallen substantially from

Table 1

Changes in Macroeconomic Indicators, 1980-81–1992-93

Year	Average Annual Growth Rate (%)					% of GNP			% of GDP		Current Account Deficit (% of GNP)	International Reserves ($ Million)	External Debt (% of GNP)	Debt Service Ratio (% of Exports)
	GDP	Inflation (CPI)	Exports	Imports	External Debt	Gross Investment	National Savings	Budget Deficit	Tax Revenues	Internal Debt				
1980-81	6.1	13.9	19.6	14.5	1.2	17.4	14.0	5.2	14.0	20.9	3.2	1058	34.0	20.4
1981-82	7.6	11.1	-17.2	3.7	0.0	17.9	13.2	5.3	13.4	–	4.7	809	31.8	19.9
1982-83	6.8	4.7	13.3	-2.7	5.8	17.0	15.3	6.9	13.5	–	1.8	1911	36.0	23.5
1983-84	4.0	7.3	1.6	6.7	1.7	16.7	13.8	6.0	12.8	–	3.1	1731	34.4	26.3
1984-85	8.7	5.7	-7.9	0.3	2.8	17.0	12.0	7.8	13.0	–	4.9	668	34.7	31.6
1985-86	6.4	4.4	19.7	-0.4	14.1	17.4	13.8	8.1	14.1	39.5	3.7	915	41.5	29.5
1986-87	8.8	3.6	18.9	-3.2	8.2	18.0	16.0	8.2	14.5	43.4	2.1	864	45.8	29.9
1987-88	6.4	6.3	24.7	19.5	7.4	17.3	13.1	8.5	13.8	43.0	4.3	435	42.8	25.1
1988-89	4.8	10.4	6.2	4.2	9.9	18.3	13.6	7.4	14.3	43.3	4.7	458	43.7	24.1
1989-90	4.6	6.0	6.3	2.8	6.4	18.2	13.6	6.6	14.0	44.6	4.5	622	42.6	25.4
1990-91	5.6	12.7	19.8	13.1	2.5	18.5	13.9	8.7	12.7	43.9	4.6	572	39.4	21.8
1991-92	7.7	9.6	14.6	7.3	12.2	20.0	14.5	6.5	13.8	43.1	3.1	1038	40.4	21.9
1992-93	3.0	11.5	4.5	5.7	6.1	20.1	15.2	7.7	15.0	44.2	5.8	350	43.4	20.9
1980-81–1984-85	6.6	8.5	1.9	4.5	2.3	17.2	13.7	6.2	13.3		3.5	1235	34.2	24.3
1985-86–1989-90	6.2	6.1	15.2	4.6	9.2	17.8	14.1	7.8	14.1	42.8	3.9	659	43.3	26.8
1990-91–1992-93	5.4	11.3	13.0	8.7	6.9	19.5	14.5	7.6	13.8	43.7	4.5	653	41.1	21.5
1980-81–1992-93	6.2	8.2	9.6	5.5	6.0	18.0	14.0	7.1	13.8	–	3.9	879	39.3	24.6

Notes: (1) The estimates are based on data from *Economic Survey*, various issues.
(2) Pakistan's outstanding (disbursed) external debt increased from $ 8,765 million in 1980-81 to $ 18,423 million in 1992-93.

around 33 percent in the early 1980s to 25 percent in 1991.[1] Absolute poverty seems to have fallen in all areas. Most cross-section studies show that rural poverty declined rather significantly: its estimates in the late 1980s range from 15 percent to 20 percent of the rural households.[2] If one looks at the broad social indicators–reflecting well-being–there are serious deficiencies in terms of the average low level and wide gaps by rural-urban residence and by gender. Some of this can perhaps be explained by the gap between private incomes and provision of social services by the public sector.[3]

How about the performance of the economy, reflecting the forces of market and public policy? As shown in Table 1, inflation was moderate, if one accepts the official Consumer Price Index (CPI), at 8.2 percent per year; its rate was high (12.5 percent) in the first two years of the 1980s; and in the last three years the rate has been over 11 percent. The savings rate has been around 14 percent of GNP, increasingly only marginally (13.7 to 14.5 percent) during the period; the rate of investment was around 18 percent, increasing from 17 percent to nearly 20 percent of GNP. These are indeed low rates of savings and investment for a country planning to grow at over 6 percent per year on a sustainable basis. Pakistan's external balance has been even less impressive. Exports have grown at 9.6 percent, rising from a very low rate in the early 1980s to around 13 percent in the last three years. Imports grew at 5.5 percent annually, rising to 8.7 percent in the last three years from about 4.5 percent throughout the 1980s. The current account deficit has gone up from 3.5 percent of GNP in the early 1980s to 4.5 percent in the early 1990s (5.8 percent in

[1]These trends are based on the estimated Gini coefficients and shares of the top and bottom 20 percent of the income groups from the household income and expenditure surveys reported in *Economic Survey 1992-93*.

Year	Gini Coefficient	% Share of Top 20 %	% Share of Bottom 20 %
1960s	0.353	7.55	43.12
1970s	0.349	7.90	43.17
1980s	0.355	7.70	44.08
1990-91	0.407	7.30	44.50

[2]Most cross-section studies show that rural poverty has declined since 1970: "the most disadvantaged are also getting better off." [Malik (1992), p. 990].

Year	% of Rural Households in Poverty	Study
1979	41.2	(Irfan and Amjad)
1979	25.0	(Ahmed and Allison)
1984-85	20.0	(Ercelawn)
1984-85	20.0	(Ahmed and Allison)
1984-85	21.1	(Malik)
1987-88	15.5	(Malik)

[3]See Government of Pakistan (1993, 1993a).

1992-93). International reserves fell from an average of $ 1,235 million per year in the early 1980s to $ 653 million in the early 1990s (ranging from 3-5 weeks' imports). The external debt was about $ 18.5 billion in mid-1993 and has been over 40 percent of GNP in the last three years as compared to 34 percent in the early 1980s. The debt service ratio has, however, declined from nearly 25 percent to 22 percent in the early 1990s. On average, one-quarter of the export earnings went to service the foreign debt.

How have the governments managed their fiscal affairs? I am afraid not very well. The budget deficit was around 7.5 percent GDP in the last three years and has been between 6–9 percent since 1983. The burden of internal debt has increased more sharply than of the external debt: the former increased from 21 percent to 43 percent of GDP in the early 1990s. The two debts together are currently over 80 percent of GNP, increasing from about 55 percent in the early 1980s. The government's tax revenues have stayed around 13.5-14 percent of GDP. But the share of its spending in GDP was on average about 28 percent in the same period; it increased from 26 percent in the early 1980s to 30 percent in the mid-1980s and has fallen to 28.5 percent in the early 1990s (Table 2). Most of this spending has gone to meet non-development commitments; the average development spending was 28 percent of the total and has fallen from 32.4 percent of the total to 24.4 percent during the period. About one-half of the government's total spending in the early 1990s was used for three major activities: defence (26 percent) interest payment on debt (21 percent) and subsidies to producers and consumers (3 percent). The spending on social services (education, health, etc.) constituted about one-quarter of the government's total spending. The share of spending going to defence–which is around 7.2 percent of GDP compared to 4.0 percent of GDP spent on social services–has been reduced somewhat in recent years, but the burden of debt servicing has increased from 12 percent to 21 percent of total spending. The basic fiscal problem of governments in Pakistan has been to expand the tax revenues, particularly the base of direct taxes, and switch their expenditures to build and improve the physical and social infrastructure and support services.

THE STRUCTURAL ADJUSTMENT PROCESS

Adjustment Programmes and Policies
affecting the Economy

In the early 1970s, the PPP government introduced a large number of economic reforms, including nationalisation of major private industries and the banking system, redistribution of land and adjustment in tenancy rights, direct control and regulation of internal and international trade of major products through a large number of parastatals, and adjustments in the public services.

Table 2

Changes in Government Spending 1980-81–1992-93

Year	Total Government Spending (Rs Billion)	Percent Share in Total Spending		Percent Share in Total Spending			
		Development Spending	Current Spending	Defence	Interest	Subsidies	All
1980-81	62.5	37.3	62.7	24.5	9.4	8.6	42.5
1981-82	71.0	34.7	65.3	26.2	10.8	6.1	43.1
1982-83	88.7	33.7	66.4	26.2	12.6	3.2	42.0
1983-84	100.0	28.0	72.0	26.8	14.1	4.7	45.6
1984-85	116.8	28.3	71.7	27.3	14.1	4.6	46.0
1985-86	134.5	29.6	70.4	26.5	14.7	4.2	45.4
1986-87	154.4	23.7	76.3	27.1	15.7	3.8	46.6
1987-88	180.4	25.9	74.1	26.1	18.4	4.4	48.9
1988-89	201.2	23.9	76.1	25.4	18.9	6.6	50.9
1989-90	221.6	25.3	74.7	26.5	21.1	4.1	51.7
1990-91	260.9	25.0	75.0	24.8	19.2	4.1	48.1
1991-92	315.6	26.4	73.6	24.0	20.0	3.2	47.4
1992-93	329.7	21.9	78.1	24.9	22.9	2.2	50.0
Average							
1980-81– 1984-85	(26.1)	32.4	67.6	26.2 (6.8)	12.2	5.4	43.8
1985-86– 1989-90	(29.5)	25.7	74.3	26.3 (7.8)	17.8	4.6	48.7
1990-91– 1992-93	(28.4)	24.4	75.6	24.6 (7.0)	20.8	3.2	48.5
1980-81– 1992-93	(27.9)	28.0	72.0	25.9 (7.2)	16.3	4.6	46.7

Notes: (1) These figures are from *Economic Survey*, various issues.

(2) Government spending includes provincial and federal spending. The figures in parentheses are the ratio of government spending to GDP (in current prices).

After the coup d'état in July 1977, the martial law government made few structural changes in the economy for two years. The initial efforts were spent on macro-stabilisation and recovery of economic growth, particularly in response to the second oil price shock. The only major change in the economic management of the country was the reintroduction of five-year development plans which had been suspended during 1972–1977. The government launched the Fifth Five-Year Plan (1978–1983) in mid-1978. However, a much more significant policy change was initiated in 1979-80, when the military government introduced a programme of Islamisation of the economy. A three-year plan for the implementation of an Islamic economic system was announced in February 1980; the two major ingredients of this programme were (1) institutionalisation of *zakat* and *ushr* and (2) interest-free banking and commerce.[4] Both of these measures were controversial and the former was hotly contested until the government accommodated the demands of the shia community to be exempted from the levy of *zakat* and *ushr*. In the sphere of interest-free banking and commerce, the government introduced the profit and loss (PLS) accounts, Participation Term Certificates (PTC), *Modaraba* and *Musharika* (1981-82). The *zakat* and *ushr* system was legislated in 1980 and introduced in 1982-83.

The major structural adjustment reforms–intended to improve the long-term efficiency of the economy by expanding the role of the private sector in the production and distribution of goods and services–were started in 1982-83. They included the delinking of the Rupee from the US dollar in early 1982, followed by price deregulation for a large number of products, denationalisation of industries, liberalisation of imports, and export enhancement schemes. By the mid-1980s, a large number of markets had been deregulated, some industries denationalised and the export and import regimes greatly liberalised. The government was supported in these efforts by the IMF and World Bank by a three-year programme of adjustment during 1980–1983. The IMF gave its Extended Fund Facility (EFF) of SDR 1.27 billion to encourage the government to (i) establish a new exchange rate regime, (ii) price rationalisation and trade liberalisation, (iii) financial and budgetary reforms, and (iv) reforming the public sector. The World Bank provided support through its first Structural Adjustment Loan (SAL) of $ 250 million in 1982 linked to the IMF programme, focusing on "getting prices right" (get rid of subsidies) in the agriculture, industry and energy sectors. Two further sectoral adjustment loans for policy reforms were given by the World Bank, one for the energy sector (1985) and the other for export development (1986).[5]

The economy continued to grow at a respectable rate of 6.5 percent per year

---

[4]Some of the explanations are given in *Pakistan Economic Surveys* of 1981-82 and 1982-83.
[5]See McLeary (1991).

and the government maintained a policy of gradual economic reforms. However, a number of structural weaknesses persisted: heavy regulation of the economy with government ownership, industrial licensing and price controls; a protective trade regime that created distortions and discouraged competitiveness and export growth; a weak public resource position with a narrow and inelastic revenue base and high current spending with inadequate development expenditure, resulting in excessive budget deficit; high financial repression with public ownership and credit control; and a high and growing burden of (domestic and external) debt, resulting from heavy reliance on borrowing to finance the growth in the 1980s. There was in fact a financial crisis toward the end of fiscal 1987-88: the budget deficit increased to 8.5 percent of GDP; inflation accelerated; current account deficit doubled from 2.1 percent to 4.3 percent of GNP; the debt-service ratio reached 28 percent of export earnings; and the exchange reserves fell in half to less than three weeks of imports.

In response to this crisis, the 1988 caretaker government, supported by the IMF, World Bank, Asian Development Bank (ADB) and several bilateral donors, began to implement a three-year medium-term adjustment programme in 1988-89. This programme was later extended by one year to 1991-92 due to external shocks. Its basic objectives were (1) *policy reforms* on a broad front, including trade liberalisation (lower non-trade barriers and an active exchange rate policy); relaxation of the regulatory framework for industries (investment sanctioning); economic pricing of inputs and outputs in the agriculture, energy, transport, and public sectors to improve efficiency and public sector resources; and in the financial sector to develop long-term capital markets, and (2) *restoring the resource balance* by improved demand management, including reduction of the budget deficit to less than 5 percent of GDP; current account deficit to 2.5 percent of GNP; inflation to 6 percent per year; the debt service ratio to 24 percent of export earnings. The GDP growth rate was to be sustained at over 5 percent per year. The material support from international donors included (1) IMF stand-by loan of SDR 273 million and Structural Adjustment Facility (SAF) of SDR 382 million; (2) World Bank Sectoral Adjustment Loan (SAL II) for agriculture of $ 200 million in 1988, Energy Sector Loan (II) of $ 250 million in 1989, and a Financial Sector Loan of $ 150 million in 1989; (3) ADB programme loans for the industrial sector ($ 200 million) and the agriculture sector ($ 200 million); and (4) loans of several million dollars from the United States, Japan and other bilateral donors.

During this adjustment programme, Pakistan received two external shocks: (i) falling terms of trade and (ii) the Gulf crisis. In addition, there were internal political problems in the form of urban unrest in Sindh and changes of governments at the federal and provincial levels. But there was reasonable continuity in the implementation of structural reforms. The achievements included: liberalisation of external trade an payments system (reduction in maximum tariff rates, reduction of items

on the negative and restricted lists for imports, liberalisation of capital account transactions, and permission for residents to maintain foreign currency accounts); a broad-based privatisation programme covering the nationalised banks and over 100 industrial units; participation by private sector in areas reserved for the public sector; relaxation of regulations for domestic and foreign investment; adjustments in administered prices; changes in the financial sector (rationalisation of debt instruments, licencing of new banks, and stronger regulation and supervision of banks); and changes in the fiscal structure, including introduction of a General Sales Tax (GST), removal of tax exemptions and measures to restrain expenditures.

Much as these changes may seem impressive, the economy did not improve on a sustained basis, compounding the impact of adverse external developments on macroeconomic variables. The GDP grew at around 5 percent with accelerated inflation; the fiscal deficit went down a bit in the first two years but then rose in 1991-92 to over 7 percent of GDP mainly because of the rigid tax revenues and little improvement in spending; the current account deficit did not deteriorate by much because of the flexible foreign exchange rate policy. While the process of reform, focusing on liberalisation, deregulation and privatisation, was greatly hastened in 1992-93, several events started to act against the high growth rate and financial stability. Floods and virus attack on cotton not only reduced the economy's production but also imposed the additional cost of rehabilitation and reconstruction on the government's budget and balance of payments. Textile industry was badly affected by reduced cotton output, unfavourable international demand and price conditions. Added to the natural calamity were the political events from November 1992 to July 1993, which jolted business confidence, paused foreign and domestic investment, created increased pressure on exports and exchange reserves. The effects of these events can be seen on the macroeconomic variables: GDP grew at only 3.0 percent, mainly due to the effects of floods on agriculture and related industrial and trade activities; inflation rose to 11.5 percent; exports and imports grew at 4.5 percent and 5.7 percent; the current account deficit rose to 5.8 percent of GNP; exchange reserves fell to less than 3 weeks of imports; and the budget deficit rose to 7.7 percent of GDP. Many of the economic reform and spending policies–including privatisation, spending on transport and roads–pursued by the PML government during 1991 and 1992 have come under critical scrutiny for both political and economic reasons.

The second caretaker government in its tenure of three months in 1993 used a wide range of measures and undertook policy reforms. Most of these changes were necessitated by the immediate economic circumstances and were generally in keeping with the objectives of the medium-term adjustment programme. Some of the measures were perhaps of a cosmetic value, without lasting effects, but many were structural and deep with long-lasting effects on the economy. In fact, the govern-

ment started implementation of several economic reform measures, affecting the fiscal management of the economy and the performance of the financial, industrial, energy, transport, and agriculture sectors. It is inevitable that not all of the policy changes and reforms have been happily accepted or entirely implemented. A major problem faced by the caretaker government in July 1993 was to get the interim financial support from the IMF, World Bank and other international donors. The IMF and World Bank were in the midst of preparing a new second three-year adjustment programme as a follow-up on the 1988-89–1991-92 programme during the early part of 1993. This had to be suspended due to political events from April to July 1993. The caretaker government was able to persuade the IMF to extend a stand-by loan of SDR 88 million until a new government was elected and the adjustment programme package was finalised.

The second three-year structural adjustment programme was successfully negotiated by the new elected government in February 1994. The package of support includes an IMF Enhanced Structural Adjustment Facility (ESAF) and Extended Fund Facility (EFF) of SDR 1.00 billion ($ 1.37 billion); World Bank will provide $ 200 million in support of the Social Action Programme (SAP) and $ 250 million as a Public Sector Adjustment Loan (PSAL). The programme aims at increasing the rate of growth of GDP to 6.5 percent; reduce inflation to 6 percent; reduce the fiscal deficit to 3 percent of GDP; full convertibility of the Rupee; and reduced the current account deficit. The policy reforms will focus on further deregulation, liberalisation and privatisation in the economy, with the added emphasis on investment in expanding and improving the social services (education and training, sanitation, rural water supply, and health care), and physical infrastructure for transport and communications, irrigation, and energy. The Aid-to-Pakistan Consortium, in its Paris meeting in February 1994, approved donor support of $ 2.5 billion for the year 1993-94 in keeping with the new medium-term structural adjustment programme.

Adjustment Programmes and Policies for the Agriculture Sector

The economic reform policies of governments with regard to the agriculture sector have been well articulated throughout the 1980s by numerous commissions and committees. They have not been necessarily mutually consistent or effectively implemented so far. Most of them have been visibly self-serving to certain interest groups in the agriculture sector. Given the diversity of visions and agendas of governments, there are understandable differences in focus, approaches and details. However, one finds a common thread in all of them: that the agriculture sector has been badly treated and this has affected equally the welfare of all agricultural groups (landlords, small owner-operators, landless sharecroppers, tenants, and wage work-

ers). The demand for incentives and exemption from certain forms of direct taxes on agricultural wealth and income form part of the same strategy. In fact, much confusion has been created–one suspects partly by design and partly by intellectual laziness–between the issue of penalising (taxing) unfairly the agricultural producers by indirect and implicit taxes and the issue of taxing directly the wealth and income of individuals based on their capacity no matter where they earn their high incomes and the form in which they hold their wealth.

The first official statement on a strategy for agricultural development in the 1980s was published in February 1980 [Government of Pakistan (1980)]. This document was based on the findings of a voluminous study–Revised Action Programme for Irrigated Agriculture in Pakistan–conducted by WAPDA with the technical assistance of the United Nations Development Programme (UNDP) and World Bank. Most of the policy measures were technocratic within a broad policy framework of increased deregulation and liberalisation.

The second official statement of the government came in the form the Report of the National Commission on Agriculture (NCA) in April 1988 [Government of Pakistan (1988)]. The NCA report involved a large number of background studies and reports of committees and took two years to finalise its findings and recommendations. It was probably the most systematic and detailed analysis of the agriculture sector and its links to the rest of the economy ever undertaken in Pakistan. The objective of the report was to formulate a coherent set of policies on a wide front to foster a rapid and balanced development of agriculture. Most of the policy measures and reforms were quite consistent with the overall ideology of policy reforms adopted by the government under the guidance of the IMF and World Bank.

The third official policy document was published by the PPP government in November 1989 [Government of Pakistan (1989)]. This document endorsed most of the on-going programmes and policies but cloaked them in the rhetoric of populism without addressing the real institutional and structural issues identified.

The fourth official document on a national agricultural policy was prepared by the IJI government in November 1992, rehashing some of the major recommendations of the 1988 NCA report [Government of Pakistan (1992)]. The goals remained self-reliance, social equity, export orientation, sustainable agriculture, and enhanced productivity. Most of the issues were not even defined, much less addressed or analysed in terms of their policy actions and programmes.

The last official document about the future development of agriculture was published by a Task Force in December 1993 [Government of Pakistan (1993a)]. The original terms of reference for the Task Force included the issues of taxation of agricultural wealth and income, including a review of the existing land revenue and *ushr* systems. However, the Task Force expanded its terms to include a review of the existing conditions in the agriculture sector and its future needs for growth. The

report makes several self-serving recommendations on the issue of wealth and income taxes, much like the earlier reports of commissions and committees throughout the 1980s. Some of its recommendations would require institutional changes, but most consist of policies endorsed by earlier reports and are being implemented.

Let us turn to the major policy and institutional reforms actually carried out by governments affecting the structure and performance of the agriculture sector.[6]

Institutional Changes: Land Reforms and Land Revenue

The last legislation affecting the ceiling on agricultural holdings was enacted by the military government in late 1981, relaxing the provision of the Land Reform Act of 1977 on agricultural holdings for purposes of private livestock farms, cooperative societies, and educational institutions. The Land Reforms Act of 1977–enacted by the PPP government in January 1977–had reduced the ceiling on individual landholdings to 100 acres irrigated (200 acres unirrigated) or equivalent of 8,000 Produce Index Units (PIUs). The PPP government also enacted the Finance (Amendment) Act of 1977 in January 1977, which abolished the land revenue (tax) system and replaced it by a direct tax on individual (net) incomes from agriculture, subject to the exemption to owners of holdings of less than 25 acres. The net income from agriculture would be the gross agricultural income less the cost of earning this income. The rate of taxation would be similar to the slabs of taxes on incomes earned from other sources. On the recommendation of the Central Board of Revenue (CBR), the Act was amended to allow landowners the option of paying the tax at the rate of Rs 6.00 per PIU (as presumed income) on their holdings. This Act was annulled by the military government soon after the coup in July 1977, restoring the land revenue regime at the rates prescribed in 1975-76 in the provinces. The rates of land revenue were revised upward in 1977-78 and 1982-83 as multiples of the existing (1975-76) rates. A major change in the land revenue system was made with the implementation of the *Zakat* and *Ushr* Ordinance in 1982-83, with *sunni* Muslims required to pay the *ushr* in lieu of the land revenue and all others (including the *shia* Muslims) would continue paying the land revenue at prescribed rates of 1982-83.[7]

In the 1980s, while the important issue of land reforms was almost totally forgotten or dismissed as a non-issue in the official documents, the pressure on governments to reform the land revenue system increased with the passage of time, mainly due to its fiscal imbalances and the pressure of the international donor

---

[6]Successive governments since 1988 have been announcing and adopting specific packages on incentives for the agriculture sector. They are normally announced and published in the annual *Economic Surveys* published by the Ministry of Finance.

[7]I have dealt with this issue in some detail in Khan (1991).

community. Successive committees and commissions throughout the 1980s reviewed the issue of land revenue, *ushr* and tax on agricultural incomes, but their recommendations were almost always against the imposition of a tax on agricultural incomes.[8] The last caretaker government finally acted on two fronts in September-October 1993: (i) it amended the Wealth Tax Act of 1963 and removed the exemption for agricultural land as immovable property for wealth tax purposes and (ii) it issued ordinances in all provinces to introduce a flat rate of taxation on land at Rs 2/PIU on all landholdings above 4,000 PIUs. In February 1994, the elected (PPP) government enacted a somewhat watered-down version of the Wealth Tax (Amendment) Ordinance. The report of the Task Force on Agriculture was used to justify the changes in the legislation. However, the elected provincial governments, inspite of the on-going pressure from the IMF and World Bank, have allowed the provincial tax ordinances issued in September-October 1993 on presumed agricultural income (based on PIUs) to lapse in February 1994.

     A minor institutional change during the early 1980s was the formation of Water Users Associations (WUAs) on watercourses in all provinces to improve and maintain the watercourses. This was part of the On-Farm Water Management (OFWM) projects started on a nation-wide basis with support from the United States, World Bank and ADB. Several projects are now underway throughout Pakistan. The institutional innovation at the watercourse level has not been generally accepted. Apparently many WUAs remain nominal or become defunct organisations soon after the watercourses have been improved or rebuilt. The WUAs exist to meet the legal requirements of the OFWM projects.

Regulatory Framework

     As indicated earlier, Pakistan's economy, including its agriculture sector, was highly regulated during the 1970s. A process of gradual deregulation of markets and production was started by the military government soon after it took power in July 1977. The successor governments have continued this process throughout the period. The major achievements so far include:

* denationalisation of flour and rice mills and cotton ginning factories in 1977;

---

[8]These were (i) National Taxation Reforms Commission in 1986; (ii) National Commission on Agriculture in 1988; (iii) Coopers and Lybrand Consultants in 1989; (iv) Committee of Experts on Taxation of Agricultural Incomes in 1989; (v) Committee on Tax Reforms in 1991; and (vi) Prime Minister's Task Force on Agriculture in 1993. One Committee was appointed by the IJI government under the Chairmanship of Mr Yasin Wattoo in June 1992, but it never delivered a report to the government due to the political events after November 1992.

- deregulation of sugar industry, including derationing of sugar in 1983;
- voluntary procurement of wheat;
- deregulation of pesticide industry in 1985;
- removal of bans on the private sector to import edible oils in 1986;
- deregulation of the domestic fertilizer industry in 1987 with decontrol of prices of nitrogenous fertilizers but maintaining price controls on imported fertilizers;
- exports of fruits and vegetables liberalised and imports of machinery and implements allowed more freely with reduced rates of duties;
- derationing of wheat and wheat flour in 1987;
- system of mill zones for delivery of sugarcane was abolished in 1987 with reduction in restrictions on investment sanctions for sugar industry;
- privatisation of public tubewells in fresh water areas;
- removal of monopoly of the Rice Export Corporation of Pakistan (RECP) and Cotton Export Corporation (CEC) in export trade;
- denationalisation of the edible oil industry has progressed significantly since the mid-1980s; and its internal and external trade (import and export) have been almost completely deregulated with much reduced role of the Ghee Corporation of Pakistan (GCP) in production and of the Trading Corporation of Pakistan (TCP) in imports of edible oils;
- seed industry has been largely deregulated with incentives to the private sector through the enactment of the Truth-in-Labelling and Plant Variety-Protection Acts; and
- complete deregulation of pricing and trade of major fertilizers (urea and DAP) was achieved in 1993.

Pricing Policies

Prices of major agricultural products and inputs have been determined by successive governments through their regulatory institutions and policies. The price support for and procurement of major agricultural products have been maintained through a large number of parastatals, e.g. procurement and storage of wheat and gram by the provincial Food Departments and Pakistan Agricultural Supplies and Storage Corporation (PASSCO); Agricultural Marketing and Storage Ltd. (AM&SL) for procurement and storage of onions and potatoes; REC for procurement of rice; CEC for domestic and foreign trade of cotton; GCP for manufacturing and distribution of vegetable ghee and oils; and TCP for imports of edible oils. A major institutional change for maintaining a rational price support system was the establishment of the Agricultural Prices Commission (APCOM) in March 1981. APCOM was established to act as an autonomous agency to advise the government

on changes in support prices for major crops. The periodic adjustment in support prices takes into account a large number of factors. It is arguably a difficult task to perform for both the government and its advisers. Spokesmen for the farm lobby want prices that are both stable (minimum guaranteed) and closely aligned to the border prices when they are high. Governments have to consider their revenue needs and the competing interests of the urban and industrial consumers of food and raw material. It needs to be stressed that, with the significant deregulation of markets, the price system has become more flexible.

The pricing system of major inputs has changed even more significantly in the 1980s. Prices of pesticides and nitrogenous fertilizers are no longer subsidised or totally determined by the government. However, prices of imported agricultural machinery and components used in producing domestic machinery are affected by subsidies on import duties. Subsidies on the installation of tubewells and use of energy (petroleum products and electricity) for agricultural activities have been reduced but not eliminated. The canal water for irrigation is still highly subsidised in that it does not cover the O&M costs of the irrigation system. Some progress has been made under the 1988 ASAL of World Bank and the 1990 APL of ADB in revising the water rates and rationalising the operations of the provincial Irrigation Departments. As part of the incentive policy packages announced at regular intervals since the late 1980s, governments have extended import subsidies, export rebates, and reduced export duties on agricultural products and inputs used in the agriculture sector.

Support Services

There are two major support services provided by governments to agricultural producers: (i) *credit* through the Agricultural Development Bank of Pakistan (ADBP), commercial banks, and Federal Bank of Cooperatives (FBC) and (ii) *agricultural extension*. A major change in the credit system was introduced in 1979 when the military government started to extend interest-free loans of upto Rs 6,000 to owners of holdings of 12.5 acres in Punjab (16 acres in other provinces) or less to purchase seasonal inputs. The limit has steadily increased to the present level of Rs 20,000 (Rs 1,600 per acre). In July 1988, the government imposed an annual "mark-up" of 8 percent on all agricultural loans.[9] The activities of ADBP and FBC have been reviewed and changes are being introduced to make these institutions financially sustainable. The World Bank and ADB through their credit loans to ADBP have been facilitating some of these changes in its operations.

---

[9]The share of agriculture in the credit extended by the banking system increased from 15.5 percent in the early 1980s to 23.6 percent in the 1990s. It has fallen somewhat from the average of 15.4 percent in the late 1980s. See *Economic Surveys* of 1982-83 and 1992-93.

The effectiveness of the agricultural research and extension services has been much debated in Pakistan. In response to the growing needs of farmers to improve farm productivity, and in view of the deficiencies of the agricultural research and extension support services, the World Bank and bilateral donors began their assistance to the government in the early 1980s to restructure and strengthen agricultural education, research and extension in the country. The Training and Visit (T&V) method of agricultural extension supported by adaptive research was introduced in the early 1980s in all provinces. Technical and financial support on a large scale was also extended to reorganise the Pakistan Agricultural Research Council (PARC) and the provincial agricultural establishments.

Role of International Donors in the 1980s

International donor agencies (bilateral and multilateral) have been actively involved in providing technical and financial support for the development of the water and agriculture sectors throughout the 1980s. The major donors have been the World Bank, ADB and the United States, besides smaller contributions provided by other multilateral and bilateral donors. Most of their lending has been to a large number of projects related to the expansion of irrigation (construction and rehabilitation of canals), alleviation of water logging and salinity, improvement of the drainage system, development of the seed industry, importation and deregulation of fertilizers, agricultural education, research and extension, maintenance of water courses through the OFWM projects, construction of small dams, rural and regional (including *barani* area) development, expansion of agricultural credit, importation of edible oils and development of the oilseed industry, and development of livestock, coastal fisheries, fruits and vegetable markets (*mandis*). The programme loans of the World Bank (SAL and ASAL), ADB (APL) and the United States have been used to facilitate the adoption of a large number of policy reforms to improve the efficiency in the water and agriculture sectors and to mobilise resources to improve the provision of public services to farmers. The World Bank supported SAP is designed to improve the supply of social services to rural areas, including schools, sanitation, water supply, and health care.

Agricultural Change in the 1980s

Agriculture is still a very important sector of Pakistan's economy in terms of its direct contribution to the GDP, employment and export earnings. More important perhaps is the role it plays in the every day life of about two-thirds of the population residing in rural areas. It is also true that, with the growth and transformation of the economy, the structure and role of agriculture have changed significantly. Agriculture's share in GDP has declined from about 31 percent in the early 1980s to 26

percent in the early 1990s; it currently employs nearly 51 percent of the labour force as compared to 53 percent in the early 1980s; share of agricultural products in exports has fallen from around 30 percent in the early 1980s to 18 percent in the early 1990s.

The growth of output in agriculture was at a very respectable annual rate of 4 percent, rising from 3.8 percent in the early 1980s to 4.4 percent in the late 1980 but falling to 3.6 percent in the last three years (Table 3). These changes are reflected in the dramatic increase in the index of total output from 0.5 percent to 6.0 percent in the 1980s and then its fall to 2.7 percent in the early 1990s. Production of fibre crops (due mainly to the increase in cotton output) rose more significantly than of food crops; the index of all crops rose by about 50 percent in the last 13 years. The output of food grains was around 18 million metric tons (mmt) on the average, increasing from 16.5 mmt in the early 1980s to 20.2 mmt in the early 1990s (Table 4). However, the grain output per capita declined in the same period from 185 kg to 172 kg in the same period, but wheat output stayed around 130 kg per capita with considerable instability between years. During the last 13 years, Pakistan imported wheat at a level of around 8 percent of its annual domestic output, but the level has increased from 4 percent in the early 1980s to just over 12 percent in the last three years.

Since crop production accounts for a high proportion of the value-added in agriculture–the share of livestock has been increasing over time–we should look at changes in crop productivity. The simplest productivity index is the output per unit of land. The yields levels of food grains, sugarcane, wheat and cotton rose at annual trend rates (significant at the 99 percent level) of 1.2, 1.2, 1.9 and 7.9 percent, respectively (Table 5). The rice yields fell at 1.0 percent per year in the same period. There was, however, considerable variability in the trends. It should be added in passing that the yield levels of all of these crops in Pakistan are much lower than the levels reported for many major producers among underdeveloped countries.

A better measure of the efficiency of resources (land, capital and labour) used in crop production is the "total factor productivity index" (TFPI). In Table 6, the TFPI has been estimated by dividing the (crop) value-added index (VAI) by the aggregate input index (AII). The method of estimation of VAI and AII is described in Appendix I. The average growth rates for the three indices were 2.1, 1.3 and 3.4, respectively. We can see that about 62 percent of the increased crop output was due to technological progress and the rest due to additional quantities of land, capital and labour. The contribution of technology was much lower in the mid to late 1980s but increased considerably in the last three years. In this context, we should also note the changes in the availability of major farm inputs to farmers (Table 7). There was impressive growth in the use of improved seeds and fertilizers per hectare of crop land. The supply of irrigation water and farm credit also increased, but the

Table 3

Changes in Agricultural Production, 1980-81–1992-93

Year	Percent Annual Growth Rate			Index of Production (1980-81 = 100)		
	Agricultural Output	Output of Major Crops	Index of Agricultural Output	All Crops	Food Crops	Fibre Crops
1980-81	4.0	4.2	–	100	100	100
1981-82	4.7	4.7	5.0	105	102	105
1982-83	4.4	3.2	3.8	109	109	115
1983-84	–4.8	–14.3	–11.9	96	103	69
1984-85	10.9	18.2	5.2	101	104	141
1985-86	6.0	6.5	18.8	120	114	170
1986-87	3.3	1.6	3.3	124	115	185
1987-88	2.7	3.2	2.4	127	109	206
1988-89	6.9	7.0	5.5	134	118	200
1989-90	3.0	–0.1	0.0	134	119	204
1990-91	5.0	5.7	5.2	141	120	229
1991-92	9.7	15.4	14.2	161	125	305
1992-93	–3.9	–12.4	–11.2	143	125	222
1980-81– 1984-85	3.8	3.2	0.5	102	104	106
1985-86– 1989-90	4.4	3.6	6.0	128	115	193
1990-91– 1992-93	3.6	2.9	2.7	148	123	252
1980-81– 1992-93	4.0	3.3	–	–	–	–

Source: Economic Survey 1992-93; Agricultural Statistics of Pakistan, 1991-92.

Table 4

Changes in Foodgrain Production, 1980-81–1992-93

Year	Foodgrain Output (MMT)	Population (Million)	Foodgrain Output per Capita (Kg)	Wheat Output per Capita (Kg)	Imported Wheat as Percent of Wheat Production
1980-81	16.19	83.8	193	137	2.7
1981-82	16.32	86.4	189	131	3.2
1982-83	17.49	89.1	196	139	3.2
1983-84	15.85	91.9	173	118	2.7
1984-85	16.69	94.7	176	124	8.4
1985-86	18.46	97.7	189	143	13.7
1986-87	18.08	100.7	180	119	3.1
1987-88	17.47	103.8	168	122	4.7
1988-89	19.40	107.0	181	135	15.1
1989-90	19.31	110.4	175	130	14.3
1990-91	19.59	113.8	172	128	6.7
1991-92	19.63	117.3	167	125	13.7
1992-93	21.24	120.8	176	136	16.0
1980-81– 1984-85	16.51	–	185	130	4.0
1985-86– 1989-90	18.54	–	179	130	10.2
1990-91– 1992-93	20.15	–	172	130	12.1
1980-81– 1992-93	18.13	–	179	130	8.3

Source: Economic Survey 1992-93.

Table 5

Changes in Crop Yields, 1980-81–1992-93

Year	Wheat (Kg/Ha)	Rice (Kg/Ha)	Foodgrains (Kg/Ha)	Seed Cotton (Kg/Ha)	Sugarcane (Mt/Ha)
1980-81	1643	1616	1507	339	39
1981-82	1565	1736	1469	338	39
1982-83	1678	1741	1554	364	36
1983-84	1482	1671	1405	223	38
1984-85	1612	1659	1483	˙450	36
1985-86	1881	1567	1650	515	36
1986-87	1559	1688	1548	527	40
1987-88	1734	1651	1605	572	39
1988-89	1865	1567	1652	544	42
1989-90	1825	1528	1620	560	42
1990-91	1841	1542	1641	616	41
1991-92	1991	1546	1683	770	43
1992-93	1993	1594	1772	565	43

Source: Economic Survey 1992-93.

Table 6

Changes in Factor Productivity in Agriculture, 1980-81–1992-93

Year	Value-added Index	Growth Rate	Aggregate Input Index	Growth Rate	Total Factor Productivity Index	Growth Rate
1980-81	100.0	–	100.0	–	100.0	–
1981-82	105.6	5.6	102.0	2.0	103.6	3.6
1982-83	109.9	4.1	103.8	1.7	105.9	2.3
1983-84	99.3	–9.7	104.1	0.3	95.4	–9.9
1984-85	112.8	13.6	104.7	0.6	107.7	12.9
1985-86	119.4	5.8	110.5	5.5	108.0	0.3
1986-87	121.9	2.1	108.2	–2.1	112.6	4.3
1987-88	123.6	1.4	112.2	3.7	110.2	–2.2
1988-89	132.8	7.4	115.5	2.9	115.0	4.4
1989-90	134.5	1.3	118.6	2.7	113.4	–1.4
1990-91	141.4	5.1	122.1	3.0	115.8	2.1
1991-92	158.2	11.9	125.0	2.4	126.5	9.3
1992-93	144.6	–8.6	115.5	–7.7	125.2	–1.0
Average		3.4		1.3		2.1

Notes: (1) The data are from various issues of *Economic Survey* and *Agricultural Statistics of Pakistan.*
(2) The method for estimating the Total Factor Productivity Index is: Value-added Index/Aggregate Input Index. The Aggregate Input Index includes land + (tractors + tube-wells + draft animals) + human labour.
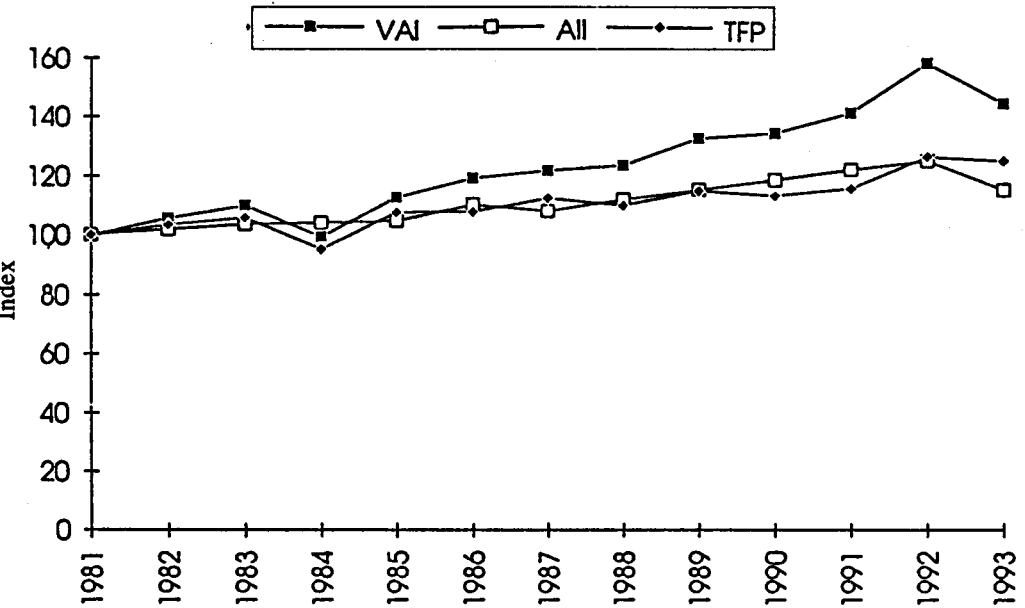
**Changes in Value-added, Aggregate Inputs and Total Factor
Productivity in Agriculture, 1981–1993.**

Table 7

Changes in Use of Agricultural Inputs, 1980-81–1992-93

Year	Irrigation Water AF/Ha	Improved Seed Kg/Ha	Fertilizer (NPK) Kg/Ha	Agricultural Credit Rs/Ha	Tractors Ha/Tractor	Tubewells Ha/Tubewell	Workers Ha/Worker
1980-81	5.1	3.8	56	208	202	97	1.5
1981-82	4.9	4.0	55	258	194	96	1.5
1982-83	5.0	3.5	62	303	182	94	1.5
1983-84	5.2	3.8	60	418	163	87	1.5
1984-85	5.2	4.3	63	516	149	80	1.5
1985-86	5.2	3.1	75	626	143	79	1.4
1986-87	5.3	3.6	85	758	143	78	1.5
1987-88	5.7	4.1	88	816	132	68	1.3
1988-89	5.3	3.2	80	664	142	71	1.4
1989-90	5.5	2.9	89	649	138	66	1.4
1990-91	5.6	3.9	89	668	121	63	1.3
1991-92	5.7	4.4	88	671	126	61	1.3
1992-93	5.8	11.6	97	961	120	58	1.4

Note: These estimates are based on data in *Economic Survey 1992-93*. The area refers to cropped area.

latter by much more than the former. Similarly farmers increased significantly the use of tubewells and tractors.

How about the relative purchasing power of farmers vis à vis other producers? I have estimated three variants of the domestic terms of trade: barter terms of trade (BTOT), income terms of trade (ITOT) and factorial terms of trade (FTOT). All of the indices show that the agriculture sector did not do too badly in the last 13 years: the BTOT index did not fall by much (from 105 in the early 1980s to 101 since the mid-1980s); ITOT index increased from 112 to nearly 160 and FTOT index rose from 107 to 124 in the same period (Table 8).

In the last three years (1991–93), the average price levels increased as follows, reflecting the changes in the purchasing power of inputs (Table 9):

Crop	% Price Change per Year	Input	% Price Change per Year
Wheat	10.7	Urea	4.5
Basmati	7.2	DAP	6.7
IRRI	9.6	NP	9.5
Cotton	12.9	Tractors	11.7
Cotton	11.3		
Sugarcane	8.4		

Given the changes in the procurement (support) prices of crops and retail prices of fertilizers, the purchasing power of farmers differed a great deal between crops. One kg of urea required lower amounts of wheat, rice (Basmati and IRRI) and Sugarcane but more of seed cotton. But one kg of DAP required more of all crops, except Basmati rice (Table 10). The producers of wheat and rice may have, in fact, benefited more as a result of the deregulation of markets because in the last 13 years (i) the proportion of output procured by the parastatals went down from 28 percent to 24 percent for wheat and from 34 percent to 24 percent for rice and (ii) the wholesale prices were above the procurement prices: for wheat they were 5–9 percent higher, for IRRI rice 11–17 percent, and for Basmati rice they were 22 percent higher in the early 1980s and almost the same in the early 1990s (Table 11).

How about the terms of trade in the external markets? The only indicator we can readily use the ratio of domestic (export or import parity) prices and international (border) prices of major crops (Table 12.) In Table 13, these ratios show that on average sugarcane was a highly protected crop and others were taxed; wheat and Basmati rice were taxed more heavily (0.75 and 0.72) than IRRI rice and seed cotton (0.81 and 0.82). The interesting story is that the implicit tax on wheat, Basmati and IRRI rice went down and increased for cotton (the ratio fell from 0.87

Table 8

Domestic Terms of Trade for Agriculture, 1980-81–1992-93

Year	Barter Terms of Trade	Income Terms of Trade	Index of Total Factor Productivity	Factoral Terms of Trade
1980-81	100.0	100.0	100.0	100.0
1981-82	107.6	112.7	103.6	111.5
1982-83	104.4	114.1	105.9	110.6
1983-84	105.5	109.8	95.4	100.6
1984.85	105.8	122.1	107.7	113.9
1985-86	101.6	124.2	108.0	109.7
1986-87	98.0	123.8	112.6	110.3
1987-88	101.6	131.8	110.2	112.0
1988-89	103.8	143.9	115.0	119.4
1989-90	100.8	143.9	113.4	114.3
1990-91	100.0	149.9	115.8	115.8
1991-92	110.4	165.2	126.5	127.0
1992-93	103.3	163.3	125.2	129.3
1980-81–1984-85	104.7	111.7	102.5	107.3
1985-86–1989-90	101.2	133.5	111.8	113.1
1990-91–1992-93	101.2	159.5	122.5	124.0

Note: The indices for barter and income terms of trade are based on data from *Economic Survey 1992-93*. The index of total factor productivity is from Table 6. The index of factoral terms of trade is derived by dividing the barter terms of trade by the total factor productivity index.

Table 9

Changes in Prices of Selected Crops and Inputs, 1980-81–1992-93

Year	Wheat	Rice		Cotton (Seed)		Sugarcane (Punjab)	Urea	DAP	NP	Tractor (MF 240 47HP)
		Basmati	IRRI-6	AC134 NT	Sarmast					
1980-81	0.0	16.2	10.4	8.6	6.1	0.0	0.0	0.0	0.0	0.0
1981-82	0.0	9.5	15.1	6.4	5.5	0.0	10.8	5.0	24.3	0.0
1982-83	10.3	2.7	10.3	1.2	2.6	0.0	24.3	26.7	13.4	12.1
1983-84	0.0	1.9	3.8	0.5	1.5	0.0	0.0	0.0	0.0	2.3
1984-85	8.6	1.9	4.2	0.0	1.5	0.0	0.0	0.0	0.0	0.2
1985-86	14.3	3.8	0.0	2.4	2.0	22.2	0.0	9.8	0.0	18.7
1986-87	0.0	38.6	0.0	0.0	0.0	0.0	1.6	0.0	0.0	8.3
1987-88	3.1	8.7	2.9	0.0	0.0	6.8	3.8	10.3	8.2	12.3
1988-89	3.0	3.2	12.4	1.7	1.4	0.0	22.2	14.9	15.1	14.4
1989-90	12.9	7.0	13.0	8.5	7.1	9.2	12.1	17.3	9.5	12.3
1990-91	16.7	6.2	12.4	14.9	15.6	10.9	5.4	14.7	15.3	15.5
1991-92	10.7	5.1	9.3	15.9	11.5	9.8	0.0	9.2	0.0	10.0
1992-93	4.8	10.4	7.1	7.8	6.9	4.5	8.0	-3.7	13.3	9.5
Average	6.5	8.9	7.8	5.2	4.8	4.9	6.8	8.0	7.6	8.9

Notes: (1) For each year, the percent change is over last year's price.
(2) Figures for crops are changes in procurement prices; for fertilizers they refer to retail prices; and for tractor they refer to wholesale prices.
(3) The data for procurement prices of crops and retail prices of fertilizers are from *Economic Survey 1992-93*. The price data (wholesale price in Lahore) for tractors are from various issues of *Statistical Yearbook of Pakistan*.

Table 10

Relative Prices of Fertilizers and Crops, 1980-81–1992-93

Year	One Kilogram of Urea Requires						One Kilogram of DAP Requires					
	Wheat (Kg)	Rice Basmati (Kg)	Rice IRRI (Kg)	Seed Cotton NTA134 (Kg)	Seed Cotton Sarmast (Kg)	Sugarcane (Kg)	Wheat (Kg)	Rice (Basmati) (Kg)	Rice (IRRI) (Kg)	Seed Cotton (NTA134) (Kg)	Seed Cotton (Sarmast) (Kg)	Sugacane (Kg)
1980-81– 1984-85	1.45	0.61	1.20	0.54	0.47	9.67	1.16	0.50	0.99	0.44	0.39	7.98
1985-86– 1989-90	1.40	0.51	1.25	0.62	0.56	9.60	1.18	0.43	1.05	0.53	0.47	8.10
1990-91– 1992-93	1.30	0.51	1.14	0.60	0.56	9.62	1.18	0.46	1.04	0.54	0.51	8.75

Notes: (1) These figures have been calculated from the data in *Economic Survey 1992-93*.
(2) The prices for outputs are the procurement prices. The guaranteed prices for urea and DAP are used.

Table 11

Changes in Procurement and Prices of Wheat and Rice, 1980-81–1992-93

Year	Proportion of Output Procured (%)		Ratio of Wholesale to Procurement Prices		
	Wheat	Rice	Wheat	Rice (Basmati)	Rice (IRRI)
1980-81	26	33	1.00	1.41	1.08
1981-82	35	32	1.09	1.39	1.11
1982-83	25	36	1.13	1.27	1.07
1983-84	35	34	1.13	1.02	1.13
1984-85	20	37	1.09	1.03	1.16
1985-86	18	41	1.02	1.18	1.18
1986-87	42	37	1.03	1.20	1.18
1987-88	31	26	1.07	1.08	1.11
1988-89	24	34	1.06	1.01	1.10
1989-90	29	41	1.06	0.98	1.00
1990-91	30	25	1.10	0.96	1.08
1991-92	22	15	1.05	1.04	1.26
1992-93	21	31	–	–	–
1980-81– 1984-85	28	34	1.09	1.22	1.11
1985-86– 1989-90	29	36	1.05	1.09	1.11
1990-91– 1992-93	24	24	1.08	1.00	1.17

Note: These ratios have been estimated from the data in *Economic Survey 1992-93* and *Agricultural Statistics of Pakistan, 1991-92.*

Table 12

Changes in Agricultural Exports and Imports, 1980-81–1992-93

Year	Share of Agricultural Products in Exports (%)	Share of Agricultural Products in Imports (%)
1980-81	38	7
1981-82	29	7
1982-83	28	7
1983-84	27	10
1984-85	26	11
1985-86	33	13
1986-87	25	9
1987-88	27	10
1988-89	31	13
1989-90	18	13
1990-91	17	10
1991-92	17	9
1992-93	–	13
1980-81– 1984-85	30	8
1985-86– 1989-90	27	12
1990-91– 1992-93	17	11

Note: These estimates are based on figures from *Economic Survey 1992-93* and *Agricultural Statistics of Pakistan, 1991-92.*

Table 13

Changes in Nominal Protection Coefficients, 1980-81–1991-92

Year	Wheat	Paddy (Basmati)	Paddy (IRRI-6)	Seed Cotton	Sugarcane
1980-81	0.71	0.72	0.62	0.70	–
1981-82	0.77	0.74	0.74	0.93	–
1982-83	0.81	0.70	0.90	0.81	1.63
1983-84	0.64	0.72	0.90	1.03	2.06
1984-85	0.75	0.62	0.87	0.86	1.29
1985-86	0.88	0.62	1.05	0.93	2.34
1986-87	0.68	0.57	1.04	1.09	2.46
1987-88	0.72	0.61	0.81	0.68	2.41
1988-89	0.74	0.59	0.71	0.74	1.95
1989-90	0.62	0.57	0.92	0.58	1.18
1990-91	0.89	1.07	1.09	0.68	0.78
1991-92	0.78	1.04	1.10	0.79	–
1992-93	–	–	–	–	–

Note: The data for 1980-81–1989-90 are from World Bank, Pakistan: *Current Economic Situation and Prospects*, March 1991. The figures for 1990-91, 1991-92 are from Afzal *et al.* (1993).

to 0.74), but the protection to Sugarcane growers apparently increased. That these ratios varied considerably from one year to the next was due to changes in the domestic (support) and international prices. The latter changes were on account of adjustments in the exchange rate and the somewhat volatile changes in the international prices.

Much is said about the "transfer of resources" from the agriculture sector to the rest of the economy, private and public sectors included. Let us first deal with the evidence on what agriculture pays in direct taxes to and receives in development spending from the public sector. Land revenue (including cesses, etc.) was the only direct tax on landowners until 1982-83, when the *ushr* levy was introduced in lieu of land revenue for *sunni* Muslims. In the last five years, land revenue increased from Rs 469 million to Rs 750 million (Table 14). Most of the increase was due to the increase in Punjab (Rs 400 million to Rs 641 million), although the fastest increase was in N.W.F.P. and Balochistan; the increase was far more modest in Sindh. Comparing the land revenue collections of the last five years to the collections in the first half of 1970s, the land revenue went up by 356 percent in Punjab, 683 percent in N.W.F.P and 95 percent in Balochistan, but went down in Sindh by 29 percent. There is considerable discrepancy between provinces in terms of the land revenue paid per hectare of crop land: the average collections in the last five years have been for Rs 37 in Punjab, Rs 8 in Sindh, Rs 23 in N.W.F.P., and Rs 15 in Balochistan.

Table 14

Provincial Land Revenue Collections, 1980-81–1992-93

Year	Land Revenue (Million Rs)				Land Revenue (Rs per Cropped Hectare)			
	Punjab	Sindh	N.W.F.P.	Balochistan	Punjab	Sindh	N.W.F.P.	Balochistan
1988-89	399.7	28.0	36.6	4.2	26.97	6.45	18.21	6.45
1989-90	499.0	34.4	33.8	6.6	33.58	7.89	16.82	10.48
1990-91	592.1	33.4	44.1	4.2	39.85	7.66	21.94	6.67
1991-92	581.4	39.1	54.6	21.9	39.13	8.97	27.16	34.76
1992-93	640.5	37.9	62.0	10.0	44.17	8.92	31.63	16.13
Average	542.5	34.6	46.2	9.4	36.74	7.97	23.15	14.90

Notes: (1) The land revenue data are from Government of Pakistan, Ministry of Finance; the data on cropped area are from *Agricultural Statistics of Pakistan*, various issues.

(2) Using the current average PIUs/ha (Punjab 156; Sindh 64; N.W.F.P. 69), the land revenue rates per PIU for these provinces were 24 paisas (Punjab), 12 paisas (Sindh) and 34 paisas for N.W.F.P.

(3) The land revenue collections during 1971-72–1975-76 were: Rs 118.9 million in Punjab; Rs 48.5 million in Sindh; Rs 5.9 million in N.W.F.P.; and Rs 4.8 million in Balochistan. Compare these figures with the collections during 1988-89–1992-93: the land revenue went up in Punjab (356 percent), N.W.F.P. (683 percent), Balochistan (95 percent), but down in Sindh (29 percent). The land revenue data for 1971-72–1975-76 are from *Agricultural Statistics of Pakistan, 1991-92.*

Put the issue of direct taxes (land revenue and *ushr*) in a wider context to assess their contribution to government revenues (Table 15). The direct tax collections increased from Rs 19 per hectare to Rs 33 per hectare, with the average at Rs 27 per hectare in the last 13 years. As proportion of the crop value-added, on average they were 0.58 percent, increasing from 0.56 percent in the early 1980 to 0.65 percent in the mid-1980s and fell to 0.48 percent in the early 1990s. Their share in all direct taxes in Pakistan was 4.2 percent, in the entire period, but it was only 2.8 percent in the last three years. They accounted for 6.7 percent of the provincial revenues, but the share feel from 6.8 percent in the early 1980s to 6.0 percent in the early 1990s (Table 16).

Agriculture's share in the public sector development spending decreased from about 20 percent in the Fifth Five-Year Plan (1978–83) to 13 percent in the Seventh Five-Year Plan (1988–93). This change has been due to a significant reduction in the fertilizer subsidy and some reduction in investments in the agriculture and water sectors (Table 17). In a broader context, the public sector development spending on activities that affect the agriculture sector and the welfare of rural people seem to show a similar trend in the last 13 years (Table 18). On average the share of public spending on agriculture and rural sector infrastructure (including agriculture, water, power, transport, education, sanitation, health, and nutrition) was 23 percent and 33

Table 15

Changes in Direct Taxes on Agriculture, 1980-81–1992-93

Year	Land Revenue (Rs Million)	*Ushr* (Rs Million)	All Direct Taxes (Rs Million)	Provincial Revenues (Rs Million)	Value-added by Crops (Rs Million)	Cropped Area (Million Ha)
1980-81	226.2	–	7,523	–	52,788	19.33
1981-82	286.5	–	8,882	3,393	65,767	19.78
1982-83	249.1	177.3	9,261	3,324	68,557	20.13
1983-84	209.8	256.8	9,197	3,845	68,645	19.99
1984-85	252.9	255.7	9,730	4,298	80,126	19.92
1985-86	302.8	247.9	10,267	4,998	82,825	20.28
1986-87	361.9	228.9	11,105	5,836	83,361	20.90
1987-88	398.5	241.6	12,441	6,072	92,798	19.52
1988-89	468.5	183.9	14,586	5,822	111,742	21.82
1989-90	573.8	142.8	15,741	6,619	115,065	21.89
1990-91	673.8	118.5	20,762	7,127	138,132	21.89
1991-92	697.0	34.1	27,978	15,684	172,060	21.89
1992-93	750.4	–	35,246	18,914	176,117	21.35

Source: Economic Survey 1992-93; Government of Pakistan, Ministry of Finance; *Agricultural Statistics of Pakistan, 1990-91.*

Table 16

Changes in Burden of Direct Taxation on Agriculture, 1980-81–1992-93

Year	Land Revenue per Ha (Rs)	Land Revenue and *Ushr* per Ha (Rs)	Crop Value per Ha (Rs)	Land Revenue and *Ushr/* Crop Value (%)	Land Revenue and *Ushr/* All Direct Taxes (%)	Land Revenue/ Provincial Revenues (%)	Land Revenue and *Ushr/* Provincial Revenues (%)
1980-81	11.70	11.70	2,731	0.43	3.0	–	–
1981-82	14.48	14.48	3,325	0.44	3.2	8.4	8.4
1982-83	12.37	21.18	3,406	0.62	4.6	7.5	12.8
1983-84	10.50	23.34	3,434	0.68	5.1	5.5	12.1
1984-85	12.70	25.53	4,022	0.63	5.2	5.9	11.8
1985-86	14.93	27.15	4,084	0.66	5.4	6.1	11.0
1986-87	17.32	28.27	3,989	0.71	5.3	6.2	10.1
1987-88	20.41	32.79	4,754	0.69	5.1	6.6	10.5
1988-89	21.47	29.90	5,121	0.58	4.5	8.0	11.2
1989-90	26.21	32.74	5,257	0.62	4.6	8.7	10.8
1990-91	30.78	36.20	6,310	0.57	3.8	9.5	11.1
1991-92	31.84	33.40	7,860	0.43	2.6	4.4	4.7
1992-93	35.15	35.15	8,249	0.43	2.1	4.0	–
Average	20.00	27.06	4,811	0.58	4.2	6.7	10.4

Note: These estimates are based on data in Table 15.

Table 17

Share of Agriculture and Water Sectors in Public Development Outlays in Five-Year Plans 1955–1993

Sector	First Plan (1955–60)	Second Plan (1960–65)	Third Plan (1965–70)	Non-plan Period (1970–77)	Fifth Plan (1978–83)	Sixth Plan (1983–88)	Seventh Plan (1988–93)
Agriculture	9.5	6.5	6.2	5.5	4.0	3.4	3.5
Fertilizer Subsidy	0.0	2.0	4.2	3.1	5.7	3.8	1.0
Water	19.9	43.3	34.2	16.9	10.3	9.4	8.1
Total	29.4	51.8	44.6	25.5	20.0	16.6	12.6

Note: These estimates are based on data in *Economic Survey 1992-93*.

Table 18

Changes in the Share of Rural Sector in Public Development Expenditure, 1980-81–1992-93

Year	Expenditure (1) (Rs Mill.)	Expenditure (2) (Rs Mill.)	Expenditure (3) (Rs Mill.)	Total Public Development Expenditure (4) (Rs Mill.)	Percent Share of Expenditure 1 in (4)	Percent Share of Expenditures (1+2+3) in (4)
1980-81	6,644	1,776	385	26,137	25.4	33.7
1981-82	7,797	1,953	459	27,000	28.9	37.8
1982-83	9,276	2,021	532	28,255	32.8	41.9
1983-84	7,612	2,036	576	28,161	27.0	36.3
1984-85	7,867	2,306	781	32,653	24.1	33.5
1985-86	10,590	2,481	933	37,672	28.1	37.2
1986-87	9,701	3,112	1,180	42,815	22.7	32.7
1987-88	10,908	3,162	1,178	46,795	23.3	32.6
1988-89	9,404	3,263	1,329	48,000	19.6	29.2
1989-90	11,021	3,863	1,639	57,868	19.0	28.6
1990-91	16,305	5,449	2,220	83,112	19.6	28.8
1991-92	14,086	7,157	2,741	95,529	14.7	25.1
1992-93	18,281	12,806	3,261	128,702	14.2	26.7
Average					23.0	32.6

Notes: (1) Expenditure 1 includes agriculture, water, and rural development.
  (2) Expenditure 2 is 25 percent of the total expenditure on health, nutrition, education, and transport.
  (3) Expenditure 3 is 10 percent of the total expenditure on power.
  (4) The data are from *Economic Survey 1992-93*.

percent, respectively. However, the shares for the two sectors in the total develop-ment expenditures have fallen from the early 1980s to the early 1990s from 27 percent to 17 percent for agriculture and from 37 percent to 27 percent for rural infrastructure.

How much of the resources of the agriculture sector have been transferred to the rest of the economy? This question is important but difficult to answer. We need perhaps no explanation for its being important. The real problem is in making a reasonable estimate of the transferred resources from one sector to the rest of the economy. Recent estimates of the average annual intersectoral flow of resources range from 1.3 percent of the agriculture value-added from other sectors into agri-culture to 13 percent of the agriculture value-added from agriculture to the rest of the economy during the 1980s (Table 19).[10] It seems that the burden on agriculture has been due mainly to the implicit taxes in the form of price distortions.

We have so far focused on all of the major indicators of change in the struc-ture and performance of the agriculture sector. However, this picture is incomplete, even distorted, without taking at least a glimpse of the changes in the ownership and use of agricultural land. Here we are greatly handicapped by the paucity of data for recent years.[11] Landownership is still quite concentrated in Pakistan as the Gini coefficients indicate, although the concentration has fallen somewhat since the early 1960s. As shown in Table 20, the highest land concentration is in Sindh (0.55), followed by Punjab (0.49) and N.W.F.P. (0.38). These concentrations are clearly reflected in the shares of landowners of different sizes of landholdings (Table 21).

If we look at the level of concentration for land use, the picture changes substantially: Sindh has the lowest concentration (0.47), followed by Punjab (0.51) and N.W.F.P. (0.57). These differences reflect the tenancy systems in the provinces. Inspite of three land reforms (1959, 1972 and 1977), only 1.8 million hectares have been resumed from large landowners and 1.4 million hectares redistributed to 288,000 beneficiaries. The average parcel per beneficiary was just under 5 hectares. It should be noted that the areas resumed and redistributed are only 8 percent and 7 percent of the total cultivated area (Table 22).

---

[10]The first estimate is based on a study by Dorosh and Valdes (1990); the second estimate has been cited in Government of Pakistan (1993a), apparently based on a study by Professor John Mellor. I have problems with the 1989-90 figures attributed to John Mellor because of the unusually high level of resource transfer attributed to price discrimination in that year. I did not have access to the study itself. The study by Chaudhry and Maan (1991) contends that the agriculture sector transferred around 44 percent of its value-added to the rest of the economy during the 1980s. It seems to me that this estimate is incredibly high because of the disproportionate weight of the indirect taxes.

[11]The landownership data are for 1980-81, based on land records available with the provincial Land Commissions. These data are not normally published in any detail. The data on operational hold-ings based on the 1990 agricultural census have only recently been made public in the form of draft reports.

Table 19

Transfer of Resources from the Agriculture Sector, 1980-81–1989-90

Year	Resource Transfer (Rs Million)	Resource Transfer (Rs Million)	Agriculture Value-added (Rs Million)	Percent Share of Agriculture Value-added in GDP
1980-81	– 20,259	–	76,399	30.1
1981-82	– 15,450	– 10,759	92,216	31.6
1982-83	– 1,545	– 17,585	99,380	30.3
1983-84	– 1,326	– 14,949	104,550	27.9
1984-85	+ 4,352	– 15,582	121,293	28.5
1985-86	+ 8,026	– 16,170	128,801	27.6
1986-87	+ 16,104	– 21,584	135,308	26.3
1987-88	+ 16,557	– 11,628	156,375	26.0
1988-89	–	– 8,317	184,074	26.9
1989-90	–	– 39,844	197,441	26.0
1990-91	–	–	233,130	25.7
1991-92	–	–	282,916	26.2
1992-93	–	–	304,603	25.0

Notes: (1) The data in column 2 are from [4: Table 19] and in column 3 from [15: Appendix X].
(2) The data in columns 4 and 5 are from Pakistan's Ministry of Finance, *Economic Survey 1992-93*.

Table 20

Changes in Land Concentration in Pakistan 1950–1981

Year	Landowners and Owned Area				Operational Holdings and Area			
	Pakistan	Punjab	Sindh	N.W.F.P.	Pakistan	Punjab	Sindh	N.W.F.P.
1950	0.64	0.62	0.66	0.49	–	–	–	–
1961	–	–	–	–	0.62	0.59	0.51	0.73
1972	0.57	0.53	0.59	0.41	0.52	0.49	0.43	0.64
1976	0.55	0.52	0.58	0.41	–	–	–	–
1981	0.53	0.49	0.55	0.38	0.53	0.51	0.47	0.57
1990	–	–	–	–	–	–	–	–

Note: These figures are the Gini coefficients for landownership and land use. The data for ownership based on individual land records are from the provincial Land Revenue Departments. The data for land use (operational holdings and area) are from the Agricultural Census of 1960, 1972, 1980.

Table 21

Distribution of Landownership 1980-81

Holding Size (Hectares)	Punjab		Sindh		N.W.F.P.	
	Owners (000)	Area (000 Ha)	Owners (000)	Area (000 Ha)	Owners (000)	Area (000 Ha)
up to 2.5	5,148	4,099	267	387	1,861	1,533
	(68.8)	(25.8)	(40.4)	(8.2)	(85.9)	(40.8)
>2.5–5.1	1,495	3,826	158	590	186	739
	(19.9)	(24.1)	(23.9)	(12.4)	(8.5)	(19.7)
>5.1–10.1	583	3,050	117	866	81	498
	(7.8)	(19.2)	(17.7)	(18.3)	(3.7)	(13.3)
>10.1–20.2	172	2,004	67	911	24	307
	(2.3)	(12.6)	(10.1)	(19.2)	(1.1)	(8.2)
>20.2–40.5	55	1,437	38	998	9	265
	(0.7)	(9.1)	(5.7)	(21.0)	(0.4)	(7.1)
>40.5–60.7	23	880	8	445	3	129
	(0.3)	(5.5)	(1.2)	(9.4)	(0.1)	(3.4)
>60.7	10	563	6	548	1.3	284
	(0.1)	(3.6)	(0.9)	(11.5)	(0.1)	(7.6)
All	7,485	15,859	661	4,745	2,165	3,755

Notes: (1) The figures in parentheses are percentage shares.
(2) The data are from the Federal Land Commission.

Table 22

Redistribution of Land under the Land Reforms of 1959, 1972 and 1977

Land Reform Acts	Land Resumed (Hectares)	Land Redistributed (Hectares)	Number of Beneficiaries
1959 (MLR 64)	1,008,106	952,856	184,757
1972 (MLR 115)	481,244	295,929	71,497
1977 (Act II)	74,109	38,566	14,496
MLR (Balochistan)	222,465	120,931	17,349
Total	1,785,924	1,408,282	288,099

Notes: (1) These figures are as of June 1992 released by the Federal Land Commission.
(2) The areas resumed and redistributed were only 8 percent and 7 percent of the country's cultivated area and 7 percent and 6 percent of the owned area reported in land revenue records for 1980-81 in Punjab, Sindh and N.W.F.P.

THE POLICY AGENDA: VISIBLE AND INVISIBLE ISSUES

There is consensus on several issues regarding recent changes in the structure and performance of the agriculture sector. At the same time, there is much room for debate on several issues regarding the role of public policy in relation to the past performance of the agriculture sector and its needs for future growth and transformation. The differences of opinion stem from one's vision, perception and interpretation of "facts" (information). This is as it should be, provided intellectual integrity is maintained. Lack of integrity and intellectual laziness can work as bad excuses for one's point of view. For example, it is intellectually embarrassing, to say the least, to maintain silence on the issue of the widely observed economic and political asymmetry between large and small landowners, landlords and sharecropping tenants in the agriculture sector. These asymmetrical relations affect the access to land and other farm inputs, efficiency of resource allocation and distribution of the benefits from agricultural growth. Similarly, some of the differences on the issue of direct taxes are based simply on intellectual confusion, if not deliberate deception, between the interests of different groups of income receivers in the agriculture sector. Does it make sense to argue that a rich person should pay no tax on his/her income simply because the sector in which his/her income is earned is poor or has been badly treated by a perverse price policy? The argument should be to change the perverse public policy on prices to maintain adequate incentives for increased production and productivity.

Governments have played an active role in agriculture in a variety of ways, e.g. readjusting the agrarian structure, providing physical infrastructure and inputs, regulating domestic and foreign trade, intervening in the producer and consumer prices, and using fiscal and monetary policies. These interventions have affected the incentives for farmers, distribution of benefits between classes, the terms of trade for agriculture with the rest of the economy, and the government revenues. Their exact impact is not easy to measure because of the complex interactions among them. Certain policies have not been used or followed through because of political constraints, even when the objectives were well-defined and generally regarded as desirable. These constraints reflect the highly unequal distribution of economic and political power within agriculture and the conflict between the agricultural (rural) and industrial (urban) elites about the inter-sectoral transfer of resources in the development process. Often policies and actions of the government have not been consistent with one another or with the expressed goals. Another major constraint has been the inadequate management capacity of the public sector institutions.

In the context of the structural adjustment process under way, there are four major policy areas in which adjustments are needed to strengthen the capacity of the agriculture sector to play its important supportive role for the growth of the economy and to improve the well-being of the rural people:

- Land Tenure and Land Fragmentation;
- Direct Agricultural Taxes;
- Price Support System; and
- Public Investment in Infrastructure and Support Services.

Land Tenure and Land Fragmentation

In Pakistan, there is no legal limit to the amount of land an individual or group can cultivate under one or another form of tenancy (sharecropping or leasing). There is nothing to stop someone from renting land and making commercial farms. One has to be careful in stretching the argument of "economies of scale" for the purpose of retaining large parcels of land. The legal ceiling on landownership is somewhat deceptive for two reasons: under the existing law (Land Reforms Act of 1977), the maximum size of holding allowed is on either area (100 acres irrigated or 200 acres unirrigated) or number of PIUs (8,000); second the ceiling applies to the individual and not the family (or household). Given the average number of PIUs determined in the late 1940s, and still in use in each province, the size of individual landholding can be upto 51 hectares in Punjab, 124 hectares in Sindh and 116 hectares in N.W.F.P. The lower the number of PIUs per unit of land the higher the area of holding. We know that the productive capacity of these lands has changed in most areas since the 1950s and the PIUs no longer reflect these changes.

Three major changes in the ownership of land seem to have occurred since the late 1960s. First, the ownership and area under very small holdings have increased mainly due to the subdivision of holdings by the laws of inheritance and population growth, though some of it may have been the result of the distribution of land to the landless following the land reforms of 1972. Second, there has been a significant decline in the numbers and area of the very large landholdings due to the intra-family land transfers in anticipation of and in response to the land reform acts. Finally, the middle-size holdings (10–40 hectares) have gained, especially in Sindh, both in numbers and area.

Of course, not all landowners cultivate land, either their own or anyone else's, and not all cultivators own land. There are several kinds of tenancy arrangements. Land use concentration is lower than concentration of landownership only in Sindh, reflecting the importance of the sharecropping system. Land concentration first declined in all provinces in the 1960s, but has apparently gone up in Punjab and Sindh. Small farms (one to three hectares) are largely owner-operated in Punjab and N.W.F.P. They have been increasing both in number and area. The proportion of owner-operated farms has increased significantly in recent years. Sharecropping is still the major form of tenancy, especially in Sindh. Sharecropped farms (two to five hectares) have declined sharply in numbers and area. The tendency away from

sharecropping is also reflected by the significant reduction of the tenant-operated area. Even large landholdings dependent on tenants have sharply reduced their tenant-operated area.

The slow dissolution of the feudal and peasant systems has revealed several interesting features. In the landlord-tenant system, landlords have not been entirely in favour of evicting their sharecroppers. This is partly to avoid legal problems which a large-scale tenant eviction could cause. The more important reasons are perhaps economic. It is a sensible strategy for most landlords (and large landowners) to maintain tenants as a pool of dependent and relatively cheap labour without increased dependence on seasonal wage labour, the supply of which may be uncertain and costly. This pool is maintained (regulated) by a variety of measures, including access to credit and inputs and entitlement to food. In the peasant system, migration of a part of the household labour has become a necessity for the poor and even middle peasants since it brings in additional income for survival. Non-agricultural incomes, particularly remittances from outside rural areas, have also become a source for acquiring additional land which can be leased or brought from smaller (poor) peasants who cannot evidently survive on their incomes from the small plots they own. Addition to one's holding means increased chances of survival in farming with reduced vulnerability to competition from rich farmers, or even joining the ranks of capitalist farmers.

Three land reform acts have been implemented, but little is known about their impact on productivity, employment and income distribution. From the official accounts, we know that only 1.4 million hectares have been distributed to 288,000 beneficiaries and the total area resumed from landowners was 1.8 million hectares (8 percent of the cultivated area). About two-thirds of the redistributed area was under the 1959 Act. It should be noted that a substantial proportion of the distributed land was not of high quality. Secondly, not all beneficiaries were sharecroppers: a high proportion of the recipients under the 1959 Act were already landowners. Less than three-quarters of the distributed area was under cultivation in any case.

It is difficult to make quantitative judgements about the impact of these reforms because of the absence of systematic micro-level studies. However, on the basis of the available evidence, we can make several observations:

- Resumption and distribution of land were greatly diluted by numerous exemptions and allowances included in the Acts, and by evasion and concealment during the implementation process. The administrative structure was seriously handicapped in countering the social and political strength of the landlords.
- There was no follow-up support system, providing protection to the new

landowners from their former landlords and the access to inputs needed to increase production. On the contrary, it seems that a deliberate and systematic policy was followed against the organisations supporting small landowners, sharecropping tenants and landless wage workers.

- The small parcels transferred to the new owners generally had a positive impact on productivity and employment, given the more intensive use of household labour and new inputs.
- While the Land Reform Act of 1972 provided increased security of tenure than existed previously–by expanding the occupancy rights and defining the division of produce and costs of inputs–there remain serious problems in the sharecropping system.

It seems that the land reform efforts so far have not made a major contribution in redirecting the process of differentiation observed in the agrarian structure of Pakistan. On the contrary, they may have helped in hastening the transformation under way. There are three basic features of this process:

1. A high concentration of land in large estates in the hands of a relatively small number of households coexists with a "feudal" tenancy system in which land is rented out to a large number of landless tenants on a sharecropping basis.

2. The decline in feudal tenancy has been observed mainly in the irrigated districts, and it is being replaced by farming based on hired labour and machines. This has resulted partly from the resumption of land from tenants, such that the tenant-operated farms have declined and the use of land has become more concentrated.

3. While the number of small and marginal owner-operators has increased, their declining land base makes it necessary for them to offer their labour for wages and even join the ranks of the landless tenants and wage workers. More of them are renting their lands out to the middle and rich class of farmers.

The existing duality of the land system–between the landlord and tenant and between the large and small landowner affects all interactions in the marketplace and in the access to public sector services between the contending groups. Since landownership is still highly concentrated, the control of land confers upon large landowners considerable economic and political power. Public policies on providing infrastructure and inputs, price support and subsidies, services of research and extension, etc. tend to exacerbate inequalities and adversely affect productivity. There is evidence that a small proportion of the landowners exercise a dispropor-

tionately large influence on the machinery of the state in promoting their own interests. A structural reform of the land system should form an integral part of the adjustment process. It is intriguing that the international donors, particularly the World Bank, have either avoided this issue or paid nominal attention to this aspect of the institutional reforms necessary to make agriculture more productive and improve the well-being of people in rural areas.[12]

Land fragmentation is indeed a very serious problem, especially of small landholdings. It has been due to several factors, including the operation of the law of inheritance, excessive exercise of the right of alienation, population pressure, lack of alternative opportunities for work and income, productivity differences among various classes of soils, personal preferences due to sentimental attachment to a piece of land, and inadequate laws on consolidation and their implementation. The issue of land consolidation is admittedly complex, particularly as it may involve transfers between various classes of land or soils within the village. However, to many marginal and small landowners, consolidation of their landholdings may be the most important break in their struggle against poverty. It is equally urgent from the society's point of view, as it represents the removal of one serious impediment to efficient agriculture. If agricultural growth and alleviation of rural poverty are regarded as important objectives of public policy, then land consolidation should be high on the government's agenda, not to be left to the discretionary powers of revenue officials and without accountability to farmers' representatives. Let me suggest the following:

1. The land consolidation programme should be integrated with a scheme of land improvement, which includes land levelling and OFWM. This integration will have the added advantage of mobilising farm labour for building capital in the village.
2. The consolidation machinery should include on a permanent basis elected representatives of all of the major landowning groups so that they participate in the process and exercise control over the officials responsible for land consolidation. The OFWM and land revenue officials should provide the needed technical support.
3. In order to minimise the number of land fragments, transfers between various classes of soils should be encouraged by (i) reducing the number of soil (land) classes through land improvement, (ii) establishing soil (land) quality equivalents with reference to the best quality of land in the village, (iii) establishing new compact blocks on the basis of location of

[12]A persuasive case for land reforms has been made in Naqvi *et al.* (1989). One finds passing references to the need for land tenure reform in Pakistan in several country reports of the World Bank.

the largest existing land parcel of the owner with provision for compen-
sation, and (iv) establishing the compensation rule on the basis of market
value of the soil (land) equivalents already established.

4. The arbitration process should be relatively expeditious and inexpensive,
   using village representatives, land revenue officials and the OFWM field
   staff.

5. The resources required for the programme should be recovered from the
   village over a reasonable period of time, say ten years.

6. The post-consolidation measures should include (i) enforcement of floors
   on landholdings and (ii) strict scrutiny of the compactness of new blocks
   and parcels by the revenue officials and village committees.

Direct Taxation of Land and Income in Agriculture

Much has been written in recent years about restructuring the existing system
of direct taxes on real or presumptive income from agriculture. The arguments on
each side are well known. At least five official committees and commissions since
the mid-1980s have commented on the issue and made their recommendations. The
international donor agencies, particularly the IMF, World Bank and ADB, have
succeeded in persuading the government to amend the Wealth Tax Act of 1963 to
remove the exemption for agricultural land. One can debate the watered-down
amendment and restrictions placed upon CBR to implement the legislation.

The issue of taxing agricultural income remains unresolved for reasons I do
not wish to speculate about. No one seems to be happy with the land revenue system
(or the *ushr* levy in lieu of land revenue for *sunni* Muslims. A recent recommenda-
tion, contained initially in the report of NCA in 1988, has been to impose a flat or
tax of Rs 2/PIU on all landholdings above the level of 4,000 PIUs or a somewhat
graduated tax on the same basis and with the same exemption–Rs 2/PIU for all
holdings between 4,000 and 6,000 PIUs and Rs 3/PIU for holdings above 6,000
PIUs [Government of Pakistan (1993a)].

This tax on presumed income will be in addition to the land revenue demand
according to the existing rates in each province.

The existing land revenue system has no redeeming feature: it is a relic of the
past developed under feudal, authoritarian and colonial regimes. Even as a land tax,
it has no merits now because of the ad hoc changes made in the rates and exemp-
tions for over 25 years. They are no longer linked to the presumptive capacity of
land one owns, hence they are high inequitable between individual landowners.
They yield very modest revenues to the governments inspite of the ad hoc increases
of recent years.

Ideally the land revenue system should be replaced by a direct tax on agricul-

tural income as is the case for income from all other sources, subject to equivalent deductions and exemptions that are allowed by the tax authority for non-agricultural incomes. The closest Pakistan came to having it was in January 1977 with the abolition of land revenue and its replacement by a direct tax on agricultural income. Two options were allowed to the tax payers in agriculture with holdings of over 10 hectares (25 acres): (i) either make assessment of their taxable income from agriculture by deducting from gross income several specified expenses and pay the tax according to the existing tax slabs and conditions applicable to taxable incomes from other sources, (ii) or pay a flat rate of Rs 6 per PIU irrespective of the size of landholding or the number of PIUs held in land revenue records. The first option was a direct tax on earned (real) income and the second would be a tax on presumed income from agricultural land. The Finance (Amendment) Act of 1977 was, however, repealed by the military government before its implementation. Since then the land revenue system, with ad hoc changes in the rates and exemptions, has remained in tact [Khan (1991)].

My view on this issue is simple: a tax on income should be applied to all sources of income. It is not a tax on the agriculture sector but on personal income derived from the agriculture sector. Given the present circumstances, it may not be prudent for practical reasons to introduce a direct tax based on the assessment of actual income earned from agricultural activities. So the theory of the "second best" should be applied. Let us stay with a tax on presumed income from agricultural land. What can best serve as an indicator (basis) of presumed income or the productive capacity of land? In Pakistan, PIUs have served this purpose since the settlement of land claims of Muslim refugees after independence. A PIU was designed to establish equivalence between land parcels located under different conditions of soils, water, and markets. It was estimated for each class of soil in every settlement circle based on revenue settlements available at that time. The same PIUs were used in the Land Reform Acts of 1959, 1972 and 1977 in establishing the ceiling on landholdings for ownership. The so-called "income tax" discussed so far and proposed recently is based on the now grossly outdated PIUs established in the late 1940s to the early 1950s. The presumed income implied in these PIUs does not reflect the current productive capacity (value of gross output) of the agricultural land in almost all regions of Pakistan due to changes in the conditions of soils and water, technology, and prices. In view of these changes the current PIUs do not reflect the productive capacity of any piece of agricultural land. Nor have these changes been experienced in all regions in the same proportion or direction. If we are going to use PIU as the basis to establish a tax system on presumed income from agricultural land, then we should first revise the estimated PIUs per unit of land itself (see Appendix II). The revised PIUs will then reflect the current productive capacity of land and remove the existing inter-personal and inter-regional inequities.

Should we wait for this revision and only tinker with the existing land revenue system? The PIUs must be revised if the land tax is used as a proxy for a direct tax on agricultural income. I suggest that in the interim we should replace the existing land revenue assessment–based on highly inequitable exemptions and rates–by a direct tax on the basis of the current PIUs per unit of land. We are creating unnecessary confusion in the system by retaining the land revenue system and adding a so-called tax on income on the basis of PIUs [Government of Pakistan (1933a)]. I think it would be better to simply abolish the existing land revenue assessment and collection and use the existing administrative structure to assess and collect a tax on presumed income based on current PIUs and make adjustments once the PIUs have been revised.[13] The next question is about the basic tax exemption and the rate at which the PIUs on landholdings above the floor are taxed. I suggest two alternatives: (i) impose a flat rate of Rs 3 per PIU for all holdings above 10 hectares (25 acres) or (ii) impose a graduated rate of Rs 3 per PIU for holdings between 10–40 hectares (25–100 acres) and Rs 4 per PIU for landholdings above 40 hectares (100 acres). The estimated annual revenues would be Rs 3.05 billion in the former case and Rs 3.36 billion in the latter (see Appendix III). Under this proposal, only 4 percent of landowners will be affected, with 3.4 percent in Punjab, 17.9 percent in Sindh and 1.7 percent in N.W.F.P. These estimates are, of course, based on the best available information on the distribution of landownership in the three provinces.

Price Support System

Prices do matter! Prices of outputs and inputs affect allocative efficiency at the farm level. However, the question at the aggregate (country) level should be resolved by estimating the domestic resource costs (DRCs) of major crops. One has to be careful with the seductive appeal of notions like "self sufficiency" in food. What is self sufficiency? At what cost to the society? Why not focus on food security, which means the right incentives for increased productivity on the supply side and increasing incomes (food entitlements) of consumers on the demand side.

Recent evidence on domestic terms of trade, nominal protection coefficients, resource transfer from the agriculture sector to the rest of the economy leads to several generalisations, some of which may be contested:

---

[13]The income from agriculture received by individuals–who may be leasing land from landowners for crop or livestock production–who have other sources of income should be clubbed for tax purposes according to the Income Tax Act of 1979. Why should the personal income of these individuals be exampt simply because it is earned in the agriculture sector. Similarly, incomes earned by landowners in occupations other than agriculture should be subject to the existing provisions of the Income Tax Act of 1979.

- The average annual resource transfer from agriculture to other sectors was around 13 percent of the agriculture value-added during the 1980s. Most of this transfer was effected through implicit taxes on agricultural products. There is also some evidence that the burden of this transfer in the agriculture sector was proportionately higher on smaller than larger farmers [Azhar (1992)]. We do not know the extent to which the growth rate of the agriculture value-added was sacrificed due to the apparent transfer. We do know that the magnitude was not as high as experienced in countries like Taiwan during their early stages of development. Also, the incidence of burden may have been falling in the last three years due to favourable corrections in the exchange rate, import and export parity prices of leading crops and direct or indirect price subsidies on farm inputs.
- The domestic (barter) terms of trade did not deteriorate, and the income and factorial terms of trade improved substantially during the last 13 years.
- The nominal protection coefficients have increased for wheat and rice but decreased for cotton in the last three to five years. Sugarcane has remained a well protected crop throughout. These differences reflect the gainers and losers between farmers due to public policy on support prices. We have no idea about the real protection rates for agricultural products, considering the implied subsidies on some of the imported inputs used by farmers.

Governments in Pakistan, as in many other underdeveloped countries, have intervened in the pricing of agricultural outputs and inputs for a variety of reasons, including (i) price stabilisation for producers and consumers (e.g. procurement and issue prices of wheat); (ii) incentives to producers for adoption of new technologies and inputs that may increase production and productivity (e.g. subsidy on improved seeds, fertilizers, tractors, energy, water, and credit); (iii) subsidy to consumers of food and processors of raw material; and (iv) government revenues through indirect taxation. Keeping the output prices low by government intervention implies a tax on producers, affecting both their relative welfare (resource transfer) and perhaps production levels but not necessarily productivity. I think we should be clear about these two issues and treat them separately, although they are related. Can we compare the cost of implicit taxation–in the case of wheat, cotton and rice–with the benefit of price stabilisation? Krueger, Schiff and Valdez have found some merit in the price stabilisation policy pursued in Pakistan [Krueger *et al.* (1992)]. I am aware that price stabilisation does not have to be around a low average (mean) price of the crop. The commodity (net barter) terms of trade are used as an index of resource transfer from one activity to another, but they may not affect the growth rate of output in a particular sector. I agree that the terms of trade can be affected by a variety of factors, in which public policy may be playing a major role. What about the

differences in the demand pattern and technology? How much of the change in the terms of trade can be explained by the government's pricing policy? If resources were transferred from agriculture due to adverse terms of trade in a particular period, should we jump to the conclusion that it was mainly due to the government policy? Why not check the international terms of trade for agricultural goods? Have they not been affected by changes in demand and technology? Have they followed any single pattern in the long run?

Is there a correlation between the growth rate of output and changes in the agricultural terms of trade? My guess is that the causation is from growth to terms of trade and not the other way round. The terms of trade may, however, affect investment levels, hence the growth rate. For changes in production and productivity, we should look at the role of (i) relative prices of crops and (ii) non-price factors or structural constraints. The non-price factors would include the role of human and physical infrastructure like education and training, research and extension services, transport, and market structure. If one is looking for the effect of price changes on the supply of crop output, then one should examine the (own and cross) price elasticities and not the terms of trade between agriculture and other sectors.

The price subsidies on fertilizers, pesticides and seeds seem to have declined in the last five years and have insignificant values. But what about the subsidy on machinery, energy (for tubewells and tractors), irrigation water from canals, and farm credit? Pricing of irrigation water is a tough issue. We do not know with any confidence the long-run marginal cost of irrigation water. We do know that the current water rates do not cover a significant part of the O&M costs of the irrigation system.[14] The supply-determined canal water is with us, because the alternative arrangements are still either too costly or impractical. There is indeed much

---

[14]The water rate (*abiana*) has been changed somewhat arbitrarily several times since 1959, when it was unified for what was then the province of West Pakistan. Since 1978–when the flat rate in Sindh was abolished–the water rate has changed as follows:

1978:   increased by 25 percent over the rate of 1969 (unified rate for West Pakistan) in Punjab, Sindh and N.W.F.P.
1980-81:   increased by 25 percent over the 1977-78 rate in all four provinces.
1981-82:   increased by 25 percent over the 1980-81 rate in all four provinces.
1984-85:   no change in Punjab; increased by 10 percent in Sindh and by 25 percent in N.W.F.P. and Balochistan over the 1981-82 rate.
1992-93:   increased by 25 percent in Balochistan over the 1984-85 rate.
1993-94:   increased by 25 percent in Punjab, Sindh and N.W.F.P. over their rates in 1984-85.

The average annual increase in the water rate was about 5 percent during 1980-81–1993-94. In the last 3 years, the water charges collected by the provincial governments were 80–85 percent and 60–65 percent of the irrigation (O&M) expenditures in Punjab and Sindh, respectively. The World Bank and ADB are working with the federal government to increase the collections and increase the efficiency of the provincial Irrigation Departments.

waste–thanks to the low water rates and apparent rent-seeking (graft) in the provincial Irrigation and Revenue Departments–and much inequity–thanks to differences in the location and power of water users. Could the market price of tubewell water–where it is available and sold privately–also serve as the price for canal water? The subsidy on farm credit has been substantial, but mainly appropriated–like most other input subsidies and services–by the influential (large) landowners.[15] Generally there are two problems with subsidies on farm inputs. We do not have good figures on the price and income elasticities of demand for major inputs. Second, we do not know if the major recipients of the subsidy on inputs are efficient producers of farm output. If the price elasticity of demand is low–since farmers know the value of the input–there should be no input subsidy. Also, if the major recipients (large farmers) of subsidy are less efficient producers than other farmers, then the subsidy is inequitable as well.

We all know that the subject of taxation of agriculture and resource transfer is both complex and emotive. The basic question is not that resources are transferred from agriculture to other sectors since in most countries this has been the historical experience in the initial stages of development. Initially the emergence of an agricultural surplus and its investment are the necessary conditions for sustainable growth in both closed and open economies. The question rather is: how much of the net resource transfer is due to government intervention (through price policy) and by how much has it negatively affected the efficiency of the sector and the intersectoral distribution of income? Measuring the transfer and its impact are no easy tasks. For one thing, estimating the border prices for outputs and inputs involves the tricky issue of the exchange rate. Why not use the purchasing power parity (PPP) exchange rate? The problem of estimating indirect taxes is not simple either. How should the indirect taxes be apportioned between agriculture and other sectors? Similarly, I doubt if we can make a good estimate of the flow of resources into agriculture on account of the government spending that may directly benefit agricultural producers.

A final point about the so-called tax burden on the agriculture sector implied in the transfer of resources. In as much as there is price discrimination against agricultural output, there is indeed a burden which reduces efficiency and transfers part of the agricultural surplus at a high cost to the society. Some of the indirect (explicit) taxes–like export duties on cotton and rice–can be a burden in the same sense. But this issue of taxation of agriculture is different from the issue of direct taxation of income and wealth of some among the agricultural producers and landowners. We should indeed reduce the burden on the agriculture sector by minimising

---

[15]A critical review of the agricultural credit system in Pakistan has been made in Qureshi and Shah (1992).

government intervention in the price system for both outputs and inputs. At the same time, we should argue for a rational (direct) tax regime that yields substantial revenues to make investments for the improvement of the physical and social infrastructure and support services for the benefit of agricultural producers and people residing in rural areas.

Public Investment in Infrastructure
and Support Services

There are two inter-related issues regarding public investment in infrastructure and support services. One has to do with investments that directly affect the production process in agriculture, like building and maintaining the irrigation system, building roads, providing agricultural extension services and farm credit. The other issue is related to the expansion and improvement of the social infrastructure–like education and training, sanitation and water supply and health care–necessary to maximise the benefits from other investments in agriculture and improve the well-being of people residing in rural areas who are directly or indirectly dependent upon agriculture.

The problem of investment in building and maintaining the irrigation system has not been generally as serious as the effective use of the research and extension support services. The ongoing projects on the construction and rehabilitation of irrigation canals, drainage infrastructure, and OFWM have been reasonably designed and implemented. However, the much-publicised T&V system has apparently not worked as well as was expected in transferring technology to farmers on a broad and sustainable basis. There are no recent estimates on the returns to investment in agricultural research and extension. Changes in farm productivity in the last 13 years, except for cotton in Punjab, have not been particularly impressive. Also we do not know how to disentangle the effects of the publicly provided research and extension support.

The solution to the problem of agricultural credit has several dimensions: strengthening the financial viability of ADBP and FCB as the major lending institutions; reducing the general subsidy on interest rate; increasing the credit limit for agricultural investments, including land improvement; targeting of loans for "small" farmers and reducing the visible and invisible costs for them to acquire loans; incentives for commercial banks to mobilise rural savings and extend investment loans in rural areas; and development of farmers banks, but without subsidies and strict monitoring and regulation of these institutions.

There is no argument about the low level of investment on social infrastructure and its quality in Pakistan. Also, there is little argument that the rural-urban differences are large and serious. However, it needs stressing that the observed rural-urban disparity of access to the social infrastructure and support services does

not depend simply on one's residence in the rural or urban area, but on the basis of income and gender. The "urban bias" thesis should be seen in this context. Most rich farmers do not reside in the rural area and can depend on private and public social services and infrastructure in urban areas. Those middle-income and rich farmers who do reside in the rural area can adequately afford these services in the urban area. The low level of public investment in rural social infrastructure and its poor quality affect mainly the households of small farmers, tenants and wage work- ers. It is paradoxical that a majority of the political elites have their vote banks in the rural areas but the public investment in social infrastructure and services is directed more to the urban areas. Periodic crash programmes for the rural areas announced by governments, and some of them launched with much fanfare, do not seem to filter down to the intended beneficiaries.

Pakistan must spend more on building the social infrastructure and improving the support services for rural people. But it must also increase the effectiveness of these investments. These investments have high returns and they can reduce the gap between rural and urban areas. In the short run the donor-supported SAP may make some difference.[16] But the governments will have to make major readjustments in their fiscal affairs–switching the expenditures and expanding revenues–to meet the obviously desperate need for building human capital as a means to strengthen the development process and to fulfil the objective of increased well-being in both rural and urban areas. The political test of governments lies in their ability to build the institutional capacity to mobilise additional resources and to invest in people, partic- ularly those engaged in the agriculture sector and reside in rural areas. So far they have not done too well on this test.

---

[16]The SAP–originally prepared by the IJI government in 1992–is a combined effort of Pakistan and donors. It is a five-year programme worth $ 8 billion. Pakistan will contribute $ 6 billion, mostly by reallocating money from other uses (expenditure switching) and by raising the tax revenues.

APPENDIX I

TOTAL FACTOR PRODUCTIVITY IN PAKISTAN'S AGRICULTURE, 1980-81–1992-93

I. Method of Estimation

Partial factor productivity (average product of a single factor) is:

$$AP_i = Y/X_i$$

Total factor productivity (TFP) is the ratio of output to the weighted sum of all inputs:

$$A = Y/\Sigma\alpha_i X_i$$

A = technical change (TFP);
Y = agriculture output;
X_i = factor i used in production; and
α_i = weight of each factor.

TFP is that part of the growth of output that cannot be explained by the weighted growth of inputs. Its measurement has been done as follows:

TFP Index = $[GVAO$ index/$\{\alpha(N$ Index$) + \beta(K$ Index$) + \theta(L$ Index$)\}] \times 100$

$GVAO$ = gross value of agricultural output;
    N = agricultural land;
    K = capital (animal labour + machines);
    L = agricultural labour; and
α,β,θ = weights of N, K and L.

II. Estimates of Indices

1. Value-added Index (VAI)

This index is based on the value-added of major and minor crops at constant factor cost of 1980-81.

2. Aggregate Input Index (AII)

(a) *Agricultural Land (N)*: it is cultivated area in hectares multiplied by the rental value of land at Rs 2,300 per hectare in 1980-81.

(b) *Capital (K)*: it includes (i) draft animals, (ii) tractors and (iii) tubewells. The value of each of these capital inputs is estimated as follows:

- Draft animals: numbers are multiplied by the 1980-81 price of Rs 5,000 per pair;
- tractors: numbers in use are multiplied by the 1980-81 price of Rs 85,000; and
- tubewells: numbers in use are multiplied by the 1980-81 price of Rs 55,000.

(c) *Agricultural Labour (L)*: the estimated number of agricultural workers are multiplied by the average annual wage of Rs 5,400 [Rs 18/day for 300 days] in 1980-81.

The index for each input (N, K and L) is estimated by weighting the share of the input in the value of all inputs. The aggregate input index (AII) is the sum of the weighted indices of inputs.

3. Total Factor Productivity Index (TFPI)

The TFP index is estimated by dividing the VA index by the AI index.

APPENDIX II

A METHOD FOR REVISING THE CURRENT PRODUCE INDEX UNITS (PIUs) FOR AGRICULTURAL LAND

It is not reasonable to compare (presumed) incomes from two parcels of land located in different conditions of soils, availability of water, crops grown, technology used, and the access to markets and prices. How can the outdated PIUs be used to compare the productive capacity of two pieces of land under present conditions? I suggest the following method to revise the PIUs per hectare, using an example from Sindh province.

First, select three "standard" revenue circles in say Hyderabad Taluka (Tehsil). Assume that the original PIUs are 72/hectare (29 per acre). Estimate the average gross value of output (GVO) per hectare for three years (1955–57), using the average matured area, yield and price of this "base" period. This period precedes (i) land reforms of 1959, (ii) substantial development of surface and sub-surface irri-

gation, and (iii) introduction of modern inputs on a wide scale. Then estimate the GVO per hectare for the "current" period of three years (1991–93), using the average matured area, yield and prices of this period. To get the revised (current) PIUs per hectare for the three standard circles in Hyderabad, multiply the original PIUs (72 per hectare) by the ratio of GVO per hectare of the "current" to "base" periods. If the current GVO/hectare is four times the GVO/hectare of the base period, then the revised PIU would be 72 × 4 = 288/hectare. The purpose of selecting the average of three years in the base and current periods is to smooth out the fluctuations in area, yield and prices.

The PIUs for other circles in Sindh can be revised in relation to the change in the PIUs per hectare in the standard circles. Select Nawabshah as a "reference" circle. Estimate its current (1991–93) GVO/hectare, based on the average area matured, yield and prices in the circle during this period. To estimate the revised number of PIUs/hectare for the reference circle (Nawabshah), multiply the current (revised) PIUs of the standard circles (288 PIU/hectare) by the ratio of the GVO/hectare of the standard to the reference circle. If the ratio of the current GVO/hectare of the standard to reference circle is 1.25, then the revised PIUs for the reference circle (Nawabshah) would be 288 × 0.8 = 230 PIUs/hectare.

Period	GVO (Rs/Ha)		PIUs/Ha	
	Hyderabad	Nawabshah	Hyderabad	Nawabshah
Base (1955–57)	1,500	–	72	67
Current (1991–93)	6,000	4,800	288	230

A similar exercise can be undertaken in every province to revise the PIUs/hectare for each circle. The selection of the standard circles (3 in each province) should be based on several considerations: availability of data for GVO for the base period; representation of various soil types and sources of water supply; and the average conditions in both the base and current periods. The ideal method would be to revise the PIUs/hectare in all circles, by soils class and water source, based on the estimation of GVO for the base period (1955–57) and current period (1991–93). But I think this will not be easy and may take a very long time and consume substantial resources of the revenue officials in the provinces. The next revision–say after 5 to 7 years–will be easier, given the current base (1991–93). The revised PIUs will remove the existing inequity on landholdings and taxes between individuals and regions. Once the PIUs per hectare have been revised, the provincial governments will have to make changes in the rates for taxes and ceilings on landownership holdings based on PIUs.

APPENDIX III

Estimates of Land (Presumed Income) Tax Revenues

1. Method I: Flat Rate

Rs 3/PIU for all holdings above 10.1 hectares (25 acres)

Province	Area (000 Ha)	PIUs (000)	Tax Revenue (Rs Million)
Punjab	4,884	761,904	2,285.71
Sindh	2,902	185,728	557.18
NWFP	985	67,965	203.90

2. Method II: Graduated Tax Rate

(i)   Rs 3/PIU for Holdings between 10.1–40.2 hectares (25–100 acres)
(ii)   Rs 4/PIU for all holdings above 40.2 hectares (100 acres)

Province	Area (000Ha)	PIUs (000)	Tax Revenue (Rs Million)		
			Rs 3/PIU	Rs 4/PIU	Total
Punjab	4,884	761,904	1,610.39	900.43	2,510.82
Sindh	2,902	185,728	366.53	254.21	620.74
NWFP	985	67,965	118.40	113.99	232.39

Notes: The average number of PIUs in the provinces are: Punjab (156 PIUs/hectare); Sindh (64 PIUs/hectare); and NWFP (69 PIUs/hectare).
The distribution of area of ownership holdings is from Table 21.

REFERENCES

Afzal, Mohammad *et al.* (1993) Support Price System in Pakistan. *Pakistan Journal of Agricultural Economics* 2:1 68–96.

Azhar, B. A. (1992) Distribution of Agricultural Tax Burden within the Sector. *The Pakistan Development Review* 31:4 Part II 939–951.

Chaudhry, M. Ghaffar, and A. H. Maan (1991) Taxation of Agriculture in Pakistan: Structure, Magnitude and Implications. Paper presented at the First International Conference of Pakistan Association of Agricultural Social Scientists, Islamabad.

Dorosh, Paul, and Alberto Valdes (1990) Effects of Exchange Rate and Trade Policies on Agriculture in Pakistan. Washington, D. C.: International Food Policy Research Institute. (Research Report No. 84.)

Khan, Mahmood, H. (1991) Resource Mobilisation from Agriculture in Pakistan. *The Pakistan Development Review* 30:4 Part I 457–483.

Krueger, Anne O., Maurice Schiff and Alberto Valdes (eds) (1992) *The Political Economy of Agricultural Pricing Policy*. Baltimore: Johns Hopkins University Press. Volume 5.

Malik, Sohail J. (1992) Rural Poverty in Pakistan: Some Recent Evidence. *The Pakistan Development Review* 31:4 Part II 975–995.

McLeary, William A. (1991) Pakistan: Structural Adjustment and Economic Growth. In   Vinod Thomas *et al.* (eds) *Restructuring Economies in Distress*. New York: Oxford University Press.

Naqvi, Syed Nawab Haider, Mahmood H. Khan and M. Ghaffar Chaudhry (1989) *Structural Change in Pakistan's Agriculture*. Islamabad: Pakistan Institute of Development Economics.

Pakistan, Government of (1980) *National Agricultural Policy*. Islamabad: Ministry of Food, Agriculture and Cooperatives.

Pakistan, Government of (1988) *Report of the National Commission on Agriculture*. Islamabad: Ministry of Food, Agriculture and Cooperatives.

Pakistan, Government of (1989) *National Agricultural Policy*. Islamabad: Ministry of Food, Agriculture and Cooperatives.

Pakistan, Government of (1992) *Synopsis of National Agricultural Policy*. Islamabad: Ministry of Food, Agriculture and Cooperatives.

Pakistan, Government of (1993) *Economic Survey 1992-93*. Islamabad. Ministry of Finance.

Pakistan, Government of (1993a) *Report of Prime Minister's Task Force on Agriculture*. Islamabad: Ministry of Finance, Revenues and Economics Affairs.

Qureshi, Sarfraz K., and Akhtiar H. Shah (1992) A Critical Review of Rural Credit Policy in Pakistan. *The Pakistan Development Review* 31:4 Part II 781–801.

Comments on
"The Structural Adjustment Process and Agricultural Change in Pakistan in the 1980s and 1990s"

I need not emphasise that the paper reflects the highly talented abilities and scholarship of Professor Mahmood Hasan Khan. It should be clear that Professor Khan has written extensively on Pakistan's agriculture since his doctorate. As I know Professor Khan, he is a sincere friend, has versatile qualities and can enter into a debate instantly on any economic issue. Agriculture is his pet subject and he can talk about it with even greater enthusiasm. I agree with him on numerous points in his paper. But that seems to be an irrelevant issue, for a restatement of them would make this review unnecessarily lengthy. I, therefore, have no choice but to restrict myself to places where the paper lacks the necessary rigour. Although I am critical, I would like to make it clear right at the outset that such criticism might involve my own limitations of going around the subject. If I sound harsh that is only because I know no diplomacy and simply take things for what they are: With apologies to the readers and the author, my critical evaluation of the paper is as follows.

First, Professor Khan is highly critical of the dubious nature of the major sources of data in Pakistan especially those concerned with income and income distribution. Yet he places heavy reliance on them in the general conclusions of the paper. The entire Section 2 of the paper is an example. Professor Khan in this section also scores the point that income differences between the urban and rural areas have been reduced during the Eighties. There can only be a remote possibility to uphold this conclusion. Rural incomes being heavily dependent on agriculture, it would only be upheld if the rate of growth of agriculture could be shown to have exceeded that of the nonagricultural sector. This being the unlikely case in Pakistan throughout its history and most specifically in the Eighties, I need not conclude to the contrary. -

Second, Professor Khan is of the view that resource transfers from agriculture have been on the decline in recent years. This might be true for a limited period and can be regarded to be temporary at best. A major proportion of resource outflow from agriculture results from differences between the parity and procurement prices of agricultural commodities at the official and shadow exchange rates. The recent reduction in resource outflows simply reflects falling world prices and reduction in the overvaluation of the Rupee. There is no guarantee that these trends will continue in the future. There were many instances between 1969-70 and 1989-90 when this

happened for a year or so but resource transfers always loomed larger with recoupment of world prices. Although increases in procurement prices also have a tendency to reduce resource outflows from agriculture, it has relatively been a minor factor so far.

Similarly, Professor Khan seems to have underestimated agriculture's contribution to direct taxes as local taxation is totally ignored. Some of the exhaustive studies in Pakistan have indicated that local governments in Pakistan in recent years have made greater tax efforts than the provincial governments, and that agriculture was one of the major contributors to the revenues of local governments. Although the removal of subsidies on fertilizers and pesticides should contribute positively to greater resource outflows from agriculture, it is not clear if the subsidies that remain, such as on irrigation water, electricity and export rebates, really accrue to agriculture.

Third, I agree with Professor Khan that there is a need for increasing the direct taxes in agriculture. He would recommend that this should be done immediately even without correction of prices and updating of Produce Index Units (PIUs). Because of devastating deleterious effects on output and income distribution, I would be inclined to suggest correction of PIUs and prices prior to greater direct taxation of agriculture. Professor Khan equates his PIU-based graduated land tax with presumptive income tax which by all standards seem to be a misnomer. Rather than introduce the fancier gadgets of income or graduated-land taxes, recent developments in tax theorising by Richard M. Bird and Oliver Oldman (1990) *Taxation in Developing Countries*. Baltimore: The Johns Hopkins University Press and David Newberry and Nicholas Stern (1987) *The Theory of Taxation for Developing Countries*. New York: Oxford University Press have convincingly argued in favour of the imposition of a simple land tax in agriculture. While graduated-land and income taxes are desirable for their progressiveness, the same could be said about a simple land tax if the productivity of land varies inversely with farm size and the tax is based on farm area rather than on cultivated or cropped area. A simple land tax should also be preferable for stability of its tax base and tax yields over the fancier gadgets where subdivision of land, induced by inheritance or efforts at tax evasion, would be accompanied by falling tax revenues with the passage of time.

Professor Khan's argument that income tax should be applied to all incomes, as incomes are alike irrespective of their source, is a bit removed from reality. Incomes in agriculture are hard earned incomes. By contrast, nonagricultural incomes may be regarded as free-lance incomes. There are many reasons for it. Incomes in agriculture are an uncertain reward for the backbreaking hard work keeping in view the vagaries of nature. Production in the nonagricultural sector takes place in a controlled environment under the roofs of a factory or an office. While nonagricultural incomes are supported by rising public sector investments,

agriculture has received a falling share. In contrast to less than world prices for agriculture, the industrial sector has received positive protection to varying degrees. As a consequence, the rates of return in agriculture hardly exceed 10–15 percent and may even be negative for certain crops. By contrast the industrial sector enjoys profit rates exceeding 25 percent which in some cases may be as large as 200 percent. At a 20 percent universal tax rate, much of the tax in the nonagricultural sector will come out of windfall gains but agriculture will have to pay it from accumulated savings.

Finally, I must point out that Professor Khan's paper has an excellent flow and the readers should have no problem in making sense out of it. This is a good quality but overcommitment to flow may sometimes induce the manipulation of facts. I have noted some of them in the paper but do not feel the necessity of pinpointing them. Perhaps the author and the readers would be able to pick them up if they recalculate some of the tables of the paper.

M. Ghaffar Chaudhry

Pakistan Institute of
 Development Economics,
Islamabad.

Comments on
"The Structural Adjustment Process and
Agricultural Change in Pakistan
in the 1980s and 1990s"

There have been 3 structural adjustment programmes (SAs) in Pakistan so far. Over 1980–83 the Extended Fund Facility (EFF1) was made available for reform of exchange rates, prices, trade liberalisation, budgetary reform and public sector reform. The SA Loans (SALs) were extended in 1982 for reform of agricultural prices and removal of subsidies, in 1985 for energy development, and in 1986 for export development. The 1987-88 foreign exchange reserves crisis necessitated a general medium-term SA programme EFF2 as above, for 1987-88 to 1991-92. We need to see what this SA programme has implied for agricultural policy and growth.

What Professor Khan does is to show the growth record over the decade of the 80s, and then attributes it to SA policy. This correlation however is simply a simultaneity of events, and is not a convincing argument of either SA policy, or its impact. Professor Khan lists two sets of policy changes.

Price changes are based on output and input price changes. The Agricultural Price Commission (APCOM) has been formed to fix support prices for output. On the input side, the pesticide subsidy has been cut, which leaves some subsidy on imported machines and domestic tubewells, and a large subsidy on canal water because its revenue does not cover its costs.

Credit policy has seen the extension of the 1979 scheme of credit for farmers operating under 12.5 acres.

Professor Khan then reviews growth in the agricultural sector over the past decade. Wheat yields have increased from 1643 to 1993 kgs/ha. The rice yield has dropped marginally from 1616 to 1993 kgs/ha. But cotton has been the real success story, increasing yields from 339 to 565 kgs/ha.

Changes in the price regime, for inputs and outputs, over the decade, show that output prices have risen between 5 percent and 9 percent for wheat, basmati, IRRI, cotton, and sugarcane. On the other hand, input prices have also risen, for fertilizer between 7 percent and 8 percent, and for tractors by 9 percent. As a result, less wheat and rice is needed to buy 1 kg of urea fertilizer, but more cotton. And more wheat, cotton, IRRI, and sugarcane is needed to buy 1 kg of phosphatic fertilizer.

Finally Professor Khan estimates transfer of resources out of agriculture. He finds that agriculture's share in public expenditure has dropped by about 20 percent between the Fifth Five-Year Plan and the Eighth. He finds that agriculture's share in

infrastructure expenditure has dropped by about 37 percent. And he estimates resource transfers out of agriculture at broad range between 13 percent and 44 percent.

Against this perspective of agricultural change over the last decade, the main argument of Professor Khan's that emerges is the following. The agricultural sector is not doing too badly. Therefore the recommended policy is removal of the remaining price subsidies on inputs, freeing of output prices, and do not fret over resource transfers out of agriculture.

I think that the road to hell is paved with such good SA conditionality. This is playing chicken with both the agricultural sector and the economy, which will end up wrecking both.

My argument is the following. There is one dominant factor fuelling growth in the Pakistani economy–the price of the wage good, Ricardian corn or Pakistani wheat. To introduce more complexity, the second factor responsible for growth is the price of the main input for manufacturing–cotton. If you allow a free bonanza in agriculture, then both output prices and input prices will rise to as yet undetermined levels. The example of cement prices rising by 60 percent in under 6 months after denationalisation is very instructive here. This will have the following impact:

1. The higher wheat price will lower consumption for the majority of the population which is now a non farm population.
2. Higher input and output prices in agriculture will have a major production impact on the sector, introducing further instability in a sector already unstable by nature.
3. The higher cotton price will have a major impact on production in cotton based manufacturing, lowering profitability, growth, and investment.

The problem with such SA conditionality proffered by the World Bank and the IMF is that they equate accounting with macro management, and balanced budgets with growth. They do not take into account the prevalent structural problems of the agricultural sector in Pakistan. This sector has become a net importer of wheat, it has a yield gap of approximately 50 percent compared to international standards, which is due to an input gap compared to international standards. Moreover, the increase in cotton production and yields, and relatively low domestic cotton prices are allowing exports to run in place because of the drop in world prices. It is these problems that need to be addressed.

Moazam Mahmood

Pakistan Institute of
 Development Economics,
Islamabad.