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Pakistan
Punjab Economic Report

Towards a Medium-Term Development Strategy

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Poverty Reduction and Economic Management Unit
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ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
Ag GDP	Agriculture Gross Domestic Product
AIT	Agriculture Income Tax
AWB	Area Water Board
BHU	Basic Health Unit
CBR	Central Board of Revenue
CDL	Cash Development Loan
CIET	Community Information, Empowerment, and Transparency.
CWIQ	Core Welfare Indicators Questionnaire
DFID	Department for International Development (UK)
DISCO	(Electricity) Distribution Company
EOBI	Employees Old-age Benefit Institution
FBS	Federal Bureau of Statistics
FO	Farmers Organization
GDP	Gross Domestic Product
GST	General Sales Tax
HACCP	Hazard Analysis and Critical Control Point
HIES	Household Income and Expenditure Survey
IMT	Irrigation Management Transfer
LHW	Lady Health Worker
MTBF	Medium-Term Budget Framework
NAM	New Accounting Model
NFC	National Finance Commission
NGO	Non-Government Organization
NRB	National Reconstruction Bureau
O&M	Operations & Maintenance
PASSCO	Pakistan Agricultural Supply & Services Corp.
PCSI	Pakistan Cotton Standards Institute
PDHS	Pakistan Demographic & Health Survey
PRHS	Pakistan Rural Household Survey
PGDP	Provincial Gross Domestic Product
PIDA	Punjab Irrigation Development Authority
PIHS	Pakistan Integrated Household Survey
PRSP	Poverty Reduction Strategy Paper
PSQCA	Pakistan Standards and Quality Control Authority
PVP	Plant Varietal Protection
QIM	Quantum Index of Manufacturing
R&D	Research & Development
SHMI	Small Household Manufacturing Industry
SLIC	State Life Insurance Corporation
SME	Small - Medium Sized Enterprise
SMEDA	Small and Medium Enterprise Development Authority
TFP	Total Factor Productivity
TMAs	Tehsil Municipal Administrations
UIPT	Urban Immovable Property Tax
WAPDA	Water and Power Development Authority
WASA	Water and Sanitation Authority
WTO	World Trade Organization

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PREFACE AND ACKNOWLEDGEMENTS

This report is a joint product of a team from the Government of the Punjab, the World Bank, the Asian Development Bank (ADB), and the Department for International Development (DFID) of the Government of the United Kingdom. In December 2003, the Punjab Chief Minister constituted a counterpart team of government officials, who were closely involved in the report's preparation. This team was headed by Mr. Jahangir Khan Tareen, Advisor to the Chief Minister Punjab, and Mr. Suleman Ghani, Chairman of the Planning and Development Board, and included the Secretaries of Finance, Planning, Communication & Works, Education, Health, Irrigation, Industries, and Agriculture Departments, and the Punjab Resource Management Program Office.

The report was prepared by Salman Zaidi, Khalid Ikram, and Hanid Mukhtar in the Poverty Reduction and Economic Management (PREM) unit of the World Bank's South Asia Region, under the guidance of Manuela Ferro, Lead Economist, Ijaz Nabi, Sector Manager, and John Wall, Country Director. The team from the Asian Development Bank comprised Naved Hamid, Safiya Aftab, and Jacob Gullman. The DFID team included Jackie Charlton, Haroon Sharif, and Mark Poston. The peer reviewers were Deepak Ahluwalia, Ron Hood, and Farrukh Iqbal (World Bank), and Paul Heytens and Rainer Hartel (ADB).

The report draws upon contributions from Rasmus Heltberg (poverty, employment), Shaheen Malik (provincial GDP estimates), Shahid Kardar (construction, land titling, city strategy, and deregulation), Derek Byerlee, Mubarik Ali, Lire Ersado, and Asad Aleem (agriculture), Mark Dutz and Anton Dobronogov (investment climate), Soraya Goga (city strategy), Jeff Hammer (service delivery), Kai Kaiser and Khalid Rashid (local government revenue potential), Nick Manning and Zahid Hasnain (devolution), Jacob Gullman (background information and overview), and Tim Williamson, Masroor Ahmad, and Samantha Smith (devolution and service delivery in the Punjab). Muhammad Shafiq, Nasreen Shah Kazmi, Thelma Rutledge, and Shahnaz Rana provided invaluable assistance in handling all logistical arrangements for the mission, and with processing the report.

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EXECUTIVE SUMMARY

1. The objective of the report is to provide an analytical and policy underpinning for the Punjab's development strategy. Our starting point is the Government of the Punjab's enunciation of the main elements of its economic strategy. This strategy will rest on five pillars: (i) improving governance; (ii) reforming the fiscal and financial management system; (iii) creating a more supportive environment for private sector-led growth; (iv) improving the delivery of public services; and (v) addressing the provincial economy's vulnerability to shocks.

2. Taken together, these elements add up to a strategy that is occupied not only with increasing output, but also encompasses items such as education, health, improved governance, and protection of the environment. The overriding concern is to provide a better life for the province's citizens.

3. In the short- to medium-term, the provision of a better life to the Punjab's citizens depends essentially on two considerations. First, incomes must be increased; second, the delivery of public services must be improved.

4. In a market economy, incomes depend mainly upon productive employment, including self-employment. Thus, the first imperative for the Government of the Punjab is to expand the number of jobs. How many jobs will have to be created? The labor force in 2001/02 was 27 million, of which an estimated 8.5 percent were unemployed. As a result of the rapid growth of the population, the labor force in the next decade is likely to grow at 3 percent per annum, well above the 2.7 percent annual growth registered in the previous decade. If the objective of the government is to move steadily towards "full employment," which, as in other countries, may be defined as being consistent with unemployment of 5 percent because of frictional, seasonal, and other such factors, then the Punjab will have to create about one million new employment opportunities (including self-employment) a year.

5. How fast will the economy have to increase in order to create these jobs? In the decade until 2001/02, an increase of 1 percent in the estimated provincial gross domestic product (GDP) of the Punjab was associated with an increase of 0.55 percent in employment. If the same relationship holds in the future, the GDP of the Punjab will have to grow at 6.2 percent a year in real terms. Since the government's aim is presumably also to significantly reduce underemployment, a target GDP growth rate of 7 percent a year would not be unreasonable.

6. In order that the Government of the Punjab attains its development objectives, a basic condition is that the provincial GDP grow at 6-7 percent a year in real terms. This rate is well above the 4.4 percent a year achieved during the past decade, and will require changes in the institutional and technological framework of the provincial economy.

7. What adds to the challenge is that the space for action by the authorities to expand employment is likely to be constricted. While the agricultural sector will undoubtedly remain very important during the next decade, it is debatable whether it can provide productive full employment to a substantial amount of *additional* labor. Moreover, for reasons of efficiency, it is clear that the public sector should not absorb more labor. **Thus the bulk of the additional employment will have to be generated in the private non-farm sector.**

8. In order to draw attention to the necessity of structural change in the province's economy, we have treated issues in the development of non-agricultural activities—such as difficulties faced by small and medium enterprises in manufacturing and commerce, and the particular problems arising in the construction sector—before we deal with those in agriculture. We reiterate, however, that agriculture will continue to remain crucial as a source of income and employment and as a generator of demand for the products of the other sectors; we have consequently devoted considerable space to identifying policies that would strengthen the performance of the agricultural sector.

I. THE NON-FARM SECTOR:

9. The private sector employs almost nine-tenths of the workforce of the Punjab, so if increasing incomes and reducing poverty lie at the heart of the government's objectives, the main impetus for growth must come from this sector. The Punjab private sector encompasses both agriculture and non-agriculture, and the report includes specific recommendations in each of these areas. The recommendations call both for reforms to institutions and for increases in allocations for investment.

Improving the business environment for firms

10. Stimulating growth and job creation in the non-farm sector will require significant improvements to the business environment. Under this general rubric, the report provides specific recommendations for actions that are within the control of provincial government, such as those dealing with multiple taxation, labor laws, and regulatory structures:

- Eliminate multiple / nuisance taxation that raise the cost of production.
- Address weaknesses in labor laws that force many enterprises to remain small, and to hire casual laborers to avoid adverse effects of outdated legislation.
- Revamp other arcane regulatory legislation and structures, particularly the provincial Boiler Act, Building and Electricity inspectors, and introduce comprehensive insurance through private parties as an alternative to ensure public safety.

Stimulating job-creation in the construction sector

11. Particular emphasis is paid to the construction sector, which has a high multiplier effect on employment. The Federal Government has recently taken a number of steps to address one of the biggest problems constraining this sector—the relatively undeveloped state of the housing finance sector, given the difficulties in enforcing foreclosure laws in the event of a default. The Government of the Punjab can also play an important role in addressing a number of other key legal, fiscal, and administrative barriers hindering faster development of the housing and construction sector:

- Rationalize the stamp duty on property related transactions.
- Trim change-of-use charge for property classified "commercial" under zoning regulations.
- Rationalize development charges imposed by local water and sanitation agencies for change of use of property from "residential" to "commercial."
- Impose a land non-utilization fee or an idle land tax.
- Promulgate a law abolishing the *benaami* holding of property.

- Revamp the Rent Restriction Ordinance.
- Narrow the differential in property tax on renter and owner-occupied property.

Improving the system of land titling

12. Land is a critical economic asset in any country, particularly so for a government seeking to promote the construction sector and provide secure property rights for the most valuable asset owned by households. In order to move towards establishing a modern land administration system, with a secure, accurate, and accessible system of registering and recording land transactions, the report recommends that the Government of the Punjab:

- Initiate pilot projects in two districts of the province for comprehensive cadastral surveys and registration of titles.
- Introduce requirement for compulsory registration of all documents related to property, including sale agreements, declaration of gifts, power of attorney.
- Initiate the process of conversion of presumptive titles into exclusive titles.

Promoting the development of cities as growth engines

13. An important source of sustained economic expansion for the province could be the development of cities, supported by industry clusters, as growth engines. In addition to the million-plus cities of Lahore, Faisalabad, Rawalpindi, Multan, and Gujranwala and their adjoining areas, the Punjab has 10 other cities with over two hundred thousand residents, which could potentially serve as mini growth-engines for the regional and provincial economy. In some important respects, Sialkot has met these conditions, and its experience is used as an illustration in the report. Ideally, 1-2 pilot cities that display strong potential with respect to the following four dimensions should be identified for "competitive partnership" initiatives:

- an organized private sector with entrepreneurs willing and able to provide leadership;
- strong local government support with political will amongst topmost officials;
- a sponsor with strong credibility with both private sector and government;
- instruments such as logistical facilities and seed funds to start the initiative.

II. PROMOTING GROWTH IN AGRICULTURE:

14. Agriculture is a major contributor to Punjab's economy, accounting for roughly 28 percent of its output and providing direct employment to over 40 percent of the work force. While total employment in agriculture has stagnated during the past decade, more efficient utilization of the Punjab's public resources and abundant natural endowments, in combination with measures to promote agricultural diversification away from cereal crops to other more labor-intensive activities, can help unlock this sector's tremendous employment-generation potential.

Raising the level and efficacy of public expenditures

15. Allocation of public resources to and within the sector is one of the major ways that the Government of the Punjab can influence growth and employment generation in agriculture. In order

to reverse the decline in total public expenditures in agriculture as well as improve the composition of public spending in this sector, the report recommends that the provincial government should:

- Increase public investment, particularly on irrigation, water management, and research.
- Reduce the share of establishment costs out of current expenditures for agricultural support services, as an important step towards rationalizing public spending.
- Privatize commercial activities, livestock breeding farms and veterinary services, and focus instead on pedigree registration systems, capacity building and strengthening of private breeder associations, and control of livestock disease epidemics.
- Improve cost recovery, especially through greater cost recovery for canal maintenance in conjunction with devolution to water user associations.

Rationalizing the wheat procurement and storage policy

16. In recent years, even the sum total of expenditures by the Department of Agriculture in the Punjab have been overshadowed by the subsidy provided by the provincial government to one crop—wheat. The stated intention of the government's intervention in the wheat market is to address deficiencies in private markets, but a consistent policy has yet to be developed. While there may be justification for interventions to mitigate the adverse effects of undue volatility in the price of wheat, the report notes that it is important for the provincial government to:

- Clearly establish the objectives and targets for intervention in wheat markets by laying out a framework for intervention that defines a tolerable level of price variability, minimizes fiscal outlays, minimizes distortions to long-run market equilibrium prices, maximizes private sector participation and competitive markets, and ensures that the poorest are the major beneficiaries of fiscal expenditures.
- Implement the foregoing policy in the short-term by exploring competitive tendering of procurement and storage by the private sector, setting the margin for procurement and issue prices to cover full costs, and developing mechanisms for targeting subsidies to the most vulnerable groups.
- Develop a policy for public involvement in wheat markets over the longer term only in extreme situations.

Modernizing wholesale markets

17. An efficient marketing system is a prerequisite for agricultural diversification, as it allows farmers to move away from production of cereals and other relatively low-value crops to those that command the highest return in the market place. Wholesale markets in particular play a critical role in this regard, as they help connect rural production areas to urban consumption centers. Despite the importance of agriculture in the economy of the Punjab, development of wholesale markets has not kept pace with the needs of the province. Market infrastructure tends to be biased towards major crops rather than livestock, fruits, vegetables, and other such high-value crops, the market information system is poorly developed, and the administrative structure to regulate output markets is highly bureaucratic and lacks effective private sector participation. The Government of the Punjab can take a number of steps to address these shortcomings:

- Implement the planned reform of market regulations through amending the 1938 Market Committee Act to encourage private sector participation and investment to modernize markets.
- Improve the market information system through revamping the district-level market information system, and develop information packages to promote export of horticultural products.
- Develop in collaboration with the private sector, critical infrastructure such as refrigerator bogies, cold storage facilities at major airports, and state-of-the-art laboratories for food safety testing.
- Establish minimum grades and standards for all agricultural raw and processed products for the domestic market, aiming to have the equivalence of WTO-recognized *Codex Alimentarius* standards for export markets.
- Invest in capacity building for food testing, and involve producers and exporters in implementing food safety management systems.

Improving functioning of land and water markets

18. Well-functioning input markets for land and water also have a very important role to play in encouraging the move towards more efficient, equitable, and competitive farms. To this end:

- An effective land recording system would promote the smooth transfer of titles and an efficient land market. Land taxes based on the size of the land holdings should be set to reflect productivity potential, and discourage underutilization of land on large holdings.
- Improved water-use efficiency requires better maintenance, rehabilitation, and modernization of the irrigation and drainage system. Increased public investment is needed even to maintain current efficiency levels.
- The gap between water supply and demand will persist unless there is a move towards higher water productivity through substitution towards high value water efficient crops such as fruits and vegetables.
- Sustainable water use requires an integrated approach to the use of surface and groundwater along with appropriate pricing mechanisms that reflect the scarcity of water.

Benefiting from innovation

19. Finally, a strong agricultural innovation system is critical to modernizing agriculture, as a large part of future productivity gains, quality enhancement, and diversification must be provided through generation, adaptation, and dissemination of new technologies and information. The report recommends that a comprehensive approach be taken by the provincial government to tackle the key policy reforms needed to modernize the agricultural innovation system in the Punjab:

- Establish a competitive fund to support high priority research, providing operating costs to research by allocation on a competitive basis through a small high quality apex research board.
- Improve the enabling environment for private and public sector innovation by lobbying the Federal government to urgently approve plant varietal protection (PVP) laws and appropriate bio-safety regulations.

- Develop a human resource and incentive framework for quality research through merit-based recruitment, abolish promotions based solely on available posts, and instead develop a career service stream based on well-defined promotion criteria that stresses qualifications and accomplishments.
- Define the role of the provincial extension staff within a decentralized system, especially focusing on human resources development and knowledge sharing among districts.

III. IMPROVING PUBLIC SERVICE DELIVERY:

20. The second aspect of providing a better life for the Punjab's citizens is improved delivery of public services. Primary education is better and health status is worse in the Punjab relative to other provinces in Pakistan. However, both are still worse than countries with the Punjab's level of income. Further, they have changed more slowly than would be expected given the rate of economic growth in the province. The role of public services in determining social outcomes is unclear, as there is an astounding lack of relevant information that would make this determination possible.

21. Under the ongoing devolution initiative, local government nazimeen are now the principal policymakers with regard to many key economic and social services. In order for local elected officials to discharge their new responsibilities effectively, they need to understand, act upon, and be accountable to, the desires of the public—particularly poorer people. Better information is thus critical to both better policy decisions as well as better accountability. The public should know what it is entitled to receive and what it is actually receiving relative to government policies and relative to other communities. For their part, local governments need to know the effects of policy on the ultimate goals. This requires information on inputs in a form that can be matched to outcomes.

22. The role of the provincial government does not disappear with decentralization but needs more clarity to avoid overlapping and ambiguous responsibilities. For example, the provincial government is essential for particular functions, such as those with cross-border or large-scale effects. Further, the provincial government has a very important role to play in helping to improve the accountability of local governments to their clients by generating and publicizing information to facilitate both learning across districts and accountability to electorates.

- Attention to better health and education outcomes, not just better internal processes of government offices, is needed for improved service delivery. Providers in the public sector should be held accountable for improved outcomes.
- Given a large and growing private sector in both health and education, public policy must complement rather than substitute for the private sector. Information needs to be collected on outcomes—enrollment rates or educated children, health status and coverage of safe water—for the whole population, not just those using public facilities.
- As local governments experiment with alternative strategies for delivery of economic and social services, it is important to monitor these various new initiatives, and evaluate carefully what works and what doesn't.

IV. IMPROVING PROVINCIAL FINANCES FOR DEVELOPMENT:

23. To achieve its employment, growth, and service delivery goals, the Government of the Punjab will need to significantly improve the state of its public finances. On the face of it, the provincial government's aggregate fiscal position appears to be reasonably satisfactory, with fiscal deficits during the 1990s averaging less than 1 percent of provincial GDP, lower than those typically run by sub-national governments in other federal systems across the world. However, in order to achieve its ambitious development goals, the provincial government will need to mobilize additional revenues to finance the cost of providing high-quality economic and social services, and deepen budgetary and financial reforms to enhance the effectiveness of existing expenditures. Unless suitable measures are taken to address this potential problem, liabilities arising employees' future pension payments may pose a major financial problem for the provincial government.

24. The report includes recommendations on several promising sources to increase own-revenues, as well as various steps needed to strengthen provincial tax administration. Establishing provincial finances on a firmer footing in turn will help create the additional fiscal space needed to improve public infrastructure and service delivery in the province. The process of using a medium-term budget framework introduced by the Government of the Punjab in its 2003/04 budget should be expanded to gradually cover all provincial expenditures. A key element in deepening this process will be to do away with the bifurcation of the budget into development and recurrent components.

- The agricultural income tax's structure and administration should be improved by using cropped rather than cultivated area as the taxable unit, lowering tax threshold on irrigated farms, and reducing tax avoidance by prohibiting *benaami* transactions.
- The urban immovable property tax should be improved by reducing the differential in assessment rates for renter vs. owner-occupied properties and rationalizing remaining exemptions. Tax data-bases should be updated using better census and survey techniques so that all properties are enumerated and their rental value properly assessed.
- The government should consider promulgating a provincial fiscal responsibility law on the pattern of the Federal Government, as well as improve financial accounting and reporting.
- The provincial government's plan to streamline and modernize the tax administration machinery by merging the provincial Board of Revenue and Excise and Taxation department should be pursued with full vigor.

V. IMPLEMENTATION CHALLENGES AND FURTHER WORK ON THE STRATEGY

25. Several recommendations presented in the report are not necessarily new; indeed some have been well-researched and known for many years. Nevertheless, because of a variety of political-economy and other institutional constraints, they have not been acted upon earlier. The present provincial government has demonstrated its willingness to embark upon a comprehensive program of economic and structural reforms to improve the quality of life of its people. It has prepared a Poverty Reduction Strategy Paper outlining the main objectives of its development strategy, and has initiated ambitious reforms of provincial finances and the education sector with financial and technical assistance from development partners. During the past few years the Federal Government has undertaken extensive reforms to help correct macroeconomic and fiscal imbalances, and is now increasingly focusing its efforts to address more deep-seated structural issues and constraints

impeding faster economic growth. The prevailing economic situation in Pakistan thus provides the provincial government with a particularly favorable environment in which to augment its ongoing reform effort.

26. In translating its good intentions into reality, an important challenge for the provincial government will be to tackle the capacity and institutional constraints that have hindered earlier efforts. In addition to strengthening the existing system of financing, over the medium term the provincial authorities must develop other innovative methods to bridge the likely shortfall between its investment needs and resources. With the growing emphasis on decentralization, it is inevitable that there will be changes in the scope and manner of managing the provincial economy. In addition to its present role, the Punjab government will become increasingly involved in the type of economic management that can best be described as "macroeconomic". We understand, of course, that macroeconomic management for a province differs in significant respects from that for the country as a whole. The provincial government is not the prime mover in a number of key areas of macroeconomic policy, such as tax policy and interest rates. Nevertheless, the provincial authorities must still monitor the impact of central government policies on the provincial economy. Moreover, the coordination of policies with the central government can be more effective if the effects of central government policies on the provincial economy can be described in a quantitative manner.

27. A *sine qua non* for managing the economy on these expanded lines is the development of a suitable database and of institutions that provide the required analytic expertise. In this report, we recommend the compilation of a database that would cover the main indicators, such as the provincial GDP, investment, savings, flows of credit, employment, industrial production, and so on. It will also require reliable information on the informal sector, which provides so much of the employment to the Punjab's labor force, and on the impact of economic policies, both central and provincial, on the SME sector. The government should also strengthen the capabilities of the Planning and Development Department, the Finance Department, and provide greater analytic support to all other departments, either by developing in-house capacity, or by strengthening external research institutions such as the Punjab Economic Research Institute.

28. Another major area in which information must be collected and a program of work developed relates to city clusters. A strategy must be formulated whereby the many large and medium cities in the Punjab can be developed into growth-poles, and not for economic reasons alone. An urban strategy for the Punjab should aim at the development of several "livable" cities, which in addition to economic possibilities offered substantial opportunities for social and cultural growth. This would be in the spirit of decentralization and local empowerment, and would also prevent a situation arising in which Lahore became the overwhelming, if not the sole, magnet for population migration while the other urban centers withered.

29. To sum, considerable additional work will need to be done in order to operationalize the government's vision for the Punjab. The present report should therefore be regarded as a contribution to work in progress that will be continued in the coming months. It is intended to be an input into the process of deliberations undertaken by the provincial government team to decide the appropriate sequencing of the recommended measures under its reform program. The report team stands ready to provide whatever additional technical assistance may be needed by the provincial government for this purpose.

CHAPTER 1: THE CHALLENGE AND THE ISSUES

1.1. The Government of the Punjab has indicated the main elements of its economic strategy. This strategy rests on five pillars: (i) improving governance; (ii) strengthening fiscal and financial structures; (iii) creating a more supportive environment for private sector-led growth; (iv) reforming the delivery of public services; and (v) addressing the provincial economy's vulnerability to shocks. Taken together, these elements add up to a strategy that is occupied not only with increases in output, but also encompasses items such as education, health, improved governance, and protection of the environment. The overriding concern is to provide a better life for the province's citizens.

1.2. This report offers a first cut at operationalizing the strategy. It identifies what the Government of the Punjab needs to do, primarily in a relatively short-term, and what actions it needs to start in order to be completed in the medium-term.

1.3. In the short- to medium-term, the provision of a better life to the Punjab's citizens depends essentially on two considerations. First, incomes must be increased; second, the delivery of public services must be improved.

1.1 CHARACTERISTICS OF INCOME

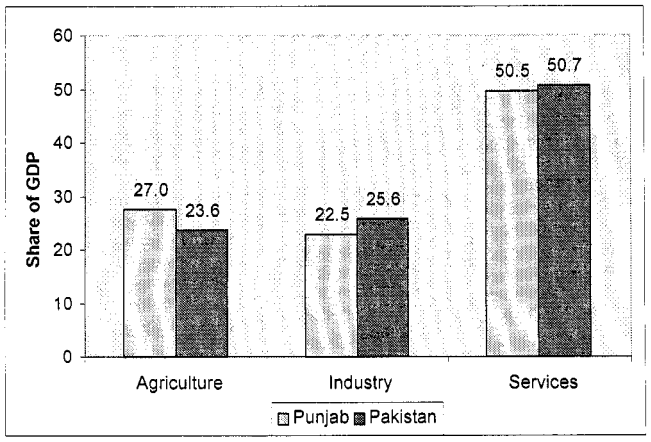
1.4. The first part of this report concentrates on issues connected with the increasing of incomes. In a market economy, incomes mainly depend on productive employment. The latter depends upon the demand for labor, which in turn is generated by economic growth. Hence, the highest priority for the government of the Punjab in implementing its strategy is to increase the rate of growth of the provincial gross domestic product (GDP).

1.5. An official estimate of the GDP of the Punjab does not exist. In order to devise any meaningful policy, it is necessary to have quantitative data. The report recommends that the Punjab Bureau of Statistics should give high priority to construction of a reliable series of provincial accounts, and should carry this out in coordination with the Federal Bureau of Statistics. Moreover, since policy-making requires availability of data on a timely basis, it would be important to identify a set of intermediate indicators correlated with various sub-sectors of the economy that can help track progress in these sectors. For instance, if data on indicators such as fertilizer use, electricity consumption by industrial consumers, and cement are found to be highly correlated with agriculture, manufacturing and construction activity, etc., these can provide good proxies for trends in various key sub-sectors of the provincial economy.

1.6. As an interim measure, the World Bank has constructed a rough series of provincial GDP following the national estimation methodology wherever data are available in disaggregated form. Since information is not available for all sub-sectors, regional allocators have been applied in these instances to estimate the provincial economy's contribution to gross national output. These provincial GDP estimates and a short description of the methodology are presented in the report's statistical appendix. We must, however, emphasize the approximate nature of our calculations and stress that they should be used as broad indications of trends rather than as precise estimates for a given year.

1.7. With a total population of about 74 million in 1998—well over half of the national total—and an estimated provincial GDP that accounts for about 57 percent that of Pakistan overall, clearly factors that affect the economy of the Punjab have a bearing on the country as a whole.

Figure 1.1: Composition of Gross Domestic Product in 2001/02: Punjab and Pakistan



1.8. As illustrated in Figure 1.1, agriculture constitutes a slightly larger share of the Punjab's economy than of Pakistan as a whole, while industry contributes a somewhat lower share than the overall national average. The services, which now constitutes over half the aggregate GDP, has been the fastest growing of the Punjab's economy during the 1990s, registering an average growth rate of roughly 5 percent per annum (Table 1.1).

Table 1.1: Growth Rate of Real GDP: Punjab and Pakistan: 1991/92 – 2001/02
(Percent per annum)

Year	Punjab			Punjab GDP	Rest of Pakistan	Pakistan Overall
	Agriculture	Industry	Services			
1991/92	11.5	7.4	8.5	9.2	5.6	7.6
1992/93	-6.9	5.5	4.9	1.4	2.9	2.1
1993/94	3.6	4.4	4.5	4.2	4.5	4.4
1994/95	11.7	2.4	5.3	6.4	3.3	5.1
1995/96	6.3	8.6	5.2	6.3	7.0	6.6
1996/97	-0.6	0.4	4.0	1.8	1.6	1.7
1997/98	6.3	4.2	3.1	4.3	2.5	3.5
1998/99	1.5	5.9	5.0	4.2	4.2	4.2
1999/00	7.4	2.3	4.9	5.0	2.5	3.9
2000/01	-2.1	3.4	4.2	2.2	2.2	2.2
2001/02	2.2	5.5	4.8	4.3	2.2	3.4
2002/03	3.6	4.6	5.3	4.7	5.6	5.1
Average (1991-2002)	**3.6**	**4.5**	**5.0**	**4.5**	**3.7**	**4.1**

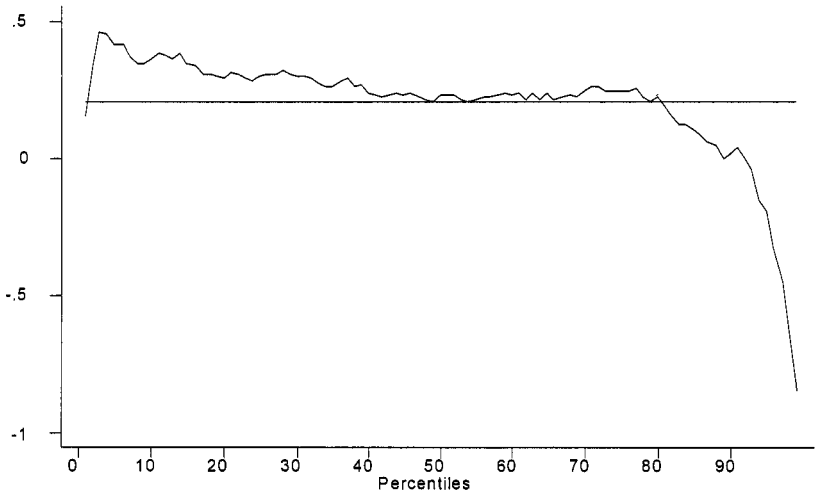
Source: Staff estimates. See Statistical Appendix for details.

1.9. Between 1991/92 and 2002/03, the provincial GDP of the Punjab increased in real terms at about 4.5 percent a year, faster than the 3.7 percent annual growth recorded in the rest of the country. Given that population growth in the Punjab was in the neighborhood of 2.4 percent a year, the per capita income in the province increased annually at about 2.1 percent during this period. This would be the average rate of growth; obviously, for many individuals the increase would have been

less than the average. Moreover, since the average rate was so low, it means that many individuals must have suffered a negative rate of growth—they would have become increasingly poorer. The low rate of growth of per capita incomes for an extended period is the root cause of the increase in the incidence of poverty in the Punjab.

1.10. The failure of the economy of the Punjab to grow sufficiently fast as to reduce poverty in a meaningful way can be determined through another approach. Two factors determine changes in poverty outcomes: the economic growth rate, and changes in inequality. Ravallion and Chen (2003) have combined these two factors into a measure of pro-poor growth. The graphical representation of the pro-poor growth measure—often referred to as growth-incidence curves—shows how much of economic growth accrues to each centile (or one-hundredth) of the population. Figure 1.2 illustrates this calculation for the Punjab between 1984/85 and 2001/02.

Figure 1.2: Growth-Incidence Curve for Punjab: 1984/85 to 2001/02



Note: The figures show the change (in percent per year) in average real per capita expenditure by centile. The all-Pakistan consumer price index was used to deflate expenditures. A downward-sloping curve means that households in the lower end of the income distribution have gained more/lost less in percentage terms as compared to others. The horizontal line shows the mean percentile growth rate. ***Source:*** Staff estimates based on data from various HIES/PIHS.

1.11. Long-term growth in household real per capita expenditures has been positive, but modest; the mean growth rate across all centiles was only 0.25 percent per year. Growth appears to have been pro-poor, with the bottom end of the income distribution registering above-average expenditure growth of around 0.3-0.4 percent per year. By contrast, the richest 10 percent seems to have experienced declining living standards, although it is possible that changes in sampling and non-sampling errors over this long period may make comparisons at the very top end of the income distribution difficult. What is evident from Figure 1.2 is that, while changes in the quality played a positive role, the sluggish growth rates in household incomes over this long period were the main problem hindering poverty alleviation. Declining inequality helped lift the very bottom end of the income distribution a little faster than the rest, but incomes of everybody, including the poor, increased at a very modest rate over this long period.

1.2 THE POVERTY CHALLENGE

1.12. It may be useful to describe briefly the contours of the challenge that is to be met. The long-term evolution of poverty in the Punjab follows that of all-Pakistan: poverty declined rapidly during the 1980s and early 1990s, and then increased somewhat until 2001/02. (Table 1.2). Between 1993/94 and 2001/02, the slowdown in economic growth and worsening macroeconomic conditions in Pakistan translated into rising poverty. By 2001/02, poverty in Punjab had increased to 34.1 percent; however, the recent rise in poverty has been smaller than in other provinces of Pakistan, and recent years show a substantial decline in inequality. The Gini coefficient of household per capita expenditure for the Punjab now stands at 0.28 (comparable Sri Lanka, India, and Bangladesh). While GDP growth in Pakistan has picked up somewhat in recent years, the impact this may have had on reducing poverty cannot be ascertained because household survey data beyond 2001/02 are not yet available.

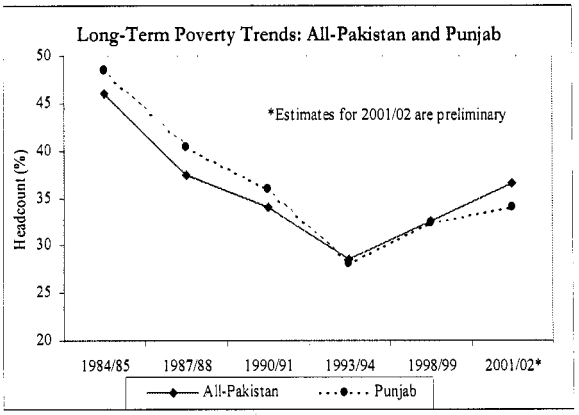


Table 1.2: Poverty Trends: All-Pakistan and Punjab: 1983/84 – 2001/02
(Percent of population)

	1983/84	1987/88	1990/91	1993/94	1998/99	2001/02*
All-Pakistan	46.0	37.4	34.0	28.6	32.6	37.3
Punjab	48.5	40.4	35.9	28.2	32.4	34.1
Rural: All-Pakistan	49.3	40.2	36.9	33.4	35.9	41.6
Punjab	50.5	42.1	38.5	31.9	34.7	37.0
Urban: All-Pakistan	38.2	30.7	28.0	17.2	24.2	26.4
Punjab	43.6	35.6	29.4	18.4	26.5	27.0

Source: Staff estimates based on various HIES and PIHS. Estimates for 2001/02 are preliminary.

1.13. The incidence of poverty is much higher in rural Punjab compared with urban areas. The very poorest tend to reside in rural areas: in the lowest 10 percent of Punjab's income distribution, only 21 percent of the population is urban, as compared to 48 percent of the richest 10 percent of the income distribution (Table 1.3). This does not imply that one can be complacent about urban poverty. While the latter is lower and fell much faster in 1984/85-2001/02, in the last few years of the period urban poverty in the Punjab actually grew faster than rural poverty.

Table 1.3: Expenditure and Urbanization in Punjab, by Decile: 2001/02

	Decile										
	1	2	3	4	5	6	7	8	9	10	Overall
Urbanization (%)	21.2	25.3	17.6	25.8	24.9	29.1	32.0	32.4	32.8	47.9	28.9
Expenditures (Rs)	398	525	607	682	758	855	967	1,116	1,361	2,276	954

Source: Staff estimates based on 2001/02 PIHS.

1.14. Nevertheless, even this decreasing inequality of expenditures leaves large gaps in living standards. The poorest 10 percent of Punjabis, for example, consume on average just below Rs 400 per capita per month. Vulnerability, defined as proximity to the poverty line, is also quite high. Three-fourths of the Punjab's population lives on less than 150 percent of the poverty line, and 63 percent live on less than 125 percent of the poverty line (Table 1.4). These people are vulnerable to even quite small shocks to their income. Since incomes have fluctuated substantially over time, all the individuals in this group can be considered to be at risk of experiencing poverty if hit by a shock.

Table 1.4: Poverty and Vulnerability in Punjab: 2001/02
(Percent of population)

	Headcount poverty	Below 125 percent of poverty line	Below 150 percent of poverty line
Rural	37.0	64.5	77.7
Urban	27.0	60.6	73.1
Overall	34.1	63.4	76.3

Source: Staff estimates based on 2001/02 PIHS.

1.15. Punjab has important regional differences in living standards. The ranking of living standards, poverty, and social indicators generally follows a North-South pattern in Punjab: income and non-income indicators of welfare are better in the North, followed by Central Punjab, and worst in South Punjab; likewise, poverty is lowest in the North and highest in the South of Punjab (Table 1.5). Northern Punjab is more urban, and is characterized by more extensive links to urban non-farm labor markets; in contrast, farming predominates in Southern Punjab. A clear North-South ranking is encountered in many if not most social indicators: literacy, school enrollment, prevalence of sanitation and toilet facilities, and vulnerability to income shocks. For example, using data from the 2001/02 PIHS, the above graph illustrates the existing regional imbalances in schooling. A strategy of poverty reduction must lay significant emphasis on rural areas, and must incorporate a regional strategy that pays special attention to the southern districts of the province.

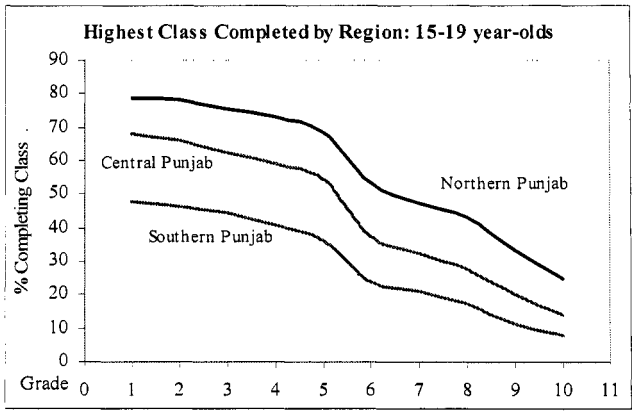


Table 1.5: Poverty Headcount Rate: Regions of Punjab: 1998/99 – 2001/02
(Percent of population)

	1998/99			2001/02		
Punjab Regions	**Urban**	**Rural**	**Overall**	**Urban**	**Rural**	**Overall**
Northern Punjab	18.3	29.6	26.2	20.1	33.8	29.8
Central Punjab	25.2	32.1	29.9	24.6	35.3	31.8
Southern Punjab	36.1	40.6	39.7	38.7	40.8	40.4
All-Punjab	26.9	34.7	32.4	27.4	37.0	34.1

Source: 1998/99: FBS (2002), 2001/02: Staff estimates based on the 2001/02 PIHS.

1.3 CHARACTERISTICS OF THE LABOR FORCE

1.16. The labor force of the Punjab in 2002 was estimated at about 27 million; about 70 percent of the labor force was rural, and 80 percent male. The 2001/02 Labor Force Survey indicates that self-employment accounts for 60 percent of all employment. The public sector employs only around 11 percent of employed workers, slightly more so in urban areas. However, the public sector plays an important role as an employer for 18 percent of urban female workers (Table 1.6).

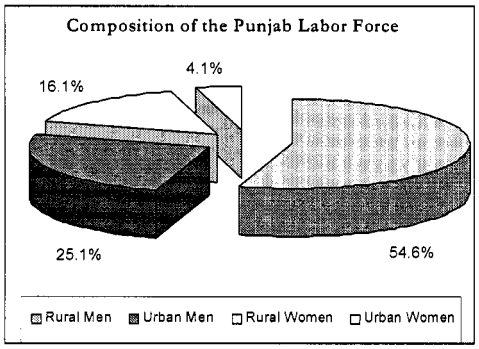


Table 1.6: Employment by Gender and Public/Private: 2001/02
(Percent)

	Men		Women		Both Sexes
Sector	Urban	Rural	Urban	Rural	Punjab Overall
Private	87.9	89.4	81.7	91.5	88.9
Public	12.1	10.6	18.3	8.5	11.4

Source: Staff estimates based on the 2001/02 Labor Force Survey.

1.17. The major burden of providing employment to the population is shouldered by the private sector. Moreover, the vast majority of employees in the private sector work in micro enterprises, including self-employment. The data suggest that 86 percent work in units employing less than five workers (Table 1.7). Since firms with less than 10 employees are normally regarded as "informal," it is clear that the livelihood of the majority of the population depends overwhelmingly on the informal sector, and poverty reduction will be closely linked with improving the productivity of this sector.

Table 1.7: Employment by Sector, Gender, and Size of Firm: 2001/02
(Percent)

	Men		Women		Both Sexes
Size of Firm	Urban	Rural	Urban	Rural	Punjab Overall
Less than 5 employees	88.9	90.1	86.5	55.2	85.7
6-9 employees	7.2	5.1	8.4	16.6	7.3
10-20 employees	2.2	3.1	4.0	12.6	3.9
More than 20 employees	1.6	1.7	1.1	15.6	3.1

Source: Staff estimates based on the 2001/02 Labor Force Survey.

1.18. Over the last decade there has been a significant structural change in employment. The share of agriculture in total employment dropped from 51 to 43 percent of the labor force (Table 1.8). Industrial categories that soaked up more labor include manufacturing (from 11 to 16 percent of workers), trade (from 12 to 14 percent), and services (from 13 to almost 15 percent). However, two-thirds of female workers still work in agriculture, and are also significantly represented in services and public administration, and in manufacturing.

Table 1.8: Employment in Punjab by Major Industry Division: 1993/94 – 2001/02 (Percent)

	1993/94	2001/02
Agriculture and Allied services	51.1	42.8
Manufacturing, Mining and Quarrying	11.3	15.7
Construction	6.5	6.0
Wholesale and Retail Trade	12.1	14.1
Transport, Storage, and Communication	4.5	5.4
Community, Personal, and Social Services	13.2	14.8
Other	1.5	1.2

Source: Federal Bureau of Statistics, Labor Force Survey Reports, various issues.

1.19. Recent trends in real earnings in the Punjab are not reassuring. Real earnings started to decline in 1996 and hit bottom in 2000. After a modest recovery in 2001, real earnings again fell back during the first half of 2002, the latest period for which data are available. Overall, real earnings for men and women in salaried employment fell by 13 and 15 percent, respectively, between 1993/94 and 2001/02 (Table 1.9); however, the biggest decline in real terms impacted on casual wages in the private sector. These declines were significantly higher than those for the rest of the country. The improvement of living standards will call for reversing this trend, i.e., it will require the creation not only of more, but also of better paid, jobs. This can only happen if productivity increases throughout a number of sectors and occupations.

Table 1.9: Change in Median Earnings: Punjab and Pakistan: 1993/94 – 2001/02 (Percent)

Region	Men	Women
Punjab		
Nominal Rupee Earnings	50.0	50.0
Real Earnings	-13.2	-14.9
Rest of Pakistan		
Nominal Rupee Earnings	67.5	66.7
Real Earnings	-2.1	-7.6
Pakistan Overall		
Nominal Rupee Earnings	64.8	38.7
Real Earnings	-8.4	-20.2

Source: Staff estimates based on 1993/94 and 2001/02 Labor Force Surveys. The CPI (base 2002) was used to convert nominal into real earnings.

1.4 THE EMPLOYMENT AND GROWTH CHALLENGE

1.20. Creation of productive employment opportunities is the key to accelerating income growth in a modern market-oriented economy. The total labor force in the Punjab has increased steadily over the years; however, its growth rate during the 1990s was considerably higher than in the earlier decade. It is estimated that between 1984/85 and 1993/94 the labor force grew at a rate of about 2.4 percent per annum, while between 1993/94 and 2001/02 it grew by 2.7 percent a year (Table 1.10). Assuming that the labor force in the Punjab grows at about 3 percent per annum over the next decade, this gives a labor force in 2011/12 of about 36 million.[1]

[1] It is difficult to accurately project the growth of the labor force because (a) it appears that the demographic transition may have commenced in Pakistan with the growth rate of the population finally slowing down; and (b) with the extension of

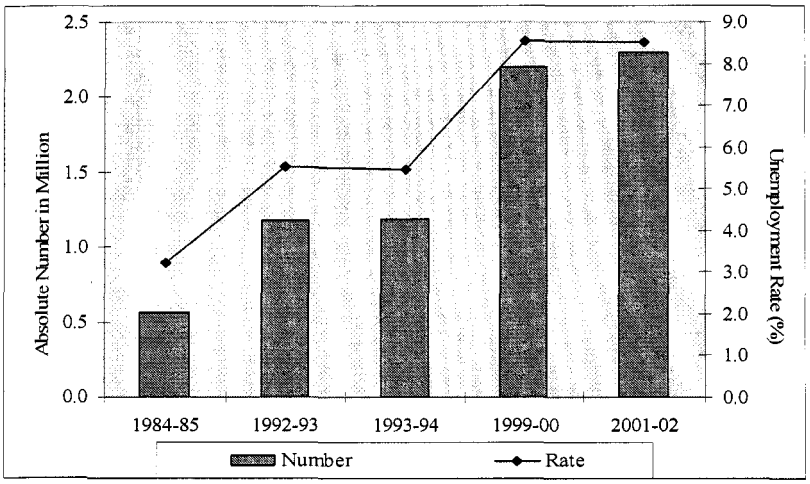
Table 1.10: Size of the Civilian Labor Force in the Punjab: 1984/85 – 2001/02 (Million)

	Number of Workers				
	1984/85	1992/93	1993/94	1999/00	2001/02
Punjab	**17.6**	**21.3**	**21.8**	**25.8**	**27.0**
Rural		15.8	16.5	18.5	19.1
Urban		5.5	5.3	7.3	8.0

Source: Federal Bureau of Statistics, Labor Force Survey Reports, various issues.

1.21. Open unemployment, as measured by the Labor Force Surveys, has been on the rise during the past two decades, and was estimated to be about 8.5 percent in 2001/02, more than twice the rate in 1984/85 (Figure 1.3). This represents an almost four-fold increase in number of people unemployed, from about 0.6 million in 1983/84 to about 2.3 million in 2001/02. If the government of the Punjab aims to provide full employment, defined to incorporate 5 percent unemployment for frictional and structural reasons,[2] to this labor force, then 10 million additional employment opportunities (or roughly one million per year) will have to be created during this period. This rate of job creation, which includes self-employment, on the present employment base implies a growth of employment of about 3.4 percent a year.

Figure 1.3: Unemployment in the Punjab: 1984/85 – 2001/02 (Million and Percent of labor force)



1.22. The elasticity of employment with respect to economic growth measures the relationship between growth in the economy and growth in the labor force. Over the period 1993-2002, Punjab's elasticity of employment with respect to GDP growth has been estimated at 0.55 (that is, 10 percent economic growth translates into 5.5 percent employment growth). This estimate of the employment

primary and secondary education undertaken by the Punjab government, one would expect longer stays by school-going age cohorts in educational institutions and hence delays in their entry into the labor force. However, since the previous rapid population growth has left behind a large and young population, future growth of the labor force will likely be more rapid than the population, and also faster than the 2.7 percent growth registered between 1993/94 and 2001/02.

[2] Lord Beveridge, who developed the full employment policy for the Labor Party in Britain, defined "full employment" as incorporating 3 percent unemployment in order to account for frictional, seasonal, and international factors. President Kennedy's Council of Economic Advisers defined full employment as constituting 4 percent unemployment, the Ford administration accepted 4.9 percent unemployment as the benchmark for calculating "full employment GDP," while President Carter's Council raised this to 5.1 percent.

elasticity implies that for the required employment growth of 3.4 percent, provincial GDP needs to grow by about 6.2 percent a year in real terms. **Thus, in broad terms, one might define a necessary condition for the Government of the Punjab to attain its development strategy as the creation of about one million employment opportunities a year. With the existing institutional and technological setup in the Punjab, this is likely to require an annual real growth of provincial GDP of around 6.2 percent a year, or 2 percentage points higher than that experienced during the 1990s.**

1.23. The main impetus for higher growth and faster job creation in the Punjab will likely come from the non-farm sector in the coming years, a topic that is taken up for more detailed discussion in the next chapter. The natural resource, environmental, and social implications of pursuing a high growth strategy are all important issues that merit serious consideration. However, since the underlying analytic work that is needed to support this does not exist at present, these topics are not taken up further in this report. Instead, more in-depth follow-up work to this end will be required.

1.24. For instance, a high growth strategy for the Punjab will likely require substantial increases in energy availability, given that the industrial and transport sectors account for the bulk of total domestic energy consumption. Per capita energy use in Pakistan in 2000 was estimated to be 459 kg oil-equivalent, considerably lower than in countries with comparatively higher levels of income—for example, Indonesia (708 kg), China (905 kg), Malaysia (2,126 kg), and Korea (4,067 kg).[3] Further work will be needed in the coming months to help assess the various fuel options that are available to the government and the private sector to meet the higher energy requirements over the next decade or two. For example, an in-depth study for Thailand carried out by the World Bank in 1993 in collaboration with the National Energy Policy Office examined the present status and possibilities of various possible fuel sources, and accordingly recommended a fuel strategy for the country.[4]

1.25. Similarly, when devising a suitable high growth strategy for the province, it would be important to also pay due attention to the environmental and social implications of the various policy options under consideration. For example, increased domestic energy consumption, or rapid expansion of the transport and manufacturing sub-sectors of the economy, will pose new challenges for the environment, such as in the abatement of pollution, amelioration of congestion, etc. This in turn will require suitable policy and institutional responses by the provincial government.[5]

[3] Source: World Development Indicators 2000, World Bank.

[4] This study helped identify various options with regard to most appropriate fuels for Thailand, as well as where, at what cost, and under what conditions they should be obtained to best meet the country's energy needs in different time frames (for more details, please see World Bank 1993).

[5] For an illustration of the type of analysis and future work that would be needed in order to study the environmental implications of a high growth strategy, please see *Thailand: Mitigating Pollution and Congestion Impacts in a High-Growth Economy* (World Bank 1994).

CHAPTER 2: PROMOTING JOB-CREATION IN THE NON-FARM SECTOR

2.1. The private sector in the Punjab employs close to nine-tenths of the total work force, so if increasing incomes and reducing poverty are key aims, then clearly the main impetus for growth and job creation must come from this sector. The Punjab private sector encompasses both the off-farm sector as well as agriculture. Chapters 2 and 3 address the main issues in both these sectors and present a number of recommendations. While the total number of workers employed in agriculture has virtually stagnated between 1993/94 and 2001/02, total employment in the industrial and services sub-sectors has increased by 1.7 million and 2.3 million respectively (Table 2.1). This report therefore first examines the job-creation potential of the non-farm sector of the provincial economy.

Table 2 1: Composition of the Employed Labor Force in the Punjab: 1984/85 – 2001/02 (Million)

Sector of Employment	Number of Workers			
	1984/85	1993/94	1999/00	2001/02
Agriculture	8.6	10.5	11.3	10.6
Industry	3.4	3.8	4.2	5.5
Services	5.1	6.3	8.1	8.6
Overall	**17.2**	**20.6**	**23.6**	**24.7**

Source: Federal Bureau of Statistics, Labor Force Survey Reports, various issues.

2.2. The non-farm sector includes manufacturing, construction, wholesale and retail trade, transport, and other services (Table 2.1). In the Punjab in 2002/03, these sub-sectors combined contributed well over two-thirds the total provincial GDP. For the generation of employment, small and medium enterprises are particularly important—the bulk of total employment is in the informal sector (i.e. own-account enterprises, or those that have less than 10 workers). In addition to creating an environment to spur productivity and growth of formal firms, the challenge is to help boost informal enterprises, both by easing their evolution to formal firms and by increasing the dynamism of the remaining informal enterprises. This section summarizes recommendations on reducing unnecessary regulations, which have been a major factor in increasing the cost of doing business and hence a major disincentive to investment and private sector growth. These recommendations apply to a wide range of activities in different non-farm sectors.

Table 2.1: Composition of Punjab's Non-Farm Sector GDP: 2001/02 (Percent of total)

Non-Farm Sector Category	2001/02
Manufacturing	22.1
Housing and Construction	12.9
Wholesale and Retail Trade	21.8
Transport, Storage, and Communication	12.8
Public Administration and Defense	8.4
Other	21.9

Source: Staff estimates.

2.1 DEVISING A GROWTH STRATEGY FOR SMALL AND MEDIUM ENTERPRISES

2.3. There exists a marked dichotomy between economic participants in Pakistan's private sector. On one end of the spectrum, formal large enterprises enjoy a high degree of protection, get virtually all the institutional private credit, use relatively modern technologies and management, make most of

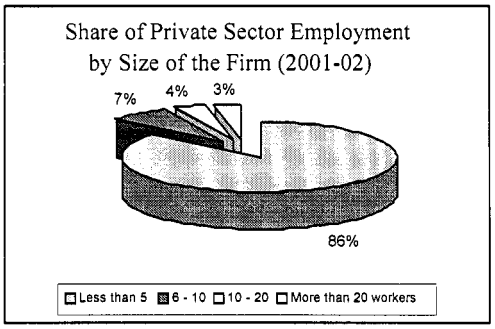
the country's private investment, deliver most of its private exports, and pay higher salaries. On the other end, there exist the small, micro, and medium industries (henceforth collectively referred to as SMEs) that in many cases are informal units, are financially constrained, turn out much of the country's private output, and account for most of its private jobs. Yet the country's policies—for import protection, for taxation, for technology transfer, for access to finance, for infrastructure, for dealing with labor, and so on—are all devised with the larger enterprises in mind. Similarly, access to policymakers and opportunities to influence the policymaking process are far easier for large enterprises than the SMEs; indeed, the latter generally are unable to affect policymaking at all.

2.4. The literature on the international experience of economic growth lays out a role played by SMEs in structural transformation as a country moves from low-income towards middle-income levels. The "stylized facts" are well known, and can be rehearsed very briefly.

2.5. With increasing economic development the share of agriculture, both in output and employment, decreases in percentage terms. At the same time, manufacturing and the services sector (the latter including all trading and retailing activities), expand and begin to predominate.

2.6. In the early stages of structural transformation the micro and the smaller enterprises dominate the industrial sector. However, as incomes increase, the share of medium and large firms expands. Studies indicate that the enlargement of scale persists even after controlling for the variation in capital-labor ratios across industries. In the main, the expansion in scale results from the ability of firms to exploit economies of scale and to move down their learning curves. The "typical" behavior of SMEs in an economy's industrial structure is thus that it dominates (in percentage terms) at low levels of development, peaks as the economy attains middle-income levels, and then declines with further development. The literature therefore concludes that SMEs play a vital role in structural transformation (especially from low to middle income levels) in providing employment and output in the early and middle stages of the transformation, and perhaps also in facilitating the transformation.

2.7. These, however, are but "stylized facts." The actual role played by SMEs or any other factor in a country's development is specific to that country. It appears that in Pakistan the SME sector has acted neither as a significant engine of growth, nor as an important conduit for structural change. Judging from international experience, Pakistan might represent a case where the potential of SMEs has not been adequately exploited. The private sector in the Punjab provides close to nine-tenths of total employment. An overwhelming share (86 percent) of private sector employees works in units with less than 10 employees. Firms with less than 10 employees are normally assumed to be informal. Thus the livelihood of the majority of the population depends overwhelmingly on the small enterprises, particularly in the informal sector. Seen in this light, it becomes clear that poverty reduction is linked closely with improving the productivity of the informal sector. Moreover, this sector is likely to be an important source of employment growth, having an estimated elasticity of employment with respect to output of 0.85 (GoP 2003).



2.8. A strategy for dealing with the SME sector must be devised, but this strategy cannot be simply to support the SME sector for its own sake. Interventions to support the sector incur a cost, and

particularly in the case of a resource-constrained economy such as Pakistan's, the costs and benefits of providing such support must be carefully weighed. In this report, the recommendations are based not on a philosophic view such as "small is beautiful," but rather on a pragmatic judgment that: (a) small and medium enterprises account for the bulk of employment and hence any policies that might adversely affect their functioning should be thoroughly examined; and (b) many existing policies—especially those regarding location, finance, and infrastructure—discriminate against SMEs and an effort must be made to level the playing field. Thus the report does not advocate favors for SMEs, but rather the removal of biases against them. In highlighting the major bottlenecks confronting SMEs, the report pays particular attention to what the SMEs themselves report as major problems faced by them.

2.9. The first observation that must be made is that information on such a vital sector is quite inadequate. This includes the absence of a uniform official definition. SMEDA defines SMEs as units employing between 10 and 100 full-time staff; all informal enterprises, irrespective of business volume, are classified as micro-enterprises. In its new prudential regulations for SME finance, the State Bank of Pakistan defines the upper threshold for SMEs as enterprises employing up to 250 employees and an annual business turnover of up to Rs 300 million, while having no lower threshold.[6] The differences between these definitions lead to very different estimates of the number of SMEs. According to the SMEDA definition, about 80,000 SMEs and 2.2 million micro-enterprises were estimated to exist in 2003. The ADB reckons that if an internationally more common definition were applied (for example, units employing five and more staff), the total number of SMEs could come to more than 250,000. Such wide divergences could lead to rather large errors in policy.

2.10. We recommend, therefore, that the authorities in the Punjab undertake surveys of SMEs, their functioning and problems, at regular (preferably annual) intervals. Until such time as a reasonably comprehensive database is built up specifically for the Punjab, one is compelled to supplement the province-specific information with the findings of studies for all Pakistan, and from comparable situations in India and other international sources.

2.11. Surveys have consistently shown that credit-related problems act as binding constraints to SME growth in Pakistan, particularly in the manufacturing sector (for instance, see Nabi 1988). More recent surveys sponsored by the Asian Development Bank show that these constraints are not binding for large manufacturing firms and, therefore, reflect size-specific limitations. Most SMEs operate through self-financing or retained earnings. The ADB surveys suggest that in Pakistan only about 6 percent of fixed investment finance for SMEs comes from development finance institutions and commercial banks (Bari and Cheema, 2003). The initial investment tends to be self-financed, while operations are largely financed through retained earnings. This contrasts sharply with large firms, which can rely quite heavily on commercial banks for both working capital and fixed investment finance. Even within the set of SMEs, access to credit is highly correlated with firm size.

2.12. The access difficulties result from cumbersome procedures and excessive requirements of collateral. The loan approval process can take anywhere from two to 10 months, and frequently requires the payment of bribes in order to have the loan processed. Access to credit is also made difficult because of the State Bank of Pakistan's prudential regulations that limit the ability of banks to lend to SMEs on an unsecured basis. What compounds the problem, according to SMEDA, is that

[6] The upper threshold for employment and the use of business turnover are in line with international practice.

the financial institutions stipulate norms regarding collateral that are even more stringent than required by the State Bank—financial institutions frequently require collateralization from SMEs of up to 120-130 percent of the loan value.

2.13. The Government of the Punjab may not be able to resolve these matters in the short run, because many of the solutions lie outside its writ. However, the importance of SMEs in the economic structure of the province and the financing difficulties faced by them must constantly be brought to the attention of financial institutions and the central financial authorities, and a strategy developed for dealing with the problems.[7]

2.14. Having to depend largely upon retained earnings, the growth of SMEs in Pakistan becomes strongly tied to fluctuations in retained earnings, which, in turn, are highly correlated, with macroeconomic fluctuations. The best macroeconomic environment for small firms is one of sustained high growth. Thus, policies of the Government of the Punjab to increase incomes will play a major role, because this is likely to enlarge the demand for the products and services of SMEs and hence stimulate an expansion of the output from, and employment in, these enterprises.

2.15. The second most important constraint on small firms is the infrastructure. In this area, power is the immediate and most important constraint. Unfortunately, solutions to the power problem are difficult for small firms. Owning and running one's own generation equipment is prohibitively expensive for most small firms, and cooperative solutions have also proved difficult in practice because private generating companies are not allowed distribution rights. Recent studies in India have suggested a variety of second-best solutions, such as awarding distribution rights to private companies with at least 40 percent of shareholding by power consumers within the industrial estate or cluster.

2.16. Many SMEs typically operate in clusters, with the geographical boundary delineating an "internal" market for all kinds of activities. The advantage in clustering results from the reduction in transport costs and from a somewhat easier access to credit from informal sources, because information about borrowers is more easily available within the cluster. Clustering also makes available a larger pool of labor with expertise in the activities carried on within the cluster.

2.17. By and large, therefore, the advantages of clustering result from "external economies," i.e., the benefits accrue primarily to the industry as a whole. Clustering does not necessarily lead to the expansion of the scale of enterprises; it might simply result in an expansion in the number of enterprises. Studies from India, Italy, Latin America, and elsewhere have suggested some necessary ingredients for the success of a cluster-oriented approach to the development of small enterprises. The necessary ingredients involve: (a) an extension of the clusters built around associations and leaders from the clusters; (b) improving access to finance via financing of cooperatives/associations; (c) developing regionally defined and legally recognized collective brand-names; for example, in the Punjab, a particular type of tiles could legally be defined as "Multani," while in Sindh "Halla" would (legally and exclusively) designate a certain type of lightweight pottery. This brand-naming, supported by control of the specifications, generally leads to improved and more uniform quality and fetches higher prices.

[7] A variety of business support services will be provided to SMEs in the ADB-financed SME sector development program.

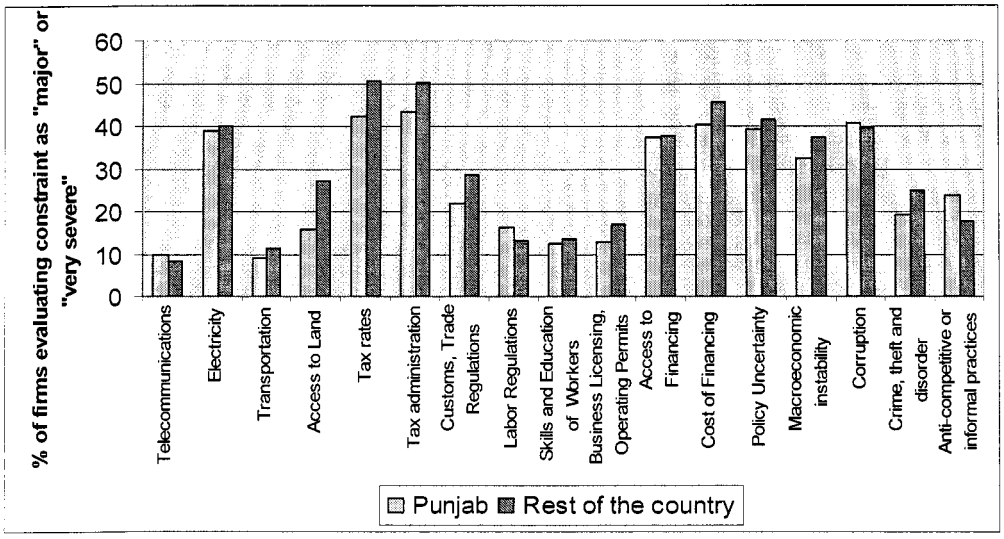
2.18. The system of trade protection also works against SMEs. A study by the Pakistan Institute of Development Economics found that in some important industries, such as textiles, leather and leather goods, SMEs received substantially lower effective rates of protection than larger enterprises. Moreover, SMEs generally have to buy imported raw materials, machinery and equipment from commercial importers, which increases their costs compared with larger enterprises that benefit from exemptions and investment promotion privileges.

2.19. Studies have also found that in Pakistan the linkages between SMEs and larger enterprises are not very important, and the subcontracting system is poorly developed. One way of encouraging these interlinks would be to promote clusters of enterprises of different sizes, and to reserve space for smaller units in all industrial estates.

2.2 Improving the Business Environment for Firms

2.20. The cost of doing business for the private sector is raised by requirements to comply with a wide range of cumbersome rules and regulations. The transaction costs of time-consuming fiscal and non-fiscal regulations are high. A comparison of the perceptions of formal and informal enterprises helps to understand how important the obstacles to investment faced by grass-roots entrepreneurs are. Such a comparison is especially instructive in the Punjab. The responses of a survey of 965 mainly manufacturing businesses across 12 cities in Pakistan (henceforth referred to as WB-SMEDA survey) show that the Punjab scores better on a majority of components of the investment climate (13 out of 17 constraints) than the rest of the country (Figure 2.1).[8]

Figure 2.1: Investment Obstacles faced by Formal Firms – the Punjab vs. other Provinces

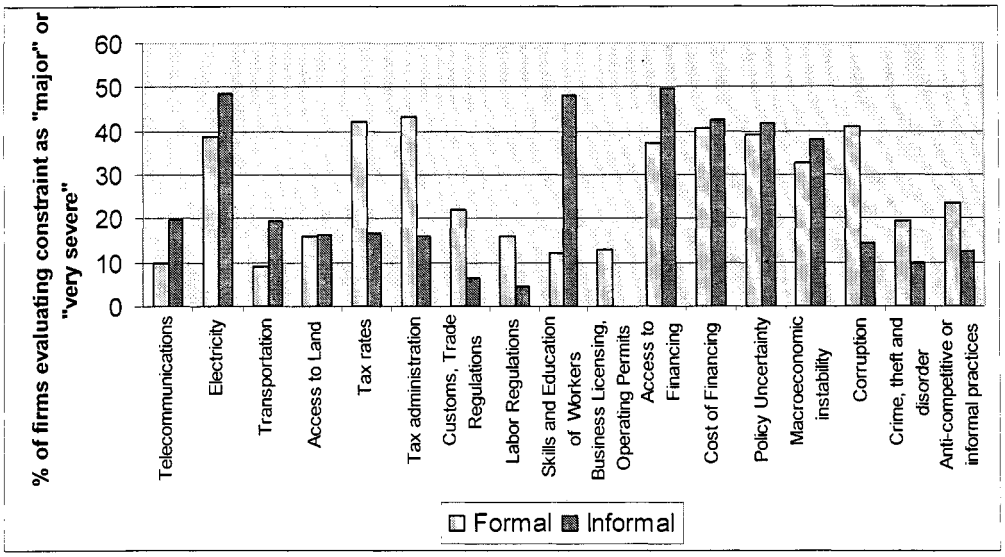


2.21. Although firms in the Punjab score slightly better on most constraints (and significantly better regarding access to land), the top barriers to investment are strikingly similar in the Punjab and the rest of the country: tax enforcement and tax levels, corruption, the cost of finance, and electricity. The finding from the WB-SMEDA survey that the Punjab's investment climate is on average slightly

[8] The World Bank Group and the Small and Medium Enterprise Development Authority (SMEDA) of the Government of Pakistan carried out this survey jointly, with financial support from DFID.

better is consistent with a related finding, namely that the provincial capital, Lahore, received the most favorable ratings overall among all cities covered by the survey when managers were asked to rank investment climate in the cities other than the one in which their firm was located (World Bank 2003). In 3 out of the 4 cases where the Punjab scored worse than the rest of the country, the difference was not significant (the margin was less than 3 percentage points). The only constraint where the Punjab scored substantially worse than the rest of the country was anticompetitive and informal practices, with 24 percent of formal firms in the Punjab versus 18 percent in the rest of the country reporting it as a major constraint. This suggests that informality, and hence causes of informality are likely to be particularly important in the Punjab.

Figure 2.2: Investment Obstacles in the Punjab – Formal vs. Informal Firms



2.22. Figure 2.2 illustrates differences in perceptions of the investment climate by firms in the Punjab operating in the formal and the informal sectors.[9] The top constraints to investment for informal enterprises are access to finance, electricity, and availability of skilled/educated workers.[10] Many of the differences between formal and informal enterprises can be explained by differences in the underlying nature of the formal and informal sectors. Since electricity, telecommunications, and transportation tend to be more formal than other sectors of the economy and have denser networks in the more developed regions of any locality, a firm's informality typically makes it more difficult to access these services, especially electricity. Corruption is a significantly less severe constraint for informal firms because informality helps them avoid taxes and other regulations that tend to be associated with more corruption.

2.23. Informality in the Punjab does not seem to be driven by the "natural" barriers to entry that are due to specific types of economic activity. Were it so, one would expect that informal firms should operate in the sectors that are less skill-intensive. Yet this does not seem to be the case: the

[9] The results are based on an informal sector investment climate survey conducted for the 2005 World Development Report, and comprising 255 micro and small enterprises (below 10 workers) in Lahore and adjoining areas.

[10] Establishment of *Punjab Industrial Estate Development and Management Company* (PIEDMC) appears to be a step in the right direction for alleviating some of the bottlenecks faced by the industrialists in Punjab. Similarly, *Punjab Small Industrial Corporation (PSIC)* has helped provide low cost finances to small and micro enterprises.

proportion of informal firms which have reported skills and education of available workers as a major obstacle for investment is four times higher than for formal firms. The inability of informal enterprises to grow and increase productivity appears severely hampered by their inability to attract skilled and educated workers—driven no doubt by the inclination of skilled workers to gravitate towards the higher paying jobs in the formal sector, but also by a relative scarcity of skilled and educated workers. In contrast, high tax levels, tax enforcement, trade-related and labor regulations are significantly less binding on informal enterprises, primarily because informality allows them to avoid their full impact. The top overall barriers to investment in the Punjab, tax enforcement and tax levels, are clearly impediments due to their impact on the formal firms—though under current practices they would be expected to have equal impact on remaining enterprises as they make their transition to formal status.

2.24. Policy uncertainty is a major investment constraint for both formal and informal firms in the Punjab. A similarly high number of both informal and formal firms report policy uncertainty as a major obstacle to investment (38 and 39 percent, respectively). The most probable source of uncertainty for all firms is uneven enforcement of regulations and tax laws: 59 percent of formal and 42 percent of informal firms disagreed with the statement that interpretations of regulations are consistent and predictable.[11]

2.25. Regarding finance, better access and lower costs of finance are missing benefits of operating formally for most firms in the Punjab. While cost of finance could be expected to be a greater problem for informal firms, as they are less likely to have strong collateral and a long credit history, cost of finance is one of the most severe obstacles to investment for both formal and informal firms: roughly 40 percent of both formal and informal firms report cost of finance as a major constraint. Access to finance is the most severe constraint for informal enterprises (50 percent), and only slightly less severe than cost of finance for formal firms (38 percent).

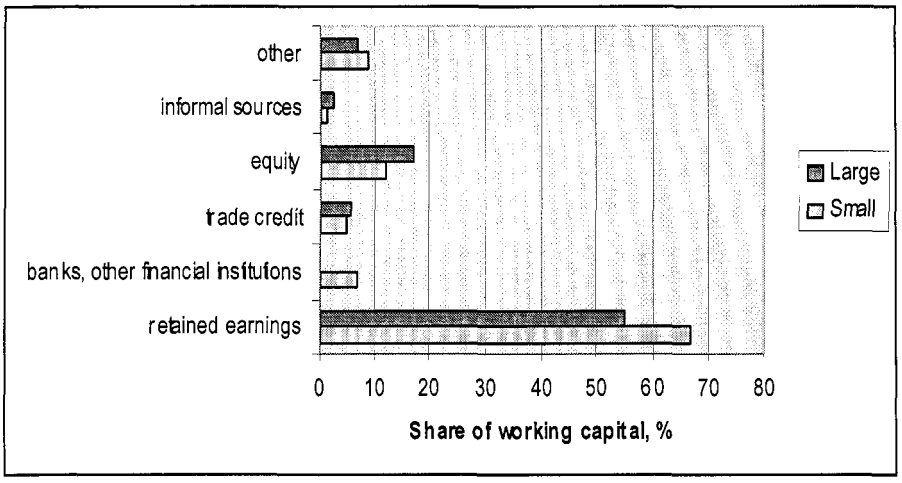
2.26. Small formal firms are more likely to suffer from inadequate finance than larger ones. While Pakistan has recently implemented a number of successful financial sector reforms, access to and cost of finance for small formal firms remains a critical issue (World Bank 2003). High collateral requirements, cumbersome procedures, and high borrowing costs are among the key reasons why small businesses are particularly constrained by lack of access to credit and high interest rates. As a result, they rely on bank finance less than larger establishments (**Error! Not a valid bookmark self-reference.**). The lack of external finance means that firms may not be able to take advantage of investment opportunities in a timely fashion. As smaller firms represent the great majority of firms in the country and employ more than 80 percent of manufacturing sector workers, these issues are of major importance for the Punjab's economy.

2.27. Many formal and informal firms in the Punjab report electricity-related problems as a major obstacle to investment (39 percent and 49 percent, respectively). On average, a formal firm experienced 18 power outages in 2001, causing estimated production losses equal to over 5 percent of the average firm's output. This is a major country-wide constraint to investment: Pakistan-wide

[11] The higher portion of formal firms disagreeing with this statement is probably due to the larger number of regulations relevant for these firms, which leads them to face unpredictable interpretations more frequently.

numbers are similar (15 outages per year and 5.4 percent of production lost) and much higher than in comparator Asian countries.[12]

Figure 2.3: Sources of Working Capital for Formal Firms in the Punjab



2.28. Accelerating investment and growth and creating employment opportunities, therefore, requires policy, legislative, procedural, and institutional reforms that will reduce the private sector's cost of doing business. Reducing the degree of administrative regulation and strengthening the accountability of public functionaries could curb the opportunities for rent seeking and the potential for arbitrary exercise of discretionary powers, and thus significantly lower transaction costs for the private sector.

2.29. Most of the issues that have a major bearing on improved incentives for investment and increased operational certainty (such as taxation matters; the availability, reliability, and cost of utilities; access to credit; security and political stability; policy predictability; and contract enforcement norms), arise from factors under the control of the Federal Government. Nevertheless, a strong and united voice at the provincial level should be instrumental in ensuring increased central government responsiveness to local problems—as we argue below.

2.30. Tax Related Constraints: The private sector regards the problem of dealing with government revenue agencies, in particular the Central Board of Revenue (CBR), a major constraint to its business operations and growth prospects. The taxation system in its present form raises the cost of doing business, especially by providing opportunities to extract rents. Entrepreneurs perceive the difficulties arising from frequent changes in tax legislation and accompanying rules, the uneven implementation of policies, the unpredictable interpretation and application of laws and associated rulings, the complexity of the documentation and other compliance requirements (especially sales tax refunds) and the inordinate discretion enjoyed by government functionaries with little redress as far outweighing the costs of dealing with other government agencies and departments. For SMEs these costs can be high, especially as the fixed cost element of compliance does not vary with firm size.

[12] In contrast to the 5.4 percent loss of production due to power outages reported in Pakistan, the comparable estimates for China and Bangladesh are 2 percent and 2.3 percent respectively.

2.31. Exporters face considerable hurdles in getting their sales tax refund and duty drawback applications processed in time. The departmental ceiling on the amount that a revenue circle can refund during a particular period further increases business costs. The case of a textile exporter who claimed to have six employees on his payroll just for handling sales tax refunds/duty drawback claims illustrates the nature, and magnitude, of the costs of dealing with government revenue departments.

2.32. The Government of the Punjab, as the administrator of the largest provincial economy, should lobby the Federal Government to facilitate the creation of a private sector friendly business environment. In particular, it should press for the rationalization of tax legislation, the rules and procedures for implementation, and the streamlining of the system of sales tax refunds.

2.33. Inadequate Infrastructure: Private manufacturing activities are adversely affected by the lack of reliable supply of electricity, forcing them to consider investment in alternative arrangements for power. However, even when businesses are prepared to make such investments, they find their options severely circumscribed by the policies and demands of utility agencies. For example, when a textile manufacturer requested WAPDA to disconnect him (since he had decided to install a gas generator), he was informed that his application would be processed in three years. As a result, the manufacturer had the choice to either remain WAPDA's consumer or switch to the alternate source but continue to pay the fixed line rent for three years.

2.34. Following the creation of electricity distribution companies (DISCOs) at the regional level, the Government of the Punjab—as in the case of tax reform—can be instrumental in influencing the reliability of service and the speed of response of local DISCOs.

2.35. Problems with Contract Enforcement: Pakistani manufacturers operate in a low trust environment. Surveys suggest that: (a) most SMEs are constrained to deal with a handful of stable suppliers and buyers,[13] depending on long-term stable relationships with a small number of clients, developed on the basis of reciprocity, rather than on general trust; (b) there is lack of trust of government; and (c) there is limited faith in the formal adjudication systems to settle disputes quickly and to enforce contractual obligations in a predictable manner, resulting in the uneven reliance on long-term contracts. The decision to either rely on informal mechanisms to enforce contracts or to carry out transactions only with those whose business ethics one trusts segments markets, raises transaction cost of organizing large-scale production and exchange, and discourages business development.

2.36. The pervasiveness of the lack of trust owing to difficulties in contract enforcement manifests itself in many ways, and is one of the more binding constraints to the expansion of businesses. For instance, manufacturers have, at times, had to resort to vertical integration, producing intermediate goods, even when they do not have any competitive advantage, resulting in non-optimal deployment of scarce resources. Similarly, retailers are known to have taken up manufacturing to secure their supply lines.[14] Moreover, businesses are less willing to expand their operations fearing the high cost

[13] See SME Center, at LUMS, SME survey. For a discussion of subcontracting as a production arrangement in the context of Pakistan, see Nabi 1988.

[14] The growth of the retail services sector is also stunted by the low educational accomplishments of the majority of traders/retailers. This not only limits their ability to expand their businesses, to hire and supervise qualified staff and to develop documented systems on operations but also makes them hesitant to elicit professional advice. There is considerable information asymmetry between lawyers, accountants and other professionals and an entrepreneur with inadequate

of complying with government rules and regulations, for example, to register or dissolve a company and maintain prescribed records. There are also the additional costs of 'greater visibility'.

2.37. Almost all of the constraints mentioned above are a function of poorly enforceable property rights and the lack of a fair, efficient and cost-effective judicial system. The timely dispensation of justice and compensation for official abuse of powers would greatly ease the private sector's difficulties regarding revenue matters. Similarly, if courts could speedily adjudicate disputes between two private parties or between a business and the government in a predictable manner, contract repudiation would no longer be a low-cost option, and entrepreneurs would be less reluctant to enter into long-term contractual arrangements.

Recommendations for Actions Within the Provincial Government's Control

2.38. As described above, the provincial governments have little role in investment promotion and business development. However, there are other factors that either lie within their domain or can be influenced by them through adequate budgetary allocations. For instance, the provincial government can ease problems of law and order and timely provision of justice by improving availability of human and financial resources. Other impediments to private sector activity emanate from regulatory uncertainty, concerning rules governing provincial enforcement of federal legislation on labor and factory laws and specific provincial legislation and associated regulatory structures governing building, electricity, and boiler inspections.

- ***Eliminate Multiple/Nuisance Taxation:*** The provincial and local government tax structures have also raised the cost of production. For instance, different levels of government levy multiple taxes on the same tax base, e.g., income tax and general sales tax (GST) are levied at the federal level, professional tax by the provincial government on a wide array of businesses (with an additional 'bed tax' in the case of hotels), while local governments impose a professional fee. Similarly, there is an entertainment tax levied by the provincial government and an entertainment fee by the district government, both of which should ideally be replaced by the GST (with revenue transferred to the relevant government on collection basis). Alternately, at least the provincial level taxes should be devolved to the local governments to avoid "double" taxation. Some of these are less appropriate, nuisance taxes in lieu of GST and the local property tax and impact negatively on the climate for investment. The provincial government levies an electricity duty[15] and a service charge on the use of generators by private businesses, even though the main reason for installing these is to ensure uninterrupted supply of electricity in the face of poor service provided by WAPDA.

- ***Address Remaining Weaknesses in Labor Laws:*** Many firms choose to remain small rather than have to deal with the complexity of dealing with as many as 27 different labor laws that are applicable on firms registered in the formal sector. In order to get around the rigidities of labor laws that become applicable to units with 10 or more workers, employers have resorted to a combination of capital intensive production processes, hiring of contract labor and/or fragmentation/legal

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educational qualifications. Entrepreneurs with low levels of education attainment are more open to exploitation by professionals and government officials. This partly explains their distrust of formal systems, their desire to function outside the range of the government's radar, and to keep businesses less documented and opaque.

[15] Of 2.50 paisa for domestic and 1.50 paisa for industrial connections per unit of the electricity tariff covering energy charges, fixed charges, the additional fuel surcharge and the additional surcharge.

subdivision of production facilities into smaller enterprises.[16] Firms prefer to hire casual and contract labor, largely to get around lay-off restrictions, and outdated labor legislation that stipulates detailed procedures for the resolution of disputes, causing uncertainty and raising the regulatory costs for businesses. An adverse outcome of these developments is that they have lowered the incentive of the private sector to invest in upgrading of skills, thereby affecting productivity and profitability of enterprises.

2.39. Under labor related legislation five levies are imposed, two of which, the Workers Welfare Fund[17] and the Workers Profit Participation Fund,[18] are structured in such a manner that they are levied like taxes on profits and only paid by enterprises making taxable profits. The other levies are the old-age benefit charge collected by the Employees Old-age Benefit Institution (EOBI) which is a Federal Government levy at 5 percent of the wage of a worker, a provincial levy for Social Security (at 7 percent of the wage payable) to the Punjab Employees Social Security Institute and Education Cess (a Federal levy but collected and retained at the provincial level), all payable by the employer and collected through three separate agencies, two of which are provincially based.

2.40. Despite a number of reforms that are under way, under the institutional arrangements currently in place, the workers do not benefit to the full potential of the resources mobilized from labor related levies. For instance, workers cannot exercise the choice of whether to maintain their pension (EOBI) account with the state-run EOBI managing the mobilized funds or a private fund management company, which could earn a higher return for them. Similarly, it could be argued that 7 percent of wages would buy better health care through private medical insurance than available through the Social Security hospitals run by the provincial governments. Labor welfare schemes are also not beneficial for either stakeholder. On the one hand, these schemes distort business incentives. On the other hand, from the workers point of view, returns are low or they encourage a shift in the employment structure towards contract labor.

2.41. Labor regulations, therefore, need to be simplified, revised and aligned with current market realities, such as the existence of contract labor and the requirements of flexible labor markets operating within a globalized trade environment (for implementation by a fewer number of regulators) while labor levies need to be consolidated for collection by one organization for distribution among different government agencies.

➢ ***Revamp Other Arcane Regulatory Legislation and Structures:*** Some of the regulatory laws are completely outdated, out of tune with technological developments, and beyond the technical competence of the enforcement machinery. In several instances, new products and instruments have become available that are better replacements and more effective mechanisms for achieving the objectives underlying the promulgation of existing laws or institutional and administrative arrangements for their enforcement. The provincial Boiler Act 1923, for example, requires Grade-11 Boiler Inspectors recruited and trained to enforce a legislation that may have been relevant more than 80 years ago, and are today expected to inspect and certify boilers manufactured by multinationals.

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[16] One study of the surgical instruments sector, *Sector Strategy Report-Surgical Instruments,* SMEDA, 1999/2000, suggests that only 17 percent of the firms operating in the sector were registered with the Labor Department.

[17] Payable at 2 percent of taxable income and collected by the Income Tax authorities for transfer to the Workers Welfare Board.

[18] Payable at 5 percent of profits and distributed among the workers of the company up to a maximum of Rs. 3,000 per worker of the enterprise, with the undistributed balance being deposited in the Worker's Welfare Fund.

This regulatory function can easily be outsourced to universities and private firms providing engineering services that could be pre-qualified on the basis of well-drafted selection criteria.

2.42. Similarly, the government has Building and Electricity Inspectors to ensure the safety and security of private buildings used for public purposes, for example, cinema houses and restaurants. Objectives underlying the regulatory functions performed by these functionaries can be better achieved if such buildings are comprehensively insured through private insurance companies. Even in Pakistan's economy, where the entire range of services on offer are still in the evolutionary stages of development, the private sector is able to provide products and services to supplant/replace the present role of the government's regulatory apparatus. Through this instrument the cinema owners can be spared the frequent visits of these government employees, who would be denied the opportunity for extortion on the basis of regulatory functions mandated to them. Moreover, the security and safety of the public using these buildings would also be assured, since the private insurance companies would ensure the proper construction and maintenance of the property.

2.3 Stimulating Faster Growth in the Construction Sector

2.43. Construction has the potential to be one of the most dynamic sectors of Pakistan's economy.[19] However, the shortage of housing units in the country is estimated to still be around 5 million units, indicating that this sector has considerable untapped growth potential. This is especially so in the Punjab where the number of housing units has increased by 2 percent per annum between 1980 and 1998, as compared with 3 percent p.a. for other provinces. With population growing at 2.5 percent per annum. (2.6 percent in other provinces), this sluggish growth in number of housing units has led to increased crowding of houses in the Punjab (while in other provinces number of persons per housing unit have declined), despite somewhat faster growth in income.

2.44. Total national investment in housing, at around Rs. 150–160 billion per annum, contributes less than one percent of GDP. This is due in large part to the relatively undeveloped state of housing finance. Historically, the state-owned Housing Building Finance Corporation has provided the bulk of housing finance. However, even at its peak, annual credit by formal financial institutions has never exceeded 1.5 percent of total housing investment, compared to around 25–50 percent in South East Asia and the United States respectively.[20] A culture of willful default along with procedural complications encountered by financial institutions in encashing collateral, particularly of immovable property, have deterred the private sector from venturing into housing finance activities. While high interest rates throughout the 1990s have also restrained the demand for credit, prevailing interest rates are now at their lowest levels ever.

2.45. While addressing the biggest problem constraining the development of the housing finance sector—the difficulties in enforcing foreclosure laws in the event of a default—is largely outside the purview of provincial governments, the Federal Government has recently taken several important steps in this regard. The improved performance of Banking Tribunals, along with enactment of the 2001 Finance Institutions (Recovery of Finances) Ordinance provide some hope that the challenges of foreclosure have been addressed effectively through strengthening of the legal framework and the

[19] Pakistan's PRSP notes that the employment elasticity of this sector with respect to GDP growth is more than twice that for the economy as a whole (overall GDP-employment elasticity: 0.41; construction sector 0.87).

[20] Presentation by Conrad D'Souza of the Housing Development Finance Corporation Limited, India at a Housing Finance Seminar in Karachi, August 2003.

debt recovery procedures.[21] The eventual development of a secondary market in housing finance, leading to the introduction of tradable mortgage-backed instruments whereby primary lenders can securitize their mortgage holdings for re-sale to other investors, will give an additional fillip to this sector.

2.46. The Provincial Government can also play an important role in addressing a number of other key legal, fiscal, and administrative barriers hindering faster development of the housing and construction sector. These include:

Unreliable Records of Rights due to Unclear Land Titles: The lack of adequate land information, access, and retrieval and verification system results in poor quality, reliability, and accuracy of the records of ownership rights. This dysfunctional nexus between land management and housing markets is a major impediment to the development of more efficient land markets.

High Rates of Stamp Duty and other Levies: In urban areas of the Punjab, the costs of registering property transfers include a 1 percent registration fee, a 5 percent provincial stamp duty on the value of the property (compared to a nominal transfer fee of Rs.150 per sq. yard and no stamp duty in Islamabad, and 3 percent stamp duty in Sindh), not to mention numerous other charges (professional charges, brokerage fees, court fees, etc).

Outdated and Non-uniform Building and Zoning Laws: Multiple agencies administer different zoning and building by-laws (e.g. those relating to heights of buildings, ratio of floor to plot area, etc.) and building approval criteria within a city. For instance, in the case of Lahore, these include the LDA, Cantonment Board, and Tehsil Municipal Administrations. These zoning and building by-laws need to be updated and made consistent across authorities within the province.

Excessive Land Regulation-Commercialization Charges: Some local government taxes and fees raise the cost of investment for the construction sector. For instance, in the case of change of use of property, LDA levies a commercialization fee of 20 percent of the value of the plot, even in areas that have already been declared as commercial zones.

Lack of Adequate Penalties for Non-Utilization of Land: The lack of adequate penalties to discourage speculative acquisition of property means that even when all associated infrastructure has been provided, colonization of housing schemes proceeds at a slow pace. Not only is the investment on roads, electricity, gas, water supply and sanitation systems, etc. under-utilized as a result, but also the assets created deteriorate because of long periods of non-use. To discourage speculation and release land for development, the government should consider raising the non-utilization fees on vacant plots along with appropriate measures to address the issue of *benaami* holding of property (thereby also minimizing the problem of unclear titles).[22]

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[21] The Ordinance allows financial institutions to repossess property without recourse to courts, and has also been successfully tested in the courts in two recent cases. Nevertheless, foreclosure may continue to be an issue in the case of home lending, since social and cultural values would also come into play, which would perceive financial institutions as forcing defenseless poor households to surrender their only shelter.

[22] Benaami literally means "no name"; a *benaami* transaction means any transaction in which property is transferred to one person for a consideration paid or provided by another. *Benaami* holding of property allows individuals to obfuscate the identity of the true owner of the property, or to undermine effective implementation of landholding ceilings.

Rent Restriction Legislation and Disincentives to Developing Rental Property: The excessive pro-tenant bias of the 1959 Urban Rent Restriction Ordinance, under which a Controller has the sole authority to determine the fair rent for residential premises as well as when eviction of tenants is justified, discourages development of properties for rental purposes. Other major factors that serve as disincentives for renting out property include the high rate of stamp duty and registration fees (3 percent and 1 percent of value of contract respectively), and that property tax on rental property is assessed at ten times the rate on comparable owner-occupied properties, even though both may have the same access to public facilities and amenities [the current property tax differential is much higher than in Karachi (2:1) or Islamabad (same rate applied)].

2.47. Any potential loss of revenue from the reduction in property tax rate of rented properties is likely to be more than recovered from a reduction in evasion of property tax on rented properties, increased development of properties for rental purposes, and a slight revision in the tax of owner-occupied properties. In addition, disposal of land owned by government in prime commercial locations and being used for less productive purposes (or leased out to the private sector at nominal rents), will help better exploit the potential of this scarce asset, and thereby stimulate private construction activity, improve land utilization, and mobilize revenues for all levels of government.

Recommendations for Actions Within the Provincial Government's Control

2.48. The Provincial Government can help reduce the cost of investment in construction, and improve incentives for construction of property for rental purposes through a number of measures:

- ***Rationalize the stamp duty on property related transactions***
- ***Prune change of use charges for property classified as "commercial" under zoning regulations***
- ***Rationalize development charges imposed by local water and sanitation agencies for change of use of property from "residential" to "commercial"***
- ***Impose a land non-utilization fee or an idle land tax***
- ***Promulgate a law abolishing the benaami holding of property***
- ***Revamp the Rent Restriction Ordinance.***
- ***Narrow the differential in property tax on renter and owner-occupied property***

2.4 Improving the System of Land-Titling in the Punjab

2.49. Land is a critical economic asset in any economy. A modern land administration system, with a secure, accurate, and accessible system of registering and recording land transactions, is widely accepted as an important mechanism for empowering the poor.

2.50. Current System of Record-of-Rights and Related Legislation: The records-of-rights in land in Pakistan are of the fiscal variety. The person shown on the records is responsible for paying land revenue or property tax and is presumed to be the owner, unless it can be proved otherwise. However, the title to land is only incidental, as Pakistani law does not admit to the provision of a

certificate from the government guaranteeing that the person mentioned in the records-of-rights is the true owner. In other words, entries in the records-of-rights can be challenged in the courts of law, as the registrar entering the transaction in official records only confirms the validity and accuracy of the document, but does not provide any legally binding assurance of title to the property.

2.51. Except for cases specifically provided for in the Registration Act or the Transfer of Property Act, registration of land is optional. For instance, under Islamic Law, oral declarations of gift (even if subsequently recorded on paper) do not have to be registered. Thus, the system of law allows for perfectly valid titles (i.e. in a legal sense) to be created without the transaction being recorded anywhere. Any search by a buyer in the Revenue Record sand the Registrar's Office will not provide any clues to such a transaction having taken place. On the other hand, courts have repeatedly confirmed that registered documents do not guarantee title, but rather are open to scrutiny and possible rejection in courts.

2.52. The established system of conveyancing visualizes that the buyer must investigate the seller's title to the property—"let the buyer beware." While the transferor is obliged to give a good title to the transferee, the government is under no obligation to provide a guarantee to title, i.e., it does not furnish any assurance on ownership. Despite the exercise of due caution the title may still be defective. For instance, while the buyer may have satisfied himself of the authenticity of the transactions leading to the present transaction, it is just possible that some of the documents of earlier transactions were defective on account of forgery, lack of consent, consent granted by a minor and hence not valid, etc.

2.53. Benefits of State Guarantees of Title to Property: Developing a system of guaranteeing land titles would not only confer great benefits to those directly involved in land transactions, but would likely also generate considerable economic externalities. It would help free up precious court-time presently engaged in settling title disputes, enable implementation of land reforms, facilitate credit availability to small farmers who could use secure titles as collateral, boost tax revenues by reducing the scope for evasion of income tax, and would also help reduce cost and time overruns in development projects involving land acquisition.

2.54. The importance of modern technology and the introduction of a GIS are universally recognized as a way of enabling quick and efficient recording of title transfers. However, for the effective use of new technologies greater consideration will have to be given to institutional roles and responsibilities, development of human resources, work procedures and processes and appropriate, sustainable technology that has a well-defined development path. While setting up the system may initially be quite costly, for

Box 1: Land Titling Systems in Other Countries

The Torrens System in Australia: Under this system, the state certifies the authenticity of title. Apart from the main advantage that it confers on the owner a definitive title to the land, this system greatly simplifies conveyancing procedures, circumvents the need for costly examination of records, and helps avoid problems created by genuine errors and mistakes in the past. Experience in several Australian states has shown that when the central government created a database of all parcels of land and their respective owners they were able to detect many more legitimate taxpayers. Over 50 countries, including Kenya, Uganda, Sudan, Morocco, Tunis and Syria, have now adopted the Torrens system. Singapore has also switched to a system of registration of titles rather than deeds.

The English System: The Land Transfer Act in England requires a compulsory registration of title to land. The registered holder is regarded as the sole proprietor. The difference of the English system from the Torrens system is that, even though the former is much simpler, titles can be corrected in the event of fraud under the latter. In the Torrens system the courts have limited, if any, jurisdiction over the records of titles.

instance on account of indemnification losses, these costs would most likely be recovered through increased tax revenues. In addition, supplementing the initial fund with registration charges, once transactions start getting recorded can minimize budgetary outlays.

Recommendations

2.55. While comprehensive cadastral surveys and registration of titles are admittedly costly affairs and difficult to undertake, they likely offer the only lasting solution to the problems discussed above. Those profiting from the present system will oppose an up-to-date, more accessible, system for recording land related information, so preventing reform efforts from being stifled by these vested interests will require commitment and support from the highest level of government.

2.56. The government could initiate pilot projects in two districts of the country. These projects will enable the identification of the problems and difficulties likely to be encountered in setting up a system of registration of titles. As a first step in the long term strategy to design and implement a system of title registration there could be a requirement for the compulsory registration of all documents which relate to property, including sale agreements, declaration of gifts, powers of attorney. Any party claiming title through adverse possession would be required, within six months of acquiring such title, to register his claim. *Benaami* transactions would have to be declared unlawful and the courts would have to refuse to recognize these. Any suit against any immovable property would also have to be registered with the Registrar. Provision exists in the Registration Act for such registration. This would have to be made compulsory. Simultaneously, the government could initiate the process of conversion of presumptive titles into exclusive titles. Draft lists could be prepared, that would be open to public inspection for a period of 6 months or some such stipulated period during which any disputes or objections that are raised could be would be settled. While the process may be slow and painful, the long-term economic and social benefits that will result from establishment of a modern system of land titling are likely to be immense.

2.5 PROMOTING THE DEVELOPMENT OF CITIES AS GROWTH ENGINES

2.57. A recent UN study estimates that by 2007, more than half the world's population will live in urban areas. Most of this growth is projected to come from smaller urban centers that currently have fewer than half million residents. Governments in some developing countries are increasingly focusing on development of cities—both smaller urban centers and mega-cities, with recognition that these areas contribute significantly to GDP and employment, and thus provide the best opportunity—to generate new employment opportunities and serve as growth engines for the economy. For instance, China now encourages rural urban migration, having realized that this has had a positive effect on the economy. To support these cities in generating economic benefits for the country, governments—national, sub-national, and local—undertake a series of actions aimed at supporting the city's comparative and competitive advantages, ensuring that they provide a sound local investment climate to businesses, and ensuring that it provides adequate and needed infrastructure at appropriate locations. The approach is demand based, responding to business needs and is premised on partnership between the public and private sector.

2.58. With an overall population density more than 3½ times that of the rest of Pakistan, the Punjab is uniquely placed to locate cities at the center of its economic and development strategy. In addition to the million-plus cities of Lahore, Faisalabad, Rawalpindi, Multan, and Gujranwala and their adjoining areas, it has 10 other cities with over two hundred thousand residents, which could

potentially serve as mini-growth engines for the regional and provincial economy. Focus on these smaller urban centers in addition to the mega-cities provides greater scope to exploit local resource bases and comparative advantage, leading to the development of a more diversified and prosperous economic base overall. The example of Sialkot (Box 2) offers an excellent model to spur other cities to pursue similar objectives through innovative schemes and proposals relevant to their regions and specializations.

2.59. The overall approach would be to (i) ensure that the investment climate of the city / city region is conducive to business needs (this could, for instance, mean ensuring well functioning infrastructure, addressing excessive regulation, ensuring good governance), and (ii) focusing on the needs of key industrial sectors of the economy. This in turn would entail designing and implementing a collaborative work-plan of more focused and in-depth studies to examine the growth potential of each region based on the full spectrum of potential private sector issues,[23] and cultivating and pursuing successful public-private partnerships to help realize this latent potential, as government financing alone will be insufficient to meet the increased investment needs of these regions.

2.60. Such "competitiveness partnership" initiatives, consultative mechanisms, or public-private platforms for reform should ideally be initially launched in 1-2 pilot cities, selected based on displaying the strongest potential with respect to 4 dimensions: (1) an organized private sector with some entrepreneurs willing and able to provide leadership; (2) strong government support with political will (including support from provincial officials dealing with matters like taxation, business registration, trunk infrastructure, water supply and sanitation, roads, and other such key local infrastructure); (3) a sponsor with strong credibility with both private sector and government; and (4) instruments such as logistical facilities and seed funds for starting the initiative until further funding becomes available.

2.61. The initial focus should be on policy and regulatory issues that affect the entire private sector, where broad consensus for reform exists, and where quick and visible wins are feasible, complemented by longer-term initiatives such as enhanced support for enterprise-based training. A carefully implemented media and communications strategy to enhance accountability of group members to broad social interests should buttress a well-defined outreach strategy in support of an understandable and achievable vision statement.

[23] Key studies that are likely to be required include: (i) development of baseline information; (ii) analysis of the economic potential of the local areas and priorities for government support; (iii) analysis of business needs within the area; and (iv) a thorough review of the economic services departments and the services they provide. Based on these studies a prioritization could be undertaken (i) of the economic services that are required; and (ii) of business investment climate needs.

Box 2: The Cluster Approach to Regional Development and Growth: The Example of Sialkot

A key center for labor-intensive small-scale industrial enterprises, the Sialkot regional cluster is poised for accelerated growth. A relatively small city with an estimated population of approximately half a million, Sialkot is nonetheless internationally renowned for its export-intensive manufacturing sectors, in particular its three relatively well-developed industrial clusters producing surgical instruments, sports goods, and leather garments. Annual exports from the region are now close to $700 million, contributing nearly 7% of Pakistan's exports. The business community in Sialkot has successfully pursued a number of initiatives over the years:

Sambrial Dry Port: As early as 1986, city residents collaborated to set up the Sialkot Dry Port Trust, the first ever dry-port established in the private sector in Asia. The main objective of this venture was to provide customs clearance through a one-window operation at the city's doorstep, thereby facilitating participation by exporters and importers. The number of exporters subsequently increased substantially, enabling total exports to rise rapidly. The total annual value of exports from the port has increased more than twenty-fold since its inception.

City Package: Since excessive travel time and inconvenience was an important factor inhibiting potential clients and visitors, the private sector raised funds to build better approach roads to the city. An innovative financing plan was agreed with the Punjab Government, whereby the Chamber of Commerce raised Rs. 130 million through deducting 0.25 percent of export earnings at source. While the government initially agreed to contribute Rs. 3 for every rupee raised, it eventually withdrew from the scheme after contributing Rs.100 million. Several key roads were nonetheless reconstructed and expanded through the scheme, and drainage work undertaken, making a dramatic difference to the image of Sialkot.

Other self-help schemes and partnerships: Road improvement work was undertaken in the Sialkot Industrial Estate in 2001/02 through a Rs. 5 million self-help scheme, which in turn was matched by a grant from the District Nazim and a contribution of Rs. 10 million from the city package in 2001-02. Similarly, when residents realized that the unplanned and uncontrolled growth of tanneries in populated areas of the city posed serious a public health risk, the business community and the Provincial Environment Protection Agency set up the Sialkot Tanneries Zone, to which all tanneries would be relocated.

Sialkot International Airport initiative: The private sector's most ambitious undertaking to-date has been to initiate construction of an international airport on a build-own-operate basis. Members of Sialkot International Airport Limited (SIAL) contributed 5 million each to raise a total of Rs. 800 million. In 2004, Rs. 200 million is expected to be raised through soliciting smaller contributions from 200 additional members. Land acquisition for the project was financed through funds advanced from the government at favorable terms. While initial estimates of the cost of the project were Rs 1.7 billion, this could rise to around Rs 2.5 billion. SIAL is presently examining several options to meet the shortfall in funds through additional equity financing. In the meantime, construction work on a 3.6 km runway, equivalent in specification to that of Lahore International Airport, commenced in January 2003, and is expected to be complete by July 2004 allowing cargo flights to commence. Passenger operations are expected to commence in April 2005.

Addressing Impediments to Growth: While the business community in Sialkot has undertaken a number of commendable initiatives in the past few years, it alone cannot tackle all the bottlenecks constraining growth. By joining hands with the private sector in the following areas, the provincial government can work towards accelerated future development of this promising region:

- ***Develop human capital:*** Working in partnership with the private sector, organizations such as the Technical and Vocational Training Authority (TEVTA) and the Punjab Vocational Training Council (PVTC) can play an important role in stimulating employment generation in this region by designing training courses that develop skilled manpower demanded by industry.
- ***Roads infrastructure:*** Additional, relatively modest, investments in infrastructure can play a key role in reducing the high logistical cost of doing business, and help improve, and not merely expand, the competitiveness of this growth cluster. The private sector has identified a number of schemes where investment by the provincial government to improve access to all the major cities in the region, and from the new airport can provide swift returns.
- ***Shared service facilities:*** Better connectivity in turn will allow sharing of common service facilities (e.g. training facilities, common bonded warehouses for raw materials, testing facilities, etc.) by industries across the region. A case in point is heat treatment and materials testing facilities, where the rudimentary public sector facilities that existed in the 1980s were found inadequate, and their use largely abandoned. These facilities need upgrading, or better still, the government can help set up a modern facility in the private sector.
- ***Administrative procedures:*** Following the recent and ongoing local government reforms, some administrative confusion has arisen over the functional mandates of provincial and local government for maintenance of infrastructure. This needs to be addressed urgently, as it is perceived as a growing constraint to progress in improving access roads. The government can also focus its efforts on deregulation of systems and procedures to reduce the cost of business.

Source: For more details, please see background study: *The Cluster Approach to Regional Development and Growth: The Case of Sialkot*

2.6 Towards Better Strategies To Accelerate Growth of the Services Sector

2.62. As noted earlier, the non-farm sector accounts for the bulk of provincial GDP in the Punjab. In particular, the services sub-sector—comprising wholesale and retail trade, transport, storage, and communication, and public administration and defense—contributes about one-half of provincial GDP, and employs about one-third of the total labor force. This chapter has included a number of recommendations on reducing unnecessary regulations which increase the cost of doing business, and hence act as a major disincentive to investment and private sector growth. In addition, using survey data on perceptions of the investment climate by firms in both the formal and informal sectors, the report has highlighted how access to finance, infrastructure (electricity in particular), and availability of skilled workers act as binding constraints for firms operating in different sectors.

2.63. Looking ahead, clearly more in-depth work is needed—moving beyond this fairly macro-analysis of the over-arching constraints to faster growth—to analyze specific policy actions and interventions that could help spur faster growth of selected sub-sectors of the provincial economy. This is true not just of those selected sub-sectors contributing a high share of total GDP and employment (e.g. light engineering, poultry, dairy, etc.), but also those that may be relatively small at present, but nonetheless have considerable latent growth and employment potential (e.g. information technology, education and health services, IT-enabled services, etc.). In this regard, while manufacturing and construction-related sub-sectors have been the subject of a number of recent studies,[24] very little attention has been directed to-date towards better-understanding constraints faced by firms in various services-related sub-sectors. In thinking about a future program of work to help operationalize the provincial government's development vision, there is an urgent need to strengthen the information base in this area.

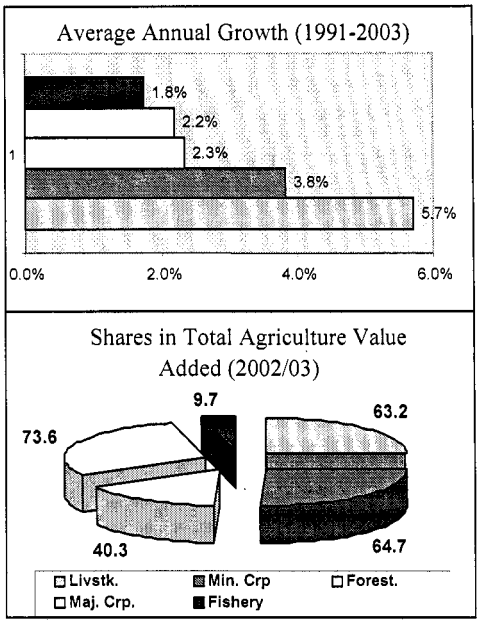
[24] For instance, see the recent studies by SMEDA and other institutions analyzing the growth potential of various industrial sub-sectors, such as—for instance—poultry, dairy, electric fans, surgical goods, automobile parts, electronics, molds and dies, sugar, steel, marine fisheries, leather, ceramics, handlooms and other such textile-related sectors, etc.

CHAPTER 3: ACCELERATING GROWTH IN THE AGRICULTURE SECTOR

3.1. Agriculture is a major contributor to the Punjab's economy, accounting for roughly 28 percent of its output and providing employment to over 40 percent of the work force. The performance of the sector is therefore crucial to any strategy for generating higher incomes. While the agriculture sector in the Punjab has witnessed negligible growth in total employment during the 1990s (ref. Table 2.1), it nonetheless has considerable latent employment-generation potential. Examining data from several South and East Asian countries, a recent study concludes that converting one hectare of rice to vegetable cultivation for one season generates one year-round job (Ali and Abedullah 2002), indicating that increased agricultural diversification away from cereal crops to higher value and more labor-intensive activities—a central thrust of this chapter—presents tremendous job-creation possibilities. This chapter reviews the recent performance of the agriculture sector in the Punjab, and identifies priorities for public policy to accelerate agricultural growth, enhance the sustainable use of natural resources, and reduce rural poverty.

3.1 RECENT SECTOR PERFORMANCE AND PRIORITIES FOR PUBLIC POLICY

3.2. Over the past 20 years, the agricultural sector has performed moderately well, growing at around 4-5 percent per annum (higher than the average for Pakistan, South Asia, as well as low-income countries overall). Since the Green Revolution in the 1960s, agricultural growth has largely come from adoption of modern inputs, especially high yielding varieties, fertilizer and pesticides, combined with expansion of irrigated water supplies. The adoption of this technology has reached high levels, with 80 percent of land irrigated, over 90 percent of the area of the major crops under modern varieties (sugar cane is the exception), and fertilizer consumption of over 100 kg/ha. Between 1970-2003, input growth accounted for one-half of growth in output, while total factor productivity (TFP) growth accounted for the remaining half, with technical change, infrastructure, and education being the major drivers of TFP growth (Ali and Byerlee, 2004). Looking ahead, important considerations related to agriculture include:



- The Green Revolution strategy of input intensification in a few major crops, pursued since the 1960s has to a large extent been exhausted with limited prospects of increasing land area and water supplies, and rapidly diminishing returns, and in some cases serious environment and health implications to higher use of external inputs, especially pesticides (Box 3).
- Productivity of the sector is low in terms of efficiency of use of resources and inputs, and the rate of TFP growth at 1.5 percent has been lower than in other countries and regions experiencing rapid technological transformation, such as northwest India, China, and Brazil.[25]

[25] Comparable estimates of TFP growth are 1.9 percent for the Indian Punjab 1970-95, 2.2 percent for China 1965-85, 1.9 percent in Taiwan 1951-80, and 1.7 percent in Brazil in 1968-87.

- Water has become the major limiting factor to further growth yet the productivity of water used in agriculture has declined in the past three decades.
- Land has been degraded by the use of poor quality water and continuous cereal mono-cropping. Together, these factors have held back the growth of productivity—it is estimated that in the absence of resource degradation, productivity growth in the Punjab would have been 42 percent higher than the actual growth during 1970-1990s.
- Agricultural exports have largely been provided by cotton and rice, and only recently has the Punjab begun to exploit the rapidly growing trade for high-value agricultural exports, despite a favorable ecology and geographic position.
- Growing income inequality and stagnating poverty levels have accompanied low agricultural growth. Part of the problem has been a high and growing concentration of land with 2.5 percent of large farmers (> 20 ha) owning one third of the land while small farmers with less than 2 ha own only 12 percent of the land although they account for half of the total farm population.

Box 3: Environmental and Health Problems of Agricultural Intensification

The most serious agricultural pollution problem relates to the rapid increase in pesticide use—from less than 1000 t in 1980 to 70,000 t in 2002—most of which is used in the Punjab. Most pesticide is insecticide and most of this is applied to the cotton crop. The widespread use of generic and often dangerous pesticides on cotton has a number of potential health hazards, including contamination of workers who apply it (three quarters of producers use a back-pack sprayer without protective clothing), contamination of harvesters (all of whom are women), health hazards to plant workers, contamination of soil and groundwater used for drinking, and contamination of consumers of agricultural products. Economic costs of these negative health effects have been estimated at over one billion Rupees annually.

The sole reliance on pesticides to reduce pest losses has aggravated sustainability problems as pest populations change and develop resistance to commonly used pesticides. This was manifested in the recurring cotton crises of the past few years where pest losses sharply reduced the cotton harvest, threatening supplies to the domestic textile industry, causing estimated losses of Rupees 5.7 billion annually. The short run success in increasing cotton production over the past two decades has been translated into a major challenge to sustaining the industry. Despite the magnitude of the environmental and health problems associated with high levels of pesticide use, Pakistan is a latecomer to the practice of integrated pest management (IPM) and has been reactive rather than proactive in fighting pests.

3.3. Because of its role in output, incomes, and employment, it is clear that agriculture will be a priority sector in any strategy that the Punjab adopts to accelerate economic growth and to reduce poverty. However, it is also clear that past approaches will not work for the future.

3.4. First, markets for agricultural products are rapidly changing. Not only does the sector need to respond to rapidly changing domestic markets with urbanization and more affluent consumers, but also the Punjab with its irrigated agriculture, favorable climate and geographic position, has excellent prospects to expand exports into high value and value-added products. With self-sufficiency in wheat and sugar, the growth strategy must shift increasingly towards fruits and vegetables, value-added products, and livestock products, and to promoting the export orientation of these products.

3.5. Second, with ever more limited prospects for expanding land area and water supplies, growth strategies must increasingly rely on improved management and knowledge to increase the productivity of existing resources. Technological progress and institutional reform is central to better system-wide and location-specific management for enhanced input and resource use efficiency. Enhanced efficiency is also essential for improving Pakistan's competitive position in world markets as it adjusts to WTO rules.

Box 4: Crop Yields in the Pakistani Punjab, the Indian Punjab, and Egypt

Despite the achievements noted, yields of most crops in Punjab are lower than international comparators (see below). Wheat and rice yields in Pakistan Punjab are less than half of what has been achieved in the comparable environment of Indian Punjab and Egypt. This not only suggests lack of appropriate technologies and inefficiency in using available technologies, but also indicates the enormous potential, which can be exploited without many additional resources.

	Tons / hectare (Data for 2002)		
Crop	Pakistani Punjab	Indian Punjab	Egypt
Wheat	2.5	4.5	6.2
Rice-fine (paddy)	2.5		-
Rice-coarse (paddy)	3.3	5.3	9.4
Cotton (phutti)	1.8	1.3	2.8
Sugarcane	45.1	65.2	90.9
Maize	2.1	2.7	7.7
Gram/chick peas	0.7	0.9	1.9
Rapeseed and mustard	1.0	1.2	-
Tomato	10.0		35.1
Potato	17.2	20.0	23.8

3.6. Third, sustainable agricultural growth depends on improved management of land and water resources to reduce natural resource degradation. This will require political commitment at the highest level to mount a concerted effort across a wide range of government departments, as well as close coordination with federal agencies and local governments on a priority basis.

3.7. Finally, a major challenge is to ensure that the poor, both small farmers and the landless, participate in future growth. The move towards high-value products (which tend also to be more labor intensive) is one way of generating employment. Targeting public resources on poor regions, such as southern Punjab, and poorer farmers, can also help towards this end.

3.8. In terms of specific commodities, these challenges suggest that the Punjab:

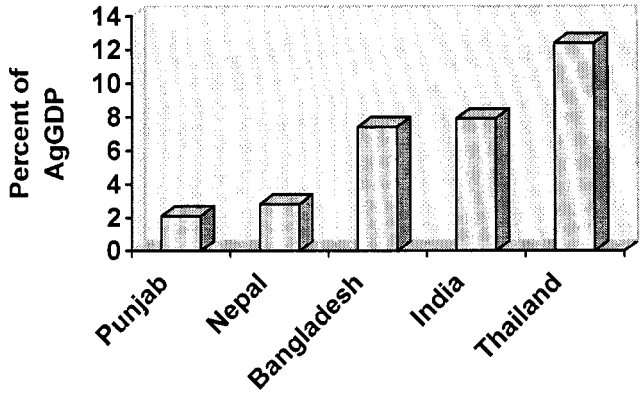
- Continue to ensure a moderate growth in wheat production, but recognize that under current yields and world prices it does not have a comparative advantage in wheat exports
- Improve competitiveness of rice and cotton, especially in view of the aggressive efforts by other countries in these markets. This applies especially to India in Basmati rice, and to most major producers in cotton, that have sharply reduced their production costs by adopting Bt cotton.
- Judiciously seek opportunities in import substitution, especially oilseeds for more sustainable cropping systems, but only where they have a clear competitive advantage.
- Diversify production toward higher value horticultural and livestock products to meet rapidly expanding domestic demand and generate employment, and
- Exploit its excellent resource base and geographic advantage to tap into the rapidly expanding markets for high value products in Asia, the Middle East, and other high income countries.

The Government of the Punjab, especially the Department of Agriculture has already initiated many reforms to modernize public services to the future needs of the sector. The efforts to develop partnerships with the private sector in agricultural marketing and in promotion of conservation tillage, are especially commendable.

3.2 Raising the Level and Efficacy of Public Expenditures

3.9. Allocation of public expenditures to and within agriculture is one of the major ways that the government can influence growth and employment in the sector. Unfortunately, from the early 1990s to 2002, real total expenditures on agriculture and irrigation declined by 4.4 percent annually (Table 3.1). In 2002, total agriculture and irrigation expenditures combined accounted for only 2.1 percent of agriculture GDP, falling from 4.5 percent in 1991. These figures are very small in comparison to other developing countries and regions (Figure 3.1). For instance, in 1998, agriculture expenditures as a percentage of agriculture GDP was only about one quarter of the Asian average of 8 percent, and lower even than Nepal. Also contrasting to the steady decline in the Punjab, agricultural expenditures in developing countries as a whole grew at 3 percent during the 1990s (Fan and Rao, 2003).

Figure 3.1: Public Expenditures on Agriculture: Punjab vs. Other Countries: 2000



3.10. Irrigation expenditures have declined more rapidly than for agriculture. In fact more funds are spent on wheat subsidies to consumers than on crop, livestock, forestry and fisheries combined, for producers. The federal contribution to agriculture and irrigation has declined most rapidly, and made up only an estimated 8 percent of spending in the Punjab in 2001, before rising again in 2002. The largest decline in spending has been for development expenditures, which are now less than half their level in 1991 (Table 3.1). Development expenditures are especially important in the irrigation sector to ensure optimal exploitation of water resources. Most agricultural expenditures are allocated for non-developmental activities, mainly for establishment charges such as salaries and wages. The Punjab Government has made progress in recent years in increasing the ratio of operating costs to salaries. For example, the ratio in crop research has increased from 18 percent in 1996-97 to 24 percent in 2003-04, although still below the 30 percent ratio recommended for research. However, declining resources for O&M remain a problem in irrigation.

3.11. The foregoing trends suggest that, despite the rhetoric, the status of agriculture has declined within government priorities. Although the Government of the Punjab has taken a number of initiatives in recent years to use public resources in agriculture more efficiently, it still has major opportunities for reallocating expenditures, privatizing, and devolution, which would enhance the impact on growth and poverty reduction. A number of recommendations are offered that would improve the efficacy of public expenditures and move the province closer towards the attainment of its goals.

Table 3.1: Agricultural Expenditures in Provincial AgGDP: 1990/91 – 2001/02 /1

	Agriculture		Irrigation		Total		Agric Exp. as % of Punjab Budget	Agr. exp. as % of AgGDP[a]	Estimated Federal as % of Agric Exp.
	Total Rs m	Develop Rs m	Total Rs m	Develop Rs m	Total Rs m	Develop Rs m			
1990/91	5,414	1,123	8,535	2,634	13,949	3,757	15.1	4.5	15.1
1991/92	6,604	2,406	8,451	2,529	15,055	4,935	14.6	4.3	23.6
1992/93	6,403	1,927	6,700	1,449	13,103	3,376	14.0	3.9	17.2
1993/94	5,595	1,243	4,996	643	10,591	1,886	12.7	3.1	20.9
1994/95	5,635	1,218	6,304	1,348	11,939	2,566	12.3	3.2	17.9
1995/96	5,529	1,121	7,877	1,396	13,406	2,517	12.3	3.4	18.3
1996/97	4,697	737	6,446	729	11,143	1,466	13.0	2.9	13.5
1997/98	4,877	851	5,226	1,492	10,103	2,343	11.7	2.4	14.1
1998/99	5,003	699	4,795	1,308	9,798	2,007	11.1	2.2	13.8
1999/00	4,615	514	4,506	1,201	9,121	1,715	8.9	1.9	11.3
2000/01	4,502	395	3,975	970	8,477	1,365	9.1	1.8	8.2
2001/02	4,842	467	5,017	1,114	9,859	1,581	9.8	2.1	16.9
Growth Rate	**-2.8**	**-13.8**	**-5.7**	**-5.9**	**-4.4**	**-9.2**			

/1 Includes agriculture, livestock, forestry, and fisheries. All amounts expressed in 1999/00 Rs. Million. a Includes pro-rated federal spending and district spending. ***Source:*** Pakistan Public Expenditure Management (World Bank, 2004)

➢ ***Increase public investment, particularly on irrigation, water management, and agricultural research:*** the Punjab's long run objective must be to increase agricultural O&M and development spending on core public goods toward international levels. For example, public investment in agricultural research in the Province (including federal expenditures) is 0.26 percent of agricultural GDP, compared with an Asian average of 0.5 percent and an average for industrialized countries of 2.6 percent. Likewise, development expenditures in the irrigation sector are especially important to ensure optimal exploitation of water resources, one of the most critical natural endowments of the province.

➢ ***Privatize commercial activities, livestock breeding farms, and veterinary services, and focus instead on core public goods:*** Given the scarcity of overall public resources available, the first priority of the provincial government should be to ensure that the public sector is only funding those activities that are clearly public goods, and to devolve other extraneous activities to the private sector. For example, the provincial Livestock Department currently spends Rs. 340 million (i.e. over half its budget) on its livestock breeding farms, which is clearly a private sector activity. The Department should develop an action plan to devolve this activity to the private sector, and focus instead on activities such as pedigree registration systems, capacity building and strengthening of private breeders associations to facilitate the transition. Similarly, veterinary services provided at the district level should also be rapidly privatized, and the public sector should instead focus on control of livestock disease epidemics.

➢ ***Reduce the share of establishment costs out of current expenditures as an important step towards rationalizing public spending:*** Although some progress has been made, the share of establishment costs out of current expenditures for agricultural support services is disproportionably high. For instance, despite declining public investment on irrigation, the Irrigation Department continues to employ a very large staff, thereby using up significant provincial budgetary non-development resources.

➢ ***Improve cost recovery, especially through greater cost recovery for canal maintenance in conjunction with devolution to water user associations:*** The public sector needs to institute better cost recovery and sharing schemes in the provision of public services. In the Department of

Irrigation, for example, cost recovery for canal maintenance still averages only 25 percent, and there is clearly a major opportunity to save fiscal resources and improve canal maintenance by full cost recovery in conjunction with devolution to Water User Associations. Similarly, field operations services in the Department of Agriculture (which account for one-third of its budget) should be carefully scrutinized for potential for cost recovery, and for privatization.

3.3 AGRICULTURAL PRICES AND OUTPUT MARKETS

3.12. Price Policy and Wheat Subsidy: Historically, the Pakistan federal and provincial governments intervened heavily in product markets. The public sector dominated marketing for major crops (especially wheat) from procurement and storage through public corporations such as Pakistan Agricultural Supply and Services Corporation (PASSCO), and the provincial Food Departments. These policies also set output prices well below border-parity prices, with the result that Pakistan had one of the highest rates of "taxation" of the agricultural sector in the world.[26] Since the Punjab is the major surplus province, these policies had greatest impact on the agricultural sector of that province.

3.13. Over the past decade, the government has taken major steps to liberalize markets and encourage private sector participation, so that wheat and sugarcane are the only major commodities where there is significant state intervention. The Government of Pakistan remains concerned about price stabilization for wheat and continues to announce a support price, which is backed through public procurement. Price policy of wheat is also a major concern of the Government of the Punjab, since wheat procurement and storage has significant fiscal implications for provincial expenditures, and in fact, the Government of the Punjab pays the bulk of the wheat subsidy.

3.14. The stated intention of the current policy is to ensure food security, and address deficiencies in still developing private markets, and to do so in ways that do not involve trading losses. The move toward 'cascading prices' where procurement and issue prices are increased monthly after harvest to reflect storage charges, allowed the private sector more space in the wheat market in 2002-03. But, government procurement of wheat (50-60 percent of marketed surplus) still far exceeds the amount required for the strategic reserve and subsidies for wheat procurement and distribution remain large. In addition, a consistent policy is lacking with the Government of the Punjab implementing in 2004 its own price premium, restricting wheat movement across provinces, and aggressively competing with the private sector for procurement.[27]

3.15. In recent years wheat subsidies in the Punjab have exceeded total expenditures by the Department of Agriculture. Subsidies for domestic wheat, which are almost entirely borne by the Government of the Punjab, reflect the fact that the difference between the price of procurement and the issue price to mills (currently 30 Rs per 40 kg) is only about one third of the total costs of transport, storage, and handling by PASSCO and the Punjab Food Corporation (about Rs 2400 per ton, or nearly Rs 100 per 40kg).[28] In part this reflects inefficiencies in public management, rather than a subsidy to consumers, since margins for private sector wheat trading are significantly lower (Salam and Muktar, 2003). Also alarming is the rapid increase in real costs per ton procured by the public

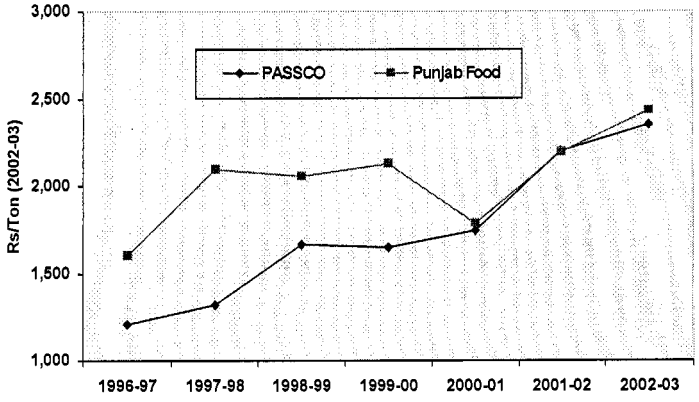
[26] Schiff and Valdes, *1992*.

[27] In fact, the Government of Punjab's recent decision to add a premium to the announced federal procurement price, will have to be supported by a direct fiscal outlays estimated at Rs 700 m, without any clear rational.

[28] Although PASSCO only receives a direct subsidy on imported wheat, it passes on full costs to the provincial food departments, which have to subsidize the difference between total costs and the allowed margin.

sector, with a doubling of costs incurred by PASSCO, and an even higher increase in the Punjab Food Department (Figure 3.2).

Figure 3.2. Real Transport and Handling Costs for Wheat in Punjab: 1996/97 – 2002/03



➢ ***Rationalizing the wheat procurement and storage policy***

3.16. There may be justification for interventions to manage price risks of wheat in Pakistan, or at least, to mitigate their effects. High instability in wheat prices may be undesirable for promoting optimal production decisions, especially in the absence of market-based risk management instruments. More importantly, the poor are most vulnerable to sharp price fluctuations, since wheat constitutes a large share of small farmers' incomes and poor consumers' expenditures.

3.17. The federal and provincial governments need to define a consistent policy for interventions in wheat markets that clearly articulates objectives and strategies. The Government of the Punjab, since it pays the major cost of the wheat subsidy, should lead this effort.

3.18. The first issue is to clearly establish the objectives and targets for intervention in wheat markets. These should explicitly lay out a framework for interventions that:

- Defines a tolerable level of price variability
- Minimizes fiscal outlays, especially risks of unexpected fiscal impacts
- Minimizes distortions to long-run market equilibrium prices,
- Maximizes private sector participation and competitive markets
- Ensures that the poorest are the major beneficiaries of any fiscal expenditures.

3.19. In defining these objectives, it should be noted that it is much easier and cheaper to remove extreme price variation and confine movements to within a 'tolerable band', than to fully stabilize prices. It is also much cheaper and more equitable to target subsidies, if there are any, on the poorest groups that are most vulnerable to price fluctuations.

3.20. Second, the government should recognize that there are a number of potential instruments for realizing its objectives, each of which raises several questions in implementation.

- The current strategy of setting of minimum support prices for producers and maximum release prices for consumers, enforced by government or government-contracted procurement. (How to set theses prices to minimize fiscal outlays, and maximize private sector roles? Use of cascading prices, and spatially determined prices).
- Holding of a strategic reserve (by whom: public sector or private sector, and what size? the potential to use a tendering system for procurement of the reserve through the private sector?)
- Provisions of incentives/subsidies to the private sector to hold reserves and invest in storage capacity (how to do this without distorting markets and ensuring minimum fiscal outlays?)
- Use of border price bands and variable tariffs to protect against extreme movements in world prices (what criteria to set price bands, how to comply with WTO rules?)
- Strengthening of commodity exchanges with forward contract markets (how to regulate and enforce contracts, issues of standardization of grades, use of warehouse receipt systems?)
- Operation in commodity futures and options markets by both public and private traders (which markets and types of contacts, analytical capacity to determine optimal hedging strategies?)
- Strengthening of market information systems, and crop forecasting (potential to use satellite imagery and crop models to enhance precision of pre-harvest crop estimates?)
- Provision of safety nets to the most vulnerable consumers and producers, such as food stamps, and vouchers for production inputs (how to target? How to avoid distorting markets?).

3.21. At this time, public policy in Pakistan only uses the first two of these instruments, which severely limits its effectiveness in reaching the set of objectives outlined above. In particular, the government maintains a major role for the public sector in actual buying, storage and selling of wheat, rather than regulating and influencing the market in desirable directions for producer and consumer welfare. It also leads to inefficiency (high marketing margins), opportunities for rent seeking and—most of all—a high fiscal outlay.

3.22. **In the short term**, the authorities should clarify their objectives for market intervention and critically evaluate two options to improve performance. First, they should explore competitive tendering of procurement and storage to the private sector in order to minimize costs and enhance transparency. Second, they should set the margin for procurement and issue prices to cover full costs, and develop mechanisms for targeting any subsidies to the poorest and most vulnerable groups.

3.23. **Over the longer term**, the government should explore a wider range of alternatives, especially in light of the apparent achievement of self-sufficiency, and the need to diversify the agricultural sector. This will require considerable technical skills and information for developing an appropriate strategy for wheat price risk management. **The Government of the Punjab in collaboration with the federal government needs to establish a high level task force to develop a new approach to stabilizing wheat prices within the above framework.**[29] This task force should be backed by appropriate analytical capacity, both in modeling wheat markets and in crop forecasting based on crop models and satellite imagery.

[29] This task force should go well beyond the 2001 task force to clarify objectives, and explore a wider set of instruments as developed here.

3.4 MODERNIZING WHOLESALE MARKETS

3.24. Wholesale markets are a critical link in the marketing channel, connecting rural production areas to urban consumption centers. They break up large lots into smaller units to meet the demands of various buyers, contribute to the regularization of supplies, help stabilize prices, and link to export demands. Improved market operations ultimately reduce costs, improve food quality and standards for domestic consumers, and help meet export requirements.

3.25. Public sector domination of wholesale markets: Wholesale markets are controlled and by departments through Market Committees set up at the district level. Currently fruit and vegetable markets are managed by Market Committees under the Agriculture Department, food grain markets are controlled by the Food Department, and livestock markets and abattoirs are supervised by the Livestock Department. These departments set different rules and regulations that create confusion for producers and consumers. Recently, the Punjab government has opened a new Agricultural Marketing Department in order to streamline the procedures across the various types of agricultural markets.

3.26. The administrative structure to regulate output markets in the Punjab is highly bureaucratic and lacks effective private sector involvement. This generates inefficiencies and administrative anomalies. For example, in the case of fruits and vegetables, commission agents often charge a higher commission or ad hoc charges from both sellers and buyers than they are legally allowed. In addition, the expansion of agricultural market infrastructure is insufficient to meet demand. The net revenues generated by the Market Committees are not sufficient to expand markets and modernize information system, in line with the expansion of agricultural output and changing requirement of the agricultural sector.[30] This adds congestion to already very crowded markets. The current regulatory system assures the status quo and provides little incentive to improve food quality and implement food safety standards, and discourages private investment in market infrastructure.

3.27. Lack of market infrastructure: In part due to the above constraints, farmers are also not well connected with markets. About one third of farmers in the province are located more than 15 km from any fruit and vegetable market, and eight percent have to travel more than five km to reach a metalled road. The weak market infrastructure, congestion in markets, and poor post-harvest handling, increases the internal transport costs and post-harvest losses and reduces the quality of output. A recent estimate suggests that an average of 25 percent of fruit and vegetable production is lost before it reaches consumers, not including loss in value due to deterioration in quality.[31] Therefore marketing is considered a major cost of doing business in the agricultural sector and an important impediment to private sector investment in farming and agribusiness. The available market infrastructure is also biased toward major crops, with inadequate attention to high-value crops and livestock. With changing consumer demands, this strategy is being revised to shift focus towards the development of market chains for high-value products.

3.28. Poor market information: The market information system is poorly developed. Market Committees are responsible for the collection and dissemination of domestic prices for different commodities. But the collection of price data is unscientific and the dissemination system is primitive (e.g., use of chalk boards to post prices). As a result market supplies usually do not match demand,

[30] In 2003, a total of Rs. 260 million was generated against Rs. 200 million salary and operating costs.
[31] SMEDA 2000.

and do not reflect the quality demanded by consumers. Gluts and shortages in agricultural commodity supplies are common and discourage long-term investment in the agricultural sector.

3.29. The poor infrastructure and inadequate information system lead to uncoordinated markets, resulting in high price difference for the same commodity across markets. For example, monthly average potato prices in Lahore can diverge as much 162 percent from the prevailing price in Hyderabad, a much higher difference than can be explained by the transportation and handling costs.

3.30. Missed opportunities for diversification: The Punjab has been a late entry into export markets for high value agricultural products. Recently, the Federal Government has established the Pakistan Horticulture Development and Export Board to facilitate the linking of domestic production to international markets through market information and technology dissemination. Efforts are being made to introduce Pakistani specialty fruits and vegetables abroad through trade fairs. However, much more needs to be done in developing appropriate cold storage facility in and around airports, and providing refrigerated bogies in Pakistan Railways to transport fruits and vegetables from inland to ports in order to maintain quality.

3.31. Grades and standards as a major bottleneck: Although neither official nor accredited, grades and standards for agricultural products are often used informally in Pakistan. For example, traders, assemblers, wholesalers, and consumers usually grade wheat based on size of grain, presence of insect damage, soil admixture/staining and discolored or diseased grains. However, global and domestic forces have created a need for more formalized and universally accepted standards. To respond to these demands, the federal government has set up the Pakistan Standards and Quality Control Authority (PSQCA) to define output and input standards including for food products. To encourage standards in cotton production and processing, Pakistan Cotton Standards Institute (PCSI) was established in 2001. The institute has defined the acceptable standards for various grades of lint, although its role in implementing these standards remains controversial among various stakeholders.

3.32. These standards, however, are poorly defined or implemented leaving ample space for corruption as well as distribution of poor quality and unsafe food. For example, 50-63 percent of the milk distributed in the country is adulterated.[32] With high pesticide application, pesticide residues on vegetables have crossed the tolerance limit for food safety. This situation not only results in hygienically poor food in domestic markets, but also restricts agricultural exports to low price foreign markets. For example, in 2002, Pakistan was the second largest exporter of mangos in terms of volume, but in fifth place in terms of value. Likewise, the price received for Pakistan Basmati rice in international markets has been lower than for Indian Basmati. Weak grades and standards, lack of credible sanitary and phytosanitary (SPS) laboratories and trained manpower to test and implement food safety standards, and consumer ignorance are the main constraints in improving grades and standards.

Reforming Wholesale Markets: Priorities for the Provincial Government

3.33. The present agricultural marketing system is a remnant of an era when self-sufficiency in cereals was the primary aim. As a result of urbanization and changing export demands, the characteristics, roles and needs of different stakeholders in the marketing system are changing. Consumers, both domestic and foreign, are demanding greater emphasis not only on food quality,

[32] SMEDA 1999.

but also on food safety. Domestic and export markets can be compromised if food of inferior quality or of a hazardous nature is produced and distributed. The marketing system also has to respond to a change from a focus on food-security to diversification.

- ***Reform market regulations:*** Implement the planned revision of the Market Committee Act to encourage the greater involvement of the private sector in market development. This will bring new private investment to modernize agricultural markets.

- ***Improve the market information system:*** The Government of The Punjab should revamp the district-level market information system, by upgrading the collection and dissemination of market prices on scientific basis, training the Market Committee staff in collection of price data, and developing an action plan to electronically link all markets in the province (Box 5). At the same time, the government should work with the Horticulture Export Board and the private sector to develop an information system on international prices, quality standards, port charges, trade procedures, and production and processing technologies of horticultural products.

Box 5: "Silicon Mali"

Mali's success in establishing a market information system earned it the title of "Silicon Mali" by Forbes Magazine in 2002. Mali's market information system (Observatoire des Marchés Agricoles) is based on enumerators visiting 58 markets around Mali and recording the high and low prices for grains, crops, and livestock. They enter these on laptop computers and e-mail the information by FM radio waves all solar-powered equipment to other regional offices where data are compiled and reports prepared for different types of producers.

The system built up over a decade has made Malian grain farmers more efficient, knowing when and where to sell, and for what price. With better information, the government can now rely on the private sector to shift surpluses to areas with shortages without resorting to foreign aid. Mali's information system has become a model for the rest of West Africa, where such countries as Niger and Burkina Faso are setting up similar systems that will be linked together. Soon, farmers will be able to do more selling across national boundaries.

Source: Sansoni, S. 2002: "Silicon Mali." Forbes Global, February 4. Cited in World Bank. 2004. Agriculture Investment Sourcebook. Washington, D.C.: World Bank.

- ***Develop critical infrastructure:*** Establish cold storage facilities at major airports, especially Lahore, initially through public investment (or better, seek partnerships with private exporters) and operated to recover full cost. Later they can be completely transferred to the private sector. Initial government investment on refrigerator bogies and cold storages at airports will encourage the development of cold storage chain for high value crops in the private sector at the village and town levels, and boost the quality of agricultural exports.

- ***Establish a state of the art laboratory for food safety testing:*** The development of a safe food industry, which can respond to consumers demand within and outside the country, requires public investment in laboratories to test for virus contamination and pesticide and nitrate residues. This laboratory, which has already been approved can be established on full cost recovery basis. A priority will be to develop capacity to efficiently use the laboratory to efficiently serve the private sector.

- ***Pilot traceability and risk mitigation:*** Introduce the preventive approach known as HACCP - Hazard Analysis and Critical Control Point - to manage hazards associated with identified stages within the commodity chain, such as fruits and vegetables for export. HACCP is increasingly becoming a requirement for export in high value markets. To prove that good practices are

adopted in agricultural production, traceability of products from specific farmer's field through the entire market chain, has become a necessary element in export markets. Initially outlays for developing appropriate food safety management systems can be quite high. In Bangladesh, for example, introduction of HACCP for the shrimp industry costs the equivalent of nine percent of annual sales for start up and 1.2 percent for recurrent operating costs. With a dynamic export industry, initial outlays are soon recuperated, as it promotes the effective handling and use of raw materials, as well as prevents excessive losses of valuable natural resources. In time, small food enterprises can increase their markets and gain a step up the ladder to lucrative export markets (Nicolaides et al. 1997).

- ***Build capacity in grades and standards:*** The most serious constraint on implementing food quality and safety standards is human capacity. There is an urgent need to invest in capacity building for food testing. Involvement of producers and exporters in implementing food safety management systems can help to share some infrastructure and capacity building costs.

- ***Priorities for dialogue with the Federal Government:*** Since there are a number of areas where the primary decision making responsibility rests with the Federal Government, the Government of the Punjab needs to actively pursue a dialogue with it in the following areas:

- Streamlining of laws to allow the private sector to establish cold storage at major ports.
- Legislation and capacity building to strengthen commodity markets to reduce risk and access finance, through warehouse receipts system and forward contracts.
- Streamlining of laws and regulations for the punishment of those supplying adulterated, unsafe, and substandard food products, in a way that reduces the discretionary powers of food inspectors, yet improves the effectiveness of enforcement. Involvement of independent and credible testing laboratories in the food testing process would be helpful in this regard.
- Defining the minimum grades and standards for agricultural raw and processed products for the domestic market, and aiming to have equivalence to the WTO recognized Codex Alimentarius standards for export markets. This requires developing a workable mechanism with the collaboration of growers, processors, and exporters for implementation of regulations that have already been developed, such as in cotton.

3.5 FACTOR MARKETS FOR LAND AND WATER:

3.34. Land: Irrigated land is the most important productive asset in rural Punjab. Land distribution is highly skewed—2.5 percent of farmers with over 20 ha own one-third of the land while small farmers with less than 2 ha own only 12 percent of the land, although they account for half the total farm population. Over time, land ownership in the Punjab has become more concentrated with the Gini coefficient of distribution worsening from 0.43 in 1972 to 0.56 in 2000.

3.35. Current land markets promote neither efficiency nor equity. First, land markets are very thin because of the high asset value of land in relation to use value, and the lack of financial institutions in rural areas to facilitate land acquisition. Second, an effective land market has failed to develop because of legal impediments to the sale and purchase of land such as the right of *shufa* (first purchase), excessive bureaucratic intervention, and lack of a transparent and efficient land

administration system. Imperfections results from an antiquated land administration and registration system, high transactions costs in land transfers, inheritance laws that encourage fragmentation, an outdated legal framework, and inability to enforce existing laws (such as tenancy rights). Third, three land reforms since independence have generally failed to achieve their objectives, and have led to increased eviction of tenants, reduced employment and increased poverty (World Bank, 2002). These imperfections slow the exit from agriculture of inefficient and very small farms that cannot provide a livelihood, reduce incentives for very large holdings to sell off underutilized land, and promote fragmentation rather than consolidation of land holdings, resulting in sub-optimal mechanization and irrigation operations.

3.36. A number of measures could improve functioning of land markets and encourage the move toward more efficient, equitable, and competitive farms. The major emphasis should be on improving functioning of land markets and providing incentives for large farmers with underutilized land to sell land. Unambiguous laws and an effective land recording system would promote the smooth transfer of titles and an efficient land market. The Punjab has already recognized the need to clarify property rights and to modernize the land registration and records system by initiating a pilot program to computerize land registration records. This program should be carefully evaluated and scaled up accordingly, taking account of successful experiences in other countries (e.g., Thailand).

3.37. Land taxes based on the size of the land holding could be set to reflect productivity potential and discourage underutilization of land on large holdings. Reforms in other areas, such as reducing subsidies for irrigation (so that large land holders pay full O&M costs) and improving the efficiency of financial markets to facilitate land transactions, would also promote market-based land consolidation and redistribution.

3.38. Water: Agriculture presently uses about 95 percent of available water resources and water has become the major limiting factor to further growth. It is therefore disquieting that the productivity of water used in agriculture has declined in the past three decades.[33] Inefficient water management, inadequate maintenance funding, ad hoc bureaucratic and political influences, and lack of economic incentives to use water efficiently cause low productivity of water. Moreover, supply options are increasingly costly and approaching their physical limits, while managing demand (efficiency, productivity, pricing, water entitlements, etc.) has received too little attention.

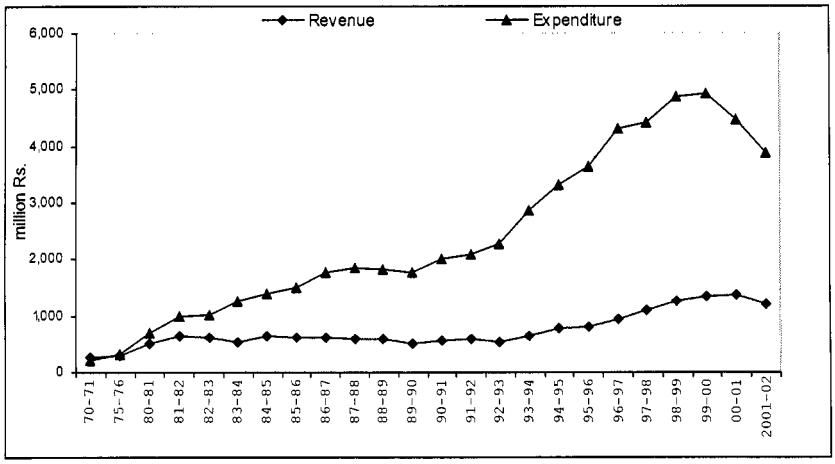
3.39. Although there appears to be significant scope for additional surface water resources development, this is limited if additional storage is not developed. Among alternative supply options, groundwater development is already nearing its practical limit, and water conservation may be able to add only about 5 percent to total supply. Ground water tables are falling because of over-pumping. Existing laws place no quantitative limits on groundwater withdrawal by individual users. The lack of these limits, coupled with tying land rights with water rights, has serious equity implications, because it allows larger farmers with higher pumping capacity and deeper tube wells to have a disproportionate claim over water than others.

3.40. The poor delivery of irrigation and drainage services results primarily from deficiencies in the operation of the canal system, on which maintenance is often deferred because of inadequate resources. Currently, *abiana* (water charges) is the principal means of sharing and recovering O&M

[33] Ali and Byerlee, op. cit.

cost.[34] *Abiana* proceeds go directly to the Department of Finance, and there is no direct link between recoveries and budget allocations for O&M and other system improvements. A cost-recovery gap has existed since 1970 because of the escalating cost of O&M, the stagnation of water rates and inefficient assessment and collection mechanisms (Figure 3.3).

Figure 3.3: Irrigation Department Revenues and Expenditures: 1970/71 – 2001/02



3.41. The current regulatory framework impedes the development of water markets and does not provide incentives for efficient water use. Farmers or their organizations on a distributary or watercourse do not have a legal water entitlement or right—hence water markets that would help farmers decide on the best use of their water and land do not function.

3.42. More than 90 percent of farmers with tube wells sell water, significantly improving access to water, particularly for small farmers, landless tenants and younger households who often lack the resources (or land and water rights) to install their own tube well. However, water purchasers do not have full access rights to the water, and are frequently denied access when water or energy supplies are scarce.

3.43. Water logging and salinity are the most serious outcome of inefficient irrigation and canal seepage caused by a poorly managed water distribution system and inappropriate irrigation practices. In spite of huge public investments in salinity control and reclamation, the problems of salinity/sodicity have become more acute in recent years, because of poorly maintained drainage systems and increased tapping of brackish groundwater for irrigation.

Recommendations:

➢ ***Improved water-use efficiency requires better maintenance, rehabilitation, and modernization of the irrigation and drainage systems.*** Equally important are on-farm conservation measures such as precision land leveling, zero tillage, bed-furrow irrigation, and other water conservation measures. Some of these practices have proven to be effective in minimizing the impacts of recent drought years, and are being rapidly adopted.

[34] Farmers pay a share of the capital cost of watercourse lining (up to 50%) and land leveling (80%).

➢ ***Even with potential additional storage and plausible improvement in irrigation efficiency, the gap between water supply and demand will persist unless there is a move toward higher water productivity through choice of cropping pattern***—substituting high value and water efficient crops such as vegetables and fruits for high water consuming crops (e.g. rice and sugarcane)—as well as increased crop productivity. For example, an increase in irrigated wheat yields from a current level of 2.8 t/ha to an average of 5.0 t/ha (already achieved in Mexico, Indian Punjab and Egypt) would allow demand for wheat in 2025 to be achieved with 30 percent less water.

➢ ***Sustainable water use requires an integrated approach to the use of surface and groundwater together with appropriate pricing mechanisms that reflect the scarcity of the resource.*** Efficient water markets, tradable water rights and physical infrastructure to transfer water and measure water flows are critical for farmers to maximize their incomes by allocating water according to its optimal use (whether on their own fields or sales to or purchases from other farmers). It is therefore important to introduce the necessary legal and infrastructure arrangements to facilitate movement toward formal water markets. A first step would be to move toward abiana based on the water volume actually supplied. This would require investments in flow measurement and metering devices and structures and a decentralized institutional set-up involving FOs and AWBs for assessment and collection.

➢ ***Empowering FOs through a secure system of water entitlements to manage water*** is a critical part of the incentive framework needed to improve both water efficiency and productivity. The progress on wider institutional reforms has been slow due to lack of ownership by irrigation departments, insufficient capacity and resistance to change, and ineffective monitoring and evaluation systems. Initial findings from Sindh, where the responsibility for O&M and abiana assessment and collection has been transferred to some 60 FOs, is that both assessments and collections have substantially improved as compared with the pre-turnover years. The present use of *khal* and *nehri* panchayats as proxies for water course associations and FOs respectively could prove successful if Irrigation Management Transfer (IMT) agreements clearly specify responsibilities and functions between PIDA, the AWB and the FOs, and in particular, ensure the effective empowerment of FOs. The Government of the Punjab has indicated that it will make the necessary changes in the financial regulations to allow FOs to retain their share of abiana to enable them to finance the operation and maintenance activities at the minor and distributary canal level for which they are responsible. The challenge for the Punjab is to quickly develop a program of FO mobilization, training and capacity building to consolidate progress and deepen the pilot reforms.

➢ To establish an active formal water market, ***rights to water use must be separated from land for alternative use.*** An efficient market requires the prior existence of an effective legal institution of property rights, establishing the initial resource endowments of individuals. There is therefore a need to specify water withdrawal limits by individuals in volumetric terms.

➢ Finally***, increased public and private investment in the irrigation system is needed to even maintain current efficiency levels.*** Curative measures will be needed to control and reverse the effects of severe water logging and soil salinity. These include lining of canals in some saline ground water areas, improvement of watercourses, introduction of on-farm drainage and land-leveling, improvement of existing and creation of new drains including a trunk or spinal drain in the upper and middle basin, and conjunctive management of canal water and groundwater. There may also be

opportunities for expansion of the existing system, through small and medium schemes, that have a satisfactory benefit-cost ratio. However, increased public investment requires sharp re-allocation of current expenditures from non-development and establishment costs, and greatly enhanced cost recovery for O&M.

3.6 UPGRADING THE AGRICULTURE INNOVATION SYSTEM:

3.44. A strong agricultural innovation system is critical to modernizing agriculture, as a large part of future productivity gains, quality enhancement, and diversification must be provided through generation, adaptation and dissemination of new technologies and information. While a fairly extensive agricultural R&D system was set up in Pakistan during the 1970s and 1980s, capacity of the agriculture technology system has declined sharply in recent years (Box 6).

Box 6: Current Status of the Agricultural Research System in Punjab

Declining capacity in the research system: There is general agreement that the capacity of the agricultural technology system has declined sharply in recent years. A funding shortfall is only part of the problem and reflects wider weaknesses in the system. Research is managed through a highly centralized, bureaucratic and supply-driven approach. In addition, generally weak and unstable leadership has further undermined the credibility of these organizations. As a result, except in narrow areas such as crop breeding, research capacity is weak in priority areas for future growth, such as land and water management, post-harvest management, social sciences and policy, horticulture and livestock, most of which have a public good nature and require public funding.

Declining capacity reflects several weaknesses. First the framework of incentives for scientists is especially weak in the provincial system. Within Punjab there are wide variations in the human resources policies, with institutes of the Pakistan Atomic Energy Commission (PAEC) in Faisalabad having virtually all the critical elements of a strong human resource policy and incentive framework, to provincial research agencies where lack of incentives and qualified staff seriously limit the effectiveness of research. For example, AARI scientists receive only about half of the package of benefits of PAEC scientists located in Faisalabad. Likewise only one post in AARI is filled at the Grade 20 level (the Director General) versus 68 scientists in the University of Agriculture, Faisalabad.

The rate of decline in research capacity is also accelerating due to an aging complement of research scientists resulting from a hiring freeze lasting more than 10 years, and a "brain drain" as many of the better scientists have left the system. Poor service rules relate to recruitment of qualified researchers, selection of research managers (still on a seniority basis), career path for scientists, and provision of a stimulating working environment. Finally, the cumbersome approval processes at the provincial level for training outside the country, results in many missed opportunities for strengthening the human resource capacity.

Good research is also being stifled by financial and bureaucratic restrictions and protocols. Most are imbedded in traditional bureaucratic ways of doing business, but are inconsistent with the functions and flexibility needed to effectively manage a modern research system. Even simple rules that are accepted in nearly all research organizations, such as the ability to retain earned income, are not in place in the provincial institutes. In large part these problems relate to the continued management of research as part of the provincial line ministries, according to normal civil service bureaucratic rules. ***Punjab is one of the few places in the world, where research is still organized within line ministries, and certainly by far the largest such system.***

Highly fragmented research system: Provincial research on crops and on-farm water is separated within the Department of Agriculture, and research on livestock, fisheries, and forestry in different departments. At the same time, various university programs and federal research organizations carry out research in the province on all of these topics, without any institutional mechanisms for coordination and integration across the various agencies (i.e., between federal agencies, universities, and Provincial crop, livestock, irrigation and fisheries departments). This leads to a highly fragmented research agenda that does not address emerging issues in an integrated manner.

Lack of an enabling environment for private sector R&D: The contribution of the private sector has expanded in the 1990's with some notable examples of creating new industries such as spring maize in the Punjab, and providing hybrid seed of crops such as sunflowers. But private sector investment depends critically on an enabling policy environment of Plant Varietal Protection (PVP) and Biosafety regulations, both of which have yet to be implemented in Pakistan. These regulations are also required under international treaties; PVP is a minimum requirement of the TRIPS agreement of the WTO, and the Biosafety regulations are required under the Cartagena Protocol of the Convention on Biodiversity (CBD). ***The long delay (now approaching ten years) in approval of Biosafety guidelines means that Pakistan is at least five years behind competing countries in the commercialization of transgenic insect-resistant cotton*** which has provided a cost advantage of 20- 25% in countries as diverse as Mexico, China, USA and India, and resulted in substantial reduction in harmful pesticide use.

Source: For more details, please see background note: *The Punjab Agriculture Innovation System.*

3.45. While current spending on agricultural research is very low,[35] it is important to note that the immediate issue at hand is not to increase funding, but rather to better utilize available resources. The Punjab must introduce a more scientifically-based agricultural innovation system based on interactions among all players, both public and private,—engaged in knowledge creation, those involved in its extension, as well as those engaged in its application at the farm level.

3.46. A comprehensive approach is required on the part of the provincial government to tackle the key policy reforms needed:

➢ ***Establish a competitive fund to support high priority research:*** The fund could provide operating costs to research by allocation on a competitive basis, using rigorous and transparent review procedures, to help ensure that high priority areas are funded., and would allow the GOP to tap the best scientific talent, whether in the GOP research agencies, agricultural universities, federal research agencies, or the private sector. It could even be used to seek out and test the most promising innovations from abroad, especially in high value products. Implementing this recommendation in turn requires three key actions:

Establish a small highly professional funding body: This apex research body or council would be responsible for liaising with stakeholders to set priorities for the fund, implementing calls for proposals, setting up a rigorous and transparent peer review and selection process, awarding contracts, and monitoring and evaluating funded projects.[36] It should be small, but highly professional, with incentives and rules that can attract high quality staff.

Seek out sources of funding: The provincial government should be the first source of funding by allocating the funding it currently provides in its budget to research institutes through the new apex funding body. While this may mean that much of the current provincial research establishment that could not compete successfully will not receive funds, this will help ensure that provincial research funding is put to optimal use. Other sources of funding would be the proposed USDAfund, and likely appropriations of funds under donor programs, such as the ADB agricultural adjustment loan.

Set priorities for the Fund: The funding agency would liaise with key stakeholders in the public and private sectors to set key priorities for the fund, and would address emerging problems in crop and livestock diseases and pests, innovations to stimulate diversification toward high value products, and solutions to the serious land and water degradation issues.

➢ ***Provide an enabling policy environment for both private and public sector innovation:*** An appropriate regulatory environment, in the form of Plant Varietal Rights and Biosafety Rules, is needed to further stimulate private R&D. While these regulatory issues are under federal control, the GOP must remain actively engaged to keep maximum pressure on federal bodies to urgently approve PVP laws and appropriate Bio-safety regulations that will benefit both public and private research. With PVP, the public system should be encouraged to enter business agreements with the private sector, and stimulate the development of local private R&D companies

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[35] Our estimates indicate that the provincial government spends only 0.15% of Punjab AgGDP on agricultural research. Even adding estimates of research in universities and federal institutes allocated to the Punjab, the total spending is still only 0.26% AgGDP (i.e. less than half of the average for Asia of 0.5%, and less than 10% that for developed countries of 2.6%).

[36] Although the Punjab Agricultural Research Board was constituted for this purpose in 1996 it never served its role, in part because it was not provided the appropriate business rules and flexibility to operate, and it could not attract high quality leadership and human resources.

➢ ***Develop a human resource and incentive framework for quality research:*** The research system is only as good as the quality of its research leaders and scientists, and the incentive framework for stimulating innovation. An immediate priority is to strengthen the human resource base of the provincial system through (i) selection of dynamic research leaders appointed on merit, rather than seniority, (ii) a transparent and open system of recruitment of scientists based on merit, (iii) establishing a career service stream that allows qualified scientists to advance based on well-defined promotion criteria not tied to available posts, (iv) overhauling and standardizing the salary and benefits structure for scientists structures, (e.g., the NIAB model), and (v) immediate attention to supporting post-graduate training abroad, especially in fields where there is little capacity within Pakistan (e.g., biotechnology, some areas of natural resources management, economic policy).

➢ ***Provide autonomy and functional flexibility for effective research management:*** The dynamic nature of research requires flexibility in the flow of funds to enable research managers to reallocate between line items and budget codes. Likewise, linkages with farmers, extension agents, academia, and external agencies, all of which are important for successful research, require that research managers have the authority to respond to opportunities for scientific exchanges of information, income generation, specialized training and materials exchange, without having to seek higher level approval, for what are everyday occurrences in a modern research system. Until these issues are addressed, the impact of other efforts to improve the research system will be limited.

3.47. The legal framework for research developed by the Ministry of Science and Technology (Box 7), will if implemented by provincial research organizations, be an important step in recognizing the unique requirements of modern research systems, which differentiate it from other public sector functions. Over the long term, the Province must put in place processes for comprehensive restructuring and modernization within this new legal framework. This restructuring will require a large redundancy of staff that are not suitably qualified for the new standards, and will result in a much smaller but highly qualified publicly funded system.

Box 7: New Legal Framework for S&T Organizations

The Ministry of S&T has developed a set of recommendations regarding the legal framework and administration measures to enhance the effectiveness of R&D organizations in the country. These recommendations have been approved by Cabinet and are now being implemented through revisions of the Acts or Ordinances for R&D organizations to provide the necessary autonomy and powers to their BOG, following a standardized template. The most important provisions under the new framework are:

a) Constitution of a small (less then 15 persons) BOG of individuals serving in their personal capacity, with an elected Chair.
b) Open and transparent recruitment of the Chief Executive Office by the BOG for a fixed term, against specified criteria.
c) Empowerment of the BOG and CEO to approve rules and implement decisions with respect to human resources, financial budgets, foreign travel, contracting etc, without referral to the parent Ministry.
d) Provision of establishment and non-establishment budget, with flexibility within these categories.
e) Encouragement of income generation and partnerships with the private sector, within a profit sharing formula, that includes incentives to staff.
f) Uniform service conditions, with open recruitment of staff on merit.
g) Rigorous procedures for review of new projects and preparation of a business plan that clearly identifies expected products and end users

➢ ***Improve coordination across research agencies and with technology transfer agents:*** The government should institutionalize a mechanism through which leaders/managers in the agriculture, livestock and fisheries research, extension, university and other key stakeholders can come together to identify opportunities for improving synergies and avoiding duplication of effort. The apex research body discussed above could be a vehicle for this. Similar coordination mechanisms should be explored at the agro-ecological system to best link local stakeholders in the decision making at the system level (e.g. ABAD for the *Barani* On-farm Water Management for rice-wheat; NIAB for saline agriculture, University of Agriculture, Faisalabad, for mixed farming systems of central Punjab). Finally, the role of commodity groups that coordinate actions across agencies for major commodities should be strengthened as a vehicle for setting long-term goals and priorities for the commodity in question (e.g., using a commodity chain approach that brings in major players from agro-processing and marketing, in order to address emerging market needs).

➢ ***Promote a pro-active approach to improving effectiveness of decentralized extension:*** The transfer of proven technology adapted to local farmer conditions is of fundamental importance. The Punjab faces a major challenge in the reform of the public extension model to promote high quality demand-driven services. A new extension policy needs to be developed to address issues of decentralization, empowerment, accountability, and sustainable funding.

Provincial extension policy: The government should establish a policy that clearly lays out its roles and responsibilities in a decentralized system. These would include technical support and human resources development, monitoring and evaluating overall system performance, knowledge sharing among districts, and evaluation of innovative extension approaches, whether public or private, and identifying, piloting, and supporting scaling up of promising institutional innovations.

Adaptive research and technology transfer grants: The competitive fund above should establish a special window to fund innovative ideas for pilot testing and dissemination of new technologies, especially for higher value products that will enhance diversification and growth in the sector, or address specific needs of the poorest farmers. Grants would encourage partnerships between research agencies, technology delivery agencies, especially from the private or NGO sector, and farmers, especially organized groups of farmers.

Human resources development: The major role of the Extension Wing under the provincial government is to provide opportunities for continuous in service training for district extension staff. Given rapid changes in the agricultural sector, training programs will have to be considerably revamped to meet the changing needs of a market-oriented and diversified agriculture, such as post harvest handling, business and marketing skills, and skills in facilitating the emergence of strong producer organizations.

CHAPTER 4: IMPROVING SERVICE DELIVERY AND SOCIAL OUTCOMES

4.1. Increasing the opportunities to earn higher incomes is but one part of the provincial government's strategy for improving the life of its citizens. Together with higher incomes must go the better availability of public services, especially education, health, access to clean drinking water, and sanitation, to name but the most essential. The chapter discusses generic issues of service delivery in a decentralized setting, summarizes some of the reforms the Government of the Punjab is currently considering (including those being implemented under the Punjab Education Sector Reform Program (PESRP)), and make suggestions as to next steps in the reform process. While this chapter discusses these issues in the context of primary education and of health, the discussion is applicable to many other services.

Table 4.1: Selected Education Indicators for Punjab and Pakistan: 2001/02

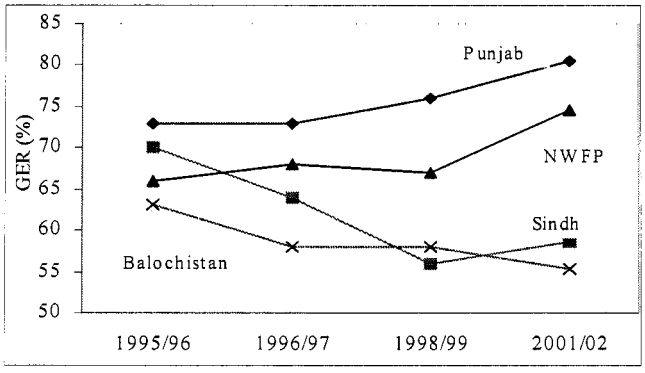
Indicator	Punjab			Overall Pakistan
	Urban	Rural	Overall	
1. Literacy Rate (% Population 10 Years and Above)				
Male	71	51	57	58
Female	60	26	36	32
Overall	66	38	47	45
2. Net Primary Enrolment Rate (%)				
Male	57	44	47	46
Female	58	38	43	38
Overall	57	41	45	42
3. Dropout Rate (% children 10-18 yrs. leaving school before completing primary level)				
Male	13	19	17	15
Female	8	18	14	15
Overall	11	19	16	15

Source: 2001/02 PIHS

4.1 THE STATE OF EDUCATION AND HEALTH IN THE PUNJAB

4.2. Table 4.1 presents enrollment rates in the Punjab in comparison to the all-Pakistan average. In general, the Punjab has higher literacy and enrollment rates than the rest of the country. Notably, the differential between male and female literacy is much lower in the Punjab than elsewhere—a factor that augurs well for the future, as will be discussed. Not only is the current level of enrollment higher in the Punjab but also the trend in the past few years looks good. Figure 4.1 shows gross enrollment rates for the provinces. After a period of stagnation that, in turn, followed some improvement early in the decade, the last couple of years have seen enrollments pick up. The rest of the country, in fact, has seen a decrease in gross enrollment rates from already low levels.

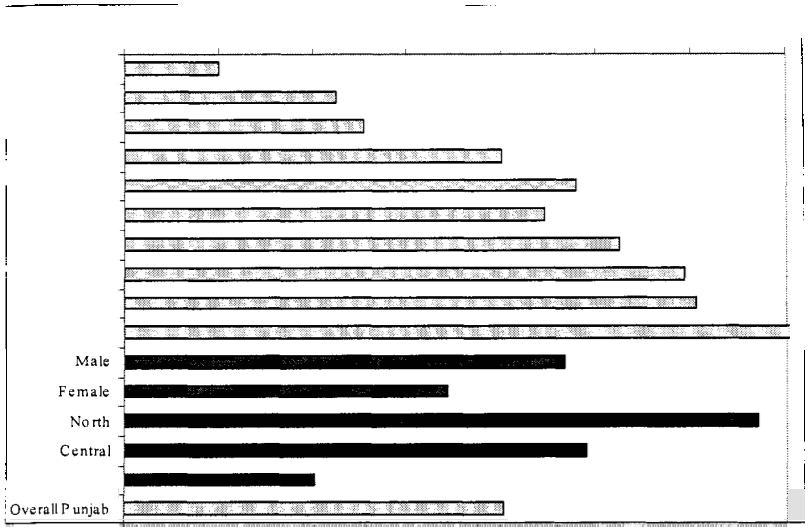
Figure 4.1: Gross Enrollment Rates by Province: 1995/96 – 2001/02



4.3. However, in comparison with other countries of the Punjab's level of income as well as others in the region, enrollment rates do not seem as impressive. Net enrollment in Bangladesh, for example, is fully twenty percentage points higher than in the Punjab and Sri Lanka has achieved virtually universal enrollments. The Punjab's performance looks much more like that of the poorer states in Northern India than either the southern states or the country as a whole.

4.4. Moreover, behind this picture of overall improvement is substantial variation between children from differing backgrounds. Figure 4.2 shows that enrollments are much higher among high income groups than low, ten percentage points higher for boys than girls and vastly different between the Northern and Southern regions of the province.

Figure 4.2: Enrollment Rates in the Punjab by Income, Gender, and Region: 2001/02



Source: Staff estimates based on the 2001/02 PIHS

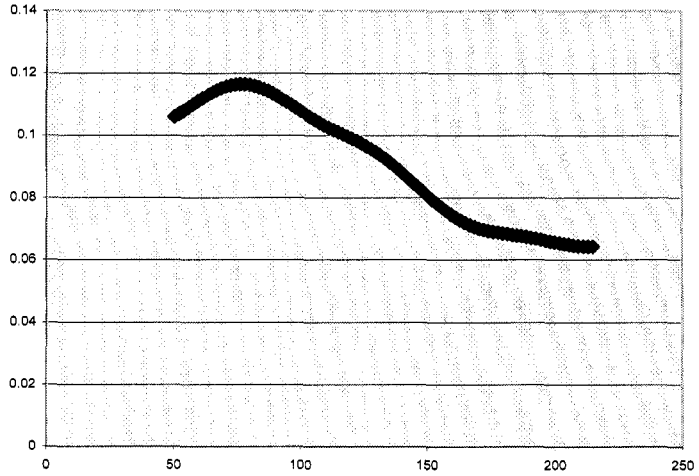
4.5. Data on health status in the Punjab, as in Pakistan as a whole, is seriously deficient. Data on mortality rates, for example, varies substantially across sources. Using direct survey questions in the Pakistan Demographic and Health Survey (PDHS), infant mortality was 104 per thousand in the Punjab compared to 94 nationwide in 1990-91. Using model based estimates, the PIHS shows infant mortality in the period 1990-95 as 110 per thousand in the Punjab and 105 nationwide. For 1993-98 the PIHS reports 100 and 96 per thousand in the Punjab and nationwide, respectively. Official data shows a decline from 127 to 82 nationwide for the period 1991 to 2001/2. Data can be mustered, therefore, to make either the point that health status has stagnated almost completely in the 1990's (deteriorating and then recovering) or that enormous progress has been made—enough, in fact, to be on track to achieve the Millennium Development Goals. Discrepancies of this magnitude for the most basic (and unambiguously defined) measure of health status indicate the impossibility of attributing effects of policy, or even of having a clear picture of reality.

4.6. Ignoring the question of the usefulness of the data collected, one result common to all sources where the comparison can be made is that the Punjab seems to have mortality rates consistently a little higher than in the rest of the country and progress, if any, at about the same pace. As a relatively

richer and, as noted above, better educated province, this difference is a real puzzle. Both income and education are usually highly correlated with better health.

4.7. Indeed, using the 1990/1 PDHS data (the only source large enough to be able to measure mortality—and even then only for Pakistan as a whole) Figure 4.3 shows that there are large differences in mortality rates between rich and poor. Children from relatively poor families are almost twice as likely to die before their second birthday than those from better-off families. This result is consistent with those in most countries.

Figure 4.3: Mortality Rates of Children under 2 yrs, by Household "Wealth": 1991



Note: The figure is a non-parametric regression (a moving average) of mortality of children under two by a measure of living standards constructed as a weighted average of ownership of consumer durables and housing quality. The measure is more accurate at higher levels of "wealth" so defined. ***Source:*** Staff estimates based on the 1991 PDHS.

4.8. The interpretation that progress in improving health has been stagnant over the past decade is reinforced by data on nutritional status—measured by height for age (relative to a common standard)—from a survey done by the International Food Policy Research Institute in July 1986 – September 1989 and compared to a re-survey of the same families in 2001 by the Pakistan Rural Household Survey (PRHS). In this comparison, there appeared to be no improvement over the fifteen year period, a deeply disturbing result. Oddly, on nutritional status, the Punjab is somewhat better than the rest of the country, though, at 60 percent stunted (height for age being more than two standard deviations lower than norms) this is not much comfort. Exacerbating the mystery around the accuracy of the mortality data, nutritional status is also usually highly correlated with other measures of health.

4.9. As a result of the very poor state of data collection on health, further results need to be treated with great skepticism. What can be confidently concluded, however, is that if the causes of better health—in particular those causes that can be influenced by policy—are ever to be determined, it will require substantially better measurement of the ultimate goal of a healthier public, especially children. Further, data has only been collected in samples large enough to measure progress for large areas—provinces at best. If data is to be used to aid decision making in a decentralized setting, much larger and more regular samples will need to be collected. This point warrants continual repetition.

4.2 THE ROLE OF PUBLIC SERVICES

4.10. This section asks two questions: First, what are the determinants of levels and trends in school attendance and health status and how much of a role does public policy play? Second, given the large (in health) and growing (in education) private sector, how should public priorities be set?

4.11. Determinants of primary school attendance: Analyses in Pakistan as a whole and in the Punjab offer some obvious possibilities of determinants that are generally observed in other countries. Table 4.2 shows the national and Punjab specific results for rural enrollments. Parents' education is a strong determinant of enrollment, as are measures of income and wealth both of the families (as represented by their own consumption) as well as of the communities (as measured by overall quality of housing in villages). Interestingly, the gap between rich and poor is somewhat higher (and significantly so) in the Punjab relative to the country as a whole.

4.12. Most important, however, are the variables that can be influenced by education policy. Not surprisingly, proximity to a primary school is an important determinant of attendance, though considerably less so for the Punjab than for the rest of the country. Proximity to a secondary school is also related to higher enrollments in primary schools—an effect slightly higher for the Punjab. This has been observed in several countries[37] of widely differing levels of income and is often interpreted to mean that parents see primary education not as an end in itself but as a means of obtaining secondary education—frequently required for employment in government service or the military. That this should be a stronger effect in the Punjab could well be related to the higher overall enrollment rate indicating more children whose parents may be considering education beyond primary for them.

4.13. Unfortunately, there are very few other policy-related variables available for analysis. Many of the features of schools that are often identified as being important for attracting students are not often measured in such a way as to be able to use in this sort of analysis. Various measures of "quality", either of the infrastructure of schools or the absentee rates, effort and dedication of teachers are frequently mentioned as important. It is impossible to determine from available data sets which of these alternatives may be important and which not. Quality on some measures is certainly an issue as recent studies have noted that, of schools that are open at all (in which, it must be noted, the Punjab is very much better than the other provinces) the rate of absences of teachers in the Punjab is somewhat higher than in the rest of Pakistan—24 percent versus 19 percent.[38]

4.14. This still leaves the question of to what extent is the improvement in enrollment rates attributable to public policy?[39] One reason for some skepticism concerning the public's role is that the growth of the private sector has been dramatic in recent years. Figure 4.4 shows the massive increase in the formation of private schools in the Punjab over the 1990's. Also notable is the balance between urban and rural areas. The few schools that had been opened prior to the 1990's had been primarily in urban areas. Since then, private schools in rural areas have been forming at almost

[37] World Bank 1998, 2002b.

[38] World Bank 2002b.

[39] It is hoped the PESRP will provide an opportunity to assess this impact. The various policies introduced under this program will be subject to rigorous third-party assessments and impact evaluations. The new dimensions of public policy include introduction of incentives such as free textbooks in government primary schools, stipends for girls in selected low literacy districts, recruitment of school-specific contract teachers, development of partnership agreements between the province and the districts, and contracts and partnerships with the private and NGO sectors to improve service delivery.

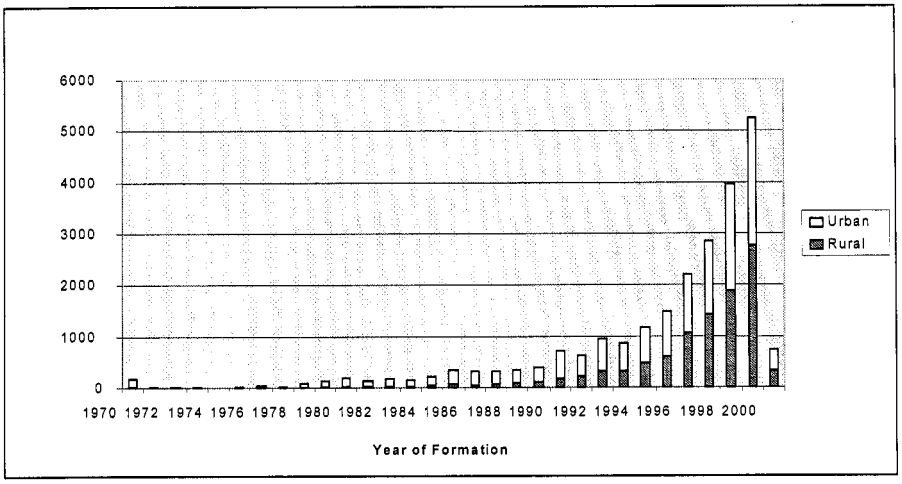
exactly the same rate. However, according to the 2000 private school census conducted by FBS, there is limited growth of private schools in districts in Southern Punjab—districts like Rajanpur, Rahim Yar Khan, Lodhran, and Dera Ghazi Khan, which also have much higher poverty levels and lower literacy rates compared to districts in the rest of the province.

Table 4.2: Marginal Effects on The Probability of Attending School for Ages 6-14: 1999/00 (Results from Probit Regressions)

Independent Variables		All Pakistan Rural		Punjab Rural	
		Marginal Effect	T-ratio	Marginal Effect	T-ratio
Quintile 2	*	0.064	3.95	0.046	1.67
Quintile 3	*	0.154	9.71	0.193	7.41
Quintile 4	*	0.196	12.3	0.213	8.13
Quintile 5	*	0.244	14.2	0.273	9.77
Rural Female	*	-0.241	-24.1	-0.191	-11.4
Age		0.316	18.9	0.346	11.91
Age squared		-0.016	-19.4	-0.018	-12.6
Mother's Education					
Ever Attended School	*	0.249	9.44	0.221	5.64
Education>=Grade 6	*	0.116	1.96	0.135	1.56
Education>=Grade 11	*	0.238	1.14	-	-
Father's Education					
Ever Attended School	*	0.145	11.8	0.138	6.68
Education>=Grade 6	*	0.143	9.32	0.185	7.36
Education>=Grade 11	*	0.115	4.19	0.092	1.40
Number of Children in Household		0.010	4.70	0.016	3.95
Amount of agric. land owned:					
Group 1		-0.017	-1.17	-0.033	-1.31
Group 2		0.024	1.33	0.013	0.43
Group 3		0.035	1.53	0.019	0.44
In PSU/Within 1 km. from PSU					
Primary School	*	0.193	11.4	0.120	3.45
Primary, Middle & Sec. School	*	0.079	5.89	0.105	4.89
Bus Station	*	-0.007	-0.58	-0.008	-0.39
Railway Station	*	0.039	1.84	0.87	2.43
Shop	*	0.053	2.80	-0.033	-0.60
Market	*	-0.045	-2.23	0.007	0.19
Bank	*	-0.031	-2.02	-0.037	-1.42
Phone	*	0.030	2.46	0.057	2.65
Post Office	*	-0.001	-0.09	-0.190	-1.0
District Capital	*	0.143	3.77	0.081	0.72
In PSU					
Hospital/Dispensary	*	0.012	1.00	-0.005	-0.22
Health Worker	*	0.013	1.19	-0.025	-1.29
Drainage Facility	*	0.036	3.07	0.024	1.25
Motorable Approach Road	*	0.027	1.52	0.018	0.48
Mostly Pucca Houses in PSU	*	0.073	6.39	0.054	2.57
>=50% of Households with Electricity	*	0.125	9.07	0.162	6.12
Power Cut >=Once a Day	*	0.014	1.32	-0.185	-1.01

Notes: * Signifies 0-1 Variables. Marginal effect measures change in the probability for an infinitesimal change in each independent, continuous variable; for 0-1 variables, it measures discrete change in the probability for discrete change of variable from 0 to 1. T-ratios pertain to underlying Probit coefficients. Specification for All-Pakistan includes dummy variables for every province (Punjab is the reference state). ***Source:*** World Bank 2002b.

Figure 4.4: Formation of Private Schools in Punjab: 1970 – 2000 (Number)



Note: 2001 incomplete: ***Source:*** Federal Bureau of Statistics: Pakistan Census of Private Schools

4.15. This trend towards private education, while common across the country, is particularly strong in the Punjab where, according to the CIET study,[40] 55 percent of children between the ages of 5 and 9 are in government schools, an extremely low number for this age group by international experience. The comparable number for Pakistan as a whole is 67 percent (implying rates in the other major provinces in the high 70's given the Punjab's large contribution to the average). In urban Punjab, only about half of children in primary education are in government schools. Comparing the rapid growth of schools (and enrollments) in private schools, this leaves very little of the overall increase in attendance attributable to the public system.

4.16. Several factors may account for the rapid increase in private schools. One may be an overall dissatisfaction with the public system. The CIET study shows 53 percent of households satisfied with government education—virtually the same as the 55 percent national average. Dissatisfaction of 47 percent could well be fueling the exodus. However, two other factors are related to the steady increase in female education over time. First, overall demand for education should be rising—parental education being a primary driver. Second, more subtly, recent research[41] has used the fact that proximity to schools is also an important determinant of attendance and that having educated women in rural areas increases the pool of potential teachers for the private schools to draw upon. These women are a large fraction of the private teaching force: over 70 percent in the Punjab in contrast to about 50 percent nationwide. So, on both the demand (increases due to educated mothers) and the supply (more potential teachers), increases in female education generate a continuing momentum for education overall and for private education in particular.

4.17. That same research also puts into doubt some often-heard reasons for low enrollments. The vast majority of private schools established in rural Punjab—well over 90 percent—are coeducational. It is not a reluctance to send girls to coeducational schools that has been standing in the way of progress. Private schools must cater to the wishes of the parents in order to attract business and therefore have a better sense of parents' demand. Also interesting in that research is:

[40] CIET, 2003.
[41] Andrabi et al, 2002.

- quality as measured by functional infrastructure (toilets, etc.) and maintenance is also better than in public schools
- overall costs of private schools (total cost of provision—not fees to students) is slightly lower than in public schools—Rs. 1000 vs. Rs. 1200 per year, respectively.
- The median monthly tuition at private schools in rural Punjab are quite low at Rs. 51 (the lowest in Pakistan)
- Parents appear to be quite sensitive to various measures of quality in that higher fees are associated with observable school characteristics such as better student-teacher ratios and better qualifications of teachers. This indicates that parents can be good "shoppers" for education and pay attention to quality.

4.18. Exactly how many students enrolled in these schools had previously come from public schools and how many are new students are hard to determine but are critical pieces of information. If expansion or improvement of the public system simply reverses this process—extra public investment will not translate into more overall enrollment if it simply returns students to the public that had left for private education. The only advantage of expanding the lower price (to students, not to society as a whole) option of public education would be if the benefits would disproportionately accrue to the poor.

4.19. While it is certainly the case that a higher fraction of children from better-off families attend private schools, private enrollment had been increasing rapidly in both rural areas and among poorer families. Table 4.3 shows that even among the poorest quintile, one-fifths of all students are attending private primary schools, negating the popular misconception that private schools in the Punjab cater only to the rich.

Table 4.3: Educational Enrollments in Punjab by Consumption Group: 2001/02

Consumption quintile	Gross enrollment rate	Share in government school	Total in government school
Poorest	56	80	45
2	72	75	54
3	86	70	60
4	95	65	61
Richest	105	58	61

Source: Staff estimates based on the 2001/02 PIHS

4.20. It is important to know whether enrollment expansion is due to private or public schools. Planning needs to take into account the possibility that new government schools could provide competition for private schools—not in itself a bad thing if there are sufficient numbers of students to attend both—but which could simply displace private schools and lead to much less net increase in enrollment than would otherwise be expected. One possibility for ensuring complementarity between public and private schools systems is to encourage partnership between them. Recognizing this, the provincial government has restructured the Punjab Education Foundation into an autonomous body as a vehicle to promote and develop such partnerships. In addition, different models for strengthening School Councils (SC) are being implemented. In the first phase, PESRP has established a model for contracting out services to NGOs working in collaboration with SCs, which will be implemented in six districts. Current research is planned to study this model (Box 8).

Box 8: Studying Public-Private Partnerships in Education in the Punjab

Following the denationalization of private schooling in 1979, there has been significant growth in private schools in Pakistan. However, relatively little analytic work, if any, has been carried out to-date examining the causes and consequences of this phenomenon, largely due to the lack of reliable nationwide data on private schools. For instance, researches and policy-makers do not yet have a good understanding of school-choice decisions by households (in particular relating to factors such as availability, quality, costs, role of female teachers, etc. across different types of schools). In particular, no outcome variables are available related to learning achievements of students in the private sector.

As part of the ongoing collaboration between the provincial education authorities and the World Bank in the context of the Punjab Education Sector Reform Program (see Box 8), an extensive study on Public-Private Partnerships in the Education Sector is being carried out to help fill this knowledge gap. Since public-private partnerships constitute an important element of the provincial government's education reform program, the study aims to deepen policy-makers' understanding of the role of the private sector in education. Specifically the study will examine (i) the quality of education provided in private rural schools, both in absolute terms and relative to that of public schools, (ii) the fee-structure charged in private schools and its relationship with school quality, (ii) the relevant market structure for (private) education, and the extent to which private schools compete with other (private or public) schools, (iv) factors that influence the school-choice decision of the household, and numerous other such important questions of policy interest. It will be carried out in two main phases: (a) a careful evaluation of school choice with regard to school quality using detailed data on household inputs and learning outcomes in schools, and (b) a randomized intervention including both demand side and supply side incentives to evaluate the outcomes of potential policy changes.

The study concentrates on village units endowed both with public and private schools. 120 villages have been sampled from 3 districts (Attock, Faisalabad, and Rahim Yar Khan), where fieldwork will be carried out. A list of all households with children of school-going age will be compiled for all selected villages, following which a household survey will be administered to selected households along with school surveys and tests of children in the 4th grade in Mathematics, English and Urdu. In addition, test will also be administered to teachers to determine a measure of teacher quality. Tests and household surveys will be administered every six months, until a longitudinal data set comprising 3 rounds is available for a panel of interviewed households and children. The household data collected will be matched with detailed school-level information on fee structure, teacher qualifications, ownership structure, etc. Analysis of these combined data will help yield valuable information on school choice and relative performance among schools in the same village. The results of this analysis will then be used in discussions with various stakeholders to agree on an appropriate intervention to be studied in the randomized experiments administered under the second phase of the project.

Sources: For more details, see Das et al (2003)*Improving School Quality in Pakistan: A Concept Note*, World Bank, Washington DC.

4.21. Incorporating the private sector into the planning of the public sector implies that information be collected on the basis of the population of students and not just from the Department of Education's internal management information systems. It is not sufficient to keep track of children who happen to attend public schools. It is necessary to know the progress of all children. While the Punjab Education Management Information System (EMIS) collects data for government schools on an annual basis, similar instruments for collecting information on private schools are not yet available. The provincial government is considering conducting an annual private school census to collect updated information on the total student population on a regular basis.

4.22. Determinants of health status and public policy's role in it are even harder to assess than in education. This is not only because of the lack of relevant information but also because health involves a much more complex combination of determining factors. Education requires a teacher and children in classrooms on a regular basis and some educational materials—most of which are concerns of the Ministry of Education. Health status, in contrast, is determined by a large number of factors that lie outside of the Ministry of Health. Information to correctly assess these various potential contributors is simply not available so the following discussion is merely suggestive.

4.23. The PDHS is the only source of data that is both large enough and broad enough to attempt an explanation of infant and child mortality. Table 4.4 presents the basic results of a regression analysis based on data from the whole country. Note that there is no information on the presence or absence of public health facilities in the same data set so a comparison with other policy options

cannot be made. However, several very strong correlations do appear. First is the effect of mother's education, further emphasizing the benefits of expanding female education. Second, the impact of "wealth" is strong and reinforces the implication of Figure 4.3 above.

Table 4.4: Determinants of Health status in Pakistan: 1990/91

	Dependent Variable: Under 5 mortality	
Independent variable	Coefficient	(Standard Error)
Wealth	-.068	(.028)
Secondary/higher education	-.701	(.189)
Piped water	-.249	(.140)
Flush toilet	-.061	(.125)
Pit toilet	-.622	(.129)
rural	-.099	(.113)

Note: Other variables included regions, gender, and other categories of water, sanitation and education that were not significant. ***Source:*** Staff estimates based on the 1990/91 PDHS.

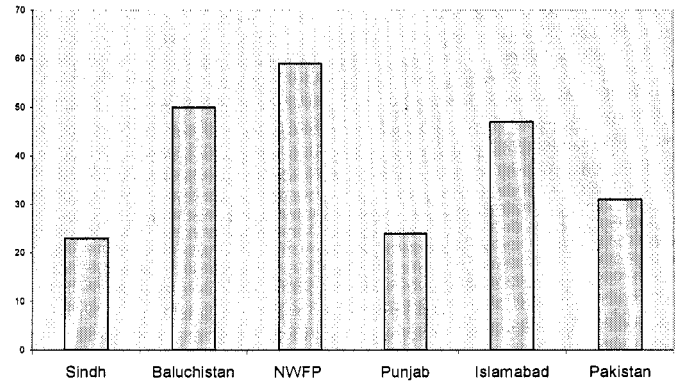
4.24. Finally, the impact of having any sanitation facility at all, is very strong on child survival, even stronger than source of water. Sanitation habits are not directly addressable with infrastructure-related interventions[42] but require behavioral change in families. Achieving behavior change has important public good characteristics (health education—the dissemination of information that is not associated with a commercial product that would be advertised) as well as direct effects on other village members,[43] that is, with large externalities. Further, infectious disease and deaths from diarrhea among children are almost always more concentrated among the poor than any other disease condition.[44] Therefore, addressing the sanitation problem has a strong claim on public resources on both equity and efficiency grounds.

4.25. What of the effect of public health care facilities? This is hard to say. It is possible that better sanitation practices are brought about by contact with public health facilities or that the other determinants are simply proxies for access to health care. This cannot be directly tested. However, there is reason to doubt the effect of public care. First, very few people, even among the poorest use public health care facilities (Figure 4.5). The CIET study shows very low use of public facilities and that "very vulnerable" households were not any more likely to use them than other households. Some of this is due to fewer people who are "very vulnerable" being within 5 km of a public facility. The current pattern of public subsidy, then, is not pro-poor.

4.26. Second, overall changes in mortality (either the modest estimates from comparing the PDHS to PIHS or the more dramatic estimate using official records as the baseline) are consistent with changes in the other important determinants. Over the decade there has been increased coverage of water and sanitation,[45] increased female education and decreased fertility (usually associated with lower mortality since high risk mothers—very young, very old, those with largest numbers of children and those that feel themselves to be at high risk—tend to reduce fertility first when overall rates decline). Together these could account for the observed improvements. Finally, in India and Bangladesh, where information on access to public facilities is available in the same type of surveys, their presence is not, generally, associated with lower mortality. Perhaps the most comparable case is the Indian state of Punjab. There analyses show no such relationship.

[42] Water and Sanitation Program, South Asia Region, The World Bank.
[43] Hughes and Dunleavy, 2000.
[44] World Bank, 1998, 2002b.
[45] World Bank 2002b.

Figure 4.5: Percent of Households who usually use Government Health Facilities



Source: CIET 2003.

4.27. Why might sanitation work when health care does not and what does this mean for public policy? Sanitation, as noted, is characterized as having large external benefits and disproportionately affects the poor. Given the very large private sector in health care, the substitution possibilities with the public sector are also potentially substantial. In fact, analysis of substitution in Pakistan as a whole shows that any increase in the cost of attending public facilities that would lead to a 10 percent reduction in public facilities is associated with an increase in the use of private facilities that amounts to 7 of those 10 percentage points.[46] The substitutability seems high and therefore increases in public facilities could lead to much lower-than-expected increases in net coverage of health care utilization due to reductions in private sector use.[47]

4.28. Simply not enough is known about the contributions of different policies on health status and they cannot be determined with currently available data—in our case as old as 13 years. More, and timelier, information that can be used by health planners and health care providers is a top priority. Further, even more than in education, the kinds of information that need to be collected must be from population-based surveys and not simply from facility based information. Since so little of the sector is covered by public facilities, the focus of attention and data collection should be on what most people are really doing about their health and health care—information that cannot, even in principle, be collected at public health centers.

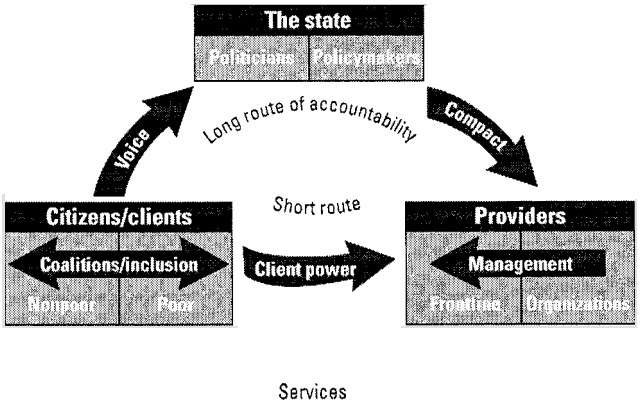
[46] Alderman and Gertler, 1989.

[47] There is substantial controversy over the "quality" of care in both public and private facilities. This is a grossly under-researched topic given its importance. Recent evidence (Das and Hammer, 2004) seems to indicate that in urban India, poor people are treated by low quality providers in both public and private facilities (with public MBBS doctors a little, but not much, better than private providers without an MBBS) while richer people are treated by higher quality doctors in both the public and private sectors (the private being a little, but not much, better than the public). No such study exists for Pakistan, let alone the Punjab.

4.3 ACCOUNTABILITY OF POLICYMAKERS AND PROVIDERS:

4.29. The World Development Report 2004: "Making Services Work for Poor People" identified the core factors involved in making sure that services do, in fact, work for poor people. These are a set of "relationships of accountability", or, more prosaically, making sure that service providers feel committed and have incentives to provide services effectively (Figure 4.6).

Figure 4.6: Relationships of Accountability in Service Delivery



Source: World Development Report 2004

4.30. The basic point is that the goal is to improve services to clients, particularly poor clients, which serve their needs and preferences. People are concerned with outcomes. They want educated children, clean and convenient water and better health (and attentive health care). They do not care what managerial system gets it to them. In a market for an ordinary good, people pay for it directly, of course, but in doing this they make sure that they are getting the type and quality that they want. They are closely monitoring the seller—it is their money after all—and have implicitly or explicitly the ability to make sure the seller delivers. They can complain (an explicit sanction) or they can threaten not to return or to tell their friends (an implicit sanction). The seller has every reason to satisfy the wishes of the consumer since that is how they earn their living. This is a powerful incentive. In the diagram, it is one form of the "short route" of accountability.

4.31. This fable is relevant to basic services because even if services are provided by the government, the same degree of care on the part of providers to satisfy the needs of clients needs to be maintained. However, this now takes two steps (the "long route" of accountability). ***First, the government must be aware and have the incentive to satisfy the desires of the clients, particularly poorer clients.*** This relationship of accountability is "voice" in the diagram—more commonly known as politics. Service delivery should always be seen as inherently political. In democracies, it is the politicians that usually respond to voters' wishes, and they must pass on these wishes to the policy-makers.

4.32. ***Second, policymakers must be able to ensure that providers have the incentives to satisfy the needs of clients.*** Policy makers need to be able to monitor and induce provider organizations (such as the Ministries of Health or Education) and, through them, frontline providers

such as teachers and doctors, to perform their duties properly. High rates of absenteeism are an indication that this is not an easy task. This relationship of accountability is labeled "compact" in the diagram. "Voice" and "compact" together form the "long route" of accountability. For the "long route" to work well, both policy makers and providers feel responsible to supply the same things that people demand. Providers in the public sector must be accountable to the policymakers who, in turn, must be accountable to the public.

4.33. ***Finally***, monitoring of the performance of providers is often difficult to do through ordinary managerial supervision. Similarly, implementing systems of rewards and punishments for performance based on this monitoring is not easy. Depending on their capacity, (and even rich and technologically advanced countries often find this difficult) ***governments might find that reliance on parents, patients or community organizations can be helpful in ensuring better performance—either as monitors or as direct demanders of services.*** This is called "client power" in the diagram. This is a second meaning of the "short route", i.e. not relying on the market (also a short route but only by default)—but as a deliberate policy initiative to take advantage of local information and enforcement capacities.

4.34. These services are provided by the state for good reason—market outcomes are not always sufficient. Poor people may not obtain education without state intervention, even if it is in the long term interests of the children. Primary education, in particular, is considered to have benefits to the community at large (externalities). In health there is a wide range of activities with differing degrees of market failure—from the pure public goods of pest control for which there cannot be a private market to control of infectious disease to relatively inexpensive curative care which is close to a pure private good. Public sector priorities should balance the ability of markets to deliver particular services to the ability of governments to deliver them given problems that appear along the "long route" of accountability. The remainder of this section examines ways in which each of these relationships of accountability can be made to work better in the Punjab and, for example, as is already being done under the PESRP. The following section examines the appropriate role of the provincial government that will further improve these relationships in the devolved system.

4.35. Voice: Policy makers, in the devolved system the nazimeen, must believe that improved services serve their own interests. Under the PESRP, all district governments have entered into terms of partnership (see Box 8) with the provincial government in a major effort to improve education service delivery. In the course of consultations for the reform program, a majority of Zilla Nazimeen stressed the high priority they accorded to improving education outcomes. There are several examples of this, including the Zilla Nazim and Union Nazimeen in Faisalabad who feel responsible for service delivery, and consider success to be important for their political futures.[48] In Rahim Yar Khan as well, both health care provision and educational improvement are given high priority for the same reason—the Nazim and councilors believe that better services amount to good politics.

4.36. One major expected benefit of devolution was that local governments will both know more about the specific needs of their constituents and be more likely to feel accountable to people. But devolution, by itself, does not ensure this will happen. If politicians in Faisalabad and Rahim Yar Khan do, in fact, reap political benefits from an emphasis on improved service delivery, their experience is likely to be repeated. The devolution study indicates that Nazimeen do find that

[48] World Bank 2004c.

listening to citizens is more important after devolution—certainly a promising result. However, depending on local conditions and history, improved communication may not be the result, local politicians may be subject to political capture by elites and services may not reach the poor. To counter this possibility, actions on the part of the provincial government, as discussed below, and more open, public, and informed debates on issues are necessary.

Box 9: The Punjab Education Sector Reform Program

Following extensive consultations with students, parents, teachers, and local officials, including in-depth meetings with district education teams and NGOs, the Government of the Punjab has recently embarked upon an extensive reform program to enhance access and quality of education in the province. In 2004 the World Bank extended US$100 million, the first of a series of three IDA adjustment credits, in support of this reform effort. The government's medium-term reform program has three main pillars:

(i) Public finance reforms: The government has increased public expenditures on pro-poor services with a focus on education by increasing provincial public sector expenditures with conditional grants for district governments.

(ii) Devolution reforms: In line with the ongoing devolution initiative, increased decision making authority on resource allocation has been passed on to district governments. The provincial government is also developing an implementation framework that clarifies the roles of service providers and users and institutionalizes performance-based budgeting.

(iii) Education sector reforms: To improve education sector performance, the government is taking measures to strengthen education accountability by establishing transparent criteria for teacher recruitment and deployment. These reforms support the effective use of School Councils (SCs) to strengthen parents and children's participation in the process and to generate improvements in monitoring and evaluation of the education sector.

An integral part of the reforms is the clarification of the respective roles of the various tiers of government under the decentralization program and the introduction of incentives for district governments to improve service delivery. These reforms are embodied in the Terms of Partnerships (TOP) agreement between the provincial and district governments, initiated for the first time in Pakistan. The TOP improves the transparency and efficiency in the financing and management of the education sector by clearly defining the responsibilities and obligations of districts, province and SCs in planning, implementing and monitoring the education system and use of funds. The TOP also provides financial and performance based incentives for districts to improve their education service delivery.

During the first year, all 34 districts received earmarked grants for education after signing the TOP. The size of the second and outer year grants is based on need and is also conditional on the attainment of education performance outcomes and an increase in district expenditures on education agreed under the TOP. Finally, the TOP agreement also increases client participation in service delivery by requiring district and provincial governments to take all necessary administrative and financial actions to assure that the SCs are effective partners of the education system.

4.37. Compact: Throughout South Asia problems such as absenteeism or discourteous behavior on the part of providers are common. In India and Bangladesh, for example, surprise visits found that 42 percent and 35 percent of medical providers and 25 percent and 18 percent of teachers, respectively, were not at their assigned posts. Similar (though less consistently measured) results appear to be true for Pakistan. Further, the PIHS indicates that for urban Punjab, 21 percent of people avoid government health facilities due to discourteous treatment by the staff. Clearly, neither absenteeism nor discourtesy was the intention of policymakers but reflects their difficulties in ensuring appropriate performance by frontline providers. How to improve the monitoring and administrative capacity of policy makers is a high priority.

4.38. Reforms in improving the "compact" can vary substantially. Under the PESRP, six district governments have entered tripartite contract arrangements with NGOs like the National and the Punjab Rural Support Programs to directly manage government primary schools in partnership with the SCs. This is an interesting example of using explicit contracts to engage the services of either the non-profit or for-profit private providers. One advantage of explicit contracts is that accountability can be much stronger to the policy-maker. Instead of government officials feeling like they need to

make excuses for deficient performance, the explicit separation of roles of policy maker and provider allows the former to want to find cases of bad performance in order to correct them.[49] A second advantage is that payments in contracts can be made dependent on the actual performance of the provider, improving the effort put in to achieve these goals. The model being used in the Punjab is based on a similar model developed for the health sector (and subsequently for schools as well) in Rahim Yar Khan. Another example is in Bangladesh, where health educators were issued performance contracts to teach the use of Oral Rehydration Therapy to mothers. Bonuses were paid for the number of mothers who could explain how to handle diarrhea (with ORT) as measured by independent evaluators—not program administrators or the providers themselves. This led to both an increase in mothers' knowledge and, as a means to this end, more use of hands-on education techniques instead of classroom learning. The change in teaching technique was not devised by program managers, it was a result of the teachers themselves wanting to make sure the information got across since this would increase their bonus.[50]

4.39. This sort of contract may not always work. Another major benefit of devolution is potentially that different districts can experiment with alternative methods of dealing with their problems. Differences in local conditions or attitudes may make the appropriate response vary in each case, or, on the other hand, an experiment may be successful in one district and be considered a model to emulate by others. Recognizing this, the Government of the Punjab has allowed for considerable diversity in the partnership models for SCs (Box 10), and some districts in the province have already begun experimentation with alternative ways of doing business. The CARE initiative in Lahore, for example, is a way of using NGO's as managers of government schools (Box 10). As and when such examples are successful, other district governments take them up with suitable modifications as needed, with the view to replicating these successes within their respective jurisdictions.

Box 10: Community Management Schools Models in the Punjab

Model A:

1. A selected NGO enters into an agreement with the district government to take over 400 schools in various union councils.
2. The NGO now becomes responsible for the operation and management of these schools.
3. The NGO also forms SCs in line with the guidelines of the Education Department.
4. The capacity building of the council is also the responsibility of the NGO.

The PESRP pays for the field of the NGO and also places a reasonable sum at the disposal of the Council which it will spend on improvement of the school.

Model B:

1. A selected NGO enters into an agreement with the district government to form SCs in 400 schools in various union councils.
2. The operation and management of these schools remain with the district governments.
3. The NGO forms SCs in line with the guidelines of the Education Department, and carries out capacity building of these councils.

The PESRP pays for the fielding of the NGO and also places a reasonable sum at the disposal of the Council which it will spend on improvement of the school.

Note: Five district governments have opted for Model A, while one has opted for Model B.

[49] World Bank 2004b, p. 98

[50] ibid, p.102

Box 11: NGO Management of Public Schools: The CARE Initiative in Lahore

The Government of Punjab launched a scheme in 1998 to improve management of government schools by encouraging NGOs with a proven track record in the education sector to "adopt" schools of the Metropolitan Corporation Lahore (MCL). The charitable trust, Cooperation for the Advancement Rehabilitation and Education (CARE) was amongst the first NGOs in Lahore to be approached with an initial offer to run ten schools. Since this initial pilot, CARE's partnership with the Lahore city government has subsequently expanded to include the responsibility to rehabilitate, finance, and manage 165 MCL schools across the city, with 840 teachers and a total enrollment of over 80,000 students.

When it first adopted the MCL schools, CARE was confronted with many challenges: in addition to the problems of staff shortages and teacher absenteeism, these schools were characterized by poor teaching methods, low student pass rates, high drop-outs, and deteriorating infrastructure. The schools lacked basic amenities such as clean drinking water, latrines, blackboards, chalk, etc. To improve school infrastructure, CARE made major repairs as well as constructed additional classrooms, provided furniture, improved sanitary conditions by repairing and/or constructing toilets, set up functional laboratories for better understanding of basic scientific concepts, as well as made a small library or book resource room in every school. CARE chose to work in close partnership with MCL head teachers and union leaders to uplift the standard of education in schools, despite the government staff's initial skepticism and suspicion. A CARE-hired teacher was appointed as an "Internal Coordinator" in each school to work in tandem with the MCL Head teacher to monitor the performance of teachers. Weekly supervisions of schools were carried out by a volunteer "External Coordinator", whose main role was to conduct quality checks to ensure regular attendance of teachers and students, monitor performance of staff, ensure that copies were checked properly and tests were administered and recorded every month. In addition, CARE appointed an "Academic Coordinator" to streamline the curriculum and teaching practices to improve the standard of education in schools, and a Teacher Training Center was set up to equip teachers with modern teaching methodologies.

CARE's guiding philosophy is rooted in the belief that education is the birth right of every child and should never be denied to anyone, as well as to combat the notion that the poor do not "want" or "value" education. In addition to running schools across Lahore, it has also initiated a merit scholarship program for its outstanding students to finance their higher education. This program, which was started two years ago, covers the academic and in some cases, living expenditures of 82 students enrolled in such prestigious institutions as King Edward Medical College, Kinnaird College and Government College. Finances for the NGO are generated from donations, with 98 percent of these coming from contributions within Pakistan.

Sources: CARE website: www.care.org.pk, "Empowerment through Education" Asian Journal of Management Cases, Volume 1 Number 1: Jan-June 2004. Pgs. 39-60, as well as various newspaper articles, reviews, and interviews.

4.40. Reforms of the agreements between policy makers and providers can be done within the public sector as well. In Rahim Yar Khan, the district experimented with an alternative organization for the functioning of the Basic Health Units (BHU). Instead of keeping a Medical Officer (MO) responsible for a single BHU, each was given responsibility for three BHUs, at an enhanced salary of course, that they would visit each day in rotation. In addition a revolving drug fund was established that ensured a more reliable supply of pharmaceuticals. People would know when the MO was to be present and were more confident of being treated with adequate supplies. The use of public BHUs increased dramatically over the first five months of the experiment. It is too soon to say if this is an unambiguous success or if the greater use of public facilities translates into better health status of the public. But the dramatic increase in use—more than doubling the monthly visits from 74,000 in June 2003 to an average of 175,000 for each of the following five months—is an early marker of success. Again, whether this can be adapted to other districts is, and should be, decided based on local conditions—experimentation that devolution allows.

4.41. Client Power: For good reasons the discussion of "compact" used several examples from the health sector. Since many of the market failures in health are so severe, it is not possible to solve them without a substantial government role and improving the "long route" of accountability is necessary. There is no alternative to the government providing (or contracting with full payment for) pure public goods. Similarly, ensuring that immunizations are complete does not require demand-driven fixed facilities (that are often difficult to manage) but is not likely to be accomplished without direct public involvement. When it comes to increasing client-power, however, there are many more possibilities in the education sector. While it is hard to attribute better health to a particular health

care episode, parents—even illiterate ones—can tell if the teacher is showing up to work on a regular basis or if their children are learning anything. In fact, they are in a better position than government hierarchies to do so.

4.42. Client power can improve services in several ways. In one sense the simplest is to recruit clients as aides in monitoring the performance of providers. By ensuring that complaints will be heard and addressed, information from clients can be used to improve services. In another sense, this is not simple at all and requires a tradition of expecting services to function properly and of access to government ears. In the Punjab, only ten percent of respondents in the CIET survey knew how to complain about government health services. Increased devolution may make such lines of communication clearer but that remains to be seen.

4.43. The second way to empower clients is to provide them with more choice and competition among facilities. The growth of the private sector in both health and education already shows that people have options to public facilities if they are dissatisfied. However, competition and choice can be incorporated into government programs to improve efficiency of service delivery. A particularly successful case is the Female Secondary School Assistance Program in Bangladesh. Here, money was deposited in bank accounts in the girls' names and could be used to pay for any secondary school—government, NGO or for-profit—provided she stayed in school, maintained a passing grade and remained unmarried. Secondary school enrollments rose 10 percent per year—mostly due to female attendance—for the decade after the program started.[51] More interesting, many of the barriers that were thought to keep girls away from school and that the public system had a very hard time overcoming—separate latrines for boys and girls, more female teachers—were solved very quickly once the schools had the incentive of attracting more girls and their tuition money.

4.44. The Punjab government's stipend program for girls enrolled in grades 6-8 is designed to attract more girls to schools, and is being implemented in the 15 lowest-literacy districts in the province. It shares some of the features of the Bangladesh program, but in its first phase lacks the dimension of encouraging competition between public and private schools.[52] The stipend is paid to families if they keep their girls in school (maintaining at least 80 percent attendance rate). But they do not have the choice of where to send them. If the main reason that girls are not attending school is because of financial constraints such as cost of transportation, the program might work.[53] If, however, characteristics of schools such as female teachers or headmasters who make sure absenteeism is kept to a minimum or any other dimension of quality on which schools might compete, the lack of portability of the scholarship across schools limits the effectiveness it would have on improving school performance. The government plans to subject this program to a rigorous evaluation through a third-party to assess its impact and effectiveness at increasing enrollments. The first evaluation is planned in December 2004, by which time the program will have been running for one year.

4.45. Competition is not always an appropriate instrument, particularly in sparsely populated areas (that could sustain only one school, for example) or at primary level where long travel is not acceptable. More appropriate might be the third way to empower clients: through participation, or,

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[51] World Bank 2004b, p. 69

[52] Many of these low-literacy districts are in Southern Punjab, where private schools have relatively limited coverage, particularly in rural areas and at the middle-school and secondary level.

[53] Following disbursement of two quarterly installments, monitoring data shows encouraging results: between the first and second quarter, girls' attendance was found to have gone up by 6 percent.

more direct management of facilities. There are many examples around the world in which giving parents more authority—usually the authority to hire and fire teachers—has dramatically improved performance of schools. A celebrated example is the EDUCO program in El Salvador in which the Ministry of Education entered into explicit contracts with communities to run their schools. This included hiring teachers and undertaking regular inspections. Studies indicate that each visit by the parent's association increased test scores in both math and reading.[54]

4.46. Closer to home, a recent study reports that Madhya Pradesh in India is the state that has benefited most and early on from the national District Primary Education Project. Once again, a major difference was parent associations that could hire (at below official pay scales) and fire teachers. Absenteeism was found to be much lower and both student enrollments and attendance much higher than in the control group.[55]

4.47. Prospects for this form of client power in the Punjab are being developed by the provincial government through NGO contracting and strengthening of SCs. In the past, school management committees in the Punjab have shown mixed results. Studies conducted during the nineties under the Social Action Program demonstrated that SCs performed well when there was a committed head teacher along with grants for school improvements; however, a large number of SCs were not very successful due to frequent reconstitution of membership and changes in government policies. There are exceptions: for instance, a recent study finds that SCs in Faisalabad are active throughout the district. The day-to-day running of schools is under the responsibility of the Committees, which are chaired by the School Headmaster and have 10 members in all. They meet monthly and approve expenditures on a monthly basis (e.g. equipment, repair and maintenance etc.). Contributions from the community can also help finance school costs. To help finance the non-salary recurrent costs, contributions are collected from pupils,[56] and in the girls' primary school visited, private schooling in an evening shift generated funds that contributed to paying bills such as electricity. This school was in a peri-urban area, and the situation in a more rural, less wealthy, environment is likely to be far worse. It is clear that the relationship between staff and the local community is crucial.[57]

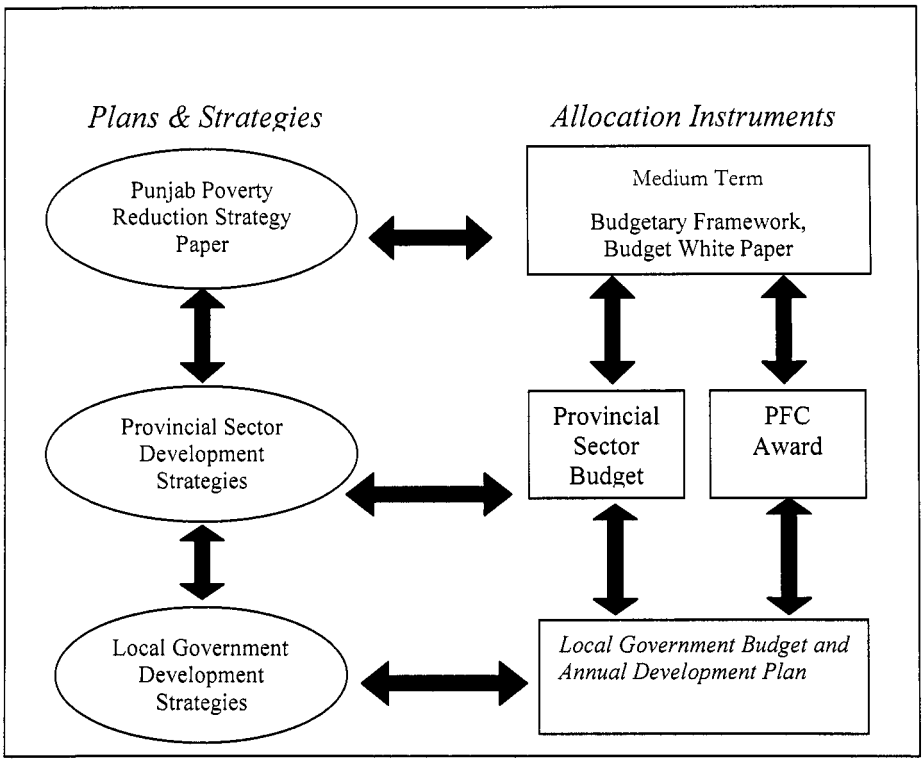
4.48. Developing client power through participatory means may take some time to take root in the Punjab. The recent CIET survey indicated that just over 2 percent of households nationwide had participated in any voluntary group. A source of concern is that relatively well-off people were more than twice as likely as others to have participated in such groups than those identified as "vulnerable". This is a concern since, should such voluntary groups be used as a basis for citizen participation, it risks services being less-well suited to the needs of the poor. In the Punjab only 3 percent of men and 1 percent of women (identical to the national average) had even heard of Citizen Community Boards.

4.49. This perspective on improving service delivery depends on government being as concerned, as focused and as knowledgeable about ultimate outcomes of services, as are the people themselves. It requires the government to listen to the needs of the public via "voice", particularly of the poor. It also requires that providers (as organizations, such as line ministries and as individuals) be faced with

[54] Jimenez and Sawada, 1999.
[55] Glinskaya and Jalan, 2003
[56] In general, 1 Rupee per child is collected in classes 1-4 and in classes 5-12, 2 Rupees are collected per child.
[57] Williamson et al, 2004

incentives to achieve better outcomes on behalf of the people either by "compact" via the long route of accountability or by "client-power". All of these relationships of accountability require more information about what outcomes are and what can be done to improve them via policy, a point to be discussed below. If the goal is to reach more people—to improve the health of the vast majority of people who do not use public facilities or to increase enrollments, necessarily by children not currently in the public system—the focus must be on the population as a whole, not merely on the functioning of the public system.

Figure 4.7: Framework for Policy, Planning & Budgeting in the Punjab



4.50. The Government of the Punjab has recently developed a framework for Policy, Planning and Budgeting for the province. It has gone a long way in reforming its entire public sector, and at the macro level has had significant achievements. The approach being implemented is consistent with modern approaches to public management and delivery—the establishment of aggregate fiscal discipline, the orientation of government towards performance; the devolution of managerial powers; and encouragement of participation in service provision. There are several ongoing initiatives to support improved sector performance. In particular, reforms to the planning and budgeting framework are underway, illustrated by Figure 4.7, to promote more rational resource allocation. So far the PRSP has been finalized, a three-year PESRP is being implemented, and a Medium Term Budgetary Framework is being developed.[58] The Provincial Finance Commission has issued an interim award. Sectors and local governments will soon be encouraged to develop pro-poor

[58] In addition to the Education Sector Reform program already mentioned, two other key donor programs in the Punjab supporting cross cutting reforms are the Punjab Resource Management Project and the Devolution Support Program.

strategies. In FY04, the provincial government has significantly increased its allocation to the education sector, and is passing this on to the district governments as an earmarked grant.

4.51. However the challenge is translating the good intentions, which are set out on paper, into reality. These are ambitious and involve changing behavior that has been entrenched in the bureaucratic and political establishment. The reform process described in Figure 4.7 is a good step towards fixing the internal problems of coordinating political decisions with policy choices, but improvement on the ground must also take into account the other relationships of accountability.

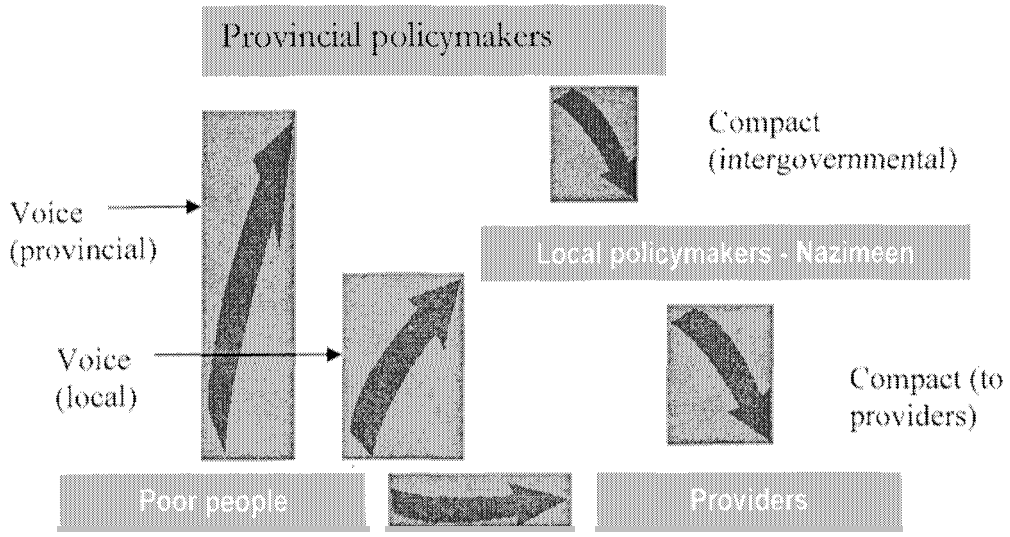
4.52. First, the reforms must engage rather than bypass the reality that engineering change in social service delivery will be highly political at all levels—MNAs, MPAs and Nazimeen. Reforms must aim to channel the political agenda constructively towards enhancing services. That is, they must continually be aware of the need for "voice" in improving services. Second, while the intention is to make the process more performance oriented, concrete steps need to be taken to measure performance. In both senses, the next challenge is to make the reform process more outward looking rather than inward.

4.4 The Role of the Provincial Government under Decentralization.

As noted, service delivery does not necessarily improve with devolution per se. Since the devolution process in Pakistan is still in its early stages, it is much too early to make firm judgments about how well it is working. What is clear, however, is that devolution is a fait accompli and more decisions will be taken at the local level as devolution proceeds. This fact does not mean that the provincial government is any less important than it has been, but it does mean that its functions will change. The task is to make sure that the provincial government reinforces the relationships of accountability discussed above as well as to make sure that certain functions that transcend local governments are adequately performed. Early indications are that there are some "growing pains" in decentralization, that is, that roles between the levels of government are not yet completely clear. It can be hoped that this lack of clarity is simply a natural transition period that would work itself out in time. However, there are several considerations that might make the transition period shorter. Figure 4.8 adapts Figure 4.6 to make it applicable to the current decentralized setting in Pakistan.

4.53. The discussion of accountability in the previous section is relevant to decentralization with three modifications. First, there now two "voice" relations between people (particularly poor people) and government—to local leaders and to provincial (and to national, but that we leave aside). There is a presumption that local policy makers care more about service quality because they are much more likely to be held responsible for it than are provincial governments—a level that has many more functions to perform than health, education, and water supply. On the other hand, depending on the social structure at the local level, whether the voice of poor people is more likely to be heard at the local level rather than other citizens is an empirical matter and the provincial government may take it upon itself to be a check on local elite capture.

Figure 4.8: Relationships of accountability in decentralized settings



4.54. Second, there are now two "compact" relations relevant to ensuring services get provided. Both provincial and local governments may have authority over direct service providers—a source of several of the obvious problems encountered to date. But there are also intergovernmental lines of authority, in the form of grants and vertical programs, which can be part of a solution to these problems or others that may yet emerge. Finally, some policies implemented by the province can increase client power in ways that can bypass local governments without confusing lines of authority.

4.55. ***Enhancing "voice":*** The most sensitive issue in devolution is political and involves the relative ability of citizens, particularly the poorest, to be represented by nazimeen (at any level—union, tehsil or district) or by provincial authorities. We would all like to think that local leaders are most concerned about local poor but this can be naïve. In most cases this may well be true. In some it will not be. Provincial governments can help improve the "voice" of the poor by making sure that all citizens are knowledgeable about their rights and by collecting and publicizing information on services being delivered in the districts. Provincial government can measure and publicize trends by income group in (i) overall health status, (ii) enrollments, completion and learning by children, and (iii) access and cost of safe water. Provincial government can improve the "voice" relationship of accountability even when responsibilities for direct service provision lie completely with lower tiers of government.

4.56. ***Enhancing the "compact":*** In the transition to devolved responsibilities for service delivery, it is in the area of accountability of public employees that there has been the most confusion. Simply put, many frontline providers are uncertain about who they report to. Some nazimeen are also not sure about which services they are responsible for and do not make allowances for sufficient supervision of staff.[39] Provincial directives continue to reach providers, further confusing lines of authority. And some providers remain actual employees of provincial government (Lady Health

[39] World Bank 2004c.

Workers, for example, have more than one kind of supervisor). Again, this may be simply a matter for time to work out but the transition may be sped up with focused intergovernmental discussion.

4.57. Direct compacts are used by provincial governments in two modes. The first, and more problematic, is the use of vertical programs whose planning, financing and operation are, to a greater or lesser extent, retained by the province. These are usually responsible for lack of clarity of responsibility on the part of providers and run the risk of subverting the democratic responsibilities and accountability of councilors and nazimeen to their constituents. The potential benefits of devolution depend on stronger accountability for budget priorities and service performance. Subject to a few, very limited areas, vertical programs should be examined with a very skeptical eye.

4.58. A second kind of compact that devolution has introduced is the grant mechanism from province to district. Generally speaking transfers need not, and, to the extent local governments protect their poorer citizens, should not be tied to specific services. However, if the province is interested in improving particular services, per se, part of the grant can be made conditional on outcomes for its poorer citizens. So, as a protective mechanism, particularly when there is doubt that local political leaders are adequately representing the wishes of their constituents, transfer formulae can incorporate performance criteria. In general, if the goal is to improve living conditions of poor citizens these conditions are likely to involve more attention to communicable disease control, increased enrollments in primary education, and more extensive access to clean water. And all of these need much better measurement if transfers are to be made conditional on them. As noted in Box 8, the government has already begun to do so in the education sector.

4.59. ***Enhancing "client power":*** Finally, provincial government might experiment with policies that give purchasing power directly into the hands of clients. This does bypass nazimeen but in a way that increases overall accountability to clients. One example is the School Council model under which NGOs are being contracted for school improvements. Another example would be the possible modification of the middle-school girls' stipend program based on its evaluation, and in a manner that would allow competition between different kinds of schools as in the comparable program in Bangladesh. Other "voucher"-like mechanisms that allow choice between government, NGO, or other private providers can be experimented with in water and health care as well but, as with any experiment, they should also be subject to rigorous evaluation.

4.60. Beyond improving accountability, there are four specific areas in which provincial government can make a significant contribution to service delivery by overcoming certain systematic problems in a devolved setting:

- ensuring that activities with substantial ***spillover effects*** across district boundaries are properly handled
- providing services with large ***economies of scale*** that would not be efficiently handled at district level
- improving the ***distribution of income*** across the province by disproportionately augmenting the local revenue collection of poorer districts
- generating and disseminating a wide variety of types of ***information***.

4.61. Districts answering to their own constituents' needs may not adequately consider spillover effects from one district to another, and services may be sub-optimally provided. Many of these lie outside the health, education and drinking water services. Watershed management, of particular important to the province of the "five rivers", is the most obvious example. However in health also, there are aspects of the control of infectious disease, particularly at border areas of districts, which do not respect political boundaries. Some of these activities remain vertical programs. In general, vertical programs disrupt the budgeting processes of district government. In the specific case of infectious disease, however, there are good reasons for provincial and district officers to work closely together and for the province to be able to support activities that benefit more than the district alone.

4.62. Interestingly, some of the vertical programs with the greatest potential for dealing with such spillovers are not as completely devolved, that is, more of the expenditure is delegated, than others with somewhat less of a claim for addressing such "external" effects. For example, while the Federal Government supplies materials of the malaria control program, employees are on the payroll of the districts. Similarly, tuberculosis, now handled through the "directly observed treatment system" has procurement of materials a provincial responsibility, prioritization and supervision of BHUs are a district responsibility. The provincial government should certainly monitor the effectiveness of each of these (with the Extended Program of Immunization being somewhat more of a "gray" area), even if it does not directly administer them.[60]

4.63. In contrast, the Lady Health Worker (LHW) program remains a national program—the only one fully funded by the federal government including salaries paid through the provincial coordinator. Provincial and district coordinators undertake parallel supervision. The LHW program certainly has high potential for improving health. Recent experience in Iran seems to be very positive.[61] However, the types of services it provides (family planning, nutrition promotion, immunization (again, a "gray" area), and treatment of diseases like respiratory infections and diarrhea) have fewer cross-district effects than other activities. Such anomalies as to who is assigned responsibility for what program should be worked out over time.

4.64. Scale economies for the set of services we are focusing on refer mostly to referral hospital based treatment at levels that district hospitals should not have to duplicate. Provincial health authorities should be apprised, at least, of equipment purchases by district hospitals that may be more efficiently handled at a tertiary facility. The tertiary facilities, themselves, are most likely to be either provincial facilities or private facilities funded by insurance that would have to be regulated, if not provided directly at province (or even federal) level. Health insurance is an area of sufficient complexity as to go well beyond the scope of this report.

4.65. A second area in which scale may favor an active provincial government is in the choice of curriculum for primary and secondary schools. As argued elsewhere in this report, the growth of high quality, high paying jobs province-wide has been hampered by shortages of workers with particular skills. Not only do large firms report poor human capital and skills as an important constraint, but small and medium enterprises do as well. The provincial government may be better placed than district staff to confer province-wide with potential employers, or even internationally, in order to identify areas in which curricula of schools may be made more relevant.

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[60] World Bank 2004c.

[61] Islamic Republic of Iran: Primary Health Care and the Rural Poor. Case study presented at the 2004 Shanghai conference.

4.66. Analogous to the problem of tertiary hospitals, the province will need to be involved with regulations relevant to university education. We are not recommending public expenditure for university education even at provincial level. Such spending is universally regressive (benefits go to students from families who are relatively well-off compared to average taxpayers) and the benefits are largely private with the possible exception of basic research—very loosely, if at all, related to tuition. However, the market for loans for higher education is underdeveloped due to the absence of collateral for human capital investments. Therefore the guarantee and the collection of student loans may be a government, likely the provincial government, responsibility. Similarly, direct support for research outputs as well as general certification of institutions have claims on public money, again, much more appropriately financed at levels above the district.

4.67. Redistribution of income from rich to poor has a very limited scope within districts. In the Punjab, average incomes clearly fall moving north to south. A balance must be struck between use of own revenues (which will likely be more closely watched by local officials) and support of poorer districts by provincial government. As discussed, transfers from provincial to local governments can be made conditional on local policy.

4.68. Better information is needed at every level of government. Help in collecting and disseminating information might be the most effective way that provincial governments can improve service delivery. Information provides an example of spillovers (experience in one district can help planning in others) and of scale economies (certain kinds of lessons can be obtained only by comparing experience across districts and of redistribution), as poorer districts may be less inclined to take the longer-term perspective that acquisition of information requires.

4.69. Further, individual districts may be perfectly happy to take credit for progress but less happy to admit problems. So, information needs to be collected by relatively disinterested third parties. The province can take this role. This leads directly to the last topic.

4.5 BETTER INFORMATION IS CRITICAL

4.70. As has been raised repeatedly in this chapter, at the core of all attempts to improve services is the need to generate and disseminate information. All of the relationships of accountability that will help lead to sustained improvements in service delivery require better information—particularly on the ultimate outcomes of services. If government is to provide services that people want and need, it has to be as focused on the ultimate goals of these services—better health, better literacy—as people are themselves.

4.71. People themselves need more information on what services they are entitled to, what services they are getting, what services others in their district or in other districts are getting, and who is deciding these issues. They also need to know how the health and education outcomes in their districts compare to other districts. These are all necessary to help them be aware of and insist on the most effective services. For instance, a start has been made in the education sector, with a major education awareness campaign launched in the first phase using the print and electronic media to publicize the various dimensions of the PESRP. In the next phase, specific information campaigns will be launched at the district level and below.

4.72. Policy makers need to know what the state of health and educational status is at a level of government (district or below) for which someone can be held responsible. They also need to know which policies work—they need better analysis to help them figure out which of the policies they try actually translate into improved health and education outcomes. This means more regular and systematic collection of data on both inputs affected by policy and outcomes so that such analyses can be conducted.

4.73. The first sections of this chapter examined a few questions that available data might address. But the truth is that these data are too aggregated in most cases, incomplete, outdated, and inadequate for answering most policy questions. The conclusions in those sections are only illustrative. Recent developments, such as the adoption of the Multiple Indicator Cluster (MICS) and the Core Welfare Indicators Questionnaire (CWIQ) surveys, are encouraging. It is important that such surveys be done regularly and with large enough samples that they can be used at the district level. Repeated surveys are necessary in order to find causal relationships. Over time, they can also be used as benchmarks for assessing improvements. Finding out that health is worse and enrollments lower in the southern, poorer, districts is helpful as a first step. But no policy maker is really responsible for that. What policy makers can be responsible for is changes in the health and education status of their districts, whether poor or not, if the impact of policy can, in fact, be discovered along with other determinants.

4.74. In addition, for the sake of both policy makers and frontline providers, more rigorous experimentation and evaluation of policies in terms of their ultimate impact on outcomes should also be a priority. Monitoring and evaluation units in all service oriented ministries need to be created and improved to be able to answer the fundamental question: "What works?". When something is found to work, this information can be transmitted to all district policy makers, who can then replicate it. When something is found not to work—it should either be analyzed to find out why it did not work, or it should be dropped. It is often difficult for governments to admit mistakes but, as a senior policy maker in the Punjab very aptly noted, correcting mistakes "is not admitting failure—it is just changing strategy".

4.75. Further, information must be "outward looking" as well as "inward looking". The latter can be found by improving Management Information Systems. The former requires data on the population as a whole. In sectors such as health and education where the private sector is large and growing and where (as in the case of education) many may not be served at all, having an accurate picture of the internal workings of ministries is not sufficient—what is needed is an accurate picture of how all people are living their lives: are their children in school? Are they suffering from avoidable health problems?

4.76. It must be noted that the Department of Education in the Punjab has made very large and very rapid strides in improving the information base within the department with regards to the physical status of government facilities, enrollment levels, the attendance of staff and students and the distribution of needed supplies throughout the system. This has markedly improved the functioning of the department, and in this regard the education sector in the Punjab provides a very good model for other provinces. What remains, however, is population-based information that covers those who are not in school at all or who are being served by the private sector (as is presently being considered by the provincial government).

4.77. Finally, information collection is an area in which the provincial government must play a leading role. As more responsibilities of government are devolved to districts, tehsils, and unions, there are opportunities to learn from experience. There is also a need to make sure that such information is objectively collected and analyzed. Both require a third party to collect and analyze the information—a very large, very important role for the provincial government.

4.78. Very little real progress will occur—in fact there will be no way to determine if there has been progress at all—until better information is brought to bear on improving services and their outcomes. So, while "information" is the last section of this chapter, it is the first step that must be taken by the Government of the Punjab.

Box 12: International Lessons for Health Policy

This chapter has emphasized the need for developing Punjab-specific data to monitor progress and, eventually, determine appropriate policy based on a clear understanding of the causal factors of health status. This is a medium to long term perspective and the value of data collected will become more easily discernable over time. Collection should start as soon as possible. In the meantime, some direction for health policy are likely to be more successful than others based on international experience and the insights afforded by economic theory. These can serve as hypotheses to be tested as data accumulates or, alternatively, as a starting point for re-orienting policy. As far as allocating resources within the health ministry is concerned, we can look at three broad categories of intervention. First is the set of core, population based, public health interventions such as sanitation, vector (pest) control, basic health education concerning hygiene or nutrition and immunization or other specific infectious disease interventions. Second is the provision of primary health care – simple medical procedures. Third is the provision of more expensive, hospital based care, preferably accessed via referral from cheaper-to-run facilities.

From the perspective of the field of public economics, there are three main criteria by which to judge these types of interventions. The first is to increase efficiency – that is, to use government to do things that private markets can't do adequately even in principle. This means identifying the most important "market failures" in the sector and making sure that public efforts – particularly public expenditure – address these problems. The second criteria for public policy is to improve equity. Government can be a means to improve social justice and transfer benefits to poor people. Different policies have differing effects on the relatively well-off and the poor and greater emphasis and resources can be given to the latter. The third criterion, not quite as standard in textbooks but an area emphasized in this chapter, is the relative ease the public sector has in implementing different policies. It is important for government to be able to "make good" on the promises it makes to the people both for ensuring that public resources are not wasted and also to bolster confidence and credibility for government action.

The question for setting priorities becomes: how do the three main types of policies measure up on these three criteria?

Core public health: The two characteristic market failures in health are the large externalities associated with infectious disease and the exposure to financially catastrophic risk due to the absence of insurance markets. Core public health interventions almost always directly attack infectious diseases. The health sector gives some of the only examples we have of "pure public goods", that is, activities that cannot be sustained in a private market because their benefits cannot be limited to those who can pay for them. While the private sector can be contracted to perform such activities by governments, they will not perform them without government intervention. Some forms of pest control – spraying for mosquitoes, control of the rat or snail populations that spread disease – are good examples. Health education for basic hygiene and nutrition are also examples. Other activities that have large externalities include tuberculosis control that can limit the spread of a dangerous infectious disease and of resistance to standard drug treatments. On efficiency grounds, therefore, core public health interventions rank highly.

On equity grounds as well, infectious disease control looks good. While poor people suffer from almost everything to a greater extent than do the rich, the differential is greatest for infectious disease. For example, in India the incidence of tuberculosis is seven times greater for the poorest decile than for the richest. For malaria it is four times greater while for cataracts (as an example of a chronic, non-infectious, illness) the differential is only 30%. Any shift of focus away from infectious disease to other health problems hurts the poor.

Finally, many of the activities that fall under the category of "core public health" are, arguably, relatively easy to implement. Some of them are "one shot" interventions such as swamp drainage or only require periodic visits (say for immunization campaigns) rather than sustained presence of professionals in rural areas. On all three grounds, then, making sure that traditional public health activities are adequately funded is a high priority. While there has been much talk of late of the "health transition" in which the disease pattern has shifted from infectious to chronic illnesses, it is important to emphasize that for public expenditure, the priority remains – and will continue to remain for some time in Pakistan – with core public health.

Box 12: International Lessons for Health Policy (continued)

Primary health care: In contrast to core public health, maintaining a widespread network of simple curative care centers is more problematic. The "market failure" often associated with routine curative care is "asymmetric information", or, the fact that medical professionals know more about your illness than you do allows them to exploit this knowledge to their own advantage. The importance of this "supplier induced demand" is contested in the literature. Its main manifestation would be over-use of medical care – not often raised as an issue for rural areas (though in urban areas in South Asia generally, this may be something of a problem). It should be remembered that there is a very large private sector in health care – almost all of it in primary care (or for treatments that could be done at primary level). Public provision runs the risk of displacing whatever private capacity does exist. In any case, the "efficiency" argument for primary health care is not particularly strong.

On equity grounds, primary care may do better but this is entirely an empirical question. International experience on who benefits from subsidies to primary health varies widely – sometimes with poor people benefiting more than others, sometimes with the benefits captured largely by the middle and upper classes. It is for this reason that more data needs to be collected in Punjab – there are no consistent lessons from other countries. Fortunately, this can be measured in one survey and one does not have to wait for the answer.

It is on implementation capacity that primary health care is most vulnerable to criticism. Medical professionals – doctors especially but not limited to them – have better earning opportunities in urban areas. Further, they are themselves usually urban born and bred and want the amenities (and educational opportunities for their children) afforded by cities. In many countries it is difficult to fill posts in the more remote rural areas (for example, vacancy rates in Indonesia range from nearly zero in the desirable province of Bali to 60% in the remote area of West Papua). Even when positions are accepted, absentee rates from primary health centers are often very high. A recent study in Bangladesh found that the absentee rate among doctors as measured by surprise visits to facilities were as high as 74% in rural areas (as opposed to a nation-wide average of 40%). This result has been replicated in many countries and has found to be very high in South Asia generally. Running primary health centers is simply not an easy task.

On all three grounds, then, the argument for large amounts of public spending on primary health is ambiguous and depends critically on country circumstances. Judged on the basis of neighboring countries, the case for Pakistan as a whole is still ambiguous – the performance in India and Bangladesh would lead to pessimism. On the other hand, Iran has been very successful in implementing primary care through the use of female village health workers. Why Iran has been successful where India has not is unclear and generalizations are hazardous. Punjab-specific analysis is essential.

Hospital-based care: In contrast to primary health care which is murky on all three criteria, and to core public health in which all arguments go the same way, hospital based care is clear on each criteria but they argue in conflicting ways.

Without health insurance, a market that is inadequate in many ways, and given the difficulty of running a public health insurance program (which tend to be difficult to administer for the same reasons that private programs fail), subsidized public hospitals may be the only recourse most people would have for protection against catastrophic (financially) illness. The efficiency argument for public hospitals can be very strong. On the other hand, while the data on the distribution of benefits for primary health care varies from country to country – hospital care is almost everywhere utilized more by the well-off than the poor. To a large extent this is due to the necessity of hospitals being in urban (or semi-urban) areas where the very poorest do not live in conjunction with procedures that do not keep people from using public hospitals (such as policies of free care). Therefore, public subsidies go disproportionately to the well-off. It is likely that running a public hospital is easier than running a diffuse network of primary care centers but this is a matter of speculation or indirect inferences. Evidence from the state of Andhra Pradesh in India suggests that a major source of job satisfaction for medical professionals is the ability to use their knowledge, confer with colleagues and have access to modern equipment. All of these are much more likely to be satisfied in hospitals and, in general, absentee studies confirm that staff show up for work more in hospitals than in smaller facilities.

CHAPTER 5: IMPROVING PROVINCIAL FINANCES FOR DEVELOPMENT

5.1. This report has provided a number of recommendations to help accelerate growth and employment generation in the Punjab. Some of the recommended measures simply entail stroke-of-the-pen changes in existing rules and regulations, and therefore do not have any significant budgetary implications. However, others—for instance, the development of city clusters—are likely to require substantial fiscal outlays over the medium term. When developing further the recommended program of work in such areas, the government should also strive to conduct a comprehensive costing exercise to ascertain the additional financing that may be required for these purposes. While substantial additional public investment will likely be needed over the medium term, the provincial government should also actively explore the possibility of pursuing innovative public-private initiatives (Box 13).

Table 5.1: Punjab Fiscal Accounts: 1994/95 – 2004/05

(Expresssed as percent of provincial GDP)

	1994/95 Actuals	1995/96 Actuals	1996/97 Actuals	1997/98 Actuals	1998/99 Actuals	1999/00 Actuals	2000/01 Actuals	2001/02 P.Actual	2002/03 P.Actual	2003/04 Revised	2004/05 Budget
Total Revenue (including Grants)	*6.9*	*7.5*	*7.1*	*5.7*	*5.6*	*6.1*	*6.1*	*5.6*	*6.4*	*6.9*	*6.8*
Federal tax assignments	**5.4**	**6.0**	**5.9**	**4.4**	**4.1**	**4.3**	**4.6**	**4.3**	**4.5**	**4.3**	**4.2**
Provincial revenue	**1.5**	**1.5**	**1.2**	**1.3**	**1.5**	**1.8**	**1.6**	**1.3**	**1.8**	**2.6**	**2.7**
Provincial taxes	**0.6**	**0.6**	**0.7**	**0.6**	**0.6**	**0.7**	**0.7**	**0.5**	**0.6**	**0.8**	**0.7**
Direct taxes	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.2
Urban immovable property tax	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Agriculture income tax	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0
Registration fee	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1
Land revenue (tax)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Taxes on profes,trades and callings	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Others	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Indirect taxes	0.5	0.5	0.5	0.4	0.4	0.4	0.5	0.4	0.4	0.6	0.5
Motor vehicle tax	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
GIST on Services	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.1	0.1	0.1
Stamp duties	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.3	0.2
Other	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Non-Tax Revenue &Grants	**0.9**	**0.9**	**0.6**	**0.7**	**0.9**	**1.1**	**0.9**	**0.7**	**1.2**	**1.6**	**1.7**
Local Government Revenue	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.2**	**0.2**
Total Expenditure	*7.7*	*7.9*	*6.7*	*6.5*	*6.3*	*6.8*	*6.3*	*5.9*	*6.2*	*7.1*	*6.7*
Current Expenditure	**6.1**	**6.5**	**5.7**	**5.1**	**5.0**	**5.5**	**5.3**	**5.0**	**5.1**	**5.5**	**5.1**
General Administration	0.9	1.4	1.0	0.7	0.8	0.8	0.9	0.7	0.7	0.6	0.5
Law & order	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.8	0.7
Social services	2.3	2.2	2.0	2.0	1.8	1.8	1.8	1.8	1.9	0.4	0.5
Education	1.8	1.8	1.6	1.6	1.4	1.4	1.4	1.4	1.5	0.1	0.2
Health	0.4	0.4	0.3	0.4	0.3	0.4	0.4	0.4	0.4	0.2	0.3
Other Social Services	0.1	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Economic Services	0.6	0.7	0.7	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.3
Irrigation	0.3	0.4	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.0	0.0
Other Economic Services	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.0	0.0
Community services	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1
Subsidies	0.1	0.1	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.1	0.0
Interest payments	1.3	1.2	1.1	1.0	0.9	0.9	0.9	0.8	0.7	0.6	0.5
Grants & Investments	0.0	0.0	0.0	0.0	0.0	0.5	0.4	0.3	0.3	2.6	2.5
Unallocable	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Development Expenditure	*1.6*	*1.5*	*0.9*	*1.4*	*1.3*	*1.4*	*1.0*	*1.0*	*1.1*	*1.7*	*1.6*
Fiscal Deficit	*-0.8*	*-0.4*	*0.4*	*-0.8*	*-0.7*	*-0.8*	*-0.2*	*-0.4*	*0.1*	*-0.3*	*0.2*
Financing	*0.8*	*0.4*	*-0.4*	*0.8*	*0.7*	*0.8*	*0.2*	*0.4*	*-0.1*	*0.3*	*-0.2*
Foreign loans	0.3	0.3	0.2	0.4	0.5	0.5	0.3	0.3	0.3	0.9	0.7
Loans from the federal government	0.2	0.1	0.0	0.0	0.1	0.1	0.0	0.0	-0.1	-0.7	-0.5
Domestic borrowing & cash balances	0.3	0.0	-0.6	0.4	0.2	0.2	-0.1	0.1	-0.4	0.0	-0.4

Source: Provincial Finance Accounts (various issues) and Budget documents (Various issues), and staff estimates.

Box 13: Innovative Public-Private Partnerships: The Bangalore Agenda Task Force Example

Bangalore, the capital of Karnataka state in India, has become one of Asia's fastest growing cities, with an estimated population of about 6 million. It recently underwent a rapid transformation from a quiet "pensioners' city" to a fast paced cosmopolitan city with a booming IT industry, and the rapid growth of population and industry placed a big strain on the city's infrastructure. The Bangalore Agenda Task Force (BATF), a unique experiment in private public partnership in urban governance, was set up in 1999 to help upgrade and modernize infrastructure, expand the city's resource base, and help create a responsive, efficient, and proactive administrative framework for provision of public services. With the broad mandate to make Bangalore a world-class city by 2004-05 to strengthen its position as an engine of growth for the state's economy, the BATF conducted a citizen's poll early on to identify key issues facing the city's residents. The citizen feedback was then used to identify priority areas for the task force. Among the top ten issues highlighted by the poll were garbage collection, road safety, and traffic. A major public drive was subsequently launched, and as a first step towards increased accountability and transparency, the "Bangalore Agenda" was unveiled in a series of presentations at public fora attended by the Chief Minister, representatives from government, the private sector, the media, and citizens of Bangalore.

Through public-private partnerships as well as application of a build-own-transfer (BOT) funding model, the BATF has undertaken several initiatives to upgrade the city's infrastructure, including:

Improved Solid Waste Management: This project was undertaken through training of health workers, providing upgraded equipment for door-to-door collection initiatives as well as monitoring the system for feedback. Pushcarts for waste collection were provided through donations from various local corporate houses, while local mobile phone providers helped set up the local help-line and infrastructure for the call center. Upgraded public sanitation facilities were provided through private donations channeled through the BATF.

Roads and Traffic Improvement: The rapid growth in traffic volumes in recent years placed an enormous strain on the city's road network. In partnership with the local police and city corporation, the BATF took on the task of augmenting road infrastructure, identified especially problematic bottlenecks, and accordingly developed a prioritized program of road improvement projects. Several key roads and junctions have subsequently been improved under this initiative.

Improved Urban Spaces: BATF helped design four different bus stand models with appropriate building materials and specifications, and developed a build-operate-transfer model for these shelters to serve as a revenue source for the city corporation. BATF has also been responsible for the Pay n' Park scheme, the formulation of the comprehensive Road Signage Manual, and road signage projects on a BOT basis, upgrading local parks, installation and maintenance of street furniture, and a number of other such initiatives to improve public areas.

Are city residents better off since the BATF began operations? In response to the regular public poll on whether Bangalore was now better off, the proportion of citizens that gave a positive response has been rising steadily: 71 percent of those polled in July 2000 stated that there was an improvement; 74 percent in February 2001, 81 percent in September 2001, and 94 percent in February 2003. Of these, the proportion indicating that the city has improved "a lot" has also been rising steadily, from 6 percent in 2001 to 28 percent in 2003. Particularly heartening is the fact that residents from all backgrounds indicated they perceived improvements in the city to have taken place; in-fact a higher share of low-income residents indicated an improvement in the city as compared to their better-off counterparts.

Source: This box draws heavily from the website: www.blrforward.com

5.2. Viewed solely from the perspective of the overall fiscal balance, the Punjab's finances appear to be in reasonably satisfactory: the provincial government's fiscal deficit has stayed below 1 percent of provincial GDP per year throughout the past decade. In 2002/03, the Government of the Punjab in fact ran a small budget surplus (Table 5.1), and its fiscal situation is somewhat better than other provinces in Pakistan. However, in order to achieve its ambitious development goals, the provincial government will need to mobilize significantly higher resources to finance the cost of providing high quality economic and social services. This chapter presents recommendations on how the government can create the additional fiscal space it needs over the medium term to achieve its development objectives.

5.1 A Fiscal Problem of a Different Kind

5.3. In the sense of fiscal sustainability, low levels of fiscal deficits reflect soundness of provincial finances, but in a broader sense, low aggregate expenditures inhibit the government's ability to discharge its constitutional responsibility to provide social and economic services of acceptable quality to its population. The apparent improvement in the Punjab's fiscal position has been achieved through tight expenditure controls; from 1995/96 – 2002/03, provincial expenditures fell from 7.9 percent to only 6.2 percent of provincial GDP (Table 5.1). Thus in 2002/03, the Government of the

Punjab spent less than US$30 per capita on running the government, servicing its debt, paying food subsidies, providing grants to local governments, and maintaining and developing provincial and local infrastructure and services. At about one-third the average per capita spending by state governments in India, this amount is obviously very low in relation to the vast functional responsibilities of the provincial government. Realizing this, the provincial government under the Medium Term Budget Framework (see below) is making an effort to enhance public spending on high-priority sectors and areas, especially on development and non-salary O&M. Its due to this reason that provincial expenditure increased to 7.1% of provincial GDP in 2003/04.

5.4. As noted earlier in the report, social and economic indicators in the Punjab are in general lower than in other countries of comparable income levels, suggesting that not enough public resources have been allocated for their improvement. The problem of meager fiscal resources is compounded by inefficient utilization of funds because of long-standing institutional and structural weakness inherent in provincial finances. The Punjab, therefore, faces a fiscal problem, not in terms of running unsustainably high fiscal deficits, but rather in terms of running what may be described as high "infrastructure deficits" caused by inadequate maintenance of roads, water supply, and other infrastructure, high "social deficits" resulting from inadequate provision for operating and maintaining the quantity and quality of education, health and other social services, and high "irrigation deficits" because of inadequate drainage, and poor operations and maintenance of irrigation canals and channels.[62]

5.5. While the level of spending by provincial governments in Pakistan has been low historically, the current fiscal pressure has been precipitated by changes introduced under the 1997 NFC Award, exacerbated by rigidities and weaknesses in the provincial fiscal structure. This award resulted in an acute drop in provincial revenue because of changes in the revenue-sharing formula and the composition of the divisible pool of taxes, whereby the share of provinces in more buoyant federal taxes (e.g. income tax and the General Sales Tax) was reduced. While provinces were allowed a share in custom duties as a compensatory measure, tariff reforms have resulted in a rapid decline in revenue receipts under this head. As a result, even in nominal terms, federal revenue transfers to the Punjab in 1997/98 were 15 percent below those during the previous year, and have grown by only 7 percent per annum during the past 5 years. This represents a marked slowdown from the 25 percent annual growth in federal tax transfers, or the 10 percent annual growth in provincial expenditures, during the 1991 NFC Award period. In addition, based on excessively optimistic projections of revenue transfers, the federal government discontinued Cash Development Loans to the provinces, which earlier financed a very large share of the provincial development program.

5.6. Since the Constitution of Pakistan restricts provinces to only borrowing from, or with the consent of, the federal government, the acute drop in revenue receipts forced the Punjab to curtail expenditures. Unable to reduce its wage bill or interest payments in the short-run, the provincial government applied expenditure cuts mainly to non-wage operations and maintenance expenditures (O&M) and development spending. This adversely impacted the quality of provincial infrastructure and services, and eroded the economy's productive capacity and potential tax base. With the perception growing of not getting value for their tax money, citizens have become progressively less willing to pay taxes, aggravating the problem of insufficient funding for public services. The

[62] "Infrastructure deficit" refers to fall in economic valuation of infrastructure and lower effectiveness of public services, "social deficits" to decline in human capital, and "irrigation deficits" to decline in value of the irrigation system.

provincial government therefore appears to be stuck in a vicious cycle of low fiscal resources → low public expenditures → low augmentation of physical and human capital → low productivity → low fiscal capacity → low fiscal resources.

5.7. The problem of lower federal revenue transfer has been magnified by structural weaknesses in provincial finances. Despite being the largest province with significant opportunities for resource mobilization, the Government of the Punjab remains heavily dependent on federal fiscal transfers, with own-revenues comprising only about 26 percent of total revenue receipts.[63] This fiscal dependence on the federal government is partly an outcome of skewed tax assignment, as the federal government controls all the major buoyant taxes, and partly a result of lack of political will and weak provincial tax administration. The provincial government is thus hostage to federal revenue collection efforts, as any shortfall in federal transfers reduces its ability to execute its budget and pursue its development objectives. Bifurcation of taxation and expenditure responsibilities between the federal and provincial governments also compromises accountability to tax payers. The provincial government, which does not have to raise taxes (or user charges) to provide public services and infrastructure to its citizens, is likely to be less prudent about the quality of its expenditures.

5.8. Public spending in the Punjab is characterized by acute structural rigidities and other weaknesses. The large provincial establishment implies that about 40-45 percent of total provincial expenditures go towards paying wages and pensions of government employees (Table 5.2). Interest payments to service the province's debt account for another 10-13 percent of total spending. Since development expenditures account for about 15-20 percent of total provincial expenditures, the relatively high fixed expenditures on wages, pension, and interest payments means that only meager amounts are available in the recurrent budget for essential non-salary O&M expenditures.

Table 5.2: Punjab Provincial Expenditure – Object Classification: 1999/00 – 2002/03

	Rs million					Percent of Total Expenditure			
	1999/00 Actuals	2000/01 Actuals	2001/02 P. Actual	2002/03 P. Actual	Average Growth	1999/00 Actuals	2000/01 Actuals	2001/02 P. Actual	2002/03 P. Actual
Total Expenditure	**117,538**	**113,338**	**127,432**	**152,653**	**9.1**	**100.0**	**100.0**	**100.0**	**100.0**
Current Expenditure	**94,969**	**96,290**	**108,913**	**129,195**	**10.8**	**80.8**	**85.0**	**85.5**	**84.6**
Wages and Pensions	46,046	52,057	57,023	62,176	10.5	39.2	45.9	44.7	40.7
Goods, Repairs and Maintenance	3,254	5,222	4,950	5,140	16.5	2.8	4.6	3.9	3.4
Interest Payments	14,743	15,667	15,605	15,317	1.3	12.5	13.8	12.2	10.0
Subsidies	3,500	4,000	2,505	3,000	-5.0	3.0	3.5	2.0	2.0
Grants (To local govts. & others)	9,061	6,507	5,759	5,426	-15.7	7.7	5.7	4.5	3.6
District Level Non-Salary	0	0	6,522	7,380	--	0.0	0.0	5.1	4.8
Others	18,365	12,837	16,550	30,757	18.8	15.6	11.3	13.0	20.1
Development Expenditure	**22,569**	**17,048**	**18,518**	**23,457**	**1.3**	**19.2**	**15.0**	**14.5**	**15.4**

Source: Finance Department, Government of the Punjab.

5.9. The problem of inadequate O&M is exacerbated by over-extension of public infrastructure (i.e., beyond the provincial fiscal resources to adequately fund it); lack of fiscal transparency; a weak fiscal monitoring system which focuses solely on ensuring that expenditures are made as per the budgetary allocations; disregard and circumvention of internal controls; poorly functioning mechanisms of financial accounting and reporting, leading to a weakening of financial accountability.

[63] Even this understates the province's dependence of federal revenue as included in provincial own revenue are the federal grants (which are classified as an item in provincial own non-tax revenue) and royalty on natural gas and oil, which is collected and then transferred by the federal government and net hydel profits from WAPDA. Taking all this into account, share of provincially collected revenue in total drops to about 15 percent.

5.10. Antiquated and inappropriate budgetary procedures and practices that govern financial transactions of the provincial government are also to blame for poor infrastructure maintenance and inadequate service delivery. These include, among others:

- Incremental budgeting, which has little, or no, link with government policies.
- No review of "permanent budget," irrespective of whether or not the activities reflect government priorities, or are relevant for implementing government policies.
- Full budgeting for sanctioned posts, regardless of whether they are expected to be filled during the budget period.
- Strict limitations on re-appropriating budgetary funds from salary to non-salary heads (while the opposite can be done rather easily), even if savings are expected in the former.
- Structural and institutional bifurcation of development and recurrent budgets, which blurs the link between establishment and adequately operate and maintain public facilities.
- Proliferation of a large number of schemes in development programs, that leads to thin spreading of scarce development resources and causes long delays in completing them.

5.11. Looking ahead, beside the structural and procedural problems noted above, the sustainability of provincial finances in the Punjab is under threat because of two main factors: (i) the rapid accumulation of deferred liabilities on the provincial Provident Fund (G.P. Fund), and (ii) a looming payment crisis on pensions of employees.

5.12. ***Growing Liabilities on the Provident Fund:*** The G.P. Fund is basically a contributory retirement scheme. Employees contribute to it through mandatory monthly deductions from their salaries, while the government contribution is in the form of interest due on the accumulated employee contributions. The receipts in the G.P Fund accrue into the Provincial Consolidated Fund, and are used to finance the provincial government's fiscal deficit. As a result, very little, if any, of the G.P. Fund's accumulated cash is available in the provincial account. Disbursements on behalf of the G.P. Fund are made through the provincial budget and impose a heavy burden on provincial finances. Moreover, the disbursement from the G.P. Fund (i.e. on behalf of the G.P. Fund) has been increasing at a much faster rate as compared with receipts (22.6 vs. 12.9 percent per annum), leading to the gap between receipts into and payments out of the fund narrowing rapidly (Table 5.3).

Table 5.3: Accumulation of Provincial Provident Fund Liabilities: 1990/91 – 2001/02 (Rs. million)

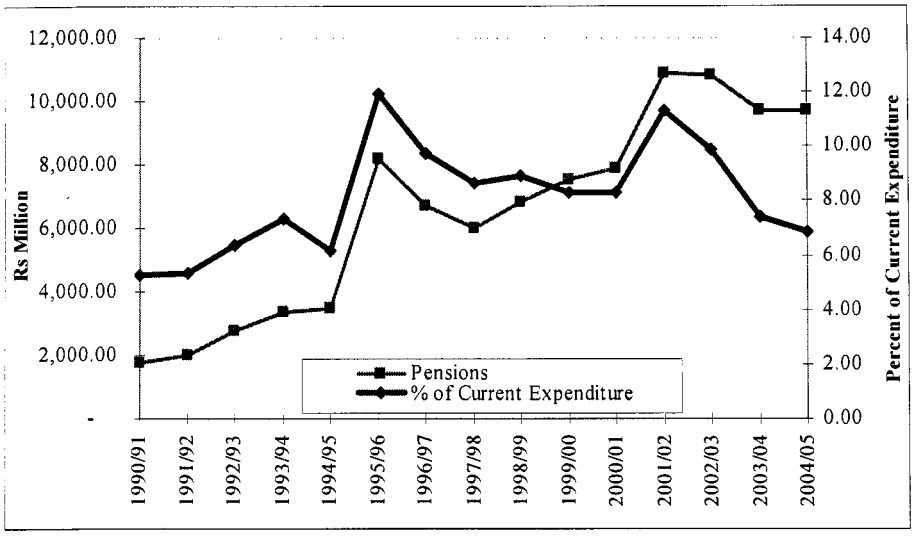
	Opening Balance	Receipts	Payments	Closing Balance	Interest Rate(%)	Bonus on Interest (%)	Composite Interest (%)
1990/91	4,922.9	1,163.6	394.3	5,692.2	15.93	30.00	20.71
1991/92	5,692.2	1,250.5	481.9	6,460.8	15.93	30.00	20.71
1992/93	6,460.8	1,446.5	658.5	7,248.8	15.93	30.00	20.71
1993/94	7,248.8	1,529.0	630.8	8,147.0	15.54	30.00	20.20
1994/95	8,147.0	1,782.8	1,688.1	8,241.7	15.44	30.00	20.07
1995/96	8,241.7	1,216.7	771.5	8,686.9	15.49	30.00	20.14
1996/97	8,686.9	1,308.6	241.1	9,754.4	16.76	30.00	21.79
1997/98	9,754.4	2,640.5	1,551.3	10,843.6	17.51	30.00	22.76
1998/99	10,843.6	3,314.8	2,405.1	11,753.3	17.35	30.00	22.56
1999/00	11,753.3	3,574.5	2,393.5	12,934.3	16.11	30.00	20.94
2000/01	12,934.3	3,502.6	2,914.0	13,522.9	15.00	0.00	15.00
2001/02	13,522.9	4,416.0	3,714.7	14,224.2	15.00	0.00	15.00
2002/03	14,224.2	5,567.6	4,416.0	15,026.4	14.50	0.00	14.50
2003/04	15,026.4	3,825.0	3,953.0	14,898.4	14.50	0.00	14.50

Source: Provincial budget documents.

5.13. As a result, an increasingly small amount will be available as financing to the provincial government. Government projections indicate that the disbursement from the G.P. Fund will exceed receipts by 2008/09. In the meantime, the deferred liability (i.e. the stock of the G.P. Fund) continues to grow at an exponential rate on account of the exceedingly high rate of interest levied. The situation, if not effectively and immediately handled, is potentially explosive, and can jeopardize the provincial government's financial stability.

5.14. ***The Looming Pensions Problem:*** As is the case with the Provident Fund, employees' pensions pose another potential financial problem in the making. Pensions are unfunded and are paid out of the provincial budget. In Pakistan, government pensions are non-contributory, and are based solely on defined benefits. Moreover, the present pension scheme allows for upfront undiscounted commutation of a large portion of accrued pension, making it very expensive for the provincial budget. Pension payments have been increasing at over 14 percent per annum, and grew to over 11 percent of total recurrent expenditures in 2001/02 before subsequently tapering off (Figure 5.1).

Figure 5.1: Trends in Provincial Pension Payments: 1990/91 – 2004/05



5.15. With a large number of government employees in the Punjab becoming eligible for pensions in the next 10-15 years,[64] keeping up with payment on pensions is a source of major concern for the financial managers of the province. The Government of the Punjab is currently implementing an extensive program of fiscal and financial management reforms under the ADB-financed Punjab Resource Management Program (see Box 14), under which it has initiated work on pension reform. A Working Group has been set up to oversee a study of the government's contingent liabilities, following which an Action Plan will be developed and implemented for capitalization of the GP Fund, financing of contingent liabilities of agreed public sector organizations. Finally, the Group is also expected to develop a strategy for financing pension obligations.

[64] Large-scale recruitments were made in the early 1990s to expanding social services under the Social Action Program. These staff would be completing their 25 years in the next 10-15 years and would become eligible for pensions.

Box 14: The Punjab Resource Management Program

In order to improve its public finances, the Government of the Punjab has embarked on a comprehensive program of fiscal and financial management reform. This program is being supported by the Asian Development Bank under a five-year Punjab Resource Management Program (PRMP) cluster loan of up to US$500 million. The key elements of the program are:

(a) Strengthen provincial revenues through: (i) rationalization and restructuring of provincial taxes with broader tax base, especially agricultural income tax and GST on services; (ii) enhancing non-tax revenues and user chargers by rationalizing rates and strengthening collection of abiana (water charges), and user charges on urban services; and (iii) improved tax and revenue administration.

(b) Rationalize provincial expenditure through (i) re-profiling and reducing provincial debt through more expensive to less expensive loans; (ii) containing and reducing contingent liabilities; (iii) phasing-out untargeted subsidies; and (iv) rationalizing and improving public accountability of public spending.

(c) Improve effectiveness, predictability and accountability of provincial financial management through: (i) preparation of transparent and user-friendly budgets within a MTBF; (ii) establishment and implementation of transparent and formula-based systems of inter-government financial flows; (iii) transparent and efficient procurement of goods and services; and (iv) timely, reliable and publicly accessible accounts.

(d) Improve strategic programming of public investments through development of: (i) a medium-term, poverty-focused investment strategy; (ii) effective systems and procedures to operationalize provincial goals and priorities (with initial focus on health, education and municipal services); and (iii) improved monitoring, feedback and evaluation systems.

(e) Restructure and strengthen government's administration and human resource development through: (i) reform, restructuring and capacity enhancement of province agencies responsible for policy, planning, fiscal and financial management; (ii) rationalization of provincial staffing and enhanced skill levels; (iii) merit-based, transparent and institutionalized system of recruitment, promotions and transfers; and (iv) mainstreaming commitments on gender.

(f) Foster private sector development through: (i) restructuring of public regulatory and administrative agencies and promoting public-private partnership (ii) ensuring transparent security of property rights and improved utilization of land assets, through effective land registration and management system; (iii) providing effective support mechanism for facilitation of investment, public-private partnerships and employment generation; and (iv) Reducing direct public sector involvement in economic and/or commercial operations.

5.2 ADDRESSING THE PROBLEM

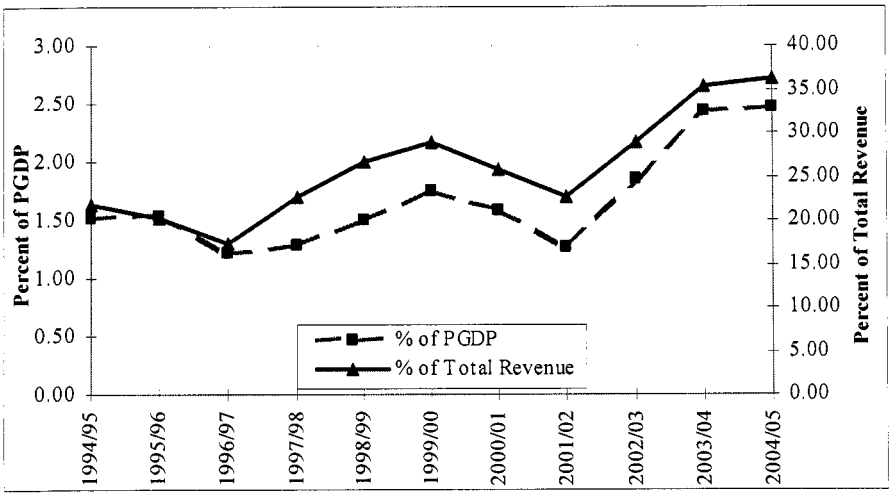
5.16. Realizing that the prolonged compression of public expenditure has adversely impacted economic growth, the Government of the Punjab has taken a number of steps to strengthen its fiscal position with a view to bolstering its ability to fill key infrastructure and service delivery gaps.

5.17. ***Revenue Mobilization:*** Efforts to enhance the province's own revenue have focused on rationalizing provincial taxes by eliminating irrelevant small taxes,[65] improving tax compliance through lowering the rate of Urban Immovable Property Tax (UIPT), and standardizing and improving the structure of Stamp Duties. An Agriculture Income Tax (AIT) was introduced on all farms earning more than Rs 80,000 per annum (irrespective of farm size), to complement a crop cum land-based tax, with the final tax liability of the farmer being the higher of the two. The Registration Fee payable by different categories of motor vehicles was rationalized and its rate made uniform with other provinces.[66] The Punjab Government also established a one-window operation for collection of labor related levies and transferred the mandate for collection of the Education Cess from the Excise and Taxation Department to the Social Security Institution. Moreover, through passage of appropriate provincial legislation, the provincial government gave the federal government (i.e. CBR—the Central Board of Revenue) the right to collect GST on service on it behalf.

[65] In 2000/01, the province had 36 small and generally non-buoyant taxes in its domain. While most of these had little revenue potential, they complicated the province tax structure and created distortions in the provincial economy.

[66] In addition, the provincial government is coordinating with other provincial governments and the Federal Government to change the mode of collection from the present flat rate tax per vehicle to a levy on fuel consumption.

Figure 5.2: Provincial Own Revenue: 1994/95 – 2004/05



5.18. As a result of these measures, provincial own-revenue receipts have increased from 1.5 percent of provincial GDP in 1994/95 to 1.8 percent in 2002/03 (Table 5.1). Although commendable in their own rights, especially in view of the narrowness and lack of buoyancy of most revenue bases assigned to provincial governments, this increase by itself has not been sufficient to overcome the impact of declining federal transfers. However, there is considerable room for mobilizing additional revenue from provincial revenue by improving the structure and administration of the relative broad-based taxes in the provincial domain.

5.19. ***Budgetary and Financial Management Reforms:*** In order to enhance the effectiveness of provincial expenditure, the province has undertaken some serious budgetary and financial management reforms. For example, the Government of the Punjab was the first one to present a performance budget. However, lack of interest and capacity within the line departments led to shelving of this initiative taken by the Finance Department.

5.20. The Medium-Term Budget Framework: In 2003/04, the provincial government made its first attempt to prepare a Medium-Term Budget Framework (MTBF). This three-year budget framework (2003/04-2005/06) constitutes an important component of the provincial poverty reduction strategy. Under the MTBF, the Punjab government has taken some important steps to strengthen its fiscal position, while at the same time making substantial increases in allocations for high-priority expenditures. However, the MTBF process is in a very early stage and considerable progress will be needed in coming months and years to fine-tune and strengthen this process.

5.21. The failure of the NFC to come to a consensus on the distribution of federally collected taxes, represents a major blow to provincial finances. This implies that the revenue transfers to the provinces would continue to be governed by the 1997 NFC Award; whereas each province would have received significantly larger amount from the divisible pool if the last offer of the federal government would have been accepted by all four provinces. Although compared with other provinces, the Punjab loses the least in terms of transferable revenue, the loss is nonetheless substantial. On the basis of the 1997 NFC Award, the Punjab will receive Rs 134 billion in revenue transfer from the federal government in 2004/05, which is 13 percent higher than last year. On the

other hand, initial estimates point to only a meager tax effort by the province. The province's own tax revenue is projected to increase by only 5 percent in 2004/05. However, the non-tax revenue is projected to increase by 22 percent, leading to a 13 percent increase in provincial own revenue.[67] The overall provincial revenue receipts are projected to increase by 13 percent.

Table 5.4: Punjab Mid-Term Fiscal Framework: 2003/04-2007/08 /1

(Amounts in Rs. billion)

	2003/04	Projections				(Annual percentage increase)				Average
	Budget	2004/05	2005/06	2006/07	2006/08	2004/05	2005/06	2006/07	2006/08	Growth
Revenue Receipts	153.347	186.021	224.784	256.508	290.067	21.3	20.8	14.1	13.1	18.7
Federal Tax Transfers	116.426	131.648	169.572	191.852	217.091	13.1	28.8	13.1	13.2	18.1
Provincial Revenue	30.620	39.073	43.711	51.155	57.375	27.6	11.9	17.0	12.2	18.6
Tax Revenue	15.773	20.125	22.660	27.734	31.284	27.6	12.6	22.4	12.8	20.7
Non-Tax revenue	14.847	18.949	21.052	23.421	26.091	27.6	11.1	11.3	11.4	16.4
Grants	2.300	9.300	0.000	0.000	0.000	304.3	--	--	--	--
Punjab Development Fund	0.000	1.000	1.500	2.500	3.500	--	50.0	66.7	40.0	--
Local Government Revenue	4.000	5.000	10.000	11.000	12.100	25.0	100.0	10.0	10.0	40.1
Total Expenditure	159.695	204.366	236.508	269.171	304.068	28.0	15.7	13.8	13.0	19.0
Current Expenditure	129.195	139.772	154.570	168.334	184.195	8.2	10.6	8.9	9.4	9.2
Development Expenditure \1	30.500	64.594	81.938	100.837	119.873	111.8	26.9	23.1	18.9	48.9
Fiscal Balance	-6.349	-18.345	-11.725	-12.663	-14.001	--	--	--	--	--
(Percent of Provincial GDP)	*-0.3%*	*-0.7%*	*-0.4%*	*-0.4%*	*-0.4%*	--	--	--	--	--
Financing	10.108	8.593	3.765	6.500	7.500	-15.0	-56.2	72.7	15.4	-13.7
Net Domestic Borrowing	-2.984	-13.106	-13.600	-9.000	-5.000	339.1	3.8	-33.8	-44.4	44.4
Net Foreign Borrowing	4.624	15.600	13.365	12.000	10.000	237.4	-14.3	-10.2	-16.7	37.4
Cash Balance Utilization	8.469	6.099	4.000	3.500	2.500	-28.0	-34.4	-12.5	-28.6	-25.5
Memo items: (as a % of Provincial GDP)										
Education Expenditure	1.8%	2.0%	2.3%	2.3%	2.4%					
Health Expenditure	0.6%	0.8%	0.9%	0.9%	0.9%					
Pro-Poor Expenditure	4.2%	5.7%	6.5%	6.7%	6.9%					

Source: Finance Department, Government of the Punjab.
/1 Includes provincial government investments in pension funds and financial instruments.

5.22. On the expenditure side, the 2004/05 budget (and the MTBF) presents a contrasting picture in terms of current and development expenditures. On the current expenditure side, the MTBF reflects a continuation of fiscal restraint that has been a hallmark of the provincial fiscal management over the last some years, as the overall current expenditure in 2004/05 is expected to increase at a rate of a slightly above 10 percent.[68] On the other hand, the provincial development program is expected to increase by as much as over 29 percent over FY04's level. The relatively modest increases in current budget for the next three years therefore seem somewhat inconsistent with this sharp increase in development spending and if not immediately corrected may exacerbate the problem of inadequate O&M allocations.

5.23. Nevertheless, analysis of recurrent expenditure allays, at least partly, the concern over inadequacy of current budget. As the MTBF makes a strong attempt to refocus provincial priorities and divert provincial resources towards pro-poor and social expenditures. The needs of the priority

[67] Under these projections, the provincial government will not meet the PRMP target of a 10-15 percent increase in tax revenue. However, it would achieve the target on 10-15 percent increase in overall revenue.
[68] These estimates exclude the impact of any possible salary increase.

sectors are fairly well accommodated by providing large increases in the recurrent allocations for these sectors. For example, in order to cater for the backlog of deferred O&M, the allocation for water supply and sanitation sector is projected to increase by 6 times in FY05.[69] Similarly, recurrent allocations for education and health sectors are to increase by 14 percent and 15 percent, respectively. Overall, the recurrent allocation for PRSP expenditure are projected to increase by 14.4 percent, whereas phasing out of wheat subsidy and savings in interest payments due to early retirement of federal debt (see below) imply a virtual stagnation in non-PRSP recurrent expenditure over the MTBF period (Table 5.5).

Table 5.5: Provincial Current Expenditures: 2003/04 – 2007/08

(Amount in Rs. million)

SECTORS	Budget 2003/04	Budget 2004/05	Budget 2005/06	Budget 2006/07	Budget 2007/08	Annual Percentage Increase FY05	FY06	FY07	FY08	Average
Roads, Highways, Bridges	**6,102**	**16,781**	**23,937**	**28,148**	**33,137**	**175.0**	**42.6**	**17.6**	**17.7**	**25.5**
Current	2,594	5,825	6,407	7,112	7,895	124.5	10.0	11.0	11.0	10.7
Development	3,508	10,956	17,529	21,035	25,242	212.3	60.0	20.0	20.0	32.1
Water Supply & Sanitation \1	**1,346**	**11,479**	**13,245**	**14,567**	**16,828**	**752.7**	**15.4**	**10.0**	**15.5**	**13.6**
Current	490	5,891	6,539	7,258	8,056	1103.1	11.0	11.0	11.0	11.0
Development	857	5,588	6,706	7,310	8,771	552.5	20.0	9.0	20.0	16.2
Education	**42,023**	**54,717**	**68,543**	**77,558**	**87,859**	**30.2**	**25.3**	**13.2**	**13.3**	**17.1**
Current	36,047	45,353	52,156	57,893	64,262	25.8	15.0	11.0	11.0	12.3
Development	5,976	9,364	16,387	19,664	23,597	56.7	75.0	20.0	20.0	36.1
Health	**13,790**	**20,122**	**25,680**	**29,485**	**33,903**	**45.9**	**27.6**	**14.8**	**15.0**	**19.0**
Current	12,930	12,866	14,796	16,424	18,230	-0.5	15.0	11.0	11.0	12.3
Development	860	7,256	10,884	13,061	15,673	743.7	50.0	20.0	20.0	29.3
Population Planning	**746**	**746**	**1,231**	**1,342**	**1,462**	**0.0**	**65.0**	**9.0**	**9.0**	**25.2**
Current	0	0	0	0	0	--	--	--	--	--
Development	746	746	1,231	1,342	1,462	0.0	65.0	9.0	9.0	25.2
Social Security & Social Welfare	**551**	**706**	**782**	**866**	**959**	**28.2**	**10.7**	**10.7**	**10.7**	**10.7**
Current	536	606	673	747	829	13.2	11.0	11.0	11.0	11.0
Development	16	100	109	119	130	539.1	9.0	9.0	9.0	9.0
Natural Calamities & other Disasters	**23**	**27**	**29**	**33**	**36**	**14.6**	**11.0**	**11.0**	**11.0**	**11.0**
Current	23	27	29	33	36	14.6	11.0	11.0	11.0	11.0
Development	0	0	0	0	0	--	--	--	--	--
Irrigation	**9,623**	**11,862**	**16,244**	**18,394**	**21,354**	**23.3**	**36.9**	**13.2**	**16.1**	**21.6**
Current	5,796	6,535	7,189	7,979	8,857	12.7	10.0	11.0	11.0	10.7
Development	3,826	5,327	9,056	10,414	12,497	39.2	70.0	15.0	20.0	32.9
Agriculture	**3,421**	**4,080**	**4,958**	**5,563**	**6,331**	**19.3**	**21.5**	**12.2**	**13.8**	**15.8**
Current	2,684	3,140	3,454	3,834	4,256	17.0	10.0	11.0	11.0	10.7
Development	737	940	1,503	1,729	2,074	27.5	60.0	15.0	20.0	30.2
Industries (Including TEVTA)	**0**	**2,273**	**2,880**	**3,303**	**3,647**	**--**	**26.7**	**14.7**	**10.4**	**17.1**
Current	0	1,768	2,121	2,354	2,613	--	20.0	11.0	11.0	13.9
Development	0	506	759	949	1,034	--	50.0	25.0	9.0	26.9
Rural Development	**2,284**	**8,012**	**9,547**	**11,122**	**12,975**	**250.8**	**19.2**	**16.5**	**16.7**	**17.4**
Current	429	3,346	3,714	4,122	4,575	680.4	11.0	11.0	11.0	11.0
Development	1,855	4,667	5,833	7,000	8,400	151.6	25.0	20.0	20.0	21.6
Housing Sector	**777**	**947**	**1,075**	**1,256**	**1,378**	**21.8**	**13.6**	**16.8**	**9.7**	**13.3**
Current	648	340	378	419	465	-47.5	11.0	11.0	11.0	11.0
Development	129	606	697	837	912	370.1	15.0	20.0	9.0	14.6
Safety nets	**2,090**	**2,300**	**2,645**	**2,936**	**3,259**	**10.1**	**15.0**	**11.0**	**11.0**	**12.3**
Current	2,090	2,300	2,645	2,936	3,259	10.1	15.0	11.0	11.0	12.3
Development	0	0	0	0	0	--	--	--	--	--
Access to Justice Programme	**16,405**	**20,511**	**22,758**	**25,250**	**28,016**	**25.0**	**11.0**	**11.0**	**11.0**	**11.0**
Current	15,777	20,011	22,213	24,656	27,368	26.8	11.0	11.0	11.0	11.0
Development	628	500	545	594	648	-20.4	9.0	9.0	9.0	9.0
Grand Total PRSP	**99,180**	**152,291**	**193,554**	**219,822**	**251,145**	**53.5**	**27.1**	**13.6**	**14.2**	**18.1**
Current	80,043	108,009	122,314	135,769	150,704	34.9	13.2	11.0	11.0	11.7
Development	19,137	46,556	71,240	84,053	100,441	143.3	53.0	18.0	19.5	29.2
Others	**60,515**	**32,764**	**33,356**	**33,775**	**34,822**	**-45.9**	**1.8**	**1.3**	**3.1**	**2.1**
Current	49,152	31,764	32,256	32,565	33,491	-35.4	1.5	1.0	2.8	1.8
Development	11,363	1,000	1,100	1,210	1,331	-91.2	10.0	10.0	10.0	10.0
Total Expeniture	**159,695**	**187,328**	**226,910**	**253,597**	**285,967**	**17.3**	**21.1**	**11.8**	**12.8**	**15.1**
Current	129,195	139,772	154,570	168,334	184,195	8.2	10.6	8.9	9.4	9.6
Development Expenditure /2	30,500	64,594	81,938	100,837	119,873	111.8	26.9	23.1	18.9	22.9

\1 Excluding WASAs

\ 2 Includes provincial government's investment in the pension funds and financial instruments.

[69] An increase of 11 percent per annum is projected for the subsequent two years of MTBF.

5.24. In the 2004/05 (proposed) development budget very large increase are proposed for roads (71 percent), water supply and sanitation (75 percent), education (34 percent), health (167 percent), irrigation (46 percent), agriculture (67 percent) and housing and physical planning sectors (249 percent). In the education sector, the increase in development budget form Rs 6 billion to Rs 8 billion is mainly to provide funds for the streams of the Punjab Education Sector Reform Program.

Table 5.6: Main Components of the Punjab Government's Debt: 1971/72 – 2002/03

	Rs million			Average Annual Growth			Debt as a Percent of	
	CDL	Foreign Loans	Total	CDL	Foreign Loans	Total	PGDP	Total Revenue
1971/72	998.9	341.7	1,340.6	--	--	--	3.1%	92.9%
1981/82	9,516.0	1,478.9	10,994.9	25.3%	15.8%	23.4%	6.5%	120.4%
1991/92	54,464.9	5,341.5	59,806.4	19.1%	13.7%	18.5%	9.9%	149.5%
2001/02	85,962.9	41,321.0	127,283.9	4.7%	22.7%	7.8%	6.6%	118.2%
2002/03	83,742.5	47,476.4	131,218.9	4.4%	24.4%	8.2%	5.5%	79.8%
2003/04	68,449.2	68,683.9	137,133.1	-2.3%	5.2%	0.7%	4.9%	72.2%

Source: Provincial budget documents.

5.25. Overall, the MTBF indicates a significant improvement in the medium-term fiscal outlook of the Punjab. Moreover, the MTBF makes a strong attempt for reorienting government expenditure priorities toward PRSP expenditures. This success of provincial government efforts to reduce poverty in the province will depend critically on the success of the federal and provincial governments to mobilize additional resources and create significant fiscal space through better debt and expenditure management, and to devise mechanisms to channel these additional resources to the district governments, which have to incur the bulk of the pro-poor expenditures. Strong efforts will also be needed to enhance the effectiveness of public expenditures.

5.26. ***Provincial Debt Management Strategy:*** The debt burden of the Punjab government increased quite rapidly during the decades of the 1970s and 1980s (Table 5.6) because of increased borrowing from the federal government in the form of Cash Development Loans (CDL). In 1991/92, total outstanding debt of the Government of the Punjab peaked at 10 percent of provincial GDP, or about 150 percent of total provincial revenues.[70] During the 1990s, foreign borrowing became an increasingly important source of financing for the Punjab's development program. While the bulk of foreign debt is concessional, the grant component of external assistance has generally been declining over the years. Moreover, the CDL, which constituted the bulk of the Punjab's total outstanding debt in 2002/03, carries an average interest rate of over 14.5 percent per annum (Table 5.7). As a result, debt servicing now preempts a significant portion of total provincial fiscal resources.

Table 5.7: Cost and Composition of the Punjab's Outstanding Debt: June 2003

	Average Interest Rate	Outstanding Amount	Percent of Total
Rupee Loan Received from the Federal Government	14.625	68,449	44.49%
Counterpart Fund Rupee Loans	2.300	34	0.02%
Foreign Exchange Loans	1.090	68,684	44.64%
Punjab Loan 2008	17.500	76	0.05%
General Provident Fund Accumulations	14.500	16,613	10.80%
Total	**8.568**	**153,856**	**100.00%**

Source: Provincial budget documents.

[70] As noted earlier, total revenues and expenditures in Punjab are quite low as a ratio of provincial GDP, so in many respects debt as a share of total revenue rather than provincial GDP is a better measure of the provincial government's total indebtedness.

5.27. The provincial government's debt management strategy, being supported through the PRMP, has three main components:

(i) Swapping High Cost Loans With Low Cost Loans: Taking advantage of the recent decline in market interest rates, the Punjab government intends to borrow funds from the domestic financial sector for early retirement of more expensive CDL. However, it is unlikely that the government would be able to borrow huge amounts needed to make a significant impact on province's budgetary position. The other alternative is that the government may try to raise loans through floating its own securities. In this case, government will have to offer its securities for open subscription on terms and conditions more attractive to the public than instruments presently available in the market. Hence borrowing from the international donors at concessional rates remains the most viable option for the provincial government to retire its most expensive debt and create some fiscal space for enhancing high-priority expenditure. The Punjab Government has entered into a loan agreement with Asian Development Bank for the Punjab Public Resource Management Program (PPRMP) cluster loan of up to US$ 500 million for the period 2003/04 to 2007/08 and a US$ 100 million concessional budget support loan with the World Bank for Education Sector Reforms – the Punjab Education Sector Adjustment Credit (PESAC). The first tranche of PPRMP and proceeds of PESAC were utilized to retire about Rs 11.4 billion of federal government more expensive loans on accelerated basis. This action alone would yield the provincial government an estimated annual savings of about Rs 2 billion on its interest payments.

(ii) Privatizing Public Sector Enterprises and other Properties: Presently, fifty public properties, with an assessed value of about Rs 3 billion, are expected to be sold during 2003/04 by the Punjab Privatization Board. In addition, another 510 properties are with the District Privatization Committees, with a total assessed value of Rs 1.2 billion. Thus the provincial government expects about Rs 4.2 billion in proceeds from privatization of these properties. Moreover, the Punjab government anticipates generation of substantial amounts through sale of government land that has been occupied illegally. The amount so generated, along with proceeds from policy-based IFI loans, would help the Punjab government to retire Rs 15 billion of its more expensive CDL in FY05. This would bring a saving of Rs 1.7 billion during 2004/05. This fiscal space would be utilized for spending on pro-poor sectors.

(iii) Professional Management of Provident Fund Pension Schemes: Rs. 15 billion of the provincial government's debt, or about 10 percent of the total debt outstanding, is in the form of G. P. Fund accumulations, bearing an average compound interest rate of 19.915 percent per annum (Table 5.7). In 2003/04, the estimated cost of interest payment on the G.P. Fund liability alone is Rs 3.6 billion. The rate of interest on the G.P. Fund is exceedingly high and is financially unsustainable. The high rate of interest and the unfounded nature of G.P Fund have the potential of becoming major financial concerns for the provincial government.

5.28. The Punjab government has constituted a committee to examine the financial viability of the G. P. Fund and its pension schemes, and to suggest ways to convert them into professionally managed funds, so that the budgetary implications of the G. P Fund and pensions can gradually be phased out. Similarly, the government is examining the possibility of establishing a professionally managed provincial pension fund, which would be capitalized from grants from the budget, and

through high yielding investments would, over the medium-term, try to reduce the burden of pension payments on the provincial budget.

5.3 MOVING FORWARD

5.29. As mentioned above, the Punjab government has initiated comprehensive reforms to enhance sustainability of its finances through the ADB-financed PRMP. In order to effectively tackle the long-standing problems (that were discussed above) and to create additional fiscal space for stimulating economic growth and effective delivery of public services, these reforms need to be broadened and fully implemented.

5.30. On the revenue side, the province expects to get significantly higher revenues from federal transfers. The challenge for the provincial government will be to avoid being complacent in terms of raising more revenue from its own sources. Additional revenue from federal government should be complemented by higher revenue generation by the provincial government to provide additional resources for essential O&M and development. Some suggestions to increase in provincial revenue are listed below:

5.31. ***Agricultural income tax:*** The AIT has considerable untapped revenue potential. Additional revenue could be collected from the tax through improved tax administration; restructuring the land-tax so as to be collected on cropped area; lowering the tax threshold from 12.5 acres to 7.5 acres on irrigated lands; making the rate structure more progressive; and discouraging sub-division of land for the purpose of avoiding tax by promulgating a legislation to prohibit *benaami* transactions. It is estimated that making the above-mentioned changes would raise the revenue potential of AIT to Rs 6 billion.

5.32. ***Urban immoveable property tax:*** Although considerable progress has been made in restructuring the property tax, room still exist for further improvements, through (a) a reduction the differential in assessment of owner-occupied and rented properties from 1:10 to 1:5 in FY05 and to about 1:2 in the next 3 to 5 years would; (b) a review of the remaining exemptions, for example those available to properties of retired government servants, and properties owned by public sector agencies/authorities and charitable institutions, with a view to eliminating or reducing their revenue and disincentive impact (if these exemptions are to retained, it is appropriate to convert them in terms of rental value than on plot size); (c) an enhancement in the elasticity of the tax by indexing property values to changes in market rents;[71] (d) an improved equity of the present system such that properties on similar sized plots but in different rating areas face the same tax structure; (e) revision in the structure so as to capture the element of *pugree* (goodwill) in assessment of rental value of commercial properties; and (f) phase in a property tax system based on capital values of properties, with supporting legislative changes to prevent it from being overturned by the courts. Finally, as the tax has been devolved to TMAs, whereas it collection has been devolved to the district governments, it is only appropriate to either discuss the above mentioned changes with the TMAs and encourage them to adopt these changes and for the collection of the tax should be devolved to TMAs, at least for those TMAs who have the capacity and will to collect the tax.

[71] Presently, valuation tables are to be revised every 5 years, but in practice take much longer. This prohibits a steady regular increase in property tax revenue (with market rents).

5.33. ***Motor vehicle tax (MVT):*** The motor vehicle tax is quite an inconvenient tax. Moreover, the revenue from the tax increases only with an increase in the number of vehicles plying in the province (or through increases in tax rates). The government may forcefully pursue the idea of converting the tax into a fixed levy on fuel consumption. This will not only reduce the inconvenience to the taxpayers, but would relate the tax to use of vehicles and would enhance the revenue.

5.34. ***Stamp duties:*** There is a need to further rationalize and consolidate the number of stamp duties (from the present structure of having more than 100 serials). The tax could be made less inconvenient and its base more buoyant by converting the specific rate into ad valorem rates. The provincial government may also consider negotiating the levying of uniform rates of stamp duties on financial documents. Since levying of stamp duties and registration of accompanying property transfer documents are closely linked activities, there is a need to strengthen the associated procedures and the institutional arrangements for improving compliance and collection efficiencies, including the incorporation of penalty provisions in the legislation/rules/ regulations.

5.35. ***Tax on professions and callings:*** The existing provincial flat rate tax on professions and callings is inelastic, with tax rules containing a number of anomalies, which allow taxpayers to evade and avoid the tax. It may be appropriate to levy this tax as a two-stage tax. First, as a license fee for locating business in the province, and, second, as a fixed (ad valorem) rate tax linked to sales or turnover, preferably to be collected by the CBR. It is conservatively estimated that a nominal tax rate of 0.5 percent would enable the Government of the Punjab to mobilize at least Rs 2 billion p.a.

5.36. ***Provincial excises:*** Being levied only on a select number of items, provincial excises have a very narrow base, which is perforated and leakages from the tax are substantial. To plug these leakages the Punjab government should coordinate with the other provincial governments to harmonize the taxation system with tax levied as a uniform rate tax across provinces.

5.37. ***User charges:*** There is also a need to enhance and rationalize user charges, particularly for economic (especially abiana) and tertiary level social services, with a purpose to improve cost recovery of these services but keeping in view the equity aspects of higher user charges.

5.38. ***Tax administration:*** To address the challenges in revenue mobilization, the provincial tax administration will have to be strengthened. The present thinking of the government to merge the revenue collection functions of Board of Revenue and the Excise and Taxation Department into a single, modern and efficient tax collection authority (more or less of the pattern of CBR) should be pursued with full vigor. Besides, the provincial government may also consider utilizing CBR and private sector in tax collection wherever possible.

5.39. The measures proposed above have the potential to significantly augment provincial revenue, which would supplement provincial measures to curtail the government's current expenditure (through reducing debt servicing and phasing out provincial subsidies), and provide the fiscal space that could be used for high-priority O&M and for accelerated development of the province.

5.40. Unfortunately, the indications are that the effectiveness of public expenditure has remained very low. Preparing and implementing an MTBF would contribute significantly to improving expenditure efficiency through improved medium-term planning; greater transparency of fiscal resources that may be available to different departments and sectors; better allocation of fiscal

resources towards government priorities; and through an improved mix of wage and non-wage and development and O&M expenditures.

5.41. ***Expanding and Strengthening the MTBF:*** This entails accelerating the MTBF process. The most appropriate route for doing so would be to expand the MTBF process to cover all provincial expenditure. However, in the short-run, it would be appropriate to focus only on a limited number of policies, programs, and projects in selected high-priority sectors to do detailed costing and projections (and preparing MTBF for the remaining sectors, departments and areas only on an aggregate basis). One key element of deepening the MTBF reform is to do away with the unwarranted bifurcation of the provincial budget into development and recurrent components. As a first step, the provincial government should aim to present provincial expenditures (say in the White Paper) on an aggregate sectoral basis.[72] This would help department officials to think in terms of aggregate expenditure allocations rather than focusing on development and recurrent budgets separately, and could contribute in the future to making a consolidated sectoral budget.

5.42. In order to ensure soundness of provincial finances and to improve the quality of provincial fiscal management, the Punjab government may consider promulgating/enacting a Punjab Fiscal Responsibility Law on a pattern similar to that of the federal government. This will help in ensuring fiscal discipline, reducing provincial debt, and creating increased fiscal space for the high-priority expenditure of the province over the medium-run.

5.43. To improve financial accounting and reporting in the province, the provincial government needs to own and implement all PIFRA-related reforms, including adoption of the New Accounting Model (NAM) during 2004/05 and upgrading the capacity and terms to the DAO.[73] As a first step in that direction, the province must agree with the federal government on the text of the CGA Ordinance and then notify the Ordinance. Moreover, the provincial government should review the financial rules to make these consistent with the new accounting model and initiate reconciliation exercises in respect of all on- and off-budget provincial public accounts to assess their financial position and possible contingent liabilities for the government.

5.44. To summarize, the Punjab government has made a good start and has taken a number of measures to strengthen its fiscal position. Considerable deepening of this reform process is required (on the lines suggested above) to establish provincial finances on firmer footings and create additional fiscal space to address the past neglect of provincial infrastructure and service delivery and for economic and social uplift of the province. The province is ideally situated to undertake this deepening and expansion of fiscal and financial management reforms. Inability to take advantage of this opportunity may result in perpetuating the vicious cycle of "low allocations → low economic and social development → low revenue generation → low allocations" from which the Government of the Punjab is trying hard to escape.

[72] That is, present an expenditure table (in the White Paper) showing development, recurrent and total expenditure and allocation for each sector (i.e. for each functional classification).
[73] From BPS 17 to BPS 18/19.

APPENDIX: A NOTE ON ESTIMATION OF PROVINCIAL GDP: 1990/91–2001/02

As in most other developing countries of the world, in Pakistan too the calculation of Gross Domestic Product (GDP) contains some methodological weaknesses. Two of the most obvious shortcomings are the periodicity (the national accounts are compiled on annual basis only) and aggregate nature of these accounts. While efforts are underway to prepare quarterly GDP and the Federal Bureau of Statistics (FBS), which compiles the national accounts, may start presenting GDP on a quarterly basis from 2004/05, no official attempt has been made to-date in Pakistan to estimate GDP at the provincial level. These shortcomings have hampered economic monitoring and regional planning in the country.

Until 1971 Pakistan had a centralized system of administration—the "one unit" system—under which no distinction was made between the various geographical and cultural entities within the region called West Pakistan, which later came to be known post-1971 as Pakistan. Hence no need was felt to estimate Regional Accounts. In 1971 the "one unit" was broken into four separate administrative units or provinces, the Punjab, Sindh, NWFP and Balochistan. However, even under this new system relatively little autonomy was given to the provinces, as major decision-making authority de-facto remained at the Federal level. Until the early eighties, Pakistan's GDP was estimated with the base year of 1959/60. In the early 1980s, the base year was changed to 1980/81, which had continued till today.[74]

The construction of provincial GDP series is a large and complex undertaking, as disaggregated data are needed for a very large number of province-specific variables. Moreover, the exercise is also extremely time intensive, as a large volume of data need to be analyzed to derive consistent and robust estimates. Given time constraints and data inadequacies, as an interim measure, this report relied upon calculating the Punjab's share in the national value-added of various economic sectors using some broad "allocators", or national-GDP apportioning factors. Wherever data were available in a more disaggregated form, value-added in various sectors was estimated on a similar pattern to the methodology used by the Federal Bureau of Statistics (FBS) to estimate national GDP. However, such information at the regional level was not available for all sectors and activities. Even the national data that are published by FBS are available with considerable time lag, and certain key surveys are also not conducted at regular intervals, thus leaving significant data gaps in the national series. We must therefore emphasize the approximate nature of our calculations, and stress that the derived provincial GDP estimates should only be used as broad indications of trends rather than as precise estimates for a given year.

1. Methodology:

Under the present exercise, provincial GDP has been estimated using a combination of the three traditional approaches—production, expenditure, or income. More specifically, wherever detailed provincial data were available, for example, agriculture, mining and quarrying, manufacturing, and wholesale and retail trade, sectoral value-added were estimated using the production approach. The expenditure approach was used to compute value-added of the construction, ownership of dwellings, electricity and gas distribution, and public administration and defense sub-sectors, whereas a variant of the income approach was applied to estimate value-added in the transport, storage, and

[74] The FBS has recently finished updating the base year for GDP calculations to 2000/01; however, the estimates presented in this report are based on the 1980/81 series, as disaggregated data from the new series is not yet available.

communication, banking and insurance, and services sub-sectors. In almost all of these instances, the direct and indirect methods were combined to compute sectoral value-added by apportioning the national income to the province using appropriate allocators. While these allocators were applied only where disaggregated data at the provincial level were not available, clearly the present exercise represents a "second-best" approach to estimate sectoral value-added at the provincial level. In what follows below, we provide a brief sector-by-sector description of the methodology and techniques used to estimate provincial GDP.

Agriculture: Value-added in agriculture in the Punjab has been estimated by applying provincial allocators to the national value-added estimate for this sub-sector. Overall, the computation of value-added in crop agriculture is based on 12 major crops and 5 minor crops. The crop output data for the Punjab and for Pakistan was obtained from published sources.[75] Due to the non-availability of input costs of agriculture, production allocators were used to estimate value-added for the crop sub-sector. The Punjab's share of total crop production in national output was assumed to remain the same as its share of total national value-added. These output shares (allocators) were used to estimate value-added of wheat, rice, cottonseed, sugarcane, maize, gram, barley, jawar, bajra, rapeseed & mustard, sesame seed and tobacco for major crops for the years 1990/91 to 2001/02. The simple addition of the value-added of each crop represents the total value-added of major crops. Similarly, value-added of minor crops was estimated using lentils (mash, moong, and masoor), potatoes and onions as the main minor crops.

Livestock: The livestock sub-sector includes the value-added of milk, meat, poultry, and eggs. The consumption of each of these products in the Punjab vis-à-vis national consumption was taken as the allocator to estimate provincial value-added. The consumption share was computed on the basis of per capita monthly consumption of each product reported in various issues of the Household Income and Expenditure Surveys (HIES) conducted by FBS. The data series was extended to non-HIES years using standard interpolating techniques. The share of each product in total consumption was obtained by converting per capita monthly consumption into total annual consumption for Pakistan and the Punjab using estimated population shares. The weight of each product in total value-added was derived from the national accounts data.[76] The weighted share of consumption for each product was then added up and applied to national value-added of livestock to get the Punjab livestock value-added.

Fishery: The provincial value added in the fishery sector is derived from the national value-added in the sector by using the share of Punjab in total fish production as weight.

Forestry: The major component of forestry is timber production. As the prices of timber were not available, the value added of this sector was assumed to be proportionate to the revenue from sale of timber. In other words, the provincial value-added in the forestry sector was derived from the national (sectoral) value-added by using the share of revenue earned from the sale of timber in Punjab to the national revenue as allocator.

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[75] The data are obtained from various issues of the Pakistan Statistical Yearbook, Agriculture Statistics of Pakistan, Punjab Development Statistics, Economic Survey, Agricultural Crops and Livestock Products – Long-Term Trends, and Support Price Policy Issues of Major Crops.

[76] FBS authorities on demand provided the data.

Manufacturing: The manufacturing sub-sector is sub-divided into large-scale and small-scale manufacturing. Large-scale manufacturing includes units that employ 20 or more workers on any working day during the year and use power, while the small-scale manufacturing includes those units that employ 10-19 workers in any day of the year.

Value-added in the Punjab large scale manufacturing sub-sector is estimated on the pattern of national GDP calculations by FBS based on the Census of Manufacturing Industries data and the Quantum Index of Manufacturing (QIM) estimates. The Punjab Bureau of Statistics conducts monthly surveys of industrial production and employment in the province and estimate QIM based on these data. The survey reports cover 2,121 industrial units and 99 selected items across 47 large-scale manufacturing industries. The methodology used to estimates the monthly index was to measure the percentage increase in the current month's production of any item from the average monthly production of 1980/81. The weighted percentage increase was calculated with the assigned weights based on 1980/81 CMI data for each item.

The benchmark estimates (1990/91 and 1995/96) of large scale manufacturing value-added are derived on the basis of the Punjab's share of value-added from the CMI for the census years. The CMI data has its deficiencies of time lag, considerable non-response, under-reporting of output value and over-reporting of input cost (supposedly due to fear of taxation), and under-coverage of non-registered companies. However, despite these shortcomings the CMI data were used assuming that data problems in the Punjab were no different to those at the national level. The benchmark data points obtained from the CMI were then interpolated for the years where the CMI was not conducted using the standard interpolation methods and annual percentage increase in the Punjab QIM,[77] wherever, appropriate.

The small scale value-added has been estimated based on the Census of Small Household Manufacturing Industries (SHMI). The urban and rural value-added breakdown for this sub-sector was only available in the 1996/97 census. The value-added in small-scale manufacturing was derived by using the share of the Punjab in national value-added in the small-scale industry (SHMI). This share was then applied to the national sectoral value-added.[78]

Mining: Like agriculture, livestock, and the manufacturing sub-sectors, the mining sub-sector is also estimated using the production approach. Mining consists of three main sub-sectors that account for 82 percent of the total value-added of this sub-sector: crude oil, natural gas, and coal. In addition, this sub-sector includes twelve other minerals. The gross value of each of the four main components (i.e. crude oil, natural gas, coal, and other minerals) was calculated from their respective constant prices in any one year for Pakistan and for the Punjab. Since input costs of all these products were not available at the regional level, the share of the Punjab's total value of mineral production with Pakistan's value of mineral production was used as the allocator to estimate the Punjab's value-added for this sector. The various sources used for this sub-sector include the Energy Year books of various years for coal, gas, and crude oil production and their respective prices, and other mineral production data received from the Punjab Mining Department.

[77] The Punjab Bureau of Statistics bases the QIM on monthly surveys of industrial production and employment.
[78] The Federal Bureau of Statistics has calculated a growth rate of 5.31% based on the small household manufacturing index (SHMI) at national level.

Construction: Ideally, value added for the construction sub-sector should be calculated through the expenditure approach, as is done by FBS at the national level. However, since the provincial expenditure data on construction was not available, the Punjab's share of construction workers was used, instead, to derive estimates for 1990/91 and 2002/03. The missing years were then interpolated to get the full series.[79] The data on percentage distribution of employment in construction industry in Pakistan and the Punjab were obtained from FBS's Labor Force Surveys of various years.

Electricity and Gas: In the Electricity and Gas sub-sector, value-added was estimated on the basis of electricity generation, electricity consumption, and natural gas consumption. The data were taken from various Energy Year Books (1996/97 to 2001/02) published annually by the Hydrocarbon Development Institute of Pakistan. Data were obtained for electricity generation for hydel and thermal electricity; these figures were multiplied with a single year (i.e. constant) price to get constant rupee value of electricity generation. The value of electricity consumption was then taken as a proxy for value of electricity transmission and distribution. Similarly, the value of gas consumption was taken as a proxy for the value of gas distribution. These three constant (i.e. at a single year price) values of the three components were then added for both Pakistan and the Punjab to get constant value generated in the sub-sector at the national and provincial level. Finally, the provincial value-added in electricity and gas was derived by applying to the national value-added estimate the derived ratio of the provincial value to national value. Since, the data for the Punjab was not available before 1997/98, the base year's share was assumed to be in line with earlier work on Regional Accounts of Pakistan carried out by Kaiser Bengali.[80]

Transport, Storage, and Communication: The transport and storage sub-sector consists of six sub-sectors: road transport, water transport, air transport, communications, storage, and the railways. The share of value-added of the sub-sectors in the total was assumed to be the same as in the total national value-added for this sub-sector. Road transport is the biggest component in the Punjab, contributing about two-thirds of the total value-added, while communication and air transport earn about 14-16 percent and 13-14 percent respectively. Water transport is not applicable in the Punjab while the other two sub-sectors have negligible contribution to total value-added in this sub-sector. In the road transport sector, the Punjab's share was assumed to be equal to the Punjab's share of national consumption of petroleum products. National value-added in other sub-sectors was allocated to provinces on the basis of their respective sub-sectoral shares in national value-added from National Account of Pakistan 1994/95 and provincial shares by using ratios obtained from the earlier work done by Kaiser Bengali. Consumption of Petroleum products for the Punjab and Pakistan were taken from Energy Year Books of various years.

Wholesale and Retail Trade: Economic activities in this sub-sector include wholesale and retail trade, including import and export of goods, purchase and sale agents and brokers/auctioneering. Since this sub-sector is closely connected with trading of agriculture and manufacturing products, the ratio of provincial to national value-added was based upon the aggregated share of these two sub-sectors. In other words, the Punjab's value-added was derived from the aggregated value-added of agriculture and manufacturing sectors of the Punjab and Pakistan by applying the provincial share (of

[79] The data from Punjab mineral department was available for the period 1993/94 to 2002/03; some estimates for Punjab's production share have been used for the earlier years, however.
[80] Regional Accounts of Pakistan by Kaiser Bengali, February 1997.

value-added in agriculture and manufacturing) to the national value-added in the wholesale and retail trade sub-sector.

Table 1: Share of Punjab in the Wholesale and Trade Sector
At constant factor cost of 1980/81

	Aggregate value added of Agriculture and Manufacturing (Mil Rs.)		Share (%) (Allocator)
	Pakistan	Punjab	
1990/91	191,650	109,362	57.1
1991/92	208,097	120,665	58.0
1992/93	205,141	117,220	57.1
1993/94	215,277	122,326	56.8
1994/95	225,776	133,259	59.0
1995/96	244,848	141,501	57.8
1996/97	244,961	141,354	57.7
1997/98	258,341	150,545	58.3
1998/99	265,550	269,070	101.3
1999/00	276,864	163,035	58.9
2000/01	281,149	165,168	58.7
2001/02	286,892	170,608	59.5
2002/03	303,139	178,502	58.9

Finance and Insurance: Since wages and salaries account for a significant share, the income approach is probably the best one to apply to estimate total value-added in this sub-sector. However, this approach could not be used, as province-wise data on factor incomes were not available. Instead, we assumed that the value-added of the banking sub-sector could be approximated by the rupee amount of deposits held by the banking system. The provincial to national ratio of these deposits was used to derive provincial value-added in this sub-sector. The State Life Insurance Corporation (SLIC) measures insurance activity across Pakistan. The data for zones in the Punjab were compared with the country as a whole. The level of activity in each zone was, however, kept constant. The provincial value-added of State Bank of Pakistan (SBP) was derived from the provincial ratios determined by the SBP employees' compensation in all four provinces and the sub-sector's share in the national value-added from the National Accounts of Pakistan (1994/95).

Table 2: Finance and Insurance Value-Added
at different level of activities in Punjab
Mil Rs.

Years	Bank Deposits	Insurance	State Bank	Total
1990/91	2965	1063	3	4032
1991/92	3147	1173	3	4323
1992/93	3469	1263	1	4734
1993/94	3633	1604	35	5272
1994/95	3678	2020	47	5745
1995/96	4950	2160	4	7114
1996/97	5862	2212	3	8077
1997/98	4256	1914	5	6175
1998/99	5540	1955	4	7499
1999/00	5407	1636	9	7052
2000/01	6435	1578	9	8023
2001/02	7019	1764	10	8793
2002/03	7253	1798	9	9060

Ownership and Dwellings: At national level, the value-added in this sub-sector is measured by the rent accruing from ownership of dwellings (rented or self occupied). For the present exercise, the provincial value-added of ownership and dwellings was derived from the provincial share of rental expenditures obtained from different published issues of the HIES. The value-added for non-survey years was interpolated. The house rent expenditures were estimated from the monthly expenditure per household, house rent shares in total expenditures, and total number of houses as per the HIES data. Table 3 presents some of the key data that were used to calculate the Punjab's value-added share of ownership and dwellings.

Table 3: Estimation of House Rent Expenditures

	Expenditures (Mil Rs)		Share(%)
Years	**Pakistan**	**Punjab**	**(Allocator)**
1990/91	57,096	30,413	53.3
1991/92	67,611	36,368	53.8
1992/93	78,425	42,533	54.2
1993/94	91,915	50,752	55.2
1994/95	104,777	57,687	55.1
1995/96	119,213	64,999	54.5
1996/97	156,581	84,613	54.0
1997/98	174,354	95,945	55.0
1998/99	196,445	106,967	54.5
1999/00	200,078	107,758	53.9
2000/01	205,843	108,365	52.6
2001/02	207,208	112,682	54.4

Public Administration and Defense: This value-added in the Public Administration and Defense sector comprise mainly of wages and salaries of public sector employees. The FBS computes value-added separately for the federal, each provincial and aggregated local government. The sectoral value added in Punjab was estimated by attributing the federal and local governments value-added to Punjab on the basis of population share and adding it to the FBS data on valued-added for the Punjab government.

Table 4: Intermediate calculations for estimating Public Administration and Defense

Years	Federal	Punjab	Sindh	NWFP	Balochistan	District & Local Govts.	Wages & Salaries	Non-Wage Bill	Net Value Added	Depreciation	Gross Value-Added	Punjab's share (Allocator)	Gross Value-Added Punjab (Current)	Public Admin (current)	Public Admin (Constant)	Deflator	Gross Value-Added (constant)
	-----Mil Rs.-----												-----Mil Rs.-----			(%)	Mil Rs
1990/91	28830	17548	7754	4370	2594	1588	62684	6268	68953	3448	72400	55.0	39843.4	76519	31679	2.4	16495
1991/92	33975	19825	10235	5382	3327	1908	74651	7465	82117	4106	86222	53.5	46122.4	85472	32495	2.6	17535
1992/93	39116	22799	11243	6052	4140	2177	85526	8553	94079	4704	98783	53.7	53038.7	94560	33295	2.8	18675
1993/94	44634	24461	13153	6509	4228	2380	95365	9537	104902	5245	110147	53.3	58698.6	105298	33759	3.1	18819
1994/95	50310	30153	16678	8177	4895	2948	113161	11316	124477	6224	130701	53.1	69359	130701	34814	3.8	18475
1995/96	60615	39700	18521	9813	6017	3139	137805	13781	151586	7579	159165	54.6	86949.6	159164	35917	4.4	19621
1996/97	66655	42705	19091	10602	5986	3231	148270	14827	163097	8155	171252	55.1	94295.7	171252	36712	4.7	20215
1997/98	72020	43285	21315	12363	6830	3435	159248	15925	175173	8759	183931	53.7	98796.8	183932	37459	4.9	20121
1998/99	75123	50580	25749	13518	8069	3716	176755	17676	194431	9722	204152	53.6	109454	206997	38395	5.4	20302
1999/00	106956	50336	28822	15990	9415	5484	217003	21700	238703	11935	250638	52.3	131164	249832	42003	5.9	22052
2000/01	113234	52624	33031	16085	10654	6062	231690	23169	254859	12743	267602	51.7	138426	263505	42486	6.2	22319
2001/02	124165	[illegible]	17954	17522	5762	[illegible]	256523	25652	282175	14109	296284	[illegible]	152801	290867	45256	6.4	25774
2002/03	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	6.7	24134

However, the FBS data were available only for the post 1994/95 period. Provincial sectoral value added for 1990/91 to 1994/95 was therefore derived from the national account data, using as

an allocator the share of current expenditure in the Punjab to aggregate provincial current expenditures.

Services: This sector comprises incomes of the private sector persons who are engaged in private education, medical & health professions, and other household and community services. Provincial data for these categories were not available; the value-added of Punjab in this sector was therefore estimated on the basis of the share of the Punjab's labor force in the overall national labor force. The Labor Force data points were taken from various LFS publications, while the data for intermediate years were interpolated to obtain a continuous series of allocators, which were then applied to the national data series.

2. Trends in Regional Accounts

Under the present effort, regional accounts were only prepared for the Punjab. However, this exercise could in principle be replicated to derive estimates for other provinces also, assuming of-course that the various data used for this purpose are also available for other provinces. The estimates obtained for the Punjab are reasonably robust and compatible with earlier work by Kaiser Bengali cited earlier. These results suggest that over the nineties, economic growth in the Punjab was somewhat faster than that in Pakistan as a whole. The Punjab's economy grew at an average annual rate of 4.4 percent during 1990/91-2002/03. By contrast, the growth rate for Pakistan during the same period was about 4.1 percent per annum.

Table 5: Punjab Value Added of Major Crops
Annual Growth rates

Percentage

	Wheat	Rice	Seed Cotton	Sugarcane	Maize	Gram	Barley	Jawar	Bajra	Rape seed & Mustard	Seseame	Tobbaco	Total Punj.
1990/91													
1991/92	9.3	-2.2	36.0	3.4	-0.8	-1.7	-6.3	-6.8	-0.2	-2.5	42.0	4.3	17.5
1992/93	-1.6	-4.2	-30.5	-3.6	-7.0	-44.2	-6.5	10.4	1.6	-16.9	15.5	-1.6	-17.2
1993/94	-3.0	18.4	-20.8	22.4	9.0	26.5	-4.7	-2.3	-0.1	-7.1	-1.4	2.1	-4.1
1994/95	15.1	5.9	15.3	17.0	7.0	50.4	17.1	10.1	12.4	24.5	8.1	-2.5	15.0
1995/96	-4.5	7.3	16.2	-6.1	22.6	24.9	4.5	-3.9	-3.0	8.6	7.1	-5.4	5.2
1996/97	-1.1	8.4	-18.8	-10.9	0.5	-12.4	-5.3	-0.4	-2.9	16.6	20.2	1.8	-7.8
1997/98	12.1	-3.4	-3.8	34.2	-0.4	37.2	22.4	-0.5	7.0	2.0	-8.8	8.0	7.9
1998/99	-4.3	14.4	-3.1	3.6	43.9	-10.9	-11.9	-0.1	-3.1	-2.3	-27.0	4.9	0.2
1999/00	33.9	16.4	37.4	-16.1	2.2	-16.7	11.1	5.9	8.2	2.6	18.4	0.8	20.5
2000/01	-11.6	-4.6	-4.6	-2.9	-9.8	-29.2	-20.3	2.1	7.3	-26.8	47.7	-9.8	-7.8
2001/02	-5.7	2.1	-1.0	18.3	-1.4	-9.7	5.5	-2.1	0.1	0.9	35.3	4.2	0.0
2002/03	6.6	13.5	-9.7	4.4	20.6	76.1	2.3	-9.3	15.3	14.3	-75.5	1.2	3.6

Source: World Bank staff estimates

Agriculture: The Punjab accounts for 57 percent of the national income, most of which comes from the agriculture sector—27 percent value-added of the Punjab's GDP in 2002/03. Wheat, rice, cotton, and sugarcane are the major crops that bring in more than 90 percent share of the agriculture value-added. The value-added of the agriculture sub-sector in Punjab has been unstable throughout the nineties due to droughts, crop viruses etc. Total value-added declined sharply in 1992/93, mainly on account of the virus attack that afflicted cotton; total value-added of seed cotton declined by 30.5

percent during this year as all other major crops (except for jawar, bajra, and sesame seeds) showed a decline. 1994/95 and 1997/98 were both exceptionally good years for agriculture, when the total value-added of crop sector increased by 12.8 percent and 11.5 percent respectively because of bumper wheat, rice, and sugarcane crops. Overall, the Punjab's agriculture sector grew by 3.6 percent per annum between 1990/91 and 2002/03.

Livestock: The livestock sector of the Punjab accounts for 63 percent of national livestock

Table 6: Punjab Gross Value and Value Added of Minor Crops
At constant factor cost

Rs Million

	Mash	Mung	Masoor	Potatoes	Onion	Total Punj.	VA Minor Crops
1990/91	156	212	88	1,070	266	1,792	11,204
1991/92	157	187	80	1,302	266	1,993	11,478
1992/93	125	227	89	1,417	289	2,146	12,017
1993/94	119	270	72	1,625	308	2,394	13,819
1994/95	110	316	99	1,717	346	2,587	14,792
1995/96	120	361	106	1,594	357	2,538	14,816
1996/97	122	368	110	1,458	368	2,426	14,767
1997/98	107	337	119	2,291	380	3,235	17,938
1998/99	103	352	123	3,002	389	3,969	19,678
1999/00	97	384	119	3,085	417	4,102	16,064
2000/01	107	435	83	2,770	423	3,819	16,125
2001/02	115	478	85	2,899	379	3,956	16,642
2002/03	125	589	101	3,298	443	4,556	17,536

Source: World Bank staff estimates

value-added. According to the HIES, the consumption pattern of livestock products in the Punjab increased sharply from 1987/88 to 1992/93, which is apparent from a higher value-added of livestock in early 1990s. While the livestock sector continued to grow from 1990/91 to 2002/03, its rate of growth was a bit slower than in earlier years (7% to 10% from 1990/91 to 1996/97), and declined to 5.7 percent per annum.

Table 7: Punjab Gross Value Added of Agriculture Sector
Annual Percentage Growth

Percentage

	Major Crops	Minor Crops	Agriculture Value Added	Livestock	Fishery	Forestery	Agriculture Value Added
1991/92	17.5	2.4	14.2	7.3	5.1	-53.3	11.5
1992/93	-17.2	4.7	-12.8	7.3	-5.3	46.6	-6.9
1993/94	-4.1	15.0	0.4	10.0	40.1	-30.3	3.6
1994/95	15.0	7.0	12.8	10.0	-14.8	31.4	11.7
1995/96	5.2	0.2	3.9	10.0	7.4	65.1	6.3
1996/97	-7.8	-0.3	-5.9	10.0	-6.0	-56.1	-0.6
1997/98	7.9	21.5	11.5	-1.2	-8.6	-11.3	6.3
1998/99	0.2	9.7	3.0	-1.2	7.7	30.3	1.5
1999/00	20.5	-18.4	8.5	4.7	9.8	92.3	7.4
2000/01	-7.8	0.4	-5.9	4.7	-5.7	27.8	-2.1
2001/02	0.0	3.2	0.8	4.7	-12.8	9.5	2.2
2002/03	3.6	5.4	4.0	2.9	15.4	-6.8	3.6

Manufacturing: The contribution of the manufacturing sector in the Punjab's economy is about 16 percent— the large-scale and small-scale manufacturing sub-sectors account for about 9.5 and 6.5 percent respectively. The large-scale sub-sector contracted substantially (-1.6 percent) in 1997 due both to drop in edible oils production as well as nil production reported by five mills being privatized. Although the average annual percentage increase stood at 5.2 percent during the 1990s and early 2000's, all time high growth rats of 7.8 percent and 9.2 percent were recorded in 1998/99 and in 2001/02 (due mainly to higher sugar and cotton yarn production by 53 percent and 7 percent respectively during this year). The average annual growth in small-scale manufacturing remains 5.3 percent as has been estimated by Census of Small Household Manufacturing Industries.

Mining: On average, the mining sector experienced a decline in growth by 0.4 percent but the yearly estimates show that the growth rate in 2002/03 has picked up to 9 percent; this has mainly been due to higher production of coal, dolomite, bauxite, rock salt and silica sand in the Punjab.

Construction: The Punjab has experienced an overall average annual increase of 2.1 percent in the value-added in the construction sector between 1990/91 and 2001/03: about the same increase as in the national value-added (2.3 percent).

Electricity and Gas: Electricity and Gas sector is a relatively smaller sector in the Punjab's economy as compared to the national average. Sectoral value-added grew at an average rate of 5 percent per annum between 1990/91 and 2002/03. However, the Punjab consumes about 60 percent of the total electricity and about 45 percent of natural gas produced in Pakistan overall. Although the share of the Punjab Electricity and Gas value-added increased in 2000/01, the 12 percent decline in the Punjab's value-added is because the sectoral value-added declined nationally (by 17.4 percent) due to a significant increase in international oil prices—the main input in thermal electricity generation. As electricity generation is only a small activity in Punjab, the decrease in sectoral value-added in the Punjab was relatively less, causing the provincial share to increase.

Transport, Storage, and Communication: The Punjab's value-added in this sector grew faster than that of the national value-added. The Punjab grew by 5.6 percent per annum between 1990/91 and 2002/03, compared to 4.3 percent growth in Pakistan overall during this period.

Wholesale and Retail Trade: Since the trading activities in the agriculture and manufacturing sector are the main driving force to the value-added of wholesale and retail trade, the growth should have the same trends as in agriculture and manufacturing sectors. The growth in the Punjab's value-added in this sector has been positive in the last twelve years except one year: in FY97, the growth of agriculture and manufacturing sectors was also negative. Overall, the sector in the Punjab grew at 3.8 percent per annum compared to 3.6 percent at the national level.

Finance and Insurance: This sector grew significantly faster in the Punjab as compared to Pakistan overall. The sectoral growth of 7 percent per annum in the Punjab over the 1990/91 – 2002/03 period was due to faster growth in all three components, as financial activities move away from their traditional base in Karachi to Lahore and other urban areas in the Punjab. This is reflected in a somewhat higher deposit mobilization in the province vis-à-vis the country as a whole. The national growth in this sector between 1990/91 and 2002/03 was about 4.8 percent per annum.

Ownership and Dwelling: Like the Construction sector, value-added in the ownership of dwelling sector grew at about the same rate in both the Punjab and Pakistan between 1990/91 and 2002/03 (5.6 percent as compared to 5.3 percent respectively in the two areas).

Public Administration and Defense: With recruitment ban in place for most of this period, total value-added in public administration and defense grew relatively slowly at only 3.6 percent per annum between 1990/91 and 2002/03. The sectoral growth rate in Punjab was somewhat higher the national rate, leading to a marginal increase in the Punjab's share in national value-added from 52.4 percent to 53.6 percent, largely because increase in the civil services staff in the provinces.

Services: Based on calculated numbers on value-added in services sector it is apparent that the growth in services sector in the Punjab has been quite robust (6.5 percent per annum between 1990/91 and 2002/03) which matches the national trend. As a consequence, share of the Punjab in national value-added in the services sector has remained more or less constant at about 62 percent.

REFERENCES

ACO 2000, *Pakistan Mouza Statistics*, Agricultural Census Organization (ACO), Statistics Division, Government of Pakistan, Gulberg III, Lahore.

Alderman, Harold and Paul Gertler, *The substitutability of Public and Private Health Care for the Treatment of Children in Pakistan* Living Standards Measurement Study, Working Paper No. 57, World Bank, Washington, D.C. 1989.

Ali, Mubarik and Abedullah, *Nutritional and Economic Benefits of Enhanced Vegetable Production and Consumption*, Journal of Crop Production, Vol. 6, No. ½ (#11/12), 2002, pp. 145-176. 2002.

Ali, Mubarik and Derek Byerlee, *Productivity Growth and Resource Degradation in Pakistan's Punjab: A Decomposition Analysis*, Policy Research Working Paper No. 2480, World Bank, Washington DC, 2000.

Andrabi, Tahir, Jishnu Das, and Asim Khwaja, *The Rise of Private Schooling in Pakistan: Catering to the Urban Elite or Educating the Rural Poor?*, mimeo, 2002.

Bari, Faisal and Ali Cheema, *Barriers to SME Development* mimeo, Lahore University of Management Science, Lahore. Study financed by the Asian Development Bank, 2003.

CIET 2003. *Community Social Audit Report.* National Reconstruction Bureau, Government of Pakistan, Islamabad, 2003.

Das, Jishnu and Jeffrey Hammer, *Strained Mercy: The Quality of Medical Care in Delhi*, Policy Research Working Paper 3228, The World Bank, Washington DC, February 2004.

Deininger, K. 2001. "Land Policy and Administration: Lessons Learned and New Challenges for the Bank's Development Agenda", Draft mimeo.

Deininger, K., and P. Mpuga. "Land Markets in Uganda: Incidence, Impact, and Evolution over Time." Policy Research Working Paper, The World Bank, Washington DC, 2003.

Fan, S. and N. Rao, *Public Spending in Developing Countries: Trends, Determination, and Impact*, EPTD Discussion Paper No. 99, International Food Policy Research Institute, Washington DC, 2003.

FAO, *The Markets for Non-Traditional Agricultural Exports*, Raw Material Tropical and Horticultural Products Services Commodities and Trade Division, FAO, Rome, Italy, 2003.

Faruqee R., and J. R. Coleman, *Managing Price Risk in the Pakistan Wheat Market*, World Bank Discussion Paper No. 334, The World Bank, 1996.

Glinskaya, Elena and Jyotsna Jalan, *Improving Primary School Education in India: An Impact Assessment of DPEP-Phase I*, The World Bank, Washington DC and the Indian Statistical Institute, New Delhi. Processed. 2003.

GoP 2002, *Economic Survey of Pakistan 2001-02*, Ministry of Finance, Govt. of Pakistan, Islamabad.

GoP 2003, *Accelerating Economic Growth and Reducing Poverty: The Road Ahead*, Poverty Reduction Strategy Paper, Ministry of Finance, Government of Pakistan, Islamabad.

Hughes and Dunleavy 2000, Indoor Pollution and Health: Why do babies and young children die in India?, mimeo, World Bank, Washington D.C.

Jimenez and Sawada 1999, *Do Community-Managed Schools Work? An Evaluation of El Salvador's EDUCO Program*, World Bank Economic Review, Volume 13, No. 3. Washington D.C.

Malik, S. J., *Agricultural Growth and Rural Poverty in Pakistan: A Review of Evidence*, Asian Development Bank, Country Office, Islamabad. 2003.

Nabi 1988, *Entrepreneurs and Markets in Early Industrialization: A case study from Pakistan*, International Center for Economic Growth, ICS Press, San Francisco, California.

Nicolaides, L., R. Coker, P. Wareing and M. Nagler, *Food Safety and the Developing World*, Natural Resources Institute, The University of Greenwich, 1997.

PERI 2001, *Development Ranking of Districts of Punjab*, Punjab Economic Research Institute, 2001.

Salam and Mukhtar. *Country Paper on Pakistan*, Agricultural Prices Commission, Government of Pakistan, Islamabad. Paper prepared for the Workshop on Agribusiness: From Parastatals to Private Trade held at New Delhi, India, 15-16 December, 2003.

Schiff M. W., and A. Valdes, *The Plundering of Agriculture in Developing Countries*, The World Bank, Washington DC, 1992.

SMEDA 1999, *Strategy Development in Milk Production and Distribution*, Small and Medium Enterprise Development Authority (SMEDA), Dairy Division, Agriculture Sector, May 1999.

SMEDA 2000, *HEXPO 2000 and Beyond*, Small and Medium Enterprise Development Authority (SMEDA), Agriculture Sector, Lahore, Draft Report, 2000.

Williamson, Tim, Masroor Ahmad, and Samantha Smith 2004, *Devolution and Service Delivery in the Punjab: Strengthening Health, Education, Water, and Sanitation Services,* Background paper prepared fro the Punjab Economic Report.

World Bank 1993, *Thailand Fuel Option Study* Report No. 11948-TH, World Bank, Washington DC.

World Bank 1994, *Thailand: Mitigating Pollution and Congestion Impacts in a High-growth Economy.* Report No. 11770-TH, World Bank, Washington DC.

World Bank 2002a, *Pakistan Development Policy Review: A New Dawn.* Report No. 23916-PAK, World Bank, Washington DC.

World Bank 2002b, *Pakistan Poverty Assessment. Poverty in Pakistan: Vulnerabilities, Social Gaps and Rural Dynamics*, Report No. 24296-PAK, World Bank, Washington DC.

World Bank 2003, *Improving the Investment Climate in Pakistan* (mimeo) An investment climate assessment prepared by the World Bank Group in collaboration with the Small and Medium Enterprise Development Authority (SMEDA), Washington D.C. 2003.

World Bank 2004a, *Pakistan Public Expenditure Management. Accelerated Development of Water Resources and Irrigated Agriculture. Volume 2.* Report No. 25665-PK, World Bank, Washington DC.

World Bank 2004b, *Making Services Work for Poor People*, World Development Report 22004, World Bank, Washington DC.

World Bank 2004c, *Devolution in Pakistan: Assessment and Recommendations for Action*, World Bank, Washington DC.

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Table 1.1: Punjab Gross Domestic Product
At constant factor cost of 1980/81

Rs Million

	Agriculture	Large Scale Manufacturing	Small Scale Manufacturing	Manufacturing Total	Mining and Querrying	Construction	Electricity and Gas Distribution	Transport, Storage & Communications	Wholesale & Retail Trade	Finance and Insurance	Ownership of Dwellings	Public Admin. & Defence	Other Services	Punjab GDP
1990/91	73,127	21,789	14,446	36,235	948	11,595	5,975	20,258	41,873	4,032	12,691	16,599	21,293	244,627
1991/92	81,572	23,884	15,209	39,093	929	12,268	6,517	22,523	45,669	4,323	13,418	17,650	23,085	267,047
1992/93	75,942	25,265	16,013	41,278	880	12,959	6,933	24,396	46,319	4,734	14,451	18,799	24,218	270,910
1993/94	78,707	26,761	16,859	43,620	898	13,150	7,141	25,733	47,377	5,272	15,849	18,948	25,727	282,422
1994/95	87,909	27,601	17,749	45,350	842	12,016	8,158	27,381	51,494	5,745	15,408	18,594	27,707	300,605
1995/96	93,439	29,375	18,687	48,062	897	13,671	9,463	28,856	53,481	7,114	15,241	19,740	29,517	319,480
1996/97	92,866	28,813	19,675	48,488	850	13,798	9,236	27,592	53,785	8,077	18,110	20,334	32,136	325,272
1997/98	98,757	31,074	20,714	51,788	798	13,060	9,764	31,793	53,703	6,175	19,343	20,239	33,810	339,230
1998/99	100,280	32,257	21,814	54,071	744	13,241	11,822	33,763	55,155	7,499	20,142	20,410	36,381	353,507
1999/00	107,737	32,326	22,972	55,299	825	13,954	11,661	35,526	56,951	7,052	20,911	22,179	39,146	371,242
2000/01	105,509	35,466	24,192	59,659	813	13,805	10,258	36,717	59,870	8,023	21,463	22,439	40,892	379,448
2001/02	107,855	37,276	25,477	62,753	827	14,360	11,276	37,181	61,987	8,793	23,100	24,728	42,715	395,576
2002/03	111,718	39,954	26,830	66,783	901	14,831	10,774	38,826	65,874	9,060	24,299	25,514	45,505	414,086

Table 1. 2: Punjab Gross Domestic Product
At current prices

Rs Million

	Agriculture	Large Scale Manufacturing	Small Scale Manufacturing	Manufacturing Total	Mining and Querrying	Construction	Electricity and Gas Distribution	Transport, Storage & Communications	Wholesale & Retail Trade	Finance and Insurance	Ownership of Dwellings	Public Admin. & Defence	Other Services	Punjab GDP
1990/91	148,837	43,212	30,087	72,822	2,437	23,974	11,848	36,851	86,746	10,967	20,690	40,095	42,686	498,182
1991/92	183,646	50,955	35,453	85,424	2,576	27,470	14,162	48,187	103,236	12,820	24,230	46,426	50,765	599,066
1992/93	190,384	56,511	39,720	94,982	2,467	31,179	14,964	61,803	111,597	15,156	28,781	53,391	58,034	661,771
1993/94	225,359	69,348	44,496	113,591	2,815	34,529	15,829	73,619	130,351	19,630	34,655	59,100	68,632	777,141
1994/95	288,400	82,338	50,581	133,637	2,867	34,480	20,848	86,087	162,483	24,006	37,239	69,808	83,224	939,691
1995/96	308,754	95,829	58,491	155,031	3,567	44,089	29,697	97,992	185,676	30,925	40,275	87,478	98,225	1,081,390
1996/97	370,522	108,482	68,692	178,685	3,381	50,592	30,862	105,801	206,108	38,058	52,710	94,855	119,564	1,248,986
1997/98	429,612	121,029	76,156	198,458	3,928	51,934	36,779	131,823	219,031	36,833	61,053	99,376	135,619	1,402,360
1998/99	467,077	131,074	81,391	214,488	3,816	54,805	49,371	146,224	238,706	42,956	67,813	110,035	154,291	1,546,904
1999/00	498,646	136,488	89,751	228,222	4,776	60,598	46,522	166,823	261,417	28,767	73,381	131,921	171,961	1,669,751
2000/01	515,716	155,445	97,561	255,344	5,136	61,804	43,122	191,337	286,217	47,823	77,530	139,169	187,554	1,809,650
2001/02	516,265	168,873	105,743	277,273	5,368	65,600	50,656	215,789	306,926	54,838	88,714	158,933	202,856	1,946,319
2002/03	566,592	188,972	114,146	306,727	6,190	67,854	55,724	241,350	330,972	59,114	98,882	169,931	222,393	2,129,800

Source: Derived from Table 1 and national deflators

Table 1.3: Punjab Gross Domestic Product at constant factor cost

Annual Growth Rate

Percentage

	Agriculture	Large Scale Manufacturing	Small Scale Manufacturing	Manufacturing Total	Mining and Querrying	Construction	Electricity and Gas	Transport Storage & Communications	Wholesale & Retail Trade	Finance and Insurance	Ownership of Dwellings	Public Admin. & Defence	Other Services	Punjab	Rest of Pakistan	Pakistan - Total Value Added
1991/92	11.5	9.6	5.3	7.9	-2.1	5.8	9.1	11.2	9.1	7.2	5.7	6.3	8.4	9.2	5.6	7.6
1992/93	-6.9	5.8	5.3	5.6	-5.2	5.6	6.4	8.3	1.4	9.5	7.7	6.5	4.9	1.4	2.9	2.1
1993/94	3.6	5.9	5.3	5.7	2.0	1.5	3.0	5.5	2.3	11.4	9.7	0.8	6.2	4.2	4.5	4.4
1994/95	11.7	3.1	5.3	4.0	-6.2	-8.6	14.2	6.4	8.7	9.0	-2.8	-1.9	7.7	6.4	3.3	5.1
1995/96	6.3	6.4	5.3	6.0	6.5	13.8	16.0	5.4	3.9	23.8	-1.1	6.2	6.5	6.3	7.0	6.6
1996/97	-0.6	-1.9	5.3	0.9	-5.2	0.9	-2.4	-4.4	0.6	13.5	18.8	3.0	8.9	1.8	1.6	1.7
1997/98	6.3	7.8	5.3	6.8	-6.1	-5.3	5.7	15.2	-0.2	-23.5	6.8	-0.5	5.2	4.3	2.5	3.5
1998/99	1.5	3.8	5.3	4.4	-6.7	1.4	21.1	6.2	2.7	21.5	4.1	0.8	7.6	4.2	4.2	4.2
1999/00	7.4	0.2	5.3	2.3	10.9	5.4	-1.4	5.2	3.3	-6.0	3.8	8.7	7.6	5.0	2.5	3.9
2000/01	-2.1	9.7	5.3	7.9	-1.5	-1.1	-12.0	3.4	5.1	13.8	2.6	1.2	4.5	2.2	2.2	2.2
2001/02	2.2	5.1	5.3	5.2	1.7	4.0	9.9	1.3	3.5	9.6	7.6	10.2	4.5	4.3	2.2	3.4
2002/03	3.6	7.2	5.3	6.4	9.0	3.3	-4.4	4.4	6.3	3.0	5.3	3.2	6.5	4.7	5.6	5.1
Average (1991-2002)	**3.6**	**5.2**	**5.3**	**5.2**	**-0.4**	**2.1**	**5.0**	**5.6**	**3.8**	**7.0**	**5.6**	**3.6**	**6.5**	**4.5**	**3.7**	**4.1**

Source: Table 1

Table 1.4: Punjab Gross Domestic Product at current prices

Annual Growth Rate

Percentage

	Agriculture	Large Scale Manufacturing	Small Scale Manufacturing	Manufacturing Total	Mining and Querrying	Construction	Electricity and Gas	Transport Storage & Communications	Wholesale & Retail Trade	Finance and Insurance	Ownership of Dwellings	Public Admin. & Defence	Other Services	Punjab	Rest of Pakistan	Pakistan - Total Value Added
1991/92	23.4	17.9	17.8	17.3	5.7	14.6	19.5	30.8	19.0	16.9	17.1	15.8	18.9	20.3	16.3	18.5
1992/93	3.7	10.9	12.0	11.2	-4.3	13.5	5.7	28.3	8.1	18.2	18.8	15.0	14.3	10.5	12.1	11.2
1993/94	18.4	22.7	12.0	19.6	14.1	10.7	5.8	19.1	16.8	29.5	20.4	10.7	18.3	17.4	17.7	17.6
1994/95	28.0	18.7	13.7	17.6	1.9	-0.1	31.7	16.9	24.7	22.3	7.5	18.1	21.3	20.9	17.4	19.4
1995/96	7.1	16.4	15.6	16.0	24.4	27.9	42.4	13.8	14.3	28.8	8.2	25.3	18.0	15.1	15.9	15.4
1996/97	20.0	13.2	17.4	15.3	-5.2	14.8	3.9	8.0	11.0	23.1	30.9	8.4	21.7	15.5	15.2	15.4
1997/98	15.9	11.6	10.9	11.1	16.2	2.7	19.2	24.6	6.3	-3.2	15.8	4.8	13.4	12.3	10.3	11.4
1998/99	8.7	8.3	6.9	8.1	-2.9	5.5	34.2	10.9	9.0	16.6	11.1	10.7	13.8	10.3	10.2	10.3
1999/00	6.8	4.1	10.3	6.4	25.2	10.6	-5.8	14.1	9.5	-33.0	8.2	19.9	11.5	7.9	5.3	6.8
2000/01	3.4	13.9	8.7	11.9	7.5	2.0	-7.3	14.7	9.5	66.2	5.7	5.5	9.1	8.4	8.4	8.4
2001/02	0.1	8.6	8.4	8.6	4.5	6.1	17.5	12.8	7.2	14.7	14.4	14.2	8.2	7.6	5.4	6.6
2002/03	9.7	11.9	7.9	10.6	15.3	3.4	10.0	11.8	7.8	7.8	11.6	6.9	9.6	9.4	10.4	9.8
Average (1991-2002)	**11.8**	**13.1**	**11.8**	**12.7**	**8.1**	**9.1**	**13.8**	**17.0**	**11.8**	**15.1**	**13.9**	**12.8**	**14.7**	**12.9**	**12.0**	**12.5**

Source: Table 1

Table 1.5: Punjab Gross Domestic Product
Sectoral shares of Punjab GDP

Percentage

	Agriculture	Large Scale Manufacturing	Small Scale Manufacturing	Manufacturing Total	Mining and Querrying	Construction	Electricity and Gas	Transport, Storage & Communications	Wholesale & Retail Trade	Finance and Insurance	Ownership of Dwellings	Public Admin. & Defence	Services	Punjab - Total Value Added
1990/91	29.9	8.9	5.9	14.8	0.4	4.7	2.4	8.3	17.1	1.6	5.2	6.8	8.7	100
1991/92	30.5	8.9	5.7	14.6	0.3	4.6	2.4	8.4	17.1	1.6	5.0	6.6	8.6	100
1992/93	28.0	9.3	5.9	15.2	0.3	4.8	2.6	9.0	17.1	1.7	5.3	6.9	8.9	100
1993/94	27.9	9.5	6.0	15.4	0.3	4.7	2.5	9.1	16.8	1.9	5.6	6.7	9.1	100
1994/95	29.2	9.2	5.9	15.1	0.3	4.0	2.7	9.1	17.1	1.9	5.1	6.2	9.2	100
1995/96	29.2	9.2	5.8	15.0	0.3	4.3	3.0	9.0	16.7	2.2	4.8	6.2	9.2	100
1996/97	28.6	8.9	6.0	14.9	0.3	4.2	2.8	8.5	16.5	2.5	5.6	6.3	9.9	100
1997/98	29.1	9.2	6.1	15.3	0.2	3.8	2.9	9.4	15.8	1.8	5.7	6.0	10.0	100
1998/99	28.4	9.1	6.2	15.3	0.2	3.7	3.3	9.6	15.6	2.1	5.7	5.8	10.3	100
1999/00	29.0	8.7	6.2	14.9	0.2	3.8	3.1	9.6	15.3	1.9	5.6	6.0	10.5	100
2000/01	27.8	9.3	6.4	15.7	0.2	3.6	2.7	9.7	15.8	2.1	5.7	5.9	10.8	100
2001/02	27.3	9.4	6.4	15.9	0.2	3.6	2.9	9.4	15.7	2.2	5.8	6.3	10.8	100
2002/03	27.0	9.6	6.5	16.1	0.2	3.6	2.6	9.4	15.9	2.2	5.9	6.2	11.0	100

Source: Table 1

Table 1.6: Punjab Gross Domestic Product
Percentage of National GDP

Percentage

	Agriculture	Large Scale Manufacturing	Small Scale Manufacturing	Manufacturing Total	Mining and Querrying	Construction	Electricity and Gas	Transport, Storage & Communications	Wholesale & Retail Trade	Finance and Insurance	Ownership of Dwellings	Public Admin. & Defence	Services	Punjab - Total Value Added
1990/91	63.8	38.5	70.4	47.0	37.9	62.8	38.7	47.4	57.1	40.7	52.2	52.4	62.4	55.1
1991/92	65.0	39.1	70.3	47.3	36.2	62.7	38.7	47.7	58.0	41.8	52.4	54.3	63.5	55.9
1992/93	63.9	39.7	70.3	47.8	33.3	62.6	38.7	48.5	57.1	42.8	53.6	56.5	62.6	55.5
1993/94	63.0	40.4	70.3	48.3	32.5	62.5	38.7	49.3	56.8	41.7	55.9	56.1	62.4	55.5
1994/95	66.0	41.0	70.3	49.0	31.8	56.5	37.8	50.4	59.0	42.8	51.6	53.4	63.1	56.2
1995/96	62.8	42.3	70.3	50.1	31.6	62.3	39.8	52.7	57.8	46.5	48.5	55.0	63.1	56.0
1996/97	62.3	42.4	70.3	50.5	29.4	62.2	40.0	48.5	57.7	47.4	54.7	55.4	64.5	56.1
1997/98	63.4	42.5	70.2	50.5	29.1	58.1	38.9	52.2	58.3	47.7	55.5	54.0	63.7	56.5
1998/99	63.2	42.6	70.2	50.6	26.3	62.0	40.1	52.7	58.1	48.7	54.9	53.2	64.3	56.5
1999/00	64.0	42.7	70.2	51.0	27.5	62.1	40.8	53.5	58.9	47.7	54.1	52.8	65.0	57.1
2000/01	64.4	42.8	70.2	50.9	25.8	61.7	43.4	53.9	58.7	48.9	52.8	52.8	63.7	57.1
2001/02	65.9	42.9	70.2	51.0	25.3	61.6	44.0	54.0	59.5	49.6	54.0	54.6	62.4	57.6
2002/03	65.5	42.3	70.2	50.4	25.2	61.5	43.8	54.7	58.9	51.8	54.0	53.6	62.4	57.4

Source: Dervied from Table 1 and national data

Table 2.1: Land Utilization Statistics, The Punjab

(Thousand Hectares)

Year	Reported Area	Cultivated Area			Un-Cultivated Area				Cropped Area	Area Sown
		Total	Net Sown	Current Fallow	Total	Cultur-able Waste	Forest	Area not Available for Cultivation	Total	More than once
1	2=(3+6)	3=(4+5)	4	5	6=7 to 9	7	8	9	10=4+11	11
1990/91	**17,106**	**11,819**	10,806	1,013	**5,287**	1,839	462	2,986	**15,065**	4,259
1991/92	**17,537**	**12,073**	10,920	1,153	**5,464**	1,767	438	3,259	**14,862**	3,942
1992/93	**17,459**	**12,024**	10,866	1,158	**5,435**	1,913	449	3,073	**14,985**	4,119
1993/94	**17,420**	**12,113**	10,875	1,238	**5,306**	1,785	465	3,056	**14,832**	3,957
1994/95	**17,423**	**12,133**	11,136	997	**5,290**	1,736	471	3,083	**15,645**	4,509
1995/96	**17,455**	**12,230**	11,266	964	**5,225**	1,634	490	3,101	**15,912**	4,646
1996/97	**17,512**	**12,221**	11,232	989	**5,291**	1,643	489	3,159	**15,914**	4,682
1997/98	**17,573**	**12,228**	11,168	1,060	**5,345**	1,689	485	3,171	**15,963**	4,795
1998/99	**17,563**	**12,265**	11,209	1,056	**5,298**	1,725	483	3,090	**15,804**	4,595
1999/00	**17,565**	**12,347**	11,193	1,154	**5,218**	1,667	484	3,067	**16,004**	4,811
2000/01	**17,609**	**12,348**	11,009	1,339	**5,261**	1,610	494	3,157	**16,057**	5,048
2001/02	**17,609**	**12,428**	11,037	1,391	**5,180**	1,715	496	2,969	**16,104**	5,067
2002/03 P	**17,560**	**12,470**	11,030	1,440	**5,090**	1,630	510	2,950	**15,960**	4,930

Sources *:-*

1. For 1990-91: i) Directorate of Agriculture Crop Reporting Service, Punjab, Lahore (Secondary Source)

ii) Deputy Commissioners, (Primary Source)

2. For 1991-92 to 2002-03. Bureau of Statistics, Punjab, Lahore

Table 2.2: Punjab - Land Utilization Statistics by District, 2001/02

Division/District	Reported Area	Cultivated Area			Un-Cultivated Area				Cropped Area			Area Sown More Than Once
		Total	Net Sown	Current Fallow	Total	Culturable Waste	Forest	Not Available for Cultivation	Total	Kharif	Rabi	
The Punjab	**17,609**	**12,428**	**11,137**	**1,391**	**5,180**	**1,715**	**496**	**2,969**	**16,104**	**7,527**	**8,577**	**5,067**
Bahawalpur Divn. (a)	**2,213**	**1,651**	**1,484**	**167**	**563**	**224**	**12**	**327**	**2,267**	**1,174**	**1,093**	**784**
Bahawalnagar	667	429	387	42	137	45	1	91	739	376	363	191
Bahawalpur	729	592	548	44	238	88	4	146	664	336	328	277
Rahim Yar Khan	817	630	549	81	188	91	7	90	864	462	402	316
Dera Ghazi Khan Divn. (b)	**3,152**	**1,661**	**1,351**	**310**	**1,492**	**792**	**64**	**636**	**1,796**	**851**	**945**	**444**
Dera Ghazi Khan	931	423	295	128	508	89	21	398	355	177	178	60
Layyah	628	385	367	18	244	188	11	45	449	181	268	82
Muzaffargarh	831	462	414	48	369	213	25	131	644	308	336	229
Rajanpur	762	391	275	116	371	302	7	62	348	185	163	73
Faisalabad Divn.	**1,791**	**1,463**	**1,401**	**62**	**328**	**129**	**14**	**185**	**1,959**	**906**	**1,053**	**558**
Faisalabad	584	515	510	5	69	5	1	63	675	341	334	165
Jhang	880	692	645	47	188	91	7	90	907	382	525	262
Toba Tek Singh	327	256	246	10	71	33	6	32	377	183	194	131
Gujranwala Divn.	**1,718**	**1,409**	**1,315**	**94**	**311**	**94**	**28**	**189**	**2,133**	**1,024**	**1,109**	**820**
Gujranwala	361	306	296	10	55	21	1	33	528	262	266	232
Gujrat	321	247	219	28	74	20	12	42	267	115	152	48
Hafizabad	235	189	177	12	47	27	-	20	308	147	161	131
Mandi Baha-ud-Din	269	221	181	40	47	20	5	22	329	163	166	148
Narowal	232	189	187	2	44	3	4	37	277	126	151	91
Sialkot	300	257	255	2	44	3	6	35	424	211	213	170

Table 2.2: Punjab - Land Utilization Statistics by District, 2001/02

Division/District	Reported Area	Cultivated Area			Un-Cultivated Area			Not Available for Cultivation	Cropped Area			Area Sown More Than Once
		Total	Net Sown	Current Fallow	Total	Culturable Waste	Forest		Total	Kharif	Rabi	
Lahore Divn.	**1,610**	**1,278**	**1,226**	**52**	**333**	**101**	**12**	**220**	**2,024**	**991**	**1,033**	**797**
Lahore	178	112	102	10	60	6	6	48	487	249	238	153
Kasur	397	338	333	5	66	4	1	61	192	95	97	91
Okara	439	342	333	9	98	44	2	52	583	282	301	249
Sheikhupura	596	486	458	28	109	47	3	59	762	365	397	304
Multan Divn.	**2,108**	**1,829**	**1,755**	**74**	**276**	**79**	**11**	**186**	**2,962**	**1,483**	**1,479**	**1,208**
Multan	370	310	289	21	62	29	4	29	572	289	283	226
Khanewal	428	365	347	18	27	6	1	20	428	222	206	189
Lodharan	280	253	239	14	58	19	-	39	498	245	253	209
Pakpattan	273	248	240	8	25	4	1	20	392	193	199	152
Sahiwal	320	261	257	4	59	15	5	39	430	208	222	173
Vehari	437	392	383	9	45	6	-	39	642	326	316	259
Rawalpindi Divn.	**2,288**	**1,044**	**845**	**299**	**1,243**	**173**	**254**	**816**	**793**	**350**	**443**	**49**
Jhelum	348	128	86	42	258	37	60	161	231	114	117	16
Attock	692	320	306	114	394	39	76	279	246	106	140	9
Chakwal	720	326	237	89	219	61	45	113	91	41	50	5
Rawalpindi	528	270	216	54	372	36	73	263	225	89	136	19
Sargodha Divn.	**2,729**	**2,093**	**1,760**	**333**	**634**	**123**	**101**	**410**	**2,170**	**748**	**1,422**	**407**
Sargodha	592	519	504	15	106	26	35	45	754	197	557	186
Bhakkar	812	704	567	137	185	31	41	113	409	90	319	9
Khushab	654	469	400	69	224	31	13	180	305	130	175	42
Mianwali	577	353	263	90	73	27	1	45	674	317	357	169
Islamabad	94	48	26	22	46	8	11	27	28	14	14	1

Source: Bureau of Statistics, Punjab, Lahore.

Table 2.3: Number and Area of Farms by Size of Farm, The Punjab: 2000 Census

(Area in Thousand Hectares)

Size of Farm (Hectares)	Farms		Farms Area		Cultivated Area	
	`000' Number	% With Total	Total	% With Total	Total	% With Total
All Farms	**3,864.2**	**100.0**	**11,262.0**	**99.8**	**10,313.6**	**100.0**
Government Farms	**0.1**	**-**	**26.8**	**-**	**18.3**	**0.2**
Private Farms – Total	**3,864.1**	**100.0**	**11,235.2**	**99.8**	**10,295.3**	**99.8**
Under 0.5	703.6	18.2	201.1	1.8	191.3	1.8
0.5 to Under 1	617.3	16.0	459.4	4.1	443.7	4.3
1 to Under 2	844.2	21.8	1,166.8	10.4	1,124.4	10.9
2 to Under 3	597.9	15.5	1,403.9	12.5	1,341.7	13.0
3 to Under 5	536.4	13.9	2,081.5	18.5	1,955.0	18.9
5 to Under 10	368.4	9.5	2,422.3	21.5	2,221.4	21.6
10 to Under 20	149.0	3.9	1,858.6	16.5	1,645.8	16.0
20 to Under 40	36.7	1.0	909.2	8.1	789.9	7.6
40 to Under 60	5.7	0.1	263.1	2.3	211.3	2.0
60 and above	4.9	0.1	469.3	4.1	370.8	3.6

Source :- Agricultural Census Organization, Economic Affairs & Statistics Division (Statistics Wing),
Govt. of Pakistan, Lahore.

Table 2.4: Private Farms and Farm Area by Tenure and Size of Farm
The Punjab: 2000 Census

Size of Farm (Hectares)	Number of Farms (`000')				Farm Area (`000' Hectares)			
	Total	Owner	Owner-cum-Tenant	Tenant	Total	Owner	Owner-cum-Tenant	Tenant
Total	**3,864.1**	**3,037.1**	**423.5**	**403.5**	**11,235.2**	**7,789.8**	**2,185.6**	**1,259.8**
Under 0.5	**703.6**	**652.7**	**7.3**	**43.6**	**201.1**	**184.2**	**2.4**	**14.5**
0.5 to Under 1	**617.3**	534.6	24.9	57.8	**459.4**	396.2	18.8	44.5
1 to Under 2	**844.2**	681.8	77.8	84.6	**1,166.8**	935.8	112.6	118.4
2 to Under 3	**597.9**	444.0	78.9	75.0	**1,403.9**	1,037.6	191.3	175.0
3 to Under 5	**536.4**	366.0	97.5	73.0	**2,081.5**	1,415.6	379.3	286.6
5 to Under 10	**368.4**	230.9	88.2	49.3	**2,422.3**	1,510.9	604.6	306.8
10 to Under 20	**149.0**	95.0	38.0	16.0	**1,858.6**	1,173.0	498.7	186.8
20 to Under 40	**36.7**	24.4	8.8	3.5	**909.2**	601.0	226.7	81.5
40 to Under 60	**5.7**	4.1	1.2	0.4	**263.1**	190.8	54.0	18.3
60 and above	**4.9**	3.6	0.9	0.3	**469.3**	344.7	97.2	27.4

Source :- Agricultural Census Organization, Economic Affairs & Statistics Division (Statistics Wing), Govt. of Pakistan, Lahore

Table2.5: Punjab - Temperature at Selected Centres

(Centigrades)

Centre/Year	Bahawalpur	Bahawalnagar	Faisalabad	Jhelum	Khanpur	Lahore	Mianwali	Multan	Rawalpindi / Islamabad	Sargodha	Shorkot	Sialkot
MEAN OF MAXIMUM												
1991	32.6	32.0	30.4	29.9	33.1	30.5	31.1	32.0	27.6	30.9	32.0	28.8
1992	32.1	31.3	30.3	29.4	32.9	30.7	30.8	31.6	27.6	30.3	31.4	28.7
1993	33.7	32.8	31.5	31.2	34.3	31.6	32.3	32.9	29.1	31.9	32.0	30.0
1994	32.7	32.1	31.1	30.5	33.6	30.9	31.4	32.2	28.2	31.1	32.0	29.5
1995	32.6	32.0	31.0	30.0	33.2	30.5	31.3	32.2	28.2	31.2	31.8	29.4
1996	32.8	32.0	30.9	30.1	33.2	30.4	31.4	32.6	28.5	31.0	32.0	28.9
1997	31.6	28.2	29.3	28.8	32.2	28.6	30.1	30.9	27.1	29.5	30.3	27.8
1998	33.1	32.4	31.1	30.6	33.8	30.6	31.8	32.7	28.9	31.6	32.2	29.3
1999	33.7	33.9	31.9	31.4	33.6	31.1	32.1	33.2	29.8	32.8	33.1	30.0
2000	33.7	33.7	31.9	31.2	33.8	30.9	32.4	33.3	29.8	32.2	32.8	29.8
2001	33.7	33.5	31.3	31.6	33.7	30.7	32.2	32.8	30.2	31.8	32.4	29.9
2002	36.6	34.7	32.0	31.8	34.3	31.1	32.5	33.4	30.1	32.3	32.9	30.6
MEAN OF MINIMUM												
1991	18.2	19.1	16.9	16.4	16.3	17.7	16.5	18.2	14.2	17.5	18.0	16.2
1992	18.1	19.1	17.0	16.6	16.7	18.5	16.2	18.1	14.6	17.3	18.0	16.0
1993	18.0	19.1	17.2	16.5	17.2	18.8	16.3	18.5	14.4	17.6	18.0	16.2
1994	17.6	19.0	17.3	17.1	17.3	18.9	17.1	18.3	14.7	17.7	18.0	16.1
1995	17.4	19.0	16.8	16.6	16.8	18.7	16.5	17.9	14.2	17.4	17.6	16.2
1996	16.8	18.5	16.6	16.7	16.8	18.5	16.5	17.8	14.3	17.4	17.5	15.5
1997	17.7	15.3	16.6	16.7	16.9	18.6	16.6	17.8	14.3	17.3	17.6	16.1
1998	18.2	19.4	17.3	17.1	17.7	19.3	17.1	18.6	14.8	17.7	18.3	16.6
1999	18.0	19.6	18.0	17.8	18.3	19.7	17.6	18.9	15.5	18.4	18.8	17.2
2000	18.7	19.2	17.6	17.4	182.0	19.4	17.6	18.6	15.5	18.1	18.6	16.9
2001	18.0	18.7	17.7	16.9	18.3	19.5	17.6	18.8	15.4	18.0	18.7	16.7
2002	19.0	19.6	18.2	17.8	18.6	20.1	17.9	19.0	15.5	18.1	18.8	16.9

Source: *Director, Regional Meteorological Centre, Lahore.*

Table2.6: Rainfall at Selected Stations

(Millimetres)

Station/Year/ month	Bahawalpur	Bahawalnagar	Faisalabad	Jhelum	Khanpur	Lahore	Mianwali	Multan	Murree	Rawalpindi	Sargodha	Shorkot	Sialkot
1991	56	134	261	986	55	520	467	130	1,868	1,194	382	116	875
1992	384	473	371	1,134	84	629	1,086	513	2,434	1,262	703	361	1,455
1993	137	428	271	762	101	375	657	301	2,079	830	303	331	887
1994	246	203	191	1,000	117	542	604	303	2,220	1,698	360	387	1,191
1995	203	253	172	1,158	227	826	786	265	1,703	1,615	319	302	976
1996	97	406	346	989	28	1,189	648	212	2,192	1,324	447	238	1,642
1997	304	340	807	1,336	125	1,233	699	264	2,307	1,414	629	481	1,388
1998	159	267	332	961	62	493	760	136	1,973	1,412	411	295	1,037
1999	121	172	188	628	96	474	592	177	1,897	1,012	373	107	646
2000	79	171	212	841	20	558	424	82	1,484	999	451	202	900
2001	182	272	372	747	98	536	458	298	1,317	1,178	612	265	792
2002	42	104	274	533	9	334	302	101	1,264	931	530	91	545
2002													
January	-	-	0.2	47.2	-	0.6	-	-	56.2	7.0	-	-	-
February	-	-	2.5	7.1	1.8	3.2	86.5	9.0	127.5	38.0	15.5	1.0	9.0
March	2.0	17.0	16.1	23.5	5.0	11.3	28.0	14.7	119.7	32.0	9.5	12.0	41.6
April	3.2	3.2	2.8	29.9	1.0	1.7	5.0	-	25.7	6.0	4.0	8.5	21.9
May	-	37.0	9.6	1.0	-	35.6	12.5	40.2	36.0	12.0	35.0	5.0	6.9
June	7.0	10.6	84.0	97.1	0.5	34.5	8.0	3.2	314.9	155.0	20.5	25.0	50.9
July	-	-	32.8	64.2	-	56.4	29.0	-	154.1	109.0	176.0	1.0	61.8
August	-	4.2	25.7	157.5	-	92.0	71.0	-	304.4	350.0	142.0	5.0	194.8
September	28.0	20.0	94.6	92.6	-	85.0	27.0	29.1	74.0	157.0	68.0	20.0	77.3
October	-	-	3.3	4.1	-	6.4	3.0	-	19.8	38.0	15.0	1.0	72.8
November	1.7	5.7	0.5	-	-	-	1.0	0.2	3.2	-	6.0	9.0	-
December	-	6.0	2.0	8.4	0.3	7.0	31.0	5.0	28.9	26.5	38.3	3.0	7.5

Source: *Director, Regional Meteorological Centre, Lahore.*

Table2.7: Region Wise Length of Channels and Drains

(Canal Miles)

Region	Main Canals & Branches	Major Distrib-utories	Minor Distrib-utories	Sub- Total	Supply Escape Channels	Sub-Total	Drains	Grand Total
1	2	3	4	5=3+4	6	7=2+5+6	8	9=7+8
1999/00								
THE PUNJAB	**3,248**	**11,787**	**7,705**	**19,492**	**282**	**23,022**	**7,127**	**30,149**
Bahawalpur	725	2,352	1,501	3,853	80	4,658	232	4,890
D.G.Khan	460	1,217	772	1,989	28	2,477	213	2,690
Faisalabad	57	1,700	699	2,399	38	2,494	1,361	3,855
Lahore	578	1,674	1,205	2,879	82	3,539	3,480	7,019
Multan	775	2,490	1,810	4,300	26	5,101	1	5,102
Sargodha	651	2,259	1,687	3,946	28	4,625	1,840	6,465
Development Zone (Small Dams)	2	95	31	126	-	128	-	128
2000/01 P								
THE PUNJAB	**3,706**	**11,607**	**7,496**	**19,103**	**269**	**23,078**	**4,767**	**27,845**
Bahawalpur	725	2,351	1,502	3,853	82	4,660	232	4,892
D.G.Khan	428	961	605	1,566	13	2,007	99	2,106
Faisalabad	557	1,700	699	2,399	38	2,994	1,461	4,455
Lahore	548	1,763	1,158	2,921	82	3,551	1,133	4,684
Multan	795	2,468	1,805	4,273	26	5,094	1	5,095
Sargodha	651	2,259	1,687	3,946	28	4,625	1,841	6,466
Development Zone (Small Dams)	2	105	40	145	-	147	-	147

Source:- Irrigation and Power Department, Government of the Pujab, Lahore. One Canal Mile = 5000 Feet.

Table 2.8: Region and Canal-wise Gross Canal Commanded Area, Culturable Commanded Area and Irrigated Assessed Area

(Acres)

Region/Canal	1999-00			2000-01 P		
	Gross Canal Commanded Area	Culturable Commanded Area	Irrigated Assessed Area (Kharif & Rabi)	Gross Canal Commanded Area	Culturable Commanded Area	Irrigated Assessed Area (Kharif & Rabi)
The Punjab	**24653754(r)**	**21,613,934**	**27,474,393**	**24,248,978**	**21,471,490**	**27,701,350**
Lahore Region	**3,535,761**	**2,951,144**	**3,874,344**	**3,535,761**	**2,951,144**	**2,650,110**
Upper Chenab	1,529,144	1,433,546	1,152,163	1,529,144	1,433,546	1,088,118
M.R. Link	175,445	157,194	76,529	175,445	157,194	72,487
C.B.D.C.	710,274	659,872	745,286	710274 *	659872 *	745286 *
Depalpur (Upper)	376,342	25,977	146,524	376342 *	25977 *	172,856
Depalpur (Lower)	651406 (a)	612012 (a)	1,749,377	651,406	612,012	565,655
B.R.B.D.	116	113	194	116	113	4,139
Tubewells	93,034	62,430	4,271	93,034	62,430	1,569
Faisalabad Region	**3,441,019**	**2,860,540**	**3,911,796**	**3,067,903**	**2,779,257**	**4,075,430**
Lower Chenab (East)	1,910,877	1,601,949	2,155,039	2,263,252	1,851,741	2,434,215
Lower Chenab (West)	1,530,142	1,258,591	1,756,757	804,651	927,516	1,641,215
Sargodha Region	**4,743,134**	**4,136,017**	**4,645,875**	**4,707,838**	**4,103,461**	**4,503,982**
Upper Jhelum	642,447	603,749	691,704	642,447	603,749	677,542
Lower Jhelum	1,638,228	1,518,401	1,875,491	1,638,228	1,518,401	1,821,919
Thal	2,384,728	1,944,722	2,070,476	2,349,432	1,912,166	1,996,155
Tubewells (SCARP)	77,731	69,145	8,204	77,731	69,145	8,366
Multan Region	**6,208,025**	**5,641,584**	**8,232,681**	**6,210,578**	**5,644,100**	**8,864,735**
L.B.D.C.	1,830,683	1,670,669	2,584,195	1,830,683	1,670,669	2,643,047
Haveli	1,167,349	1,046,972	859,971	1,167,349	1,046,972	1,348,125
Mailsi	751,065	699,980	1,140,212	753,618	702,496	1,172,738
Pakpattan (P)	1,027,239	926,751	1,542,120	1,027,239	926,751	1,561,988
Pakpattan (NP)	1,431,689	1,297,212	2,106,183	1,431,689	1,297,212	2,138,837
Bahawalpur Region	**4,444,369**	**3,913,040**	**4,568,806**	**4,445,452**	**3,881,919**	**5,351,100**
Fordwah	464,341	428,488	507,120	464,341	429,348	508,521
East Sadiqia	1,177,307	1,049,542	1,353,756	1,178,390	1,018,351	1,372,963
Abbasia (P.N.P.)	311,977	250,699	251,317	311,977	251,049	253,674
Bahawal	912,645	754,294	1,124,413	912,645	753,154	1124413 *
Qaim	45,128	41,571	63,256	45,128	41,571	70,149
Panjnad	1,532,971	1,388,446	1,268,944	1532971 *	1388446 *	2,021,380
D.G.Khan Region	2,281,446	2,111,609	2,240,891	2,281,446	2,111,609	2,255,993
D.G.Khan	**957,231**	**931,081**	**950,179**	**957231 ***	**931081 ***	**952,444**
Muzaffargarh	966,175	834,998	862,743	966,175	834,998	672,817
Rang Pur	358,040	345,530	427,969	358,040	345,530	630,732
Rang Pur	458,040	345,528	267,972	358,040	345,528	119,866

a) Data for 1998/99 repeated.

**) Data for 1999/00 repeated*

Source:- Irrigation and Power Department, Government of the Pujab, Lahore. One Canal Mile = 5000 Feet.

Table 2.9: Canal Withdrawals

(Million Acre Feet)

Year (April-March)	All Canals (Punjab)	Five Linked Canals	M.R. Link (Inter-nal)	Haveli Canals	Panj-nad Canals	Central Bari Doab Canal	Sutlej Valley Canals	Thal Canals	Taunsa Canals	C.R.B.C
					Kharif					
1991/92	**34.9**	10.9	0.1	2.2	3.6	0.9	10.2	2.5	4.5	-
1992/93	**31.3**	10.4	0.2	2.1	3.5	0.9	7.5	2.5	4.3	-
1993/94	**34.9**	10.8	0.5	2.0	3.7	0.8	9.7	2.7	4.8	-
1994/95	**32.6**	10.5	0.3	2.0	3.4	0.7	9.3	2.7	3.8	-
1995/96	**31.1**	10.4	0.2	1.8	3.2	0.7	8.4	2.7	3.8	-
1996/97	**35.1**	10.8	0.4	2.2	3.7	0.8	9.9	2.7	4.7	-
1997/98	**32.8**	10.5	0.2	2.2	3.5	0.6	8.0	2.7	5.1	-
1998/99	**36.4**	11.3	0.7	2.5	3.9	0.8	9.9	2.7	4.7	-
1999/00	**38.0**	12.3	0.7	2.4	3.6	0.8	10.4	2.7	5.0	-
2000/01	**32.6**	10.7	0.4	2.0	3.2	0.8	9.0	2.3	4.2	-
2001/02	**28.7**	9.3	0.3	1.8	2.9	0.7	7.8	2.1	3.8	0.1
2002/03	**33.8**	10.8	0.8	2.1	3.2	0.8	8.8	2.5	4.5	0.3
					Rabi					
1991/92	**19.3**	6.9	-	1.2	1.8	0.7	4.7	2.1	1.9	-
1992/93	**21.3**	7.3	-	1.3	2.3	0.6	5.3	2.2	2.2	-
1993/94	**18.8**	7.3	-	1.0	1.7	0.7	4.4	2.1	1.6	-
1994/95	**20.5**	7.5	0.0	1.3	1.9	0.6	5.2	2.3	1.8	-
1995/96	**21.1**	7.9	0.0	1.2	1.7	0.6	5.5	2.2	2.1	-
1996/97	**20.0**	8.0	-	1.2	1.6	0.5	4.6	2.2	1.8	-
1997/98	**18.4**	6.7	0.0	1.1	1.8	0.4	4.6	2.2	1.6	-
1998/99	**20.0**	7.7	0.3	1.3	1.8	0.6	4.8	2.1	1.4	
1999/00	**16.9**	7.1	-	1.0	1.4	0.6	3.9	1.8	1.2	-
2000/01	**12.0**	5.4	-	0.6	0.9	0.5	2.6	1.2	0.9	0.1
2001/02	**11.7**	4.5	0.4	0.6	1.0	0.5	2.9	0.9	0.8	
2002/03	**14.8**	5.8	-	0.9	1.5	0.4	3.3	1.5	1.3	0.3

Source:- *Directorate of Water Resource Management, WAPDA, Lahore.*

Table 2.10: Monthly Sales of Fertilizers by Type

(Thousand Nutrient Tons)

Month	Nitrogenous		Phosphatic		Potassic	
	2001/02	2002/03	2001/02	2002/03	2001/02	2002/03
Total	**1,525.1**	**1,572.6**	**394.2**	**453.3**	**15.6**	**16.5**
July	172.5	142.8	51.7	25.4	1.6	1.5
August	145.3	145.1	50.8	36.5	3.1	0.9
September	61.3	58.4	20.7	33.0	1.8	2.9
October	58.9	80.9	19.2	55.6	0.9	2.3
November	170.0	218.5	110.8	148.5	1.7	2.0
December	254.3	315.8	41.0	50.8	0.6	0.6
January	178.4	84.1	8.9	11.0	0.7	1.2
February	77.7	102.7	7.9	8.2	1.3	1.5
March	46.6	46.7	14.3	32.0	1.5	1.7
April	45.5	35.2	10.5	10.3	0.7	0.7
May	97.4	119.7	20.7	16.9	0.8	0.5
June	217.2	222.7	37.7	25.1	0.9	0.7

Source:-Director General Agriculture (Extension & A.R.) Punjab Lahore.

Table 2.11: Sales of Fertilizers by District,

(Thousand Nutrient Tons)

Division/District	1997/98	1998/99	1999/00	2000/01	2001/02	2002/03
The Punjab	**1,717**	**1,706**	**1,843**	**2,045**	**1,935**	**2,042**
Bahawalpur Divn.	**322**	**323**	**345**	**378**	**358**	**375**
Bahawalnagar	84	84	92	87	115	114
Bahawalpur	100	104	107	121	83	93
Rahim Yar Khan	138	135	146	170	160	168
D.G.Khan Divn.	**175**	**170**	**193**	**237**	**241**	**237**
D.G. Khan	38	35	35	57	46	48
Layyah	33	35	41	43	49	48
Muzaffargarh	65	60	70	87	88	87
Rajanpur	39	40	47	50	58	54
Faisalabad Divn.	**198**	**194**	**220**	**229**	**233**	**239**
Faisalabad	82	82	89	87	87	91
Jhang	77	71	85	94	95	99
T.T. Singh	39	41	46	48	51	49
Gujranwala Divn.	**194**	**196**	**220**	**207**	**198**	**226**
Gujranwala	54	58	65	62	56	69
Gujrat	19	17	21	18	20	22
Hafizabad	31	32	36	35	36	41
Mandi Baha-ud-Din	31	33	34	33	29	35
Narowal	21	20	26	23	26	27
Sialkot	38	36	38	36	31	32
Lahore Divn.	**222**	**229**	**263**	**299**	**276**	**300**
Lahore	28	29	26	38	40	51
Kasur	65	68	79	89	71	78
Okara	63	70	86	97	89	93
Sheikhupura	66	62	72	75	76	78
Multan Divn.	**492**	**488**	**476**	**567**	**506**	**542**
Multan	113	120	116	131	108	117
Khanewal	84	88	80	90	82	92
Lodhran	76	67	67	83	78	88
Pakpattan	60	50	64	84	67	68
Sahiwal	63	68	61	73	68	75
Vehari	96	95	88	106	103	102
Rawalpindi Divn.	**23**	**20**	**21**	**23**	**22**	**20**
Rawalpindi	10	8	9	10	9	7
Attock	9	8	8	8	8	8
Chakwal	3	2	2	2	3	4
Jhelum	1	2	2	3	2	1
Sargodha Divn.	**91**	**86**	**105**	**105**	**101**	**103**
Sargodha	48	51	60	65	58	60
Bhakkar	21	19	24	21	22	21
Khushab	8	7	8	8	9	8
Mianwali	14	9	13	11	12	14

Source:-Director General Agriculture (Extension & A.R.) Punjab Lahore.

Table 2.12: Availability and Off-Take of Fertilizers, The Punjab

(Nutrient Tons)

Item	Total	Nitrogenous	Phosphatic	Potassic
		2001/02		
1. Opening Stock As on July 1, 2001	**120,990**	**99,179**	**19,421**	**2,390**
2. Total Receipt (r)	1,934,760	1,530,998	384,182	19,580
3. Total Availability (1+2)	**2,055,750**	**1,630,177**	**403,603**	**21,970**
4. Total Off -Take	1,934,890	1,525,119	394,150	15,621
5. Closing Stock As on June 30, 2002	**120,860**	**105,058**	**9,453**	**6,349**
		2002/03		
1. **Opening Stock As on July 1, 2002**	**120,860**	**105,058**	**9,453**	**6,349**
2. Total Receipt	20,922,587	1,605,874	467,236	19,477
3. **Total Availability (1+2)**	**21,043,447**	**1,710,932**	**476,689**	**25,826**
4. Total Off-Take	2,042,428	1,572,624	453,329	16,475
5. Closing Stock As on June 30, 2003	**19,001,019**	**138,308**	**23,360**	**9,351**

Source:-Director General Agriculture (Extension & A.R.) Punjab Lahore.

Table 2.13: Prices of Various Types of Fertilizers

Effective date of price	UREA	CAN	NP	SSP (P)	SSP (G)	TSP	ZS (White)
21/03/2001	388	235	460	210	255	510	-
30/05/2001	388	235	460	210	255	510	170 a/
19/07/2001	388	245	470	210	255	510	170
05/09/2001	388	265	470	210	290	510	170
08/09/2001	388	265	520	240	290	510	170
05/12/2001	388	270	525	240	290	510	170
04/02/2002	408	270	525	230	285	510	170
11/07/2002	418	270	525	230	285	510	170
29-08-2002	411	270	525	230	285	510	170
21-11-2002	410	270	525	230	285	510	170
07/01/2003	410	270	525	235	290	510	170
11/01/2003	421	270	525	235	290	510	170
20-05-2003	411	270	525	235	290	510	170
01/06/2003	421	270	525	235	290	510	170
07/07/2003	431	275	535	245	300	510	170
22-07-2003	421	275	535	245	300	510	170
01/10/2003	421	275	535	255	310	510	170
23-10-2003	421	275	545	255	310	510	170
31-10-2003	421	275	565	255	310	510	170
13-11-2003	421	275	565	265	320	510	170
30-12-2003	421	275	575	265	320	510	170
16-01-2004	429	275	575	265	320	510	170
17-02-2004	429	280	585	270	325	510	170

a/ Production of Zinc Sulphate restarted in May 2001 and its price is (Rs. 170 per bag of 5 kg.).

Note: DAP, SOP & NPK is not available with NFC

Source:- National Fertilizer Marketing Limited, Regional Office, Lahore.

Table 2.14: Nutrient Contents Present in Various Types of Fertilizers

Name of Fertilizer	Percentage of Nutrients Present			Nutrients Present in Per Bag of 50 Kg. (in Kg.)		
	N	P2 O5	K	N	P2 O5	K
I. Nitrogenous Fertilizers						
Ammonium Sulphate (Indig.)	21.0	-	-	10.5	-	-
Ammonium Nitrate (Indig.)	26.0	-	-	13.0	-	-
Ammonium Sulphate Nitrate (Imp.)	26.0	-	-	13.0	-	-
Urea (Indig. + Imp.)	46.0	-	-	23.0	-	-
II. Phosphatic Fertilizers						
Single Super Phosphate	-	18.0	-	-	9.0	-
Triple Super Phosphate	-	46.0	-	-	23.0	-
III. Potassic Fertilizer						
Sulphate of Potash (Imp.)	-	-	50.0	-	-	25.0
IV. Compound Fertilizers						
Nitrophos (23 : 23)	23.0	23.0	-	11.5	11.5	-
Di-Ammonium Phosphate	18.0	46.0	-	9.0	23.0	-
Mono Ammonium Phosphate	11.0	48.0	-	5.5	24.0	-
NPK 10 : 20 : 20	10.0	20.0	20.0	5.0	10.0	10.0
NPK 13 : 13 : 21	13.0	13.0	21.0	6.5	6.5	10.5
NPK 20 : 13 : 13	20.0	13.0	13.0	10.0	6.5	6.5

Source:-Director General Agriculture (Extension & A.R.) Punjab Lahore.

Table 2.15: Distribution of Indigenous Improved Seeds by Crop, The Punjab

(Metric Tons)

Year	Total	Wheat	Paddy	Cotton	Maize	Gram	Potato
1991/92	**56,468**	40,746	895	13,134	746	-	947
1992/93	**54,279**	41,482	912	11,006	37	-	842
1993/94	**55,441**	43,719	963	10,000	100	-	659
1994/95	**70,634**	57,655	1,322	11,032	95	60	470
1995/96	**69,978**	59,921	819	8,540	160	32	506
1996/97	**58,848**	51,737	1,077	5,409	160	90	375
1997/98	**61,434**	54,940	1,243	4,382	7	62	800
1998/99	**70,189**	64,747	1,050	3,611	220	264	297
1999/00	**62,271**	56,911	1,336	3,557	269	122	76
2000/01	**71,955**	64,427	767	5,500	300	126	835
2001/02	**71,062**	64,157	1,559	4,256	103	87	900
2002/03	**70,285**	63,548	1,241	4,205	86	117	1,088

Source:- Director, Marketing, Punjab Seed Corporation, Lahore.

Table 2.16: Use of Plant Protection Measures on Important Crops by Size of Farm, The Punjab: 2000 Census

Size of Farm (Hectares)	Total Cropped Area (Hectares)	Area Covered by Plant Protection		Percentage of Cropped Area Covered by Plant Protection Measures								
		Hectares	% of Total Cropped Area	Wheat	Cotton	Sugar-cane	Rice	Maize	Onion	Potato	Tobacco	Orchards
All Farms	**15884694**	**3753525**	**24**	**17**	**73**	**16**	**37**	**18**	**14**	**50**	**21**	**29**
Government Farms	**14414**	**2970**	**21**	**37**	**91**	**14**	**27**	**22**	**-**	**13**	**100**	**34**
Private Farms-Total	**15870280**	**3750555**	**24**	**17**	**73**	**16**	**37**	**18**	**14**	**50**	**21**	**29**
Under 0.5	**333382**	46178	14	9	64	8	19	1	2	13	16	33
0.5 to Under 1	**759771**	142743	19	12	69	8	26	4	8	38	13	32
1 to Under 2	**1879372**	389139	21	15	70	10	30	8	10	36	9	26
2 to Under 3	**2183783**	493218	23	17	72	12	34	11	14	36	18	23
3 to Under 5	**3087382**	716517	23	17	72	13	37	15	9	46	17	22
5 to Under 10	**3365014**	865096	26	20	75	16	40	24	11	39	31	25
10 to Under 20	**2400197**	610357	25	18	76	21	42	30	26	53	18	29
20 to Under 40	**1086619**	271752	25	19	72	22	46	43	20	57	47	42
40 to Under 60	**294105**	77905	26	20	72	30	41	46	3	50	6	34
60 and above	**480655**	137650	29	20	72	24	49	60	9	79	48	39

Source:- Agricultural Census Organization, Government of Pakistan , Lahore " Pakistan Census of Agriculture - 2000

Table 2.17: Area Treated with Pesticides by Crop

(Thousand Spray Hectares)

Year	**Total**	Rice and Rice(Nursery)	Cotton	Maize	Sugarcane	Vegetables/ Orchards	Other Crops
1991/92	**6,466**	435	4,827	-	802	-	402
1992/93	**6,403**	183	5,335	-	89	-	796
1993/94	**5,517**	260	4,452	-	95	-	710
1994/95	**8,073**	229	6,975	-	91	-	778
1995/96	**5,728**	321	5,061	-	74	-	272
1996/97	**10,950**	2,032	7,621	335	604	58	300
1997/98	**12,824**	2,231	9,030	323	671	569	
1998/99	**13,544**	2,239	9,135	336	780	692	362
1999/00	**11,645**	2,414	6,988	422	672	769	380
2000/01	**14,005**	2,440	9,560	423	615	665	302
2001/02	**14,284**	2,214	10,104	345	657	631	333
2002/03	**13,006**	2,315	8,836	372	736	429	318
2003/04(targets	**13,894**	2,559	9,540	346	687	440	322

Source: *- Director General, Agriculture (Extension), Punjab, Lahore*

Table 2.18: Number of Diesel and Electric Tubewells Installed by Ownership

Year	Total			Diesel			Electric		
	Total	Private	Govt.	**Total**	Private	Govt.	**Total**	Private	Govt.
1990/91	**295,947**	285,522	10,425	**213,964**	213,815	149	**81,983**	71,707	10,276
1991/92	**309,593**	299,402	10,191	**229,569**	229,407	162	**80,024**	69,995	10,029
1992/93	**328,261**	318,609	9,652	**247,168**	247,000	168	**81,093**	71,609	9,484
1993/94	**396,459**	386,526	9,933	**316,681**	316,523	158	**79,778**	70,003	9,775
1994/95	**415,271**	406,080	9,191	**336,378**	336,239	139	**78,893**	69,841	9,052
1995/96	**435,228**	426,267	8,961	**355,671**	355,587	84	**79,557**	70,680	8,877
1996/97	**452,431**	444,309	8,122	**372,441**	372,369	72	**79,990**	71,940	8,050
1997/98	**473,667**	465,433	8,234	**395,550**	395,394	156	**78,117**	70,039	8,078
1998/99	**500,631**	492,792	7,839	**426,215**	426,149	66	**74,416**	66,643	7,773
1999/00	**543,243**	537,977	5,266	**475,027**	474,929	98	**68,216**	63,048	5,168
2000/01	**588,130**	584,172	3,958	**520,123**	519,984	139	**68,007**	64,188	3,819
2001/02	**610,750**	607,331	3,419	**547,083**	546,965	118	**63,667**	60,366	3,301

Source *:- Directorate of Agiculture Crop Reporting Service, Punjab, Lahore.*

Table 2.19: Number of Diesel and Electric Tubewells Installed by Ownership and District
The Punjab: 20001/02

Division/District	Total			Diesel			Electric		
	Total	Private	Govt.	Total	Private	Govt.	Total	Private	Govt.
The Punjab	**610,750**	**607,331**	**3,419**	**547,083**	**546,965**	**118**	**63,667**	**60,366**	**3,301**
Bahawalpur Divn.	**64,440**	**63,251**	**1,189**	**60,086**	**60,075**	**11**	**4,354**	**3,176**	**1,178**
Bahawalnagar	16,114	15,822	292	14,846	14,836	10	1,268	986	282
Bahawalpur	30,622	29,984	638	28,417	28,416	1	2,205	1,568	637
R. Y. Khan	17,704	17,445	259	16,823	16,823	-	881	622	259
D. G. Khan Divn.	**75,917**	**74,686**	**1,231**	**73,103**	**73,102**	**1**	**2,814**	**1,584**	**1,230**
D. G. Khan	10,391	10,391	-	9,881	9,881	-	510	510	-
Layyah	22,293	22,251	42	22,112	22,111	1	181	140	41
Muzaffargarh	25,564	24,375	1,189	24,216	24,216	-	1,348	159	1,189
Rajanpur	17,669	17,669	-	16,894	16,894	-	775	775	-
Faisalabad Divn.	**71,520**	**71,410**	**110**	**61,192**	**61,186**	**6**	**10,328**	**10,224**	**104**
Faisalabad	22,075	22,003	72	20,037	20,036	1	2,038	1,967	71
Jhang	38,584	38,578	6	31,724	31,719	5	6,860	6,859	1
Toba Tek Singh	10,861	10,829	32	9,431	9,431	-	1,430	1,398	32
Gujranwala Divn.	**183,851**	**183,718**	**133**	**172,700**	**172,688**	**12**	**11,151**	**11,030**	**121**
Gujranwala	47,541	47,530	11	43,306	43,306	-	4,235	4,224	11
Gujrat	15,720	15,720	-	13,851	13,851	-	1,869	1,869	-
Hafizabad	19,204	19,173	31	17,405	17,405	-	1,799	1,768	31
Mandi Baha-ud-Din	32,561	32,549	12	32,328	32,316	12	233	233	-
Narowal	29,148	29,148	-	28,996	28,996	-	152	152	-
Sialkot	39,677	39,598	79	36,814	36,814	-	2,863	2,784	79
Lahore Divn.	**75,757**	**75,503**	**254**	**60,898**	**60,877**	**21**	**14,859**	**14,626**	**233**
Lahore	5,274	5,159	115	3,527	3,527	-	1,747	1,632	115
Kasur	14,403	14,336	67	7,428	7,428	-	6,975	6,908	67
Okara	21,432	21,360	72	18,764	18,743	21	2,668	2,617	51
Sheikhupura	34,648	34,648	-	31,179	31,179	-	3,469	3,469	-
Multan Divn.	**76,830**	**76,556**	**274**	**60,576**	**60,534**	**42**	**16,254**	**16,022**	**232**
Multan	14,119	14,096	23	11,528	11,528	-	2,591	2,568	23
Khanewal	13,631	13,567	64	11,409	11,396	13	2,222	2,171	51
Lodhran	9,938	9,924	14	8,258	8,258	-	1,680	1,666	14
Pakpattan	13,262	13,205	57	9,517	9,495	22	3,745	3,710	35
Sahiwal	10,333	10,226	107	7,924	7,918	6	2,409	2,308	101
Vehari	15,547	15,538	9	11,940	11,939	1	3,607	3,599	8
Rawalpindi Divn.	**6,155**	**6,130**	**25**	**5,357**	**5,357**	-	**798**	**773**	**25**
Rawalpindi	635	626	9	426	426	-	209	200	9
Attock	252	237	15	203	203	-	49	34	15
Chakwal	1,373	1,372	1	1,117	1,117	-	256	255	1
Jhelum	3,895	3,895	-	3,611	3,611	-	284	284	-
Sargodha Divn.	**56,280**	**56,077**	**203**	**53,171**	**53,146**	**25**	**3,109**	**2,931**	**178**
Sargodha	25,726	25,726	-	25,131	25,131	-	595	595	-
Bhakkar	19,626	19,549	77	18,676	18,663	13	950	886	64
Khushab	6,583	6,492	91	6,178	6,174	4	405	318	87
Mianwali	4,345	4,310	35	3,186	3,178	8	1,159	1,132	27

Source *:- Directorate of Agiculture Crop Reporting Service, Punjab, Lahore.*

Table 2.20: Number of Private Tubewells/Lift Pumps and Area Irrigated by them by District

The Punjab : 1994 Census (March)

Division /District			Area Irrigated ('000' Hectares)					
			Kharif 1993			Rabi 1993-94		
	Tubewells (No.)	Lift Pumps (No.)	Total	Belonging to Tubewell/Lift Pump owners	Belong-ing to others	Total	Belonging to Tubewell/Lift Pump Owners	Belong-ing to Others
The Punjab	**398,860**	**7,590**	**4,609**	**3,204**	**1,405**	**5,011**	**3,485**	**1,526**
Bahawalpur Divn.	**37,171**	**573**	**654**	**389**	**265**	**743**	**425**	**318**
Bahawalnagar	10,962	177	195	121	74	201	127	74
Bahawalpur	9,588	327	169	99	70	173	102	71
R.Y.Khan	16,734	70	291	170	121	370	197	173
(Cholistan)	(113)	(1)	(1)	(1)	(*)	(1)	(1)	(*)
D.G.Khan Divn.	**46,961**	**637**	**462**	**388**	**74**	**543**	**450**	**93**
D.G.Khan	6,550	535	78	67	11	96	79	17
Layyah	16,177	1	135	106	29	155	123	32
Muzafargarh	17,225	31	164	141	23	203	171	32
Rajanpur	7,009	70	85	74	11	89	77	12
Faisalabad Divn.	**44,699**	**91**	**482**	**320**	**162**	**537**	**363**	**174**
Faisalabad	11,824	21	133	75	58	139	79	60
Jhang	25,225	68	258	194	64	299	229	70
T.T.Singh	7,650	2	91	51	40	99	55	44
Gujranwala Divn.	**122,350**	**1,106**	**692**	**601**	**91**	**751**	**650**	**101**
Gujranwala	29,827	233	220	203	17	224	207	17
Gujrat	11,929	177	65	38	27	77	45	32
Hafizabad	13,334	36	105	96	9	121	111	10
Mandi Baha-ud-Din	15,211	4	82	77	5	90	84	6
Narowal	19,002	84	69	59	10	76	65	11
Sialkot	33,047	572	151	128	23	163	138	25
Lahore Divn.	**54,334**	**307**	**702**	**553**	**149**	**721**	**573**	**148**
Lahore	3,863	95	44	38	6	47	40	7
Kasur	11,547	58	168	131	37	180	141	39
Okara	14,925	3	257	198	59	261	202	59
Sheikhupura	23,999	151	233	186	47	233	190	43

Table 2.20: Number of Private Tubewells/Lift Pumps and Area Irrigated by them by District

The Punjab : 1994 Census (March)

Division /District			Area Irrigated ('000' Hectares)					
			Kharif 1993			Rabi 1993-94		
	Tubewells (No.)	Lift Pumps (No.)	Total	Belonging to Tubewell/Lift Pump owners	Belong-ing to others	Total	Belonging to Tubewell/Lift Pump Owners	Belong-ing to Others
Multan Divn.	**63,934**	**124**	**1,357**	**762**	**595**	**1,396**	**787**	**609**
Multan	10,943	4	237	152	85	245	158	87
Khanewal	10,831	91	245	127	118	258	136	122
Lodhran	9,295	3	173	111	62	186	116	70
Pakpattan	6,383	-	117	66	51	124	71	53
Sahiwal	12,455	14	299	131	168	299	132	167
Vehari	14,027	12	286	175	111	284	174	110
Rawalpindi Divn.	**3,131**	**3,706**	**34**	**14**	**20**	**44**	**23**	**21**
Rawalpindi	244	200	1	1	(*)	1	1	(*)
Attock	143	1,300	3	2	1	8	7	1
Chakwal	294	1,172	5	4	1	6	5	1
Jhelum	2,450	1,034	25	7	18	29	10	19
Sargodha Divn.	**26,054**	**914**	**224**	**176**	**48**	**274**	**212**	**62**
Sargodha	11,351	6	98	81	17	110	93	17
Bhakkar	9,746	266	73	57	16	92	67	25
Khushab	1,758	412	10	8	2	16	13	3
Mianwali	3,199	230	43	30	13	56	39	17
(Islamabad)	**(-)**	**(130)**	**(*)**	**(*)**	**(-)**	**(*)**	**(*)**	**(-)**

** =Less than 500*

Source:- *Agricultural Census Organization Economic Affairs & Statistics Division, Government of Pakistan, Lahore.*

Table 2.21: Number of Private Tubewells by Installation Period and Division

Division	1970 to 1974	1979 or Before	1980 to Sept. 1984	1985 or Before	1986 to 1990	1991 to 1994 (Upto March)
The Punjab	**59,550**	**131,812**	**67,483**	**158,513**	**153,076**	**87,271**
Bahawalpur	5,224	10,099	6,234	12,240	15,570	9,587
D. G. Khan	5,611	8,802	5,276	13,433	21,696	11,832
Faisalabad	5,540	14,197	7,902	17,217	17,660	9,822
Gujranwala	18,745	41,865	21,430	50,449	43,491	28,410
Lahore	5,734	20,413	10,500	21,709	20,698	11,927
Multan	15,108	30,170	12,392	35,133	21,152	7,649
Rawalpindi	858	965	701	1,052	1,367	712
Sargodha	2,730	5,299	3,047	7,280	11,442	7,332
(Islamabad)	(*)	(2)	(1)	(-)	(-)	(-)

** Included in Rawalpindi Division.*

Source:- *Agricultural Census Organization Economic Affairs & Statistics Division, Government of Pakistan, Lahore.*

Table 2.22: Number of Tubewells Installed / Electrified and Pumping in SCARP Areas

The Punjab (As on 30th June)

(Number)

Place	2000		2001		2002		2003	
	Installed / Electrified	Pumping	Installed / Electrified	Pumping	Installed / Electrified	Pumping	Installed / Electrified	Pumping
Grand Total *	**6,061**	**3780(a) (r)**	**6,061**	**2,630**	**2,509**	**1,824**	**2,509**	**1,824**
SCARP-II(Chaj Doab)	**3,372**	**1968 (r)**	**3,372**	**1411 (b)**	**821**	**792**	**821**	**792**
Lallian	179	67	179	9				
Mona	138	101(r)	138	56				
Shahpur Unit-I	161	129(r)	161	86				
Khadir	234	86	234	61		(a)		
Upper Jhelum sub-Project (II-A)	920	381	920	191				
Lower Jhelum Sub-Project (II-B)	822	433	822	210				
Shahpur Unit-II	97	44	97	7				
Saline Zone Tubewell	781	687	781	751	781	752	781	752
Rasul Qadirabad Link	40	40	40	40	40	40	40	40
SCARP -III (Lower Thal)	**1,688**	**1,219**	**1,688**	**1,219**	1,688	1,032	1,688	1,032
Alipur	570	515	570	515	570	515	570	515
Kot Addu	525	517	525	517	525	517	525	517
Rangpur	593	187	593	187	593	-	593	NIL
SCARP - IV(Upper Rachna)	**1,001**	**593(r)**	**1,001**	**(c)**				
Mangtanwala	341	193 (r)	341	-		(b)		
Muridke	660	400	660	-				

* *Scarp-I Project has been closed.*

a) All the tubewells in Sweet water Zone, Mona and Shahpur Unit-I have been permanently closed under transition programme.

b) All the Tubewells of SCARP-IV have been closed Permanently as per policy of the Government.

c) All tube wells have been denotified by the Govt. of Punjab.

Source: i)For SCARP-II, Superintending Engineer, SCARP-II, Sargodha.

ii) For Mona & Shah Pur Unit-I, Project Director Mona Reclamation Experimental Project, Bhalwal.

iii) For SCARP-III,Superintending Engineer, SCARP- III, Multan.

iv) For SCARP- IV, Superintending Engineer, SCARP-IV, Lahore

Table 2.23: Pumpage Capacity and Actual Pumpage of SCARP-II Tubewells

by Crop Season and Scheme, The Punjab

(Thousand Acre Feet)

Scheme/Year	Installed Capacity (a)			Actual Pumpage (c)		
	Total	Kharif	Rabi	Total	Kharif	Rabi
			6. Rasul Qadirabad Link			
1991/92	60	30	30	17	8	9
1992/93	60	30	30	14	7	7
1993/94	60	30	30	20	11	9
1994/95	60	30	30	22	11	11
1995/96	60	30	30	18	8	10
1996/97	60	30	30	19	10	9
1997/98	60	30	30	13	8	5
1998/99	60	30	30	13	7	6
1999/00	55	30	25	14	11	3
2000/01	60	30	30	12	5	7
2001/02	59	30	29	19	9	10
2002/03	59	30	29	18	1	7
			7. Saline Zone Tubewells			
1991/92	577	290	287	201	110	91
1992/93	566	284	282	146	74	72
1993/94	574	290	284	152	87	65
1994/95	570	285	285	131	65	66
1995/96	570	285	285	135	62	73
1996/97	576	286	290	136	69	67
1997/98	577	288	289	126	64	62
1998/99	571	289	282	132	70	62
1999/00	548	277	271	141	67	74
2000/01	544	268	276	120	61	59
2001/02	579	284	295	126	61	65
2002/03	592	296	296	120	60	60

Note:- *All the Tubewells in Sweet Water Zone, Mona and Shahpur Unit-I have been closed permanently under transition programme.*

a) *On the basis of designed capacity and 22 working hours per tubewell per day for six months.*

b) *On the basis of existing capacity and actual working hours for six months.*

Source:- The Superintending Engineer,SCARP-II Circle, Irrigation & Power, Government of the Punjab, Sargodha.

ii) For Mona Project:- Project Director Mona Reclamation Experimental Project WAPDA, BHALWAL.

Table 2.24: Pumpage Capacity and Actual Pumpage of SCARP-III Tubewells

by Crop Season and Scheme, The Punjab

(Thousand Acre Feet)

Year	Installed Capacity (a)			Actual Pumpage (b)		
	Total	Kharif	Rabi	**Total**	Kharif	Rabi
			SCARP-III (Lower Thal)			
1991/92	**3,824**	1,912	1,912	**645**	247	398
1992/93	**3,812**	1,912	1,900	**637**	262	375
1993/94	**3,812**	1,912	1,900	**597**	206	391
1994/95	**3,812**	1,912	1,900	**717**	265	452
1995/96	**3,824**	1,912	1,912	**778**	342	436
1996/97	**3,812**	1,912	1,900	**668**	284	384
1997/98	**3,812**	1,912	1,900	**569**	258	311
1998/99	**3,812**	1,912	1,900	**529**	258	271
1999/00	**3,824**	1,912	1,912	**555**	209	346
2000/01	**3,812**	1,912	1,900	**607**	308	299
2001/02	**3,812**	1,912	1,900	**636**	259	377
2002/03	**3,812**	1,912	1,900	**661**	320	341
			Kot Addu			
1991/92	**1,226**	613	613	**278**	104	174
1992/93	**1,222**	613	609	**315**	124	191
1993/94	**1,222**	613	609	**286**	98	188
1994/95	**1,222**	613	609	**334**	123	211
1995/96	**1,226**	613	613	**348**	151	197
1996/97	**1,222**	613	609	**304**	117	187
1997/98	**1,222**	613	609	**262**	123	139
1998/99	**1,222**	613	609	**243**	113	130
1999/00	**1,226**	613	613	**309**	107	202
2000/01	**1,222**	613	609	**411**	199	212
2001/02	**1,222**	613	609	**460**	185	275
2002/03	**1,222**	613	609	**447**	215	232
			Ali Pur			
1991/92	**1,228**	614	614	**121**	30	91
1992/93	**1,224**	614	610	**132**	53	79
1993/94	**1,224**	614	610	**119**	33	86

Table 2.24: Pumpage Capacity and Actual Pumpage of SCARP-III Tubewells

by Crop Season and Scheme, The Punjab

(Thousand Acre Feet)

Year	Installed Capacity (a)			Actual Pumpage (b)		
	Total	Kharif	Rabi	**Total**	Kharif	Rabi
1994/95	**1,224**	614	610	**151**	48	103
1995/96	**1,228**	614	614	**143**	60	83
1996/97	**1,224**	614	610	**126**	49	77
1997/98	**1,224**	614	610	**129**	54	75
1998/99	**1,224**	614	610	**114**	55	59
1999/00	**1,228**	614	614	**104**	33	71
2000/01	**1,224**	614	610	**154**	67	87
2001/02	**1,224**	614	610	**176**	74	102
2002/03	**1,224**	614	610	**214**	105	109
			Rangpur			
1991/92	**1,370**	685	685	**246**	113	133
1992/93	**1,366**	685	681	**190**	85	105
1993/94	**1,366**	685	681	**192**	75	117
1994/95	**1,366**	685	681	**232**	94	138
1995/96	**1,370**	685	685	**287**	131	156
1996/97	**1,366**	685	681	**238**	118	120
1997/98	**1,366**	685	681	**178**	81	97
1998/99	**1,366**	685	681	**172**	90	82
1999/00	**1,370**	685	685	**142**	69	73
2000/01	**1,366**	685	681	**42**	42	-
2001/02	**1,366**	685	681	*	*	*
2002/03	**1,366**	685	681	-	-	-

* *Tubwells closed under Transition Programme*

(a) On the basis of designed capacity and 20 working hours per Tubewell per day for six months.

b) On the basis of existing capacity and actual working hours for six months.

Source:- *Superintending Engineer, SCARP-III, Irrigation and Power Department, Government of the Punjab, Multan.*

Table 2.25: Number of Tractors by Ownership and Division, The Punjab

Division	1984 Census (Sept.)			1994 Census (March)		
	Total	Private	Government	Total	Private	Government
The Punjab	**127,589**	**126,968**	**621**	**210,628**	**210,019**	**609**
Bahawalpur	17,699	17,610	89	34,127	34,081	46
D. G. Khan	7,768	7,753	15	16,317	16,244	73
Faisalabad	15,906	15,903	3	26,098	26,037	61
Gujranwala	19,395	19,305	90	29,980	29,931	49
Lahore	20,420	20,367	53	30,782	30,693	89
Multan	28,339	28,215	124	43,910	43,800	110
Rawalpindi	7,044	6,939	105	12,061	11,986	75
Sargodha	10,794	10,652	142	16,899	16,793	106
(Islamabad)	(224)	(224)	(-)	(454)	(454)	(-)

Source:- *Agricultural Census Organization, Economic Affairs & Statistics Division, Government of Pakistan, Lahore.*

Table 2.26: Number of Private Tractors by Purchase Periods and Division, The Punjab

Division	1970-74	1979 Or Before	1980-84(Upto Sept.)	1985 or Before	1986-90	1991-94 (Up to March)
The Punjab	**14,953**	**38,132**	**88,836**	**59,138**	**77,324**	**73,475**
Bahawalpur	1,837	5,467	12,143	8,462	12,374	13,264
D. G. Khan	706	2,053	5,700	3,579	6,778	5,893
Faisalabad	1,954	5,138	10,765	8,182	9,428	8,381
Gujranwala	2,448	5,640	13,665	8,006	10,412	11,517
Lahore	2,221	7,417	12,950	9,097	11,432	10,164
Multan	3,921	7,904	20,311	13,489	17,357	12,953
Rawalpindi	371	1,205	5,734	2,913	3,659	5,347
Sargodha	1,495	3,261	7,391	5,232	5,726	5,837
(Islamabad)	(*)	(47)	(177)	(178)	(1,580)	(119)

** Included in Rawalpindi Division.*

Source:- *Agricultural Census Organization, Economic Affairs & Statistics Division, Government of Pakistan, Lahore.*

Table 2.27: Number of Private Tractor Owners, Tractors and Period of work by District

The Punjab

District	1984 Census (Sept.)				1994 Census (March)			
	Number of owners	Number of Tractors	Average Use of Tractor Time Days / Year	Hours / Day	Number of owners	Number of Tractors	Average Use of Tractor Time Days / Year	Hours / Day
The Punjab	**123,867**	**126,968**	**149**	**6**	**206,738**	**209,921**	**198**	**6**
Bahawalpur Divn.	**17,114**	**17,610**	**137**	**6**	**33,511**	**34,104**	**193**	**6**
Bahawalnagar	4,774	4,858	156	5	10,334	10,428	197	5
Bahawalpur	4,749	4,872	125	6	9,808	9,946	195	6
R.Y. Khan	7,543	7,832	133	6	13,177	13,535	189	6
(Cholistan)	(48)	(48)	(150)	(6)	(192)	(195)	(133)	(5)
D.G. Khan Divn.	**7,504**	**7,753**	**141**	**7**	**15,956**	**16,244**	**195**	**7**
D.G. Khan	1,432	1,480	147	7	2,771	2,881	184	7
Layyah	1,748	1,779	108	6	3,716	3,746	206	6
Muzaffargarh	3,072	3,189	152	7	6,916	6,998	190	7
Rajanpur	1,252	1,305	155	6	2,553	2,619	206	8
Faisalabad Divn.	**15,591**	**15,903**	**169**	**5**	**25,703**	**25,987**	**208**	**6**
Faisalabad	6,435	6,562	168	5	10,389	10,545	204	5
Jhang	4,653	4,765	173	5	7,986	8,084	213	6
T.T. Singh	4,503	4,576	167	5	7,328	7,358	207	5
Gujranwala Divn.	**19,102**	**19,305**	**133**	**6**	**29,509**	**29,931**	**183**	**6**
Gujranwala	7,368	7,445	138	7	8,241	8,426	184	7
Gujrat	5,550	5,576	147	6	4,338	4,369	197	6
Hafizabad		(Included in Gujranwala Distt.)			2,878	2,933	192	7
Mandi Baha-ud-Din		(Included in Gujrat Distt.)			3,849	3,874	188	5
Narowal		(Included in Sialkot Distt.)			2,710	2,757	173	6
Sialkot	6,184	6,284	116	7	7,493	7,572	169	6
Lahore Divn.	**19,812**	**20,367**	**163**	**6**	**30,214**	**30,692**	**212**	**6**
Kasur	5,167	5,280	171	6	8,151	8,298	215	6
Lahore	3,282	3,327	171	6	4,486	4,561	213	6
Okara	5,361	5,627	165	6	7,518	7,674	220	6
Sheikhupura	6,002	6,133	150	7	10,059	10,159	204	6
Multan Divn.	**27,156**	**28,215**	**151**	**6**	**43,025**	**43,800**	**194**	**6**
Khanewal		(Included in Multan Distt.)			6,902	7,020	190	7
Lodhran		(Included in Multan Distt.)			5,974	6,057	175	6
Multan	12,114	12,625	156	6	5,826	5,995	207	7
Pakpattan		(Included in Sahiwal Distt.)			3,169	3,243	203	6
Sahiwal	9,090	9,319	150	6	11,015	11,099	192	5
Vehari	5,952	6,271	141	7	10,139	10,386	199	7
Rawalpindi Divn.	**6,872**	**6,939**	**123**	**5**	**11,768**	**11,916**	**190**	**5**
Attock	2,528	2,558	126	5	3,411	3,494	199	5
Chakwal		(Included in Attock & Jhelum Distt.)			3,541	3,566	186	4
Jhelum	2,297	2,323	132	5	1,789	1,804	191	5
Rawalpindi	2,047	2,058	108	5	3,027	3,052	182	5
Sargodha Divn.	**10,501**	**10,652**	**155**	**6**	**16,598**	**16,793**	**210**	**6**
Bhakkar	1,914	1,920	141	5	4,123	4,133	222	6
Khushab	1,546	1,556	155	6	2,693	2,747	201	5
Mianwali	1,217	1,259	160	6	1,955	2,003	218	6
Sargodha	5,824	5,917	159	6	7,827	7,910	205	6
(Islamabad)	**(215)**	**(224)**	**(133)**	**(5)**	**(454)**	**(454)**	**(211)**	**(5)**

Source:- Agricultural Census Organization, Economic Affairs & Statistics Division, Government of Pakistan, Lahore.

Table 2.28: Number of Private Tractors and Area Covered by them by Division During Last 12 Months, The Punjab

Division	1984 Census (Sept.)				1994 Census (March)			
	Tractors	Area Covered (`000' Hectares)			Tractors	Area Covered (`000' Hectares)		
	(No.)	Total	Belonging to Tractor Owners	Belonging to Others	(No.)	Total	Belonging to Tractor Owners	Belonging to Others
The Punjab	**126,968**	**3,957**	**2,423**	**1,534**	**209,921**	**7,456**	**3,122**	**4,334**
Bahawalpur	17,610	511	344	167	34,104	1,098	547	551
D. G. Khan	7,753	323	208	115	16,244	1,086	385	701
Faisalabad	15,903	471	246	225	25,987	814	280	534
Gujranwala	19,305	433	244	189	29,931	707	313	394
Lahore	20,367	553	382	171	30,692	1,036	480	556
Multan	28,215	916	629	287	43,800	1,590	671	919
Rawalpindi	6,939	268	81	187	11,916	477	153	324
Sargodha	10,652	474	288	186	16,793	610	290	320
(Islamabad)	-224	-8	-1	-7	-454	-38	-3	-35

Source:- Agricutural Census Organization,Economic Affairs & Statistics Division, Government of Pakistan, Lahore,

Table 2.29: Number of Tractors (Private & Government) by Make and District

The Punjab: 1994 -Census (March)

Division/ District	Total	Massey Ferguson	Ford	Fiat	IMT	Intern-ational	Byelarus	Others
The Punjab	**210,628**	**97,489**	**21,618**	**80,001**	**2,449**	**265**	**7,954**	**852**
Bahawalpur Divn.	**34,127**	**15,830**	**3,292**	**13,491**	**240**	**21**	**1,079**	174
Bahawalnagar	10,439	6,606	541	2,336	106	11	780	59
Bahawalpur	9,985	3,460	782	5,433	73	7	152	78
R.Y. Khan	13,508	5,701	1,962	5,604	59	3	142	37
(Cholistan)	(195)	(63)	(7)	(118)	(2)	(-)	(5)	(-)
D.G. Khan Divn.	**16,317**	**6,025**	**860**	**7,846**	**112**	**85**	**1,326**	**63**
D.G. Khan	2,895	1,165	222	1,103	12	3	389	1
Layyah	3,769	1,431	219	1,167	57	78	789	28
Muzaffargarh	7,027	2,506	357	4,017	39	4	70	34
Rajanpur	2,626	923	62	1,559	4	-	78	-
Faisalabad Divn.	**26,098**	**12,679**	**4,943**	**7,615**	**291**	**16**	**505**	**49**
Faisalabad	10,617	3,647	2,271	4,223	93	7	349	27
Jhang	8,111	3,053	2,418	2,464	59	3	107	7
T.T. Singh	7,370	5,979	254	928	139	6	49	15
Gujranwala Divn.	**29,980**	**18,604**	**2,912**	**6,861**	**607**	**61**	**775**	**160**
Gujranwala	8,432	6,738	797	527	263	6	68	33
Gujrat	4,389	1,342	138	2,699	72	8	105	25
Hafizabad	2,945	1,141	1,175	472	60	3	84	10
Mandi Baha-ud-Din	3,884	1,232	204	1,910	30	10	469	29
Narowal	2,758	1,776	229	616	61	30	18	28
Sialkot	7,572	6,375	369	637	121	4	31	35
Lahore Divn.	**30,782**	**19,471**	**3,121**	**6,368**	**627**	**37**	**996**	**162**
Kasur	8,309	5,942	617	1,204	219	8	249	70
Lahore	4,586	4,005	266	211	59	6	15	24
Okara	7,710	3,231	1,369	2,355	105	6	621	23
Sheikhupura	10,177	6,293	869	2,598	244	17	111	45
Multan Divn.	**43,910**	**18,429**	**2,986**	**20,858**	**389**	**14**	**1,209**	**25**
Khanewal	7,081	2,609	305	4,085	27	6	38	11
Lodhran	6,061	888	94	5,039	9	-	29	2
Multan	5,997	2,259	184	3,535	7	1	11	-
Pakpattan	3,248	1,876	290	543	85	2	449	3
Sahiwal	11,129	7,490	988	2,170	158	2	314	7
Vehari	10,394	3,307	1,125	5,486	103	3	368	2
Rawalpindi Divn.	**12,061**	**2,405**	**421**	**8,478**	**53**	**14**	**519**	**171**
Attock	3,540	643	46	2,710	8	4	99	30
Chakwal	3,592	526	160	2,534	35	3	245	89
Jhelum	1,865	430	178	1,156	5	4	70	22
Rawalpindi	3,064	806	37	2,078	5	3	105	30
Sargodha Divn.	**16,899**	**3,861**	**3,074**	**8,255**	**130**	**17**	**1,514**	**48**
Bhakkar	4,165	815	617	1,585	18	-	1,125	5
Khushab	2,764	786	953	968	18	3	20	16
Mianwali	2,028	444	264	1,281	6	1	19	13
Sargodha	7,942	1,816	1,240	4,421	88	13	350	14
(Islamabad)	**(454)**	**(185)**	**(9)**	**(229)**	**(-)**	**(-)**	**(31)**	**(-)**

Source:- Agricutural Census Organization,Economic Affairs & Statistics Division, Government of Pakistan, Lahore,

Table 2.30- Number of Tractors by Make and District

The Punjab: 2001-02

District	Total	Fiat (640)	Fiat (480)	Massey Ferguson	Inter-National	Bye- Larus	Ford 4000/ 4600	Ford 3000/ 3600	Others
The Punjab	**288,053**	**29,689**	**80,992**	**126,328**	**1,092**	**12,321**	**13,290**	**13,682**	**10,660**
Bahawalpur Divn.	**47,663**	**5,597**	**13,519**	**20,963**	**96**	**1,745**	**1,834**	**1,749**	**2,160**
Bahawalpur	14,928	2,363	5,888	4,553	62	320	513	550	679
Bahawalnagar	18,178	2,486	5,163	7,582	7	151	992	886	911
R. Y. Khan	14,557	748	2,468	8,828	27	1,274	329	313	570
D.G. Khan Divn.	**25,024**	**3,651**	**8,319**	**9,193**	**207**	**1,652**	**614**	**684**	**704**
D. G. Khan	3,158	298	893	1,243	4	489	100	79	52
Layyah	5,004	523	1,095	2,085	113	801	168	136	83
Muzaffargarh	10,042	1,741	3,855	3,396	20	155	226	227	422
Rajanpur	6,820	1,089	2,476	2,469	70	207	120	242	147
Faisalabad Divn.	**35,572**	**2,949**	**7,835**	**15,784**	**226**	**947**	**3,389**	**3,444**	**998**
Faisalabad	14,707	1,741	4,412	4,544	89	661	1,590	1,227	443
Jhang	12,126	1,016	2,548	4,106	68	217	1,697	2,113	361
Toba Tek Singh	8,739	192	875	7,134	69	69	102	104	194
Gujranwala Divn.	**41,027**	**2,440**	**6,827**	**25,561**	**160**	**1,499**	**1,502**	**1,607**	**1,432**
Gujranwala	11,849	287	465	9,430	23	186	441	333	684
Gujrat	5,417	819	2,666	1,567	32	118	64	42	109
Hafizabad	4,277	253	362	1,895	15	278	614	765	96
Mandi Baha-ud-Din	5,665	775	1,945	1,815	40	810	111	89	80
Narowal	4,701	133	714	3,469	24	18	64	104	175
Sialkot	9,118	173	675	7,385	26	89	208	274	288
Lahore Divn.	**37,084**	**2,487**	**4,986**	**22,408**	**170**	**1,795**	**1,671**	**1,887**	**1,680**
Lahore	4,643	18	160	4,181	5	17	136	59	67
Kasur	10,920	671	777	7,321	3	549	457	487	655
Okara	9,621	1,022	1,689	3,953	83	1,069	542	745	518
Sheikhupura	11,900	776	2,360	6,953	79	160	536	596	440
Multan Divn.	**57,591**	**5,799**	**20,538**	**22,753**	**75**	**1,808**	**1,683**	**2,374**	**2,561**
Multan	8,465	1,155	3,511	3,307	7	36	137	168	144
Khanewal	8,887	975	4,387	2,906	11	79	108	136	285
Lodhran	7,204	1,418	4,127	1,102	3	94	121	151	188
Pakpattan	8,774	524	1,340	4,401	11	1,035	363	436	664
Sahiwal	10,725	330	1,611	6,962	37	119	383	604	679
Vehari	13,536	1,397	5,562	4,075	6	445	571	879	601
Rawalpindi Divn.	**16,229**	**1,494**	**10,175**	**3,049**	**61**	**524**	**288**	**209**	**429**
Rawalpindi	3,947	209	2,287	1,090	17	185	53	47	59
Attock	4,611	683	2,807	802	12	120	53	32	102
Chakwal	5,267	360	3,680	683	18	129	119	52	226
Jhelum	2,404	242	1,401	474	14	90	63	78	42
Sargodha Divn.	**27,863**	**5,272**	**8,793**	**6,617**	**97**	**2,351**	**2,309**	**1,728**	**696**
Sargodha	12,442	1,767	5,181	2,838	64	697	701	652	542
Bhakkar	7,064	1,323	1,416	1,829	26	1,614	484	323	49
Khushab	3,998	746	953	874	2	8	740	624	51
Mianwali	4,359	1,436	1,243	1,076	5	32	384	129	54

Source:-Director of Agriculture Crop Reporting Service, Punjab, Lahore

Table 2.31: Number of Threshers and Harvesters by District

District	Threshers		Self Propelled Combine Harvesters		Tractor Drawn Combine Harvesters		Tractor Mounted Reapers/Harvesters		Cutter Binders	
	2000-01	2001-02	2000-01	2001-02	2000-01	2001-02	2000-01	2001-02	2000-01	2001-02
The Punjab	**119,062**	**120,188**	**1,467**	**1,660**	**721**	**676**	**13,077**	**12,955**	**394**	**425**
Bahawalpur Div	**17,251**	**17,430**	**34**	**38**	**53**	**18**	**2,939**	**3,016**	**25**	**16**
Bahawalpur	5,505	5,630	9	8	-	-	1,302	866	-	-
Bahawalnagar	6,122	6,078	12	14	42	11	573	1,311	10	16
R. Y. Khan	5,624	5,722	13	16	11	7	1,064	839	15	-
D. G. Khan	**11,209**	**9,569**	**9**	**15**	**5**	**7**	**336**	**470**	**72**	**100**
D. G. Khan	1,404	1,394	-	5	-	-	10	28	-	-
Layyah	2,656	2,831	5	6	-	-	33	128	-	-
Muzaffargarh	4,089	2,775	4	4	5	7	129	120	8	-
Rajanpur	3,060	2,569	-	-	-	-	164	194	64	100
Faisalabad Div	**14,650**	**13,737**	**39**	**49**	**100**	**104**	**290**	**259**	**26**	**17**
Faisalabad	5,953	6,002	2	8	21	15	16	84	2	2
Jhang	4,922	4,010	32	38	72	7	182	83	5	15
Toba Tek Singh	3,775	3,725	5	3	7	82	92	92	19	-
Gujranwala Div	**17,700**	**18,200**	**902**	**1,084**	**210**	**189**	**4,961**	**4,791**	**31**	**42**
Gujranwala	4,042	4,028	641	684	189	177	1,456	1,430	2	3
Gujrat	2,458	2,589	-	12	7	4	430	179	29	38
Hafizabad	1,723	1,618	154	260	9	3	920	1,013	-	-
Mandi Baha-ud-Din	2,131	2,317	7	17	5	5	482	528	-	-
Narowal	2,661	2,943	22	33	-	-	324	288	-	1
Sialkot	4,685	4,705	78	78	-	-	1,349	1,353	-	-
Lahore Div	**14,351**	**16,242**	**373**	**396**	**272**	**248**	**2,026**	**1,266**	**36**	**36**
Lahore	1,827	1,501	45	40	33	4	192	206	-	-
Kasur	4,437	5,760	7	8	207	216	140	151	34	34
Okara	4,194	4,023	70	72	32	28	141	116	2	2
Sheikhupura	3,893	4,958	251	276	-	-	1,553	793	-	-
Multan Div	**27,472**	**28,066**	**74**	**65**	**54**	**87**	**1,221**	**1,452**	**35**	**26**
Multan	4,059	4,131	-	1	9	43	5	-	-	4
Khanewal	5,086	5,335	11	7	20	20	40	45	-	-
Lodhran	3,665	3,697	-	-	2	2	73	73	4	6
Pakpattan	3,818	3,919	19	15	6	6	171	298	-	-
Sahiwal	4,717	4,671	4	7	-	-	142	146	19	-
Vehari	6,127	6,313	40	35	17	16	790	890	12	16
Rawalpindi Div	**5,824**	**5,639**	**4**	**4**	**22**	**6**	**742**	**785**	**120**	**104**
Rawalpindi	1,745	1,750	2	1	3	2	207	199	24	27
Attock	1,713	1,430	1	1	19	4	250	263	96	77
Chakwal	1,617	1,746	1	2	-	-	273	309	-	-
Jhelum	749	713	-	-	-	-	12	14	-	-
Sargodha Div	**10,605**	**11,305**	**32**	**9**	**5**	**17**	**562**	**916**	**49**	**84**
Sargodha	5,296	5,533	6	5	4	5	108	131	40	62
Bhakkar	2,791	2,916	11	2	-	-	141	187	-	-
Khushab	1,260	1,213	-	-	1	1	12	5	4	4
Mianwali	1,258	1,643	15	2	-	11	301	593	5	18

Source:- Same as for Table2.30.

Table 2.32: Number of Tractors Imported in Pakistan

Year	During the Year	Cumulative Number
1991/92	10,077	372463 *
1992/93	16,628	389,091
1993/94	11,656	400,747
1994/95	32,373	433,120
1995/96	26,791	459,911
1996/97	10,748	470,659
1997/98	11,252	481,911
1998/99	23,336	505,247
1999/00	21,613	526,860
2000/01	26,070	552,930
2001/02	15,541	568,471
2002/03	1,527	569,998

* *Including 389091 Tractors imported upto 1992-93*

Source:- Federal Bureau of Statistics, Statistics Division, Karachi.

Table 2.33: Agricultural Loans Disbursed by Type by Zarai Taraqiati Bank Limited in The Punjab

(Million Rupees)

Year	Total Loans	Long Term	Medium Term	Short Term
1	2=(3+4+5)	3	4	5
1991/92	**4,982**	2,389	440	2,153
1992/93	**6,378**	3,902	345	2,131
1993/94	**6,282**	4,055	795	1,432
1994/95	**10,015**	4,142	706	5,167
1995/96	**8,144**	3,070	298	4,776
1996/97	**8,648**	3,283	1,010	4,355
1997/98	**16,877**	4,748	1,251	10,878
1998/99	**22,176**	4,620	530	17,026
1999/00	**17,690**	5,925	474	11,291
2000/01	**19,590**	5,879	567	13,144
2001/02	**21,123**	4,483	609	16,031
2002/03	**22,490**	3,695	846	17,949

Source:- Zarai Taraqiati Bank Limited, Islamabad.

Table 2.34: Number of Loanees and Loans Advanced According to Size of Holdings

Year	Total Loanees	Landless Loanees	Category of Owners by Size of Holdings			
			Up to 5.06 Hectares	Over 5.06 to 20.24 Hectares	Over 20.24 to 40.48 Hectares	Over 40.48 Hectares
I.	**Number of Loanees**					
1991/92	**62,644**	41	28,070	27,338	4,611	2,584
1992/93	**142,178**	3,235	70,592	34,418	13,152	20,781
1993/94	**68,989**	15,628	12,048	17,004	7,246	17,063
1994/95	**123,428**	11,885	62,660	42,743	4,203	1,937
1995/96	**101,990**	6,486	55,908	34,848	3,398	1,350
1996/97	**96,071**	4,969	52,699	33,890	3,168	1,345
1997/98	**263,754**	7,302	171,119	73,599	10,367	1,367
1998/99	**368,167**	5,978	256,940	89,264	10,434	5,551
1999/00	**303,977**	2,202	224,033	66,213	7,863	3,666
2000/01	**345,148**	2,648	262,419	70,279	7,008	2,794
2001/02	**359,819**	530	280,300	69,182	7,410	2,397
2002/03	**371,485**	358	293,963	66,654	7,167	3,343
II.	**Loans Advanced (Thousand Rupees)**					
1991/92	**4,981,649**	1,998	1,188,574	2,298,446	546,211	946,420
1992/93	**6,377,967**	22,352	961,815	2,885,971	894,160	1,613,669
1993/94	**6,282,415**	1,614,815	568,637	1,755,396	690,881	1,652,686
1994/95	**10,014,794**	1,720,702	2,938,196	4,264,235	520,770	570,891
1995/96	**8,143,541**	822,170	3,126,670	3,510,619	468,651	215,431
1996/97	**8,648,445**	726,234	3,116,238	4,053,485	505,510	246,978
1997/98	**16,877,485**	1,772,213	6,788,313	6,885,822	1,212,140	218,997
1998/99	**22,176,217**	530,523	11,565,139	8,313,391	1,133,405	633,759
1999/00	**17,690,123**	130,483	10,445,720	5,969,295	750,449	394,176
2000/01	**19,589,739**	141,845	12,226,254	6,309,562	645,075	267,003
2001/02	**21,123,320**	9,767	13,613,772	6,301,457	733,038	465,286
2002/03	**22,489,997**	10,190	14,692,599	6,734,736	711,585	340,887

Source:- Zarai Taraqiati Bank Limited, Islamabad.

Table 2.35: Loans Disbursed by Purpose by Zarai Taraqiati Bank Limited in The Punjab

(Thousand Rupees)

Purpose	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03
Total	**16,877,485**	**22,176,217**	**17,690,123**	**19,589,739**	**21,123,320**	**22,489,997**
1 Seed/Seedlings	1,984,311	3,249,814	2,572,103	3,055,336	3,710,723	5,325,464
2 Fertilizers	5,615,534	8,834,399	6,003,455	7,193,117	8,423,089	8,309,782
3 Tractors, Power Tillers and Attachments	4,251,960	3,771,980	5,438,559	5,235,029	3,577,175	2,751,290
4 Tubewells, Power Pumps and Engines	490,690	696,164	402,072	623,734	605,946	488,910
5 Poultry, Dairy, Farming and Animal Husbandry	1,204,911	513,342	452,686	568,056	595,605	811,045
6 Inland and Marine Fisheries	1,839	1,927	1,729	439	527	992
7 Cold Storage/Godown	350	30	-	-	120,981	207,418
8 Others	3,327,890	5,108,561	2,819,519	2,914,028	4,089,274	4,595,096

Source:- Zarai Taraqiati Bank Limited, Islamabad.

Table 2.36: Loans Advanced to Farmers by Commercial Banks in the Punjab

(Million Rupees)

Year	Amount
1991/92	2,010
1992/93	2,502
1993/94	2,010
1994/95	1,968
1995/96	2,156
1996/97	1,792
1997/98	3,144
1998/99	4,249
1999/00	6,021
2000/01	7,421
2001/02	11,390
2002/03	15,244

Source :- ***State Bank of Pakistan, Karachi.***

Table 2.37: Agricultural Co-operative Societies, their Membership & Loans Advanced/Recovered by Provincial Co-operative Bank, The Punjab

(Million Rupees)

Year	Societies (Number)	Membership('000')	Loans Advanced		Loans Recovered	
			Societies	Individuals	Societies	Individuals
1991/92	34,976	2,396	1,905	2,285	1,590	2,145
1992/93	33,955	1,576	2,570	2,720	2,532	2,405
1993/94	33,686	1,572	2,384	2,405	1,283	1,268
1994/95	34,237	1,571	3,031	4,044	3,042	2,003
1995/96	34,539	1,609	3,989	4,884	2,739	4,367
1996/97	37,758	1,671	36,710	64	37,035	57
1997/98	37,845	1,474	36,711	20	36,392	25
1998/99	37,892	1,474	24,851	65	24,781	42
1999/00	34,726	1,454	27,294	74	25,904	58
2000/01	33,727	1,445	26,967	80	28,074	60
2001/02	34,130	1,398	26,343	168	25,342	79
2002/03	32,983	1,387	40,105	377	39,639	185

Source:- Registrar, Co-operative Societies, Punjab, Lahore.

Table 2.38: Area Sown, Irrigated and Un-Irrigated by Mode of Irrigation

(Thousand Hectares)

Year	Total Area Sown *	Un-Irrigated	Irrigated						
			Total	Canals	Wells	Tube-wells	Canal-wells	Canal Tubewells	Others
1991/92	**14,439**	**2,268**	**12,171**	4,035	111	2,201	102	5,675	47
1992/93	**14,989**	**2,429**	**12,560**	4,067	123	2,259	95	5,965	51
1993/94	**14,719**	**2,268**	**12,451**	3,971	82	2,334	80	5,945	39
1994/95	**15,068**	**2,371**	**12,697**	3,939	110	2,371	97	6,137	43
1995/96	**15,335**	**2,352**	**12,983**	3,973	124	2,427	105	6,289	65
1996/97	**15,334**	**2,380**	**12,954**	3,920	126	2,411	98	6,325	74
1997/98	**15,419**	**2,303**	**13,116**	3,854	111	2,501	122	6,463	65
1998/99	**15,314**	**2,246**	**13,068**	3,681	108	2,509	90	6,630	50
1999/00	**15,528**	**2,157**	**13,371**	3,741	115	2,627	89	6,739	60
2000/01	**15,572**	**2,006**	**13,566**	3,620	99	2,749	93	6,968	37
2001/02	**15,618**	**2,012**	**13,606**	3,518	107	2,802	155	6,983	41
2002/03	**15,475**	**2,019**	**13,456**	3,514	122	2,720	166	6,894	40

** Excluding Area Under Orchards.*

Source:- Bureau of Statistics, Punjab, Lahore.

Table 2.39: Taccavi Loans Allocated, Disbursed and Recovered

(Thousand Rupees)

Year	Amount Allocated			Amount Disbursed			Amount Recovered		
	Total	Act XIX of 1883	Act XVII of 1958	**Total**	Act XIX of 1883	Act XVII of 1958	**Total**	Act XIX of 1883	Act XVII of 1958
1991/92	**7,000**	2,000	5,000	**7,000**	2,000	5,000	**7,562**	1,697	5,865
1992/93 (a)	**72,000**	2,000	70,000	**40,843**	2,000	38,843	**4,320**	2,157	2,163
1993/94	**7,000**	2,000	5,000	**6,736**	1,861	4,875	**11,941**	2,111	9,830
1994/95	**17,000**	7,770	9,230	**13,807**	5,762	8,045	**8,700**	1,654	7,046
1995/96	**8,075**	2,450	5,625	**8,075**	2,450	5,625	**10,425**	1,425	9,000
1996/97	**6,300**	1,800	4,500	**6,300**	1,800	4,500	**6,111**	2,430	3,681
1997/98	**6,475**	1,850	4,625	**6,475**	1,850	4,625	**5,802**	2,132	3,670
1998/99	**6,475**	1,850	4,525	**6,475**	1,850	4,625	**7,937**	2,652	5,285
1999/00	**6,300**	1,850	4,450	**6,300**	1,850	4,450	**8,938**	1,547	7,391
2000/01	**6,326**	1,866	4,460	**6,326**	1,866	4,460	**3,297**	1,143	2,154
2001/02 *	**6,326**	1,866	4,460	**6,326**	1,866	4,460	3,297	1,143	2,154
2002/03	**7,300**	2,830	4,470	7,300	2,830	4,470	4,595	2,300	2,295

a) Increase is due to disbursement of Loans to the calamity effected peoples of Lodhran and Vehari district.

Previous years data repeated.

Source:- Board of Revenue, Punjab, Lahore

Table 2.40: Cropped Area by Crop, The Punjab: 2002-2003

(Thousand Hectares)

Crop	Cropped Area	% of Total
The Punjab	**15,475**	**100.0***
1 Wheat	6,097	39.4
2 Fodder	2,037	13.2
3 Cotton	2,208	14.3
4 Rice	1,512	9.8
5 Gram	860	5.6
6 Sugarcane	735	4.7
7 Maize	372	2.4
8 Bajra	332	2.1
9 Rape and Mustard	151	1.0
10 Jowar	235	1.5
11 Potato	102	0.6
12 Others	834	5.4

* Includes Islamabad .

Source: Bureau of Statistics, Punjab, Lahore.

Table 2.41: Number of Mauzas and Cropped Area by District, The Punjab: 2002-2003

District	Number of Mauzas	Cropped Area ('000' Hectares)
The Punjab	**26,113**	**15,475**
Bahawalpur Div	**3,402**	**2,127**
Bahawalpur	914	651
Bahawalnagar	1,118	705
Rahim Yar Khan	1,370	771
D.G. Khan Div	**3,072**	**1,736**
D.G. Khan	828	340
Layyah	726	433
Muzaffargarh	984	632
Rajanpur	534	331
Faisalabad Div	**2,469**	**1,892**
Faisalabad	842	653
Jhang	1,083	888
T.T. Singh	544	351
Gujranwala Div	**5,672**	**2,109**
Gujranwala	837	525
Gujrat	1,085	271
Hafizabad	422	309
Mandi Baha-ud-Din	433	319
Narowal	1,316	271
Sialkot	1,579	414
Lahore Div	**3,025**	**1,952**
Lahore	360	178
Kasur	642	471
Okara	933	573
Sheikhupura	1,090	730
Multan Div	**3,542**	**2,812**
Multan	537	462
Khanewal	679	537
Lodhran	436	418
Pakpattan	580	378
Sahiwal	531	412
Vehari	779	605
Rawalpindi Div	**2,749**	**788**
Rawalpindi	1,238	233
Attock	455	224
Chakwal	461	239
Jhelum	595	92
Sargodha Div	**1,981**	**2,031**
Sargodha	850	539
Bhakkar	557	765
Khushab	318	419
Mianwali	256	308
Islamabad	201	28

Source:- Bureau of Statistics, Punjab, Lahore.

Table2.42: Area Sown, Irrigatied and Un- Irrigated by Mode of Irrigation and District

The Punjab: 2002-03

(Thousand Hectares)

Division / District	Total Area Sown	Un-Irrigated	Irrigated						
			Total	Canals	Wells	Tube- wells	Canal- Wells	Canal-Tube wells	Others
The Punjab	**15,419**	**1,963**	**13,456**	**3,514**	**122**	**2,720**	**166**	**6,894**	**40**
Bahawalpur Div	**2,127**	**11**	**2,116**	**1,099**	**8**	**164**	**13**	**831**	**1**
Bahawalpur	651	2	649	216	6	81	6	339	1
Bahawalnagar	705	5	700	487	2	46	-	165	-
Rahim Yar Khan	771	4	767	396	-	37	7	327	-
D.G. Khan Div	**1,736**	**105**	**1,631**	**285**	**6**	**432**	**21**	**878**	**9**
D.G. Khan	340	23	317	99	2	112	11	91	2
Layyah	433	56	377	31	1	124	3	214	4
Muzaffargarh	632	17	615	80	2	101	4	428	-
Rajanpur	331	9	322	75	1	95	3	145	3
Faisalabad Div	**1,892**	**66**	**1,826**	**811**	**7**	**301**	**13**	**691**	**3**
Faisalabad	653	1	652	484	2	28	3	134	1
Jhang	888	65	823	107	5	249	10	450	2
T.T. Singh	351	-	351	220	-	24	-	107	-
Gujranwala Div	**2,109**	**286**	**1,823**	**195**	**25**	**1,046**	**31**	**524**	**2**
Gujranwala	525	5	520	130	6	340	4	40	-
Gujrat	271	137	134	31	2	80	2	19	-
Hafizabad	309	2	307	3	6	78	7	212	1
Mandi Baha-ud-Din	319	6	313	23	5	46	12	227	-
Narowal	271	102	169	4	3	145	4	13	-
Sialkot	414	34	380	4	3	357	2	13	1
Lahore Div	**1,952**	**3**	**1,949**	**421**	**19**	**205**	**45**	**1,255**	**4**
Lahore	178	-	178	93	10	40	3	32	-
Kasur	471	1	470	192	7	74	10	184	3
Okara	573	1	572	86	-	39	2	444	1
Sheikhupura	730	1	729	50	2	52	30	595	-
Multan Div	**2,812**	**8**	**2,804**	**161**	**13**	**189**	**38**	**2,394**	**9**
Multan	462	6	456	10	1	52	2	386	5
Khanewal	537	2	535	32	1	35	3	463	1
Lodhran	418	-	418	46	4	19	15	333	1
Pakpattan	378	-	378	1	3	35	1	338	-
Sahiwal	412	-	412	59	1	11	6	334	1
Vehari	605	-	605	13	3	37	11	540	1
Rawalpindi Div	**788**	**710**	**78**	**8**	**30**	**31**	**1**	**1**	**7**
Rawalpindi	233	220	13	2	7	-	1	-	3
Attock	224	196	28	3	16	7	-	-	2
Chakwal	239	228	11	2	5	2	-	1	1
Jhelum	92	66	26	1	2	22	-	-	1
Sargodha Div	**2,031**	**802**	**1,229**	**534**	**14**	**352**	**4**	**320**	**5**
Sargodha	539	1	538	213	6	47	1	271	-
Bhakkar	765	409	356	141	1	172	1	41	-
Khushab	419	300	119	83	5	24	-	4	3
Mianwali	308	92	216	97	2	109	2	4	2
Islamabad	**(28)**	**(28)**	-	-	-	-	-	-	-

Note:- Excludes an area of 460 thousand hectares under orchards and 18 thousand hectares area of Tobacco, sown under "Zaid Rabi Crop".

Source:- Bureau of Statistics, Punjab, Lahore.

Table 2.43: Area Sown-Total and Irrigated-under Important Crops

(Thousand Hectares)

Year	Wheat		Gram		Barley		Rape & Mustard	
	Total	Irrigated	Total	Irrigated	Total	Irrigated	Total	Irrigated
1994/95	5,903	5,166	845	51	39	24	142	104
1995/96	5,973	5,265	897	71	41	26	157	123
1996/97	5,840	5,084	906	99	38	24	191	155
1997/98	5,935	5,206	908	96	39	24	176	137
1998/99	5,935	5,226	887	45	36	25	175	139
1999/00	6,180	5,464	809	52	34	25	164	128
2000/01	6,256	5,626	780	53	32	25	128	104
2001/02	6,102	5,539	816	64	35	27	135	109
2002/03	6,097	5,520	860	84	40	29	151	114
	Rice		**Cotton**		**Sugarcane**		**Bajra**	
1994/95	1,339	1,321	2,243	2,219	656	653	303	154
1995/96	1,327	1,303	2,463	2,443	605	602	286	144
1996/97	1,354	1,330	2,540	2,516	604	601	279	147
1997/98	1,410	1,387	2,442	2,428	685	681	289	152
1998/99	1,493	1,470	2,283	2,270	780	776	281	152
1999/00	1,609	1,585	2,329	2,319	672	668	288	158
2000/01	1,627	1,608	2,386	2,381	616	613	303	171
2001/02	1,476	1,459	2,526	2,515	657	655	309	170
2002/03	1,512	1,501	2,208	2,198	735	733	332	185
	Jowar		**Maize**		**Tobacco**			
1994/95	252	106	345	274	18	18		
1995/96	243	110	333	265	17	17		
1996/97	245	118	324	256	18	18		
1997/98	245	123	321	252	19	19		
1998/99	240	119	336	263	20	20		
1999/00	238	124	344	268	18	18		
2000/01	238	120	353	279	18	18		
2001/02	241	125	345	270	18	18		
2002/03	235	121	372	297	18	18		

Source:- Bureau of Statistics, Punjab, Lahore.

Table 2.44: Area Sown under Major Crops by Mode of Irrigation

(Thousand Hectares)

Crop/Year	Total Area Sown	Un- Irrigated Area	Total Irrigated Area	Canals	Wells	Tubewells	Canal-Wells	Canal Tubewells	Others
1	2=3+4	3	4=5+6 to 10	5	6	7	8	9	10
WHEAT*									
1991/92	**5,669**	756	**4,913**	1,471	52	1,049	51	2,265	25
1992/93	**5,966**	796	**5,170**	1,515	55	1,095	53	2,425	27
1993/94	**5,771**	703	**5,068**	1,458	32	1,115	43	2,401	19
1994/95	**5,903**	737	**5,166**	1,447	56	1,129	48	2,466	20
1995/96	**5,973**	708	**5,265**	1,478	62	1,117	51	2,524	33
1996/97	**5,840**	756	**5,084**	1,406	49	1,081	47	2,471	30
1997/98	**5,935**	729	**5,206**	1,372	44	1,154	49	2,562	25
1998/99	**5,935**	709	**5,226**	1,336	55	1,147	41	2,623	24
1999/00	**6,180**	716	**5,464**	1,379	58	1,261	38	2,704	24
2000/01	**6,256**	630	**5,626**	1,364	44	1,336	48	2,816	18
2001/02	**6,102**	563	**5,539**	1,300	37	1,326	49	2,809	18
2002/03	**6,097**	577	**5,520**	1,333	48	1,261	58	2,800	20
RICE									
1991/92	**1,231**	17	**1,214**	280	7	367	15	543	2
1992/93	**1,222**	20	**1,202**	265	10	366	11	549	1
1993/94	**1,301**	19	**1,282**	281	9	384	11	595	2
1994/95	**1,339**	18	**1,321**	269	9	400	14	628	1
1995/96	**1,327**	24	**1,303**	253	9	405	20	613	3
1996/97	**1,354**	24	**1,330**	258	13	414	15	629	1
1997/98	**1,410**	23	**1,387**	261	11	431	24	659	1
1998/99	**1,493**	23	**1,470**	254	9	437	14	752	4
1999/00	**1,609**	24	**1,585**	266	8	475	16	817	3
2000/01	**1,627**	19	**1,608**	253	8	478	15	852	2
2002/03	**1,476**	17	**1,459**	215	13	442	34	753	2
2002-03	**1,512**	11	**1,501**	218	15	441	28	798	1
SUGARCANE									
1991/92	**536**	3	**533**	262	3	65	2	201	-
1992/93	**536**	4	**532**	253	4	66	2	207	-
1993/94	**595**	3	**592**	278	3	78	2	231	-
1994/95	**656**	3	**653**	293	2	85	4	268	1
1995/96	**605**	3	**602**	267	2	77	2	253	1
1996/97	**604**	3	**601**	260	4	80	4	252	1
1997/98	**685**	4	**681**	293	3	96	4	284	1
1998/99	**780**	4	**776**	321	2	112	3	337	1
1999/00	**672**	4	**668**	278	3	87	3	296	1
2000/01	**616**	3	**613**	244	3	82	2	281	1
2001/02	**657**	2	**655**	238	4	94	8	310	1
2002/03	**735**	2	**733**	257	3	109	7	356	1
COTTON									
1991/92	**2,287**	16	**2,271**	748	8	198	10	1,302	5
1992/93	**2,438**	24	**2,414**	787	11	214	9	1,390	3
1993/94	**2,248**	14	**2,234**	703	5	193	7	1,323	3
1994/95	**2,243**	24	**2,219**	677	8	193	14	1,325	2
1995/96	**2,462**	19	**2,443**	743	13	232	10	1,442	3
1996/97	**2,540**	24	**2,516**	777	19	227	12	1,476	5
1997/98	**2,442**	14	**2,428**	749	13	220	19	1,421	6
1998/99	**2,283**	13	**2,270**	680	8	212	10	1,354	6
1999/00	**2,329**	10	**2,319**	717	9	210	14	1,365	4
2000/01	**2,386**	5	**2,381**	694	12	231	7	1,434	3
2001/02	**2,526**	11	**2,515**	694	15	272	26	1,503	5
2002/03	**2,208**	10	**2,198**	614	12	246	38	1,283	5

** Includes Tribal Area of D.G. Khan & Rajanpur, since 1992-93.*

Source:- *Bureau of Statistics, Punjab, Lahore.*

Table 2.45: Kharif and Rabi Acreage by Crop-Total and Irrigated

(Thousand Hectares)

Crop	2000-2001		2001-2002		2002-2003	
	Total	Irrigated	Total	Irrigated	Total	Irrigated
Kharif Crops-Total	**7,363**	**6,779**	**7,519**	**6,888**	**7,298**	**6,720**
Rice	1,627	1,608	1,476	1,459	1,512	1,501
Jowar	238	120	241	125	235	121
Bajra	303	171	309	170	332	185
Maize	353	279	345	270	372	297
Moong	198	185	216	201	237	226
Mash	40	7	49	10	51	10
Til	97	81	131	115	84	75
Gowara Seed	116	69	129	73	101	68
Fodder	987	929	1,010	953	997	947
Vegetables	58	57	58	57	62	61
Cotton (American)	2,334	2,329	2,475	2,465	2,169	2,159
Cotton (Desi)	52	52	51	50	39	38
Sugarcane	615	613	657	655	735	733
Orchards	232	232	239	238	241	240
Other Kharif Crops	113	47	133	47	131	59
Rabi Crops-Total	**8,695**	**7,273**	**8,595**	**7,212**	**8,663**	**7,221**
Wheat	6,256	5,626	6,102	5,539	6,097	5,520
Gram	780	53	816	64	860	84
Barley	32	25	35	27	40	29
Masoor	27	7	29	9	34	7
Peas	23	20	26	24	22	20
Rape & Mustard	128	104	135	109	151	114
Fodder	1,051	1,041	1,042	1,032	1,040	1,029
Vegetables	55	54	57	56	61	60
Tobacco	18	18	18	18	18	18
Orchards	236	236	239	238	246	246
Other Rabi Crops	89	89	96	96	94	94

Source:-i) For all crops except Tobacco.

Bureau of Statistics, Punjab, Lahore.

ii) For Tobacco:

Directorate of Agriculture Crop,Reporting Service Punjab, Lahore.

Table 2.46: Kharif and Rabi Acreage Failed by Crop-Total and Irrigated,

(Thousand Hectares)

Crop	2000-2001		2001-2002		2002-2003	
	Total	Irrigated	Total	Irrigated	Total	Irrigated
I. Kharif Crops- Total	**10**	**1**	**54**	**45**	**28**	**15**
1. Rice	1	1	2	2	1	1
2. Cotton	-	-	41	41	10	10
3. Jowar	1	-	1	-	1	-
4. Bajra	1	-	1	-	2	-
5. Maize	1	-	4	1	1	1
6. Sugarcane	-	-	-	-	-	-
7. Other Kharif Crops	6	-	5	1	13	3
II. Rabi Crops-Total	**309**	**21**	**479**	**9**	**22**	**12**
1. Wheat	269	19	71	8	18	11
2. Gram	28	1	404	1	1	-
3. Barley	1	-	1	-	-	-
4. Rape & Mustard	6	-	1	-	-	-
5. Other Rabi Crops	5	1	2	-	3	1

Source *:-Bureau of Statistics, Punjab, Lahore.*

Table 2.47: Production of Important Crops,Total & Irrigated

(Thousand Metric Tons)

Year	Wheat		Gram		Barley		Rice (Cleaned)
	Total	Irrigated	Total	Irrigated	Total	Irrigated	Total
1991/92	11,492	10,543	391	58	32	23	1,342
1992/93	11,742	10,834	227	36	31	22	1,404
1993/94	11,218	10,615	286	34	29	24	1,588
1994/95	12,713	11,819	425	35	35	26	1,684
1995/96	12,430	11,494	538	57	36	28	1,803
1996/97	12,371	11,569	463	62	34	26	1,864
1997/98	13,807	12,590	646	104	42	30	1,948
1998/99	13,212	12,165	578	48	37	30	2,176
1999/00	16,480	15,535	466	50	40	32	2,481
2000/01	15,419	15,082	335	35	33	28	2,577
2001/02	14,594	14,191	304	41	34	29	2,266
2002/03	15,355	14,599	612	67	38	31	2,580

	Sugarcane		Rape & Mustard		Bajra		Cotton (Lint) ('000'Bales)
1991/92	20,027	20,000	138	114	119	92	11,417
1992/93	20,045	19,974	118	99	124	94	8,237
1993/94	24,511	24,421	111	99	125	97	6,523
1994/95	28,268	28,164	135	114	139	105	7,410
1995/96	26,880	26,789	149	130	136	102	8,720
1996/97	24,010	23,936	174	154	133	102	7,103
1997/98	32,111	32,017	176	144	139	107	6,817
1998/99	33,383	33,266	171	143	136	106	6,628
1999/00	27,081	27,002	177	146	144	112	8,804
2000/01	26,740	26,689	128	110	156	121	8,540
2001/02	31,803	31,749	131	113	158	119	8,046
2002/03	33,169	33,117	146	120	181	133	7,664

	Jowar		Maize		Tobacco	
1991/92	115	67	415	361	22	22
1992/93	133	72	396	349	23	23
1993/94	129	72	437	384	23	23
1994/95	141	76	461	399	22	22
1995/96	138	79	451	392	21	21
1996/97	139	82	450	388	22	22
1997/98	137	83	428	366	24	24
1998/99	135	81	465	396	25	25
1999/00	140	86	516	444	24	24
2000/01	144	86	536	465	22	22
2001/02	143	88	530	457	23	23
2002/03	133	84	654	579	22	22

Source:- *Directorate of Agriculture Crop Reporting Service, Punjab, Lahore.*

Table 2.48: Per Hectare Yield of Important Crops, Total and Irrigated

(Quintals)

Year	Wheat		Gram		Barley		Rice (Cleaned)
	Total	Irrigated	Total	Irrigated	Total	Irrigated	Total
1991/92	20.3	21.5	4.9	8.6	8.1	9.5	10.9
1992/93	19.7	20.9	2.8	6.5	8	9.4	11.5
1993/94	19.4	21	3.4	6.3	8.1	10.3	12.2
1994/95	21.5	22.9	5	6.7	8.5	10.4	12.2
1995/96	20.8	21.8	6	8	8.6	10.1	13.6
1996/97	21.2	22.8	5.2	9	8.8	10.5	13.8
1997/98	23.3	24.2	7.1	10.8	10.5	12.1	13.8
1998/99	22.3	23.3	6.5	10.5	10.1	11.4	14.6
1999/00	26.7	28.4	5.8	9.4	11.1	12.3	15.4
2000/01	24.6	26.8	4.3	6.5	10.3	11.1	15.8
2001/02	23.9	25.6	3.7	6.4	9.6	10.5	15.4
2002/03	25.2	26.4	7.1	7.9	9.6	9.9	17.1

	Sugarcane		Rape & Mustard		Bajra	Cotton (Lint) ('000' Bales)	
1991/92	373.5	375.5	9.5	10.6	4.3	6.6	8.5
1992/93	373.9	375.2	8.9	10.3	4.3	6.7	5.7
1993/94	411.1	412.2	9	10.5	4.5	6.9	4.9
1994/95	430.5	431.1	9.4	10.9	4.6	6.8	5.6
1995/96	443.9	444.6	9.6	10.5	4.7	7	6
1996/97	397.4	398.2	9	9.9	4.8	6.9	4.8
1997/98	468.6	469.9	10	10.4	4.8	7	4.9
1998/99	427.8	428.6	9.8	10.2	4.8	7	4.9
1999/00	402.9	403.6	10.7	11.3	5	7.1	6.4
2000/01	434.4	435	9.9	10.5	5.1	7.1	6.1
2001/02	484.2	485.1	9.7	10.4	5	7.1	5.4
2002/03	451.1	451.6	9.7	10.5	5.4	7.2	5.9

	Jowar		Maize		Tobacco	
1991/92	5.4	7.3	13.3	14.5	12.5	12.5
1992/93	5.4	7.2	12.2	13.4	12.4	12.4
1993/94	5.5	7.2	13	14.3	12.4	12.4
1994/95	5.6	7.1	13.3	14.6	12.4	12.4
1995/96	5.6	7.1	13.5	14.7	12.4	12.4
1996/97	5.6	6.9	13.8	15.1	12.2	12.2
1997/98	5.6	6.7	13.3	14.5	12.5	12.5
1998/99	5.6	6.8	13.9	15.1	12.6	12.6
1999/00	5.9	7	15	16.6	13.1	13.1
2000/01	6	7.1	15.2	16.7	12.4	12.4
2001/02	5.9	7	15.4	16.9	12.4	12.4
2002/03	5.6	6.9	17.6	19.5	12.1	12.1

Source:- *Directorate of Agriculture Crop Reporting Service, Punjab, Lahore.*

Table 2.49: Area and Production of Wheat and Rice by Variety

(Area in '000' Hectares & Production in '000' M. Tons)

I WHEAT

Year	Total		Maxican		Desi	
	Area	Production	Area	Production	Area	Production
1991/92	5,669	11,492	5,494	11,314	175	178
1992/93	5,966	11,742	5,756	11,552	210	190
1993/94	5,771	11,218	5,615	11,102	156	116
1994/95	5,902	12,713	5,729	12,554	173	159
1995/96	5,973	12,430	5,784	12,251	189	179
1996/97	5,840	12,371	5,676	12,228	164	143
1997/98	5,935	13,807	5,739	13,535	196	272
1998/99	5,935	13,212	5,747	12,991	188	221
1999/00	6,180	16,480	6,048	16,342	132	138
2000/01	6,256	15,419	6,116	15,327	140	92
2001/02	6,102	14,594	5,993	14,502	109	92
2002/03	6,097	15,355	6,023	15,270	74	85

II RICE*

Year	Total		Basmati		Irri-Pak & Mehran 69		Local Coarse	
	Area	Production	Area	Production	Area	Production	Area	Production
1991/92	1,231	1,342	1,032	1,034	189	298	10	10
1992/93	1,222	1,404	1,007	1,076	206	319	9	9
1993/94	1,301	1,588	1,074	1,216	219	362	8	10
1994/95	1,339	1,684	1,108	1,296	223	376	8	12
1995/96	1,328	1,803	1,109	1,415	215	382	4	6
1996/97	1,354	1,864	1,133	1,487	216	370	5	7
1997/98	1,410	1,948	1,055	1,343	221	397	134	208
1998/99	1,493	2,176	1,162	1,584	237	422	94	170
1999/00	1,609	2,481	1,247	1,764	266	535	96	182
2000/01	1,627	2,577	1,114	1,601	313	592	200	384
2001/02	1,476	2,266	1,294	1,914	148	285	34	67
2002/03	1,512	2,580	1,317	2,176	146	290	49	114

** Production pertains to cleaned Rice.*

Source:- *Directorate of Agriculture Crop Reporting Service, Punjab, Lahore.*

Table 2.50: Area Sown-Total and Irrigated-Under Wheat by District

(Thousand Hectares)

Division/District	2000-2001		20001-02		2002-2003	
	Total	Irrigated	Total	Irrigated	Total	Irrigated
The Punjab	**6,256**	**5,626**	**6,102**	**5,539**	**6,097**	**5,521**
Bahawalpur Divn.	**882**	**878**	**866**	**862**	**854**	**849**
Bahawalpur	272	272	270	269	269	267
Bahawalnagar	285	284	283	282	282	281
Rahim Yar Khan	325	322	313	311	303	301
D. G. Khan Divn.	**765**	**756**	**758**	**744**	**747**	**731**
D. G. Khan	155	152	153	148	156	150
Layyah	177	176	180	179	178	177
Muzaffargarh	288	283	284	279	278	270
Rajanpur	145	145	141	138	135	134
Faisalabad Divn.	**768**	**767**	**745**	**744**	**755**	**755**
Faisalabad	262	262	250	250	254	254
Jhang	361	360	353	352	354	354
T. T. Singh	145	145	142	142	147	147
Gujranwala Divn.	**915**	**770**	**906**	**779**	**908**	**783**
Gujranwala	215	213	218	216	217	215
Gujrat	131	60	128	63	131	64
Hafizabad	130	129	133	132	134	133
Mandi Baha-ud-Din	115	112	115	112	116	113
Narowal	131	82	128	84	124	83
Sialkot	193	174	184	172	186	175
Lahore Divn.	**765**	**762**	**743**	**742**	**734**	**733**
Lahore	62	62	59	59	55	56
Kasur	174	173	166	166	164	164
Okara	230	229	222	222	218	217
Sheikhupura	299	298	296	295	297	296
Multan Divn.	**1163**	**1161**	**1156**	**1154**	**1155**	**1152**
Multan	196	194	193	191	191	189
Khanewal	215	215	210	210	215	214
Lodhran	185	185	183	183	183	183
Pakpattan	158	158	157	157	157	158
Sahiwal	147	147	151	151	151	151
Vehari	262	262	262	262	258	257
Rawalpindi Divn.	**437**	**40**	**395**	**41**	**396**	**38**
Rawalpindi	114	4	108	5	109	6
Attock	142	13	126	13	128	13
Chakwal	134	10	119	10	115	5
Jhelum	47	13	42	13	44	14
Sargodha Divn.	**548**	**492**	**520**	**473**	**535**	**480**
Sargodha	191	191	186	185	190	190
Bhakkar	140	137	133	127	131	128
Khushab	72	56	65	54	71	50
Mianwali	145	108	136	107	143	112
Islamabad	**13**	-	**13**	-	**13**	-

Source:- *Directorate of Agriculture Crop Reporting Service, Punjab, Lahore.*

Table 2.51: Area * Sown Under Rice by District

(Thousand Hectares)

Division/District	1998-99	1999-2000	2000-2001	2001-2002	2002-2003
The Punjab	**1,493**	**1,609**	**1,627**	**1,476**	**1,512**
Bahawalpur Divn.	**86**	**93**	**80**	**53**	**59**
Bahawalpur	7	9	7	6	5
Bahawalnagar	56	61	52	35	41
Rahim Yar Khan	23	23	21	12	13
D. G. Khan Divn.	**57**	**61**	**59**	**49**	**53**
D. G. Khan	21	25	25	22	27
Layyah	1	1	1	1	1
Muzaffargarh	22	23	23	20	20
Rajanpur	13	12	10	6	5
Faisalabad Divn.	**111**	**130**	**140**	**116**	**123**
Faisalabad	23	28	29	24	22
Jhang	69	79	86	72	79
T. T. Singh	19	23	25	20	22
Gujranwala Divn.	**664**	**696**	**708**	**692**	**676**
Gujranwala	216	222	228	226	231
Gujrat	38	40	39	36	34
Hafizabad	102	108	111	108	113
Mandi Baha-ud-Din	60	66	70	71	73
Narowal	85	88	85	82	74
Sialkot	163	172	175	169	151
Lahore Divn.	**422**	**459**	**474**	**428**	**436**
Lahore	37	39	39	36	34
Kasur	53	58	62	54	51
Okara	103	107	113	93	104
Sheikhupura	229	255	260	245	247
Multan Divn.	**102**	**114**	**113**	**88**	**115**
Multan	9	10	9	7	8
Khanewal	13	13	15	15	18
Lodhran	3	5	3	2	2
Pakpattan	41	46	45	30	46
Sahiwal	21	23	23	21	23
Vehari	15	17	18	13	18
Rawalpindi Divn.	**1**	**1**	**1**	**1**	**1**
Rawalpindi	-	-	-	-	-
Attock	-	-	-	-	-
Chakwal	-	-	-	-	-
Jhelum	1	1	1	1	1
Sargodha Divn.	**50**	**55**	**52**	**49**	**49**
Sargodha	33	39	37	33	32
Bhakkar	0	0	0	0	0
Khushab	16	15	14	15	16
Mianwali	1	1	1	1	1
(Islamabad)	-	-	-	-	-

** Un-Irrigated area sown under Rice in the Province is insignificant.*

Source:- *Directorate of Agriculture Crop Reporting Service, Punjab, Lahore.*

Table 2.52: Area* Sown Under Cotton by District

(Thousand Hectares)

Division/District	1998-99	1999-2000	2000-2001	2001-2002	2002-2003
The Punjab	**2,283**	**2,329**	**2,386**	**2,524**	**2,208**
Bahawalpur Divn.	**744**	757	777	**819**	**753**
Bahawalpur	261	260	265	273	268
Bahawalnagar	182	184	198	219	178
Rahim Yar Khan	301	313	314	327	307
D. G. Khan Divn.	**448**	**472**	**482**	**504**	**459**
D. G. Khan	102	97	99	103	93
Layyah	35	45	44	46	29
Muzaffargarh	179	185	190	200	189
Rajanpur	132	145	149	155	148
Faisalabad Divn.	**121**	**143**	**150**	**152**	**114**
Faisalabad	33	38	44	42	32
Jhang	51	63	61	62	45
T. T. Singh	37	42	45	48	37
Gujranwala Divn.	**2**	**2**	**2**	**2**	**0**
Gujranwala	-	-	-	-	-
Gujrat	-	-	-	-	-
Hafizabad	-	-	-	-	-
Mandi Baha-ud-Din	2	2	2	2	-
Narowal	-	-	-	-	-
Sialkot	-	-	-	-	-
Lahore Divn.	**28**	**32**	**26**	**38**	**17**
Lahore	-	-	-	-	-
Kasur	9	9	9	9	8
Okara	18	22	16	28	9
Sheikhupura	1	1	1	1	-
Multan Divn.	**921**	**900**	**930**	**992**	**850**
Multan	159	160	172	176	167
Khanewal	191	190	193	194	176
Lodhran	195	201	195	200	192
Pakpattan	57	40	52	86	30
Sahiwal	78	75	80	92	77
Vehari	241	234	238	244	208
Rawalpindi Divn.	**1**	**1**	**(a)**	**(a)**	-
Rawalpindi	-	-	-	-	-
Attock	-	-	-	-	-
Chakwal	(a)	(a)	-	(a)	-
Jhelum	(a)	(a)	(a)	(a)	-
Sargodha Divn.	**18**	**22**	**19**	**17**	**13**
Sargodha	7	8	9	9	7
Bhakkar	5	7	5	4	3
Khushab	1	1	(a)	(a)	-
Mianwali	5	6	5	4	3
(Islamabad)	-	-	-	-	-

a) Less than 500.

** Un-Irrigated area sown under Cotton in the Province is insignificant*

Source:- *Directorate of Agriculture Crop Reporting Service, Punjab, Lahore.*

Table 2.53: Area* Sown Under Sugarcane by District

(Thousand Hectares)

Division/District	1998-99	1999-2000	2000-2001	2001-2002	2002-2003
The Punjab	**780**	**672**	**616**	**657**	**735**
Bahawalpur Divn.	**90**	**67**	**62**	**60**	**79**
Bahawalpur	12	10	10	8	9
Bahawalnagar	38	28	24	21	27
Rahim Yar Khan	40	29	28	31	43
D. G. Khan Divn.	**42**	**36**	**36**	**39**	**49**
D. G. Khan	2	2	2	2	3
Layyah	20	15	15	14	16
Muzaffargarh	18	17	17	20	25
Rajanpur	2	2	2	3	5
Faisalabad Divn.	**268**	**231**	**212**	**232**	**255**
Faisalabad	126	111	103	108	117
Jhang	95	79	72	83	92
T. T. Singh	47	41	37	41	46
Gujranwala Divn.	**63**	**56**	**51**	**53**	**56**
Gujranwala	5	4	3	3	3
Gujrat	5	4	4	4	4
Hafizabad	9	8	6	7	8
Mandi Bhah-ud-Din	35	33	32	33	34
Narowal	6	5	4	4	5
Sialkot	3	2	2	2	2
Lahore Divn.	**122**	**104**	**92**	**106**	**119**
Lahore	3	2	1	1	1
Kasur	57	51	47	55	63
Okara	35	30	26	28	32
Sheikhupura	27	21	18	22	23
Multan Divn.	**70**	**64**	**55**	**54**	**61**
Multan	5	4	4	3	3
Khanewal	9	9	8	9	10
Lodhran	2	2	2	1	1
Pakpattan	18	16	12	12	14
Sahiwal	19	17	14	14	14
Vehari	17	16	15	15	19
Rawalpindi Divn.	**0.5**	**0.5**	**0.4**	**0**	**0**
Rawalpindi	-	-	-	-	-
Attock	0.2	0.2	0.2	0.2	0.2
Chakwal	-	-	-	-	-
Jhelum	0.3	0.3	0.2	0.2	0.2
Sargodha Divn.	**124**	**113**	**108**	**113**	**116**
Sargodha	82	76	74	78	81
Bhakkar	27	23	21	22	22
Khushab	9	9	9	9	9
Mianwali	6	5	4	4	4
(Islamabad)	-	-	-	-	-

(*) Un-Irrigated area sown under Sugarcane in the Province is insignificant.

Source:- *Directorate of Agriculture Crop Reporting Service, Punjab, Lahore.*

Table 2.54: Wheat Production-Total and Irrigated-by District

(Thousand Metric Ton)

Division/District	2000-2001		2001-2002		2002-2003	
	Total	Irrigated	Total	Irrigated	Total	Irrigated
The Punjab	**15,419**	**15,082**	**14,594**	**14,191**	**15,355**	**14,599**
Bahawalpur Divn.	**2105**	**2104**	**1989**	**1985**	**2159**	**2154**
Bahawalpur	663	663	638	637	724	722
Bahawalnagar	664	664	611	610	695	694
Rahim Yar Khan	778	777	740	738	740	738
D.G.Khan Divn.	**1854**	**1849**	**1807**	**1796**	**1779**	**1760**
D.G. Khan	431	429	441	437	407	401
Layyah	390	390	363	363	379	378
Muzaffargarh	704	701	635	631	657	647
Rajanpur	329	329	368	365	336	334
Faisalabad Divn.	**2100**	**2099**	**1921**	**1920**	**2055**	**2056**
Faisalabad	767	767	652	652	716	717
Jhang	920	919	868	867	916	916
T.T.Singh	413	413	401	401	423	423
Gujranwala Divn.	**2043**	**1953**	**2063**	**1962**	**2203**	**2027**
Gujranwala	612	611	591	589	604	601
Gujrat	146	119	179	129	224	140
Hafizabad	346	345	341	341	367	367
Mandi Baha-ud-Din	293	291	311	308	323	318
Narowal	201	161	211	180	245	178
Sialkot	445	426	430	415	440	423
Lahore Divn.	**2356**	**2355**	**2117**	**2116**	**2086**	**2084**
Lahore	177	177	165	165	148	148
Kasur	526	526	441	441	425	424
Okara	771	771	723	722	746	746
Sheikhupura	882	881	788	788	767	766
Multan Divn.	**3555**	**3554**	**3265**	**3264**	**3276**	**3271**
Multan	502	501	480	479	486	483
Khanewal	714	714	597	597	587	586
Lodhran	480	480	462	462	505	505
Pakpattan	582	582	541	541	529	529
Sahiwal	458	458	470	470	469	700
Vehari	819	819	715	715	700	468
Rawalpindi Divn.	**285**	**78**	**327**	**77**	**551**	**76**
Rawalpindi	71	8	106	9	174	12
Attock	97	24	98	21	195	26
Chakwal	81	20	81	18	129	10
Jhelum	36	26	42	29	53	28
Sargodha Divn.	**1114**	**1090**	**1093**	**1071**	**1226**	**1171**
Sargodha	476	476	**473**	473	507	507
Bhakkar	315	313	287	283	319	312
Khushab	106	98	92	86	121	103
Mianwali	217	203	241	229	279	249
(Islamabad)	**7**	-	**12**	-	**20**	-

Source:- *Directorate of Agriculture Crop Reporting Service, Punjab, Lahore.*

Table 2.55: Rice (Cleaned) Production* by District

(Thousand Metric Tons)

Division/District	1999-2000	2000-2001	2001-2002	2002-2003
The Punjab	**2481**	**2577**	**2,266**	**2,580**
Bahawalpur Divn.	**125**	**113**	**67**	**91**
Bahawalpur	14	11	8	7
Bahawalnagar	72	73	43	65
Rahim Yar Khan	39	29	16	19
D.G. Khan Divn.	**111**	**109**	**88**	**93**
D.G. Khan	52	54	48	53
Layyah	2	1	1	1
Muzaffargarh	38	40	32	32
Rajanpur	19	14	7	7
Faisalabad Divn.	**173**	**202**	**162**	**194**
Faisalabad	35	41	30	33
Jhang	107	127	104	118
T.T. Singh	31	34	28	43
Gujranwala Divn.	**1074**	**1139**	**1061**	**1161**
Gujranwala	380	419	391	436
Gujrat	52	56	46	53
Hafizabad	191	187	169	203
Mandi Baha-ud-Din	114	126	114	133
Narowal	95	88	94	95
Sialkot	242	263	247	241
Lahore Divn.	**719**	**762**	**673**	**761**
Lahore	56	61	52	59
Kasur	93	94	85	86
Okara	192	195	163	199
Sheikhupura	378	412	373	417
Multan Divn.	**193**	**176**	**144**	**204**
Multan	14	14	9	12
Khanewal	21	22	18	28
Lodhran	8	5	2	2
Pakpattan	87	72	61	96
Sahiwal	35	37	33	35
Vehari	28	26	21	31
Rawalpindi Divn.	**1**	**2**	**2**	**2**
Rawalpindi	-	-	-	-
Attock	-	-	-	-
Chakwal	-	-	-	-
Jhelum	1	2	2	2
Sargodha Divn.	**85**	**74**	**69**	**74**
Sargodha	55	50	41	44
Bhakkar	1	-	-	-
Khushab	28	22	26	28
Mianwali	1	2	2	2
(Islamabad)	-	-	-	-

**Un-Irrigated production of Rice in the Province is insignificant.*

Source:- *Directorate of Agriculture Crop Reporting Service, Punjab, Lahore.*

Table 2.56: Cotton Production* by District

(Thousand Bales)

Division/District	1998-99	1999-2000	2000-2001	2001-2002	2002-2003
The Punjab	**6628**	**8804**	**8540**	**8,045**	**7,662**
Bahawalpur Divn.	**2,276**	**2,963**	**2,924**	**2,672**	**2,588**
Bahawalpur	754	1,150	1,119	1,040	968
Bahawalnagar	542	711	578	596	544
Rahim Yar Khan	980	1,102	1,227	1,036	1,076
D.G. Khan Divn.	**1,478**	**1,675**	**1,792**	**1,865**	**1,724**
D.G. Khan	349	446	418	434	411
Layyah	88	118	91	81	63
Muzaffargarh	443	488	609	589	599
Rajanpur	598	623	674	761	651
Faisalabad Divn.	**257**	**393**	**359**	**273**	**275**
Faisalabad	70	113	100	72	67
Jhang	101	150	142	107	113
T.T. Singh	86	130	117	94	95
Gujranwala Divn.	**3**	**3**	**2**	**2**	**2**
Gujranwala	-	-	-	-	-
Gujrat	-	-	-	-	-
Hafizabad	-	-	-	-	-
Mandi Baha-ud-Din	3	3	2	2	2
Narowal	-	-	-	-	-
Sialkot	-	-	-	-	-
Lahore Divn.	**66**	**85**	**50**	**55**	**27**
Lahore	-	-	-	-	-
Kasur	21	24	13	10	9
Okara	44	60	36	44	18
Sheikhupura	1	1	1	1	-
Multan Divn.	**2,511**	**3,634**	**3,377**	**3,149**	**3,026**
Multan	394	664	618	582	600
Khanewal	587	848	675	676	627
Lodhran	493	895	714	723	799
Pakpattan	140	119	140	130	59
Sahiwal	156	271	220	171	174
Vehari	741	837	1,010	867	767
Rawalpindi Divn.	**1**	**1**	**(a)**	**(a)**	**(a)**
Rawalpindi	-	-	-	-	-
Attock	-	-	-	-	-
Chakwal	(a)	(a)	-	(a)	-
Jhelum	(a)	(a)	(a)	(a)	(a)
Sargodha Divn.	**36**	**50**	**36**	**29**	**20**
Sargodha	15	17	12	10	7
Bhakkar	11	18	14	10	6
Khushab	(a)	1	(a)	(a)	(a)
Mianwali	10	14	10	9	7
(Islamabad)	-	-	-	-	-

**Un-Irrigated production of Cotton in the Province is insignificant. a) Less than 500.*

Source:- *Directorate of Agriculture Crop Reporting Service, Punjab, Lahore.*

Table 2.57: Sugarcane Production* by District

(Thousand Metric Tons)

Division/District	1998-99	1999-2000	2000-2001	2001-2002	2002-2003
The Punjab	**33,383**	**27,081**	**26,740**	**31,803**	**33,169**
Bahawalpur Divn.	**3,624**	**2,535**	**2,503**	**2,929**	**4,276**
Bahawalpur	501	408	395	432	501
Bahawalnagar	1,503	1,032	964	873	1,155
Rahim Yar Khan	1,620	1,095	1,144	1,624	2,620
D.G. Khan Divn.	**1,720**	**1,065**	**1,376**	**1,576**	**2,468**
D.G. Khan	94	49	75	86	142
Layyah	777	543	537	499	674
Muzaffargarh	763	392	680	857	1,394
Rajanpur	86	81	84	134	258
Faisalabad Divn.	**11,889**	**9,922**	**9,765**	**11,879**	**11,737**
Faisalabad	5,828	4,911	4,831	5,481	5,412
Jhang	3,833	3,142	3,130	4,285	4,178
T.T. Singh	2,228	1,869	1,804	2,113	2,147
Gujranwala Divn.	**2,527**	**2,102**	**2,047**	**2,337**	**2,316**
Gujranwala	194	145	106	117	98
Gujrat	194	172	139	163	135
Hafizabad	390	309	264	289	428
Mandi Baha-ud-Din	1,378	1,214	1,316	1,512	1,453
Narowal	240	171	143	128	132
Sialkot	131	91	79	128	70
Lahore Divn.	**5,531**	**4,495**	**4,175**	**5,245**	**5,172**
Lahore	96	66	40	31	39
Kasur	2,588	2,272	2,172	2,792	2,696
Okara	1,827	1,387	1,284	1,515	1,528
Sheikhupura	1,020	770	679	907	909
Multan Divn.	**3,005**	**2,487**	**2,351**	**2,697**	**2,900**
Multan	212	168	153	123	186
Khanewal	405	330	321	425	491
Lodhran	88	67	66	57	52
Pakpattan	721	606	570	616	589
Sahiwal	814	692	668	698	476
Vehari	765	624	573	778	1,106
Rawalpindi Divn.	**18**	**13**	**15**	**15**	**17**
Rawalpindi	-	-	-	-	-
Attock	6	6	7	7	8
Chakwal	-	-	-	-	-
Jhelum	12	7	8	8	9
Sargodha Divn.	**5,069**	**4,462**	**4,508**	**5,125**	**4,283**
Sargodha	3,323	3,020	3,115	3,583	3,045
Bhakkar	1,115	885	878	930	819
Khushab	389	352	345	446	296
Mianwali	242	205	170	166	123
(Islamabad)	-	-	-	-	-

** Un-Irrigated production of Sugarcane in the Province is insignificant.*

Source:- *Directorate of Agriculture Crop Reporting Service, Punjab, Lahore.*

Table 2.58: Area and Production of Various Oil Seeds

Year	Cotton Seed	Rape & Mustard	Seasamum	Groundnut	Linseed
		I. Area ('000' Hectares)			
1991/92	2287	145	66	74	4
1992/93	2438	132	77	81	4
1993/94	2249	123	70	76	3
1994/95	2244	143	72	81	3
1995/96	2463	157	82	86	3
1996/97	2540	192	96	86	4
1997/98	2348	177	90	91	3
1998/99	2283	175	66	79	2
1999/00	2329	165	68	76	2
2000/01	2386	129	98	66	2
2001/02	2526	135	132	86	2
2002/03	2208	151	84	74	2
		II. Production ('000'Metric Tons)			
1991/92	3884	138	27	72	3
1992/93	2802	118	32	79	2
1993/94	2219	111	31	69	2
1994/95	2521	135	33	81	2
1995/96	2966	149	36	85	3
1996/97	2417	174	44	87	3
1997/98	2319	176	40	84	2
1998/99	2255	171	30	74	2
1999/00	2995	177	34	72	2
2000/01	2905	128	50	67	2
2001/02	2737	131	68	80	1
2002/03	2607	146	17	71	1

Source :- Directorate of Agriculture Crop Reporting Service, Punjab, Lahore.

Table 2.59: Area and Production of Kharif Fruit,

Fruit	1998-99	1999-2000	2000-2001	2001-2002	2002-2003
		I- Area ('00' Hectares)			
Total	**1,333**	**1,335**	**1,375**	**1,410**	**1,375**
Apple	3	3	3	3	4
Appricot	1	1	1	1	1
Banana	17	17	18	17	17
Dates	111	111	114	115	85
Guava	263	264	275	283	285
Mango	484	484	495	507	540
Musk Melon / Water Melon*	169	171	179	196	188
Pear	3	3	3	2	2
Peach	2	2	2	2	2
Phalsa	6	6	7	7	6
Pomegranate	22	22	23	22	24
Others	252	251	255	255	221
(Others as Percent Of Total)	(18.9)	(18.8)	(18.5)	(18.1)	(16.1)
		II- Production ('00' M.Tons)			
Total	**13,904**	**14,445**	**15,078**	**15,751**	**15,446**
Apple	26	27	28	26	36
Appricot	5	5	5	5	4
Banana	126	129	132	123	117
Dates	954	895	979	941	621
Guava	2,033	2,188	2,303	2,419	2,463
Mango	5,828	6,038	6,349	6,504	6,842
Musk Melon / Water Melon*	3,594	3,760	3,722	4,271	4,042
Pear	22	23	23	20	15
Peach	12	12	12	12	11
Phalsa	27	27	28	28	26
Pomegranate	156	160	167	162	168
Others	1,121	1,181	1,330	1,240	1,101
(Others as Percent of Total)	(8.1)	(8.2)	(8.8)	(7.9)	(7.1)

** Excluded from vegetables & included in fruit as per decision of panel on Agriculture Statistics.*

Source :- Directorate of Agriculture Crop Reporting Service, Punjab, Lahore.

Table 2.60: Area and Production of Rabi Fruit,

Fruit	1998-99	1999-2000	2000-2001	2001-2002	2002-2003
		I - Area ('00' Hectares)			
Total	**2,188**	**2,193**	**2,205**	**2,155**	**2,028**
Citrus	1,861	1,868	1,876	1,832	1,708
Banana	7	8	8	7	6
Ber	19	16	16	14	13
Guava	238	238	241	239	225
Loquat	6	6	6	7	7
Mulberry	4	4	5	4	4
Others	53	53	53	52	65
(Others as Percent of Total)	(2.4)	(2.4)	(2.4)	(2.4)	(3.2)
		II - Production ('00' M. Tons)			
Total	**20,267**	**21,315**	**20,876**	**20,052**	**18,746**
Citrus	17,692	18,592	18,129	17,510	16,236
Banana	38	40	40	35	30
Ber	140	123	120	105	95
Guava	2,025	2,053	2,081	2,026	1,908
Loquat	36	31	38	39	42
Mulberry	20	21	20	18	19
Others	316	455	448	319	416
(Others as Percent of Total)	(1.6)	(2.1)	(2.1)	(1.6)	(2.2)

Source :- Directorate of Agriculture Crop Reporting Service, Punjab, Lahore.

Table 2.6: Area and Production of Kharif Vegetables,

Vegetable	1998-99	1999-2000	2000-2001	2001-2002	2002-2003
			I - Area ('00' Hectares)		
Total	**518**	**530**	**538**	**535**	**532**
Lady's Finger	43	44	46	46	47
Tinda	52	54	55	55	56
Brinjal	45	45	47	47	48
Bitter Gourd	36	37	37	37	37
Bottle Gourd	43	43	44	43	43
Pumpkin	19	20	20	22	22
Others	280	287	289	285	279
(Others as Percent of Total)	(54.1)	(54.2)	(53.7)	(53.3)	(52.4)
			II - Production ('00' M. Tons)		
Total	**6,287**	**6,490**	**6,640**	**6,588**	**6,459**
Lady's Finger	434	453	486	496	498
Tinda	535	563	580	581	579
Brinjal	555	568	592	594	593
Bitter Gourd	388	401	408	403	405
Bottle Gourd	502	513	525	517	511
Pumpkin	242	256	264	287	276
Others	3,631	3,736	3,785	3,710	3,597
(Others as Percent of Total)	(57.8)	(57.6)	(57.0)	(56.3)	(55.7)

Source :- *Directorate of Agriculture Crop Reporting Service, Punjab, Lahore.*

Table 2.62: Area and Production of Rabi Vegetables

Vegetable	1998-99	1999-2000	2000-2001	2001-2002	2002-2003
		I - Area ('00' Hectares)			
Total	**790**	**813**	**808**	**809**	**819**
Turnip	95	97	96	96	94
Carrot	71	73	74	72	79
Spinach	29	30	30	30	32
Tomato	48	50	44	45	48
Cauliflower	70	72	72	74	71
Cabbage	17	18	18	18	20
Sweet Potato	4	4	4	4	4
Radish	57	58	58	60	58
Others	399	411	412	410	413
(Others as Percent of Total)	(50.5)	(50.6)	(51.0)	(50.7)	(50.4)
		II - Production (' 00' M. Tons)			
Total	**14,235**	**14,777**	**14,398**	**14,232**	**14,372**
Turnip	1,976	2,029	1,962	1,946	1,905
Carrot	1,422	1,472	1,455	1,388	1,509
Spinach	389	400	390	398	420
Tomato	689	716	608	622	652
Cauliflower	1,519	1,566	1,541	1,567	1,519
Cabbage	338	371	366	368	403
Sweet Potato	73	76	73	73	76
Radish	1,090	1,115	1,102	1,118	1,064
Others	6,739	7,032	6,901	6,752	6,824
(Others as Percent of Total)	(47.3)	(47.6)	(47.9)	(47.4)	(47.5)

Table 2.63: Area and Production of Potato and Onion

(Area in `00' Hectares and Production in `00' M. Tons)

Year	Potato *		Onion	
	Area	Production	Area	Production
1991/92	619	6,956	161	1,581
1992/93	615	7,571	178	1,718
1993/94	644	8,683	184	1,829
1994/95	646	9,170	197	2,052
1995/96	630	8,517	200	2,121
1996/97	715	7,790	205	2,182
1997/98	889	12,239	210	2,257
1998/99	935	16,040	222	2,308
1999/00	937	16,480	225	2,476
2000/01	871	14,797	231	2,513
2001/02	917	15,488	239	2,250
2002/03	1,022	17,619	265	2,633

** Includes Kharif and Rabi Crops.*

Source :- Directorate of Agriculture Crop Reporting Service, Punjab, Lahore.

Table 2.64: Water Table Depths, Pakistan and The Punjab

(Thousand Acres)

Water Table Depths	Area Occupied					
	October 2001			June 2002		
	Pakis-tan	Punjab	% Share of Punjab	Pakis-tan	Punjab	% Share of Punjab
Total	**20,165**	**12,835**	**63.6**	**20,169**	**12,835**	**63.6**
(0-100 cms)	1,500	76	5.1	438	75	17.1
(100-150 cms)	1,552	217	14.0	386	150	38.9
(150-300 cms)	3,516	1,720	48.9	3,345	1,028	30.7
(300-450 cms)	3,924	2,999	76.4	4,087	2,028	49.6
(450-600 cms)	3,740	3,293	88.0	3,202	2,479	77.4
(600-1200 cms)	5,047	4,291	85.0	6,832	5,825	85.3
(1200 cms & over)	886	239	27.0	1,879	1,250	66.5

Source :- Chief Engineer, SCARPS Monitoring Organization `WAPDA', Lahore.

Table 2.65: Area and Production of Pulses, Condiments and Fodder

(Area in `000' Hectares and Production in `000' M. Tons)

Season/Crop	2000-2001		2001-2002		2002-2003	
	Area	Production	Area	Production	Area	Production
			I. Kharif Crops			
Pulses	**242**	**117**	**268**	**129**	**291**	**154**
Moong	199	93	216	102	237	126
Mash	40	22	49	24	51	26
Others	3	2	3	3	3	2
Condiments						
Chillies	**10**	**19**	**8**	**13**	**7**	**12**
Fodder	**987**	**12,450**	**1,010**	**12,777**	**997**	**12,644**
Gowara	109	1,235	104	1,182	88	976
Chari	577	7,447	606	7,840	608	7,931
Others	301	3,768	300	3,755	301	3,737
			II. Rabi Crops			
Pulses	**53**	**36**	**56**	**39**	**56**	**39**
Masoor	28	18	29	18	34	22
Peas	24	18	27	21	22	17
Others	1	*	*	*	*	*
Condiments						
Corriander	1	*	1	*	1	*
Fodder	**1,050**	**33,488**	**1,042**	**32,374**	**1,040**	**32,405**
Barseen	801	26,345	792	25,491	784	25,448
Lucern	92	2,654	91	2,513	94	2,532
Others	157	4,489	159	4,370	162	4,425

** Less than 500.*

Source :- Chief Engineer, SCARPS Monitoring Organization `WAPDA', Lahore.

Table 2.66: Area and Production of Important Crops Pakistan and The Punjab

Crop	2000-2001		2001-2002			2002-2003		
	Pakistan	Punjab	Pakistan	Punjab	% Share of Punjab	Pakistan	Punjab	% Share of Punjab
			I. Area (Thousand Hectares)					
Wheat	8180	6256	8,058	6,102	75.7	8,034	6,097	75.9
Gram	905	780	934	816	87.4	963	860	89.3
Barley	113	32	111	35	31.5	108	40	37.0
Rape Seed & Mustard	267	129	269	135	50.2	281	151	53.7
Cotton	2928	2386	3,116	2,526	81.1	2,794	2,208	79.0
Rice (Total)	**2377**	**1627**	**2,114**	**1,476**	**69.8**	**2,225**	**1,512**	**68.0**
Rice (Basmati)	1158	1114	1,332	1,294	97.1	1,367	1,317	96.3
Rice (Medium & Coarse)	1219	513	782	182	23.3	858	195	22.7
Sugarcane	961	616	1,000	657	65.7	1,100	735	66.8
Maize	944	397	942	345	36.6	936	372	39.7
Jowar	354	238	358	241	67.3	338	235	69.5
Bajra	390	303	417	310	74.3	349	332	95.1
			II. Production (Thousand Metric Tons)					
Wheat	19019	15419	18,226	14,594	80.1	19,183	15,355	80.0
Gram	397	335	362	304	84.0	675	612	90.7
Barley	99	33	100	34	34.0	100	38	38.0
Rape Seed & Mustard	227	128	221	131	59.3	235	146	62.1
Cotton ('000' Bales)	10732	8540	10,613	8,046	75.8	10,211	7,664	75.1
Rice (Total)	**4803**	**2577**	**3,882**	**2,266**	**58.4**	**4,478**	**2,580**	**57.6**
Rice (Basmati)	1701	1601	1,999	1,914	95.7	2,304	2,176	94.4
Rice (Medium & Coarse)	3102	976	1,883	352	18.7	2,174	404	18.6
Sugarcane	43606	26740	48,042	31,803	66.2	52,056	33,169	63.7
Maize	1643	749	1,664	530	31.9	1,737	654	37.7
Jowar	218	144	222	143	64.4	203	133	65.5
Bajra	199	156	216	158	73.1	189	181	95.8

Source:- Agricultural Statistics of Pakistan, 1999-2000.

Table 2.67: Saline and Water-Logged Area by District, The Punjab: 2001-02

(Area in Hectares)

Division/District	Area Surveyed	Saline Area	Water-Logged Area
The Punjab	**9,395,777**	**1,170,118**	**20,758**
Bahawalpur Divn.	**1,813,005**	**281,508**	**7,862**
Bahawalpur	468,528	24,345	-
Bahawalnagar	623,717	132,414	7,862
Rahim Yar Khan	720,760	124,749	-
Dera Ghazi Khan Divn.	**1,109,114**	**144,955**	**1,313**
Dera Ghazi Khan	150,739	24,617	108
Layyah	246,400	912	39
Muzaffargarh	474,806	93,392	1,166
Rajanpur	237,169	26,034	-
Faisalabad Divn.	**1,335,666**	**235,356**	**4,613**
Faisalabad	544,288	90,265	1,767
Jhang	482,920	106,919	1,858
Toba Tek Singh	308,458	38,172	988
Gujranwala Divn.	**786,188**	**68,896**	**981**
Gujranwala	416,526	53,853	165
Gujrat	55,417	4,669	87
Hafizabad	60,706	6,406	-
Mandi Baha-ud -Din	184,198	3,968	729
Narowal	19,897	-	-
Sialkot	49,444	-	-
Lahore Divn.	**1,365,623**	**158,649**	**1,558**
Lahore	118,446	4,348	190
Kasur	280,859	44,352	206
Okara	439,399	39,093	1,152
Sheikhupura	526,919	70,856	10
Multan Divn.	**1,837,138**	**218,685**	**524**
Multan	361,039	60,014	-
Khanewal	377,463	63,542	524
Lodhran	173,182	25,632	-
Pakpattan	235,346	10,075	-
Sahiwal	258,738	28,695	-
Vehari	431,370	30,727	-
Rawalpindi Divn.	**16,294**	**245**	**0**
Rawalpindi	3,126	-	-
Attock	5,362	-	-
Chakwal	4,482	-	-
Jhelum	3,324	245	-
Sargodha Divn.	**1,133,040**	**61,824**	**3,907**
Sargodha	497,143	59,484	2,887
Bhakkar	314,880	1,503	-
Khushab	181,057	837	1,020
Mianwali	139,960	-	-
(Islamabad)	**(291)**	-	-

Source:- Directorate of Land Reclamation, Punjab, Lahore.

Table 3.1: Animals Slaughtered in Recognized and Un-Recognized Slaughter Houses by Type

(Hundred Number)

Year	Total	Cattle	Buffaloes	Sheep	Goats	Others
			A - BOTH RECOGNIZED & UN-RECOGNIZED SLAUGHTER HOUSES			
1991/92	68,379	9,639	10,752	20,533	27,280	175
1992/93	79,137	10,152	11,479	23,948	33,395	163
1993/94	69,244	7,581	8,186	20,335	32,880	262
1994/95	61,145	9,598	7,645	15,864	26,498	1,540
1995/96	71,982	8,331	9,233	22,103	32,277	38
1996/97	78,201	9,881	9,210	23,689	35,394	27
1997/98	73,394	9,034	8,594	21,374	34,386	6
1998/99	82,056	10,207	8,843	25,267	37,726	13
1999/00	87,882	10,391	10,830	24,911	41,706	44
2000/01	99,941	11,592	12,917	27,651	47,755	26
2001/02	118,834	13,884	13,504	33,139	58,259	48
2002/03	175,411	20,499	20,394	53,669	80,781	68
			B - RECOGNIZED SLAUGHTER HOUSES			
1991/92	55,196	7,163	8,113	17,358	22,395	167
1992/93	65,813	7,765	8,841	20,656	28,393	158
1993/94	57,851	5,798	6,305	17,540	27,955	253
1994/95	43,878	5,136	4,860	11,981	21,223	678
1995/96	55,497	5,119	5,899	17,722	26,719	38
1996/97	60,527	6,448	6,070	18,729	29,257	23
1997/98	55,315	5,879	5,324	16,181	27,925	6
1998/99	57,408	5,723	5,414	17,699	28,561	11
1999/00	63,548	6,336	6,472	18,469	32,235	36
2000/01	74,053	6,877	7,688	211,165	38,306	17
2001/02	76,616	7,778	8,069	22,582	38,144	43
2002/03	126,037	11,843	12,647	39,396	62,094	57
			C - UN-RECOGNIZED SLAUGHTER HOUSES			
1991/92	13,183	2,476	2,639	3,175	4,885	8
1992/93	13,324	2,387	2,638	3,292	5,002	5
1993/94	11,393	1,783	1,881	2,795	4,925	9
1994/95	17,267	4,462	2,785	3,883	5,275	862
1995/96	16,485	3,212	3,334	4,381	5,558	-
1996/97	17,674	3,433	3,140	4,960	6,137	4
1997/98	18,079	3,155	3,270	5,193	6,461	-
1998/99	24,648	4,484	3,429	7,568	9,165	2
1999/00	24,334	4,055	4,358	6,442	9,471	8
2000/01	25,888	4,715	5,229	6,486	9,449	9
2001/02	42,218	6,106	5,435	10,557	20,115	5
2002/03	49,374	8,656	7,747	14,273	18,687	11

Source:- i) Directorate of Livestock and Dairy Development (Ext.) Punjab, Lahore.

ii) Directorate of Livestock and Dairy Development, Barani Areas (PVTV), Rawalpindi.

Table 3.2: Animals Slaughtered in Recognized and Un-recognized Slaughter Houses by Type and District, The Punjab: 2002-2003

(Hundred Number)

Division/District	Total	Cattle	Buffaloes	Sheep	Goats	Others
The Punjab	**175,411**	**20,599**	**20,394**	**53,669**	**80,781**	**68**
Bahawalpur Divn.	**4,816**	**606**	**881**	**886**	**2,437**	**6**
Bahawalpur	876	149	196	78	448	5
Bahawalnagar	1,174	214	294	242	424	-
Rahim Yar Khan	2,766	243	391	566	1,565	1
Dera Ghazi Khan Divn.	**23,779**	**3,051**	**2,714**	**6,278**	**11,713**	**23**
Dera Ghazi Khan	6,887	892	591	2,522	2,874	8
Layyah	5,652	667	579	1,468	2,931	7
Muzaffargarh	6,219	792	857	1,209	3,359	2
Rajanpur	5,021	700	687	1,079	2,549	6
Faisalabad Divn.	**21,294**	**1,916**	**1,624**	**6,910**	**10,844**	**0**
Faisalabad	18,340	1,407	1,103	6,179	9,651	-
Jhang	1,397	240	326	376	455	-
Toba Tek Singh	1,557	269	195	355	738	-
Gujranwala Divn.	**45,521**	**5,298**	**5,599**	**14,077**	**20,537**	**10**
Gujranwala	11,377	1,445	1,569	3,262	5,097	4
Gujrat	7,731	825	857	2,325	3,722	2
Hafizabad	5,766	792	827	1,730	2,417	-
Mandi-Baha-ud-Din	6,057	656	700	1,862	2,839	-
Narowal	5,816	693	727	1,918	2,477	1
Sialkot	8,774	887	919	2,980	3,985	3
Lahore Divn.	**17,015**	**1,320**	**1,570**	**6,819**	**7,300**	**6**
Lahore	12,241	359	497	5,665	5,715	5
Kasur	848	175	132	235	305	1
Okara	821	72	218	109	422	-
Sheikhupura	3,105	714	723	810	858	-
Multan Divn.	**4,278**	**690**	**789**	**944**	**1,854**	**1**
Multan	802	189	202	182	228	1
Khanewal	680	114	110	131	325	-
Lodhran	456	63	115	54	224	-
Pakpattan	477	93	78	91	215	-
Sahiwal	1,193	94	140	284	675	-
Vehari	670	137	144	202	187	-
Rawalpindi Divn.	**32,303**	**4,218**	**3,741**	**9,241**	**15,198**	**5**
Rawalpindi	11,206	1,502	1,419	3,127	5,157	1
Attock	6,296	855	714	2,015	2,710	2
Chakwal	7,497	962	796	1,987	3,851	1
Jhelum	7,304	899	812	2,112	3,480	1
Sargodha Divn.	**26,405**	**3,500**	**3,476**	**8,514**	**10,898**	**17**
Sargodha	9,610	1,299	1,357	2,995	3,955	4
Bhakkar	5,661	712	687	1,911	2,346	5
Khushab	5,290	699	712	1,753	2,122	4
Mianwali	5,844	790	720	1,855	2,475	4

Source:- i) Directorate of Livestock and Dairy Development (Ext.) Punjab, Lahore.

ii) Directorate of Livestock and Dairy Development, Barani Areas (PVTV), Rawalpindi.

Table 3.3: Establishment of Private Poultry Farms by District, The Punjab : 2002-2003

Division/District	BROILER FARMS		LAYER FARMS		BREEDING FARMS	
	Number	Capacity to Rear Birds Per Annum (Thousand)	Number	Capacity to Rear Birds Per Annum (Thousand)	Number	Capacity to Rear Birds Per Annum (Thousand)
The Punjab	**6,802**	**161,460**	**1,879**	**11,392**	**89**	**1,854**
Bahawalpur Divn.	**622**	**14,557**	**147**	**686**	**0**	**0**
Bahawalpur	235	5,899	23	173	-	-
Bahawalnagar	87	2,358	7	40	-	-
Rahim Yar Khan	300	6,300	117	473	-	-
Dera Ghazi Khan Divn.	**453**	**11,205**	**86**	**269**	**1**	**3**
Dera Ghazi Khan	123	2,970	48	147	1	3
Layyah*	-	-	-	-	-	-
Muzaffargarh	330	8,235	38	122	-	-
Rajanpur*	-	-	-	-	-	-
Faisalabad Divn.	**1,470**	**37,188**	**1,026**	**6,521**	**19**	**136**
Faisalabad	960	24,012	565	2,870	14	72
Jhang	115	4,455	45	80	-	-
Toba Tek Singh	395	8,721	416	3,571	5	64
Gujranwala Divn.	**456**	**3,856**	**108**	**310**	**2**	**32**
Gujranwala*	-	-	-	-	-	-
Gujrat	456	3,856	108	310	2	32
Hafizabad*	-	-	-	-	-	-
Mandi-Baha-ud-Din*	-	-	-	-	-	-
Narowal*	-	-	-	-	-	-
Sialkot*	-	-	-	-	-	-
Lahore Divn.	**1,532**	**45,463**	**261**	**1,839**	**22**	**710**
Lahore	330	17,818	52	321	9	220
Kasur	382	9,656	43	587	4	90
Okara	170	3,117	95	522	-	-
Sheikhupura	650	14,872	71	409	9	400
Multan Divn.	**631**	**15,795**	**46**	**320**	**2**	**120**
Multan	631	15,795	46	320	2	120
Khanewal*	-	-	-	-	-	-
Lodhran*	-	-	-	-	-	-
Pakpattan*	-	-	-	-	-	-
Sahiwal*	-	-	-	-	-	-
Vehari*	-	-	-	-	-	-
Rawalpindi Divn.	**1,683**	**32,901**	**214**	**1,311**	**219**	**1,064**
Rawalpindi	1,220	19,671	137	435	195	825
Attock*	-	-	-	-	-	-
Chakwal	463	13,230	77	876	24	239
Jhelum*	-	-	-	-	-	-
Sargodha Divn.	**405**	**10,620**	**51**	**320**	**9**	**637**
Sargodha	405	10,620	51	320	9	637
Bhakkar*	-	-	-	-	-	-
Khushab*	-	-	-	-	-	-
Mianwali*	-	-	-	-	-	-
(Islamabad)	**-450**	**-10,125**	**-60**	**-184**	**-185**	**-848**

**Data for the districts are 'Not Availabe' due to the change of setup.* *Source:- Directorate, of Poultry Research Institute Punjab, Rawalpindi*

Table 3.4: Poultry Production Status in Private Sector, The Punjab

Particulars	1998-99	1999-2000	2000-2001	2001-2002	2002-2003
Investment in Poultry Farming Sector (Million Rs.)	25,000	25,050	25,055	25,065	25,066
Hatcheries					
Number	130	106	113	106	107
Capacity to Produce Day-Old Chicks ('000' Nos.)	204,900	250,980	257,245	250,980	251,120
Day-Old Chicks Produced ('000' Nos.)	174,540	245,780	235,630	242,153	207,486
Feed Mills					
Number	95	78	72	69	70
Capacity to Produce Feed Per Annum ('000' M. Tons)	1,667	3,390	3,165	3,134	3,146
Poultry Feed Produced ('000' M. Tons)	1,029	1,491	1,415	1,405	1,204
Poultry Farms (Number)	**14,158**	**14,771**	**15,275**	**15,236**	**10,160**
Layer	2,605	2,701	2,905	2,866	1,999
Broiler	11,100	11,570	11,872	11,881	7,702
Breeding Stock	453	500	498	489	459
Capacity to Produce/Maintain Birds Per Annum (Thousand)					
Layer	16,622	16660 (r)	17,820	17,300	11,760
Broiler	146,909	214110 (r)	224,390	236,510	181,710
Breeding Stock	3,434	3080 (r)	2,940	3,550	3,550
Birds Produced/Maintained ('000' Nos.)					
Layer	9,420	13,390	12,080	12,560	9,690
Broiler	145,730	210,670	196,980	202,790	173,780
Breeding Stock	1,530	2,460	3,210	2,120	2,870
Rural Poultry Population ('000' Nos.)	**39,750**	**39,510**	**38,380**	**31,050**	**24,110**
Poultry Products Produced					
Eggs (Million)	**4,720**	**4,062**	**3,730**	**3,525**	**1,928**
Farm	2,830	2,486	2,199	2,286	947
Desi	1,890	1,576	1,531	1,239	981
Poultry Meat (Metric Tons)	**203,416**	**258,775**	**243,705**	**240,631**	**203,129**
Broiler	141,000	199,574	186,600	192,554	164,987
Culled Birds (Layer & Breeder)	7,884	11,095	10,380	10,276	8,792
Desi	54,532	48,106	46,725	37,801	29,350
Per Capita Availability of Poultry Products					
Eggs (Number)	63.0	53.3	47.0	43.6	23.4
Poultry Meat (Kg.)	2.7	3.4	3.1	3.0	2.5

Source:- Directorate, of Poultry Research Institute Punjab, Rawalpindi.

Table 3.5: Performance of Government Poultry Farms, The Punjab

Particulars	Unit	1998-99	1999-00	2000-01	2001-02	2002-03
Number of Poultry Farms	(Number)	11	10	10	10	10
Total Birds Maintained	(Thousand	762	746	625	647	706
Birds Sold For Breeding	"	629	572	490	506	539
Birds Sold For Table	"	45	68	48	47	42
Eggs Produced	"	3733	3149	2915	3000	3158
Eggs Sold	"	2807	2343	2185	2178	2230
Eggs Set in Incubators	"	919	807	736	813	937
Chicks Hatched	"	630	561	464	500	555
Average Birds in Lay Maintained Per Month	"	20	17	18	17	19
Hatchability	(Percent)	68.55	69.52	63.04	61.5	59.23

Source:- Directorate, of Poultry Research Institute Punjab, Rawalpindi.

Table 4.1: Minerals Production

(Hundred Metric Tons)

Mineral	1996-97	1997-98	1998-99	1999-2000	2000-2001	2001-2002	2002-2003
Agrillacious Clay	11606	11970	12262	12988	11882	12769	12819
Bauxite	49	24	112	96	37	122	41
Bentonite	101	114	154	136	162	74	64
Coal	4252	3656	4770	4545	4013	5153	5023
Dolomite	414	183	563	437	338	489	434
Fireclay	1074	933	1195	1389	1573	1654	1058
Fuller Earth	12	24	32	60	34	28	31
Gypsum	4039	1899	1614	2415	2250	2051	2599
Iron Ore	46	55	381	461	249	48	113
Lime Stone	41114	45997	47822	52004	51085	51235	63586
Marble	23	22	9	3	6	-	-
Rock Salt	9303	8466	10627	13367	12611	13050	13302
Silica Sand	826	662	853	620	759	832	874
Mill Stone	-	-	14	11	6	8	4
Latrit	-	-	-	-	-	197	376

Table 5.1: Performance Of Vegetable Ghee Industry

Year/Month	Units Covered	Annual Installed Capacity	Production		Employment	
			Vegetable Ghee	Cooking Oil*	Total	Production Workers
	Number	M. Tons	M. Tons	M. Tons	Nunber	Nunber
1991/92	32	532,125	382,444	11,931	5,280	3,397
1992/93	40	632,650	363,885	11,271	5,048	3,288
1993/94	41	715,900	328,300	11,213	4,912	3,275
1994/95	41	715,900	310,918	8,461	4,539	3,023
1995/96	41	770,300	338,352	10,408	4,684	3,146
1996/97	45	775,300	351,928	14,067	4,781	3,108
1997/98	49	952,800	353,399	16,126	4,880	3,077
1998/99	53	1,010,800	362,168	20,642	4,669	2,947
1999/00	54	1,030,800	324,802	11,557	4,687	2,911
2000/01	54	1,024,800	388,274	20,312	4,561	2,756
2001/02	55	1,054,800	388,302	39,306	4,756	2,871
2002/03	50	943,800	357,914	52,394	4,418	2,698
2002/03						
July	50		28,013	2,842	4,530	2,745
August	50		29,252	2,974	4,574	2,742
September	50		27,503	3,993	4,476	2,721
October	50		33,199	4,938	4,532	2,752
November	50		33,076	5,452	4,463	2,721
December	50		29,210	3,162	4,372	2,675
January	50		26,603	4,080	4,305	2,649
February	50		29,323	2,927	4,303	2,641
March	50		29,137	4,495	4,299	2,641
April	50		28,548	5,982	4,365	2,699
May	50		33,036	4,966	4,399	2,681
June	50		31,014	6,583	4,402	2,715

** Cooking Oil Produced by Vegetable Ghee Mills only.*

Source:- Bureau of Statistics, Punjab, Lahore.

Table 5.2: Performance of Sugar Industry

Year/Month	No. of Units Covered	Daily Crushing Capacity (MT)	Production (MT)	Employment (Nos.)	
				Total	Production Workers
1991/92	25	63,350	1,012,804	19,224	12,309
1992/93	33	106,050	1,103,717	21,307	13,670
1993/94	34	115,550	1,634,154	24,353	15,901
1994/95	35	121,550	1,759,650	24,784	16,280
1995/96	38	131,550	1,374,696	25,032	16,290
1996/97	39	175,050	1,287,074	24,925	16,007
1997/98	40	183,050	2,067,615	25,026	16,148
1998/99	40	182,550	2,032,555	23,712	15,138
1999/00	40	182,550	1,317,484	21,479	13,554
2000/01	40	182,550	1,609,861	21,767	13,796
2001/02	40	183,550	2,152,553	22,182	14,204
2002/03	40	183,550	2,339,695	22,108	14,190
2002/03					
July	40		-	16,245	9,892
August	40		-	16,078	9,799
September	40		-	16,739	9,678
October	40		-	17,690	10,618
November	40		123,268	25,794	16,852
December	40		478,037	27,992	17,994
January	40		525,783	27,979	18,878
February	40		422,250	27,719	19,929
March	40		535,096	28,692	19,742
April	40		255,261	26,308	17,378
May	40	-		17,482	10,028
June	40	-		16,570	9,476

** Production from raw sugar.*

Source:- Bureau of Statistics , Punjab, Lahore.

Table 5.3: Performance of Beverages Industry

Year /Month		Production ('000'Crates of 24 Bottles/Packets)		Employment (No.)	
	No. of Units Covered	Soft Drinks (Coca Cola, R.C., Pepsi,7Up ,etc .)	Fruit Juices (Shezan , Benz, Tops etc .)	Total	Production Workers
1991/92	31	23,589	10,391	3,290	1,508
1992/93	31	28,844	10,988	3,607	1,590
1993/94	31	34,467	10,428	3,820	1,592
1994/95	32	45,202	9,773	3,690	1,494
1995/96	33	41,163	8,312	3,869	1,507
1996/97	33	34,767	4,901	3,721	1,426
1997/98	34	40,713	6,061	3,749	1,483
1998/99	36	58,060	5,850	3,715	1,612
1999/00	39	58,960	8,372	4,318	1,873
2000/01	39	69,466	11,160	4,731	2,024
2001/02	39	71,939	10,896	4,879	2,078
2002/03	39	67,115	10,208	4,827	2,007
2002/03					
July	39	6,956	947	5,001	2,084
August	39	6,059	691	4,931	2,100
September	39	5,264	517	4,869	2,039
October	39	5,151	528	4,784	1,956
November	39	3,543	541	4,713	1,942
December	39	2,799	389	4,727	1,916
January	39	1,658	522	4,607	1,943
February	39	4,966	1,040	4,762	1,968
March	39	6,310	1,050	4,882	2,043
April	39	7,980	1,268	4,878	2,030
May	39	8,593	1,525	4,894	2,042
June	39	7,836	1,190	4,879	2,020

Source:- Bureau of Statistics, Punjab, Lahore.

Table 5.4: Performance of Cigarettes Industry

Year/Month	No. of Units Covered	Daily Crushing Capacity (Million Nos)	Production (million Nos)	Employment (Nos.)	
				Total	Production
1991/92	3	21,475	13,844	2,370	1,791
1992/93	3	21,495	16,198	2,356	1,880
1993/94	3	21,915	17,475	2,363	1,943
1994/95	3	21,915	16,412	2,262	1,880
1995/96	3	21,915	21,725	2,352	1,975
1996/97	3	21,915	20,893	2,383	2,072
1997/98	3	21,915	20,955	2,455	2,168
1998/99	3	24,035	22,568	2,359	2,069
1999/00	3	24,035	21,321	2,210	1,957
2000/01	3	28,000	26,724	1,845	1,655
2001/02	3	26,734	27,459	1,714	1,541
2002/03	3	27,006	24,214	1,683	1,516
2002/03					
July	3		1,691	1,694	1,523
August	3		1,691	1,691	1,521
September	3		2,161	1,690	1,520
October	3		1,749	1,685	1,515
November	3		1,729	1,681	1,517
December	3		1,988	1,676	1,512
January	3		2,649	1,674	1,510
February	3		1,856	1,670	1,506
March	3		2,305	1,669	1,507
April	3		2,504	1,700	1,531
May	3		2,522	1,692	1,525
June	3		1,369	1,683	1,516

Source:- Bureau of Statistics, Punjab, Lahore.

Table 5.5- Performance of Cotton Textile Industry

Year/ Month	No. of Units Covered			Installed Capacity at the end of Year/Month			Production		Employment ('00' Nos.)	
	Total	Yarn	Cloth	Spindles ('000' Nos.)	Rotors (Nos.)	Looms (Nos.)	Cotton Yarn ('000' Kgs.)	Cotton Cloth ('000' Metres)	Total	Produc-tion Workers
1991/92	182	169	38	3,870	30,032	7,736	569,162	175,363	1,294	1,143
1992/93	204	186	41	4,239	30,896	7,699	614,383	192,441	1,372	1,210
1993/94	217	198	44	4,503	39,232	6,630	580,202	181,096	1,323	1,159
1994/95	230	208	47	4,631	43,064	6,554	559,290	191,233	1,241	1,081
1995/96	236	214	44	4,761	44,220	6,447	607,250	198,466	1,248	1,086
1996/97	240	218	43	4,821	40,000	6,172	555,645	208,301	1,308	1,137
1997/98	245	222	46	4,840	38,376	6,168	559,800	228,629	1,375	1,204
1998/99	245	222	46	4,897	34,632	6,654	547,499	234,824	1,390	1,218
1999/00	255	228	52	4,902	40,112	6,892	630,705	259,790	1,428	1,260
2000/01	255	228	52	4,952	38,883	6,805	649,947	269,188	1,468	1,294
2001/02	255	228	52	5,123	48,817	6,400	704,225	312,086	1,614	1,425
2002/03	267	238	53	5,518	45,276	6,777	740,051	304,867	1,625	1,437
2002/03										
July	267	238	53	5,209	39,809	5,816	61,707	27,531	1,618	1,431
August	267	238	53	5,300	44,297	6,376	63,410	27,650	1,633	1,441
September	267	238	53	5,284	44,665	6,375	63,581	26,786	1,638	1,448
October	267	238	53	5,418	42,263	6,016	63,985	25,948	1,642	1,454
November	267	238	53	5,380	45,121	6,431	60,980	24,377	1,632	1,445
December	267	238	53	5,397	41,601	7,557	62,347	25,676	1,626	1,439
January	267	238	53	5,360	41,041	8,200	60,893	24,445	1,634	1,446
February	267	238	53	5,429	45,544	6,529	60,521	24,112	1,615	1,424
March	267	238	53	5,409	45,545	6,441	60,486	24,447	1,616	1,427
April	267	238	53	5,316	43,169	6,104	60,657	24,559	1,616	1,428
May	267	238	53	5,471	42,981	6,037	60,697	24,623	1,617	1,426
June	267	238	53	5,518	45,276	6,777	60,787	24,713	1,619	1,429

Source:- Bureau of Statistics, Punjab, Lahore.

Table 5.6: Performance of Jute Textile Industry

Year/Month	No. of Units Covered	Production (M. Tons)				Employment (Nos.)	
		Sacking	Hessain	Twine	**Total**	**Total**	Production Workers
1991/92	8	39,014	8,281	9,478	**56,773**	**10,967**	9,366
1992/93	8	40,378	4,616	8,287	**53,281**	**10,286**	8,833
1993/94	8	30,989	5,347	7,638	**43,974**	**9,561**	8,163
1994/95	8	28,580	4,056	8,317	**40,953**	**7,560**	6,687
1995/96	8	28,087	7,363	10,139	**45,589**	**7,324**	6,528
1996/97	8	33,559	4,327	5,185	**43,071**	**7,390**	6,545
1997/98	9	48,557	6,228	8,889	**63,674**	**9,637**	8,485
1998/99	9	42,326	7,412	7,848	**57,586**	**10,440**	9,307
1999/00	10	43,495	7,788	9,976	**61,259**	**9,607**	8,374
2000/01	10	45,510	10,640	10,937	**67,087**	**9,749**	8,520
2001/02	10	42,174	9,597	9,250	**61,021**	**9,240**	8,012
2002/03	10	59,668	10,363	13,222	**83,253**	**9,863**	8,415
2002/03							
July	10	3,124	945	909	**4,978**	**9,468**	8,260
August	10	2,921	1,136	772	**4,829**	**9,593**	8,092
September	10	3,036	1,072	731	**4,839**	**9,279**	8,078
October	10	3,293	1,005	869	**5,167**	**9,392**	8,185
November	10	3,369	1,120	955	**5,444**	**9,766**	8,097
December	10	2,865	979	717	**4,561**	**9,874**	8,219
January	10	3,470	1,018	913	**5,401**	**9,806**	8,155
February	10	4,902	803	698	**6,403**	**9,543**	8,048
March	10	8,388	792	1,102	**10,282**	**10,250**	8,708
April	10	9,212	519	1,547	**11,278**	**10,343**	8,800
May	10	9,766	397	2,674	**12,837**	**10,644**	9,295
June	10	5,322	577	1,335	**7,234**	**10,393**	9,047

Source:- Bureau of Statistics, Punjab, Lahore.

Table 5.7: Performance of Woollen Textile Industry

Year / Month	No. of Units Covered	Installed Capacity		Production				Employment (Nos.)	
		Spindles ('000' Nos.)	Looms (Nos.)	Woollen Yarn ('000' Kgs.)	Knitting Yarn Wool ('000' Kgs.)	Woollen & Worsted Cloth ('000' Metres)	Blankets ('000' Nos.)	Total	Produc-tion Wor-kers
1991/92	23	52	493	2,696	2,279	2,180	37	4,012	3,084
1992/93	25	56	436	2,541	1,889	1,781	58	3,960	3,074
1993/94	26	58	436	2,227	1,688	1,500	68	3,605	2,857
1994/95	24	51	234	1,731	1,958	724	40	2,683	2,070
1995/96	24	59	234	1,545	2,217	755	30	2,473	1,878
1996/97	27	59	234	1,828	2,874	652	46	2,630	2,060
1997/98	26	66	206	1,482	2,498	892	41	2,356	1,823
1998/99	26	59	218	1,220	2,652	917	37	2,232	1,739
1999/00	27	65	218	1,320	3,360	809	36	2,259	1,789
2000/01	27	71	218	1,181	2,917	904	7	2,073	1,623
2001/02	27	71	218	1,052	3,330	859	8	1,947	1,524
2002/03	27	66	200	1,114	3,221	650	1	1,838	1,433
2002/03									
July	27			96	250	86	100	1,905	1,493
August	27			101	238	75	-	1,891	1,481
September	27			91	290	38	-	1,864	1,456
October	27			88	280	16	-	1,840	1,433
November	27			88	270	71	-	1,822	1,416
December	27			99	253	37	-	1,805	1,404
January	27			103	292	61	-	1,850	1,449
February	27			71	250	35	-	1,806	1,405
March	27			78	254	50	-	1,801	1,398
April	27			98	287	58	-	1,812	1,410
May	27			93	263	56	-	1,830	1,428
June	27			104	294	67	1	1,829	1,426

Source:- Bureau of Statistics, Punjab, Lahore

Table 5.8: Performance of Leather Tanning Industry

Year / Month	No. of Units Covered	Annual Installed Capacity		Production		Employment (Nos.)	
		Upper Leather ('000'Sq. Metres)	Sole Leather ('000' Kgs.)	Upper Leather ('000'Sq. Metres)	Sole Leather ('000'Kgs.)	Total	Production Workers
1991/92	18	8,490	3,863	4,829	584	1,949	1,626
1992/93	18	8,540	3,863	4,077	462	1,771	1,433
1993/94	18	8,536	3,863	4,491	402	1,694	1,371
1994/95	18	8,536	3,863	4,041	395	1,688	1,361
1995/96	18	8,536	3,863	3,564	290	1,544	1,248
1996/97	18	8,536	3,862	2,909	210	1,337	1,082
1997/98	18	8,536	3,863	2,960	110	1,121	903
1998/99	18	8,536	3,863	2,318	108	1,003	781
1999/00	18	8,536	3,863	2,119	124	945	713
2000/01	19	9,736	3,843	3,208	128	1,141	867
2001/02	19	9,736	3,843	2,685	118	1,146	868
2002/03	17	9,025	3,843	2,716	119	1,138	850
2002/03							
July	17			239	10	1,133	845
August	17			217	10	1,137	851
September	17			183	11	1,146	860
October	17			201	10	1,144	854
November	17			239	9	1,144	854
December	17			193	10	1,144	852
January	17			187	9	1,152	858
February	17			159	10	1,146	854
March	17			238	10	1,168	877
April	17			301	10	1,117	831
May	17			311	10	1,100	828
June	17			248	10	1,120	841

Source:- *Bureau of Statistics, Punjab, Lahore.*

Table 5.9: Performance of Footwear Industry

Year /Month	No. of Units Covered	Installed Capacity (000 pairs)	**Production (000 pairs)**	**Employment (Nos.)**	
				Total	Production Workers
1991/92	13	29,855	29,607	9,370	8,045
1992/93	13	29,255	26,615	8,751	7,442
1993/94	13	29,255	24,590	9,099	7,748
1994/95	13	29,255	25,543	9,156	7,784
1995/96	13	26,755	25,368	8,972	7,677
1996/97	13	26,755	23,626	8,755	7,432
1997/98	13	26,755	22,820	7,537	6,442
1998/99	13	26,555	22,181	7,511	6,458
1999/00	13	26,555	24,116	7,674	6,609
2000/01	12	26,411	24,618	7,474	6,425
2001/02	12	26,411	23,324	7,846	6,784
2002/03	12	26,411	22,166	8,386	7,312
2002/03					
July	12		1,228	8,263	7,208
August	12		1,523	8,189	7,109
September	12		1,709	8,139	7,070
October	12		2,289	8,347	7,285
November	12		1,761	8,518	7,448
December	12		1,706	8,480	7,417
January	12		1,967	8,582	7,516
February	12		1,632	8,477	7,405
March	12		1,852	8,458	7,387
April	12		2,173	8,473	7,408
May	12		1,977	8,414	7,359
June	12		2,349	8,286	7,128

Source:- Bureau of Statistics, Punjab, Lahore.

Table 5.10: Performance of Paper & Paper Board Industry

Year /Month	No. of Units Covered	Annual Installed Capacity	Production (M.Tons)		Employment (Nos.)	
			Paper	Paper Board	Total	Production Workers
1991/92	25	163,190	60,389	97,534	3,514	2,765
1992/93	26	200,754	53,899	121,653	3,667	2,809
1993/94	26	198,950	58,316	112,438	3,525	2,747
1994/95	26	198,950	64,627	114,573	3,525	2,767
1995/96	26	203,330	71,651	101,075	3,515	2,740
1996/97	29	230,750	111,759	117,832	4,500	3,608
1997/98	31	241,800	113,125	124,955	4,827	3,741
1998/99	34	265,200	112,939	135,343	5,134	4,073
1999/00	34	287,210	125,687	153,789	5,176	4,147
2000/01	31	300,000	130,279	166,031	5,082	4,074
2001/02	31	231,610	129,422	165,099	5,205	4,162
2002/03	31	231,610	136,628	96,264	5,367	4,315
2002/03						
July	31		10,541	18,211	5,318	4,277
August	31		11,216	17,369	5,324	4,283
September	31		10,574	16,379	5,366	4,326
October	31		11,842	16,391	5,382	4,328
November	31		11,581	15,830	5,365	4,314
December	31		11,812	15,205	5,386	4,327
January	31		11,911	15,829	5,372	4,315
February	31		9,600	15,952	5,372	4,334
March	31		11,621	16,021	5,375	4,320
April	31		11,971	14,963	5,361	4,307
May	31		12,415	16,367	5,377	4,319
June	31		11,544	17,747	5,408	4,345

Source:- Bureau of Statistics, Punjab, Lahore.

Table 5.11: Performance of Chemical Industry, The Punjab

Year / Month	No. of Units Covered	Caustic Soda (M. Tons)		Sulphuric Acid Production (MT)	Employment (Nos.)	
		Annual Installed Capacity	Production (M.Tons)		Total	Production Workers
1991/92	7	100000	77096	54310	1583	1116
1992/93	7	100000	77949	55838	1838	1366
1993/94	7	100000	85318	54450	1838	1360
1994/95	7	100000	92873	47173	1833	1465
1995/96	7	120000	108049	35195	1405	1097
1996/97	7	120000	116545	12743	1132	862
1997/98	7	120000	113312	6931	1103	817
1998/99	7	120000	117237	8145	1107	811
1999/00	7	150000	136677	38143	1119	807
2000/01	7	150000	139751	38281	1076	762
2001/02	7	150000	143913	42815	1086	766
2002/03		150000	157022	41907	1166	836
	7					
2002/03						
July	7		11525	2573	1147	827
August	7		12078	2930	1160	836
September	7		11736	3480	1165	833
October	7		11991	3856	1162	838
November	7		12680	3839	1148	825
December	7		14142	3701	1144	823
January	7		15237	4125	1168	841
February	7		12167	3475	1158	829
March	7		13020	3501	1157	830
April	7		13992	3864	1179	831
May	7		14318	3409	1197	858
June	7		14137	3154	1203	860

Source *:- Bureau of Statistics, Punjab, Lahore.*

Table 5.12: Performance of Fertilizers Industry

Year / Month	No. of Units Covered	Annual Installed Capacity (000M.tons)	Production ('000' M.Tons)					Employment (Nos.)	
			Urea	Amm. Sul-phate	Super Phosphate	Amm. Nitrate	Nitro Phos-phate	Total	Production Workers
1991/92	6	2,011	956	93	110	300	310	4,760	3,106
1992/93	6	2,702	1,409	93	114	302	297	4,805	3,069
1993/94	6	2,702	1,819	82	108	243	251	4,936	3,142
1994/95	6	2,802	1,791	80	76	314	285	4,927	3,127
1995/96	6	2,802	1,889	84	54	383	337	4,992	3,146
1996/97	6	2,802	1,944	78	(b)	330	350	5,040	3,139
1997/98	6	3,059	1,975	1 (a)	(b)	316	293	4,691	3,143
1998/99	6	3,059	1,994	-	(b)	339	285	4,310	2,930
1999/00	6	3,059	2,218	-	73	386	261	4,712	3,232
2000/01	6	3,059	2,223	-	78	374	284	4,626	3,146
2001/02	6	3,059	2,223	-	78	374	284	4,626	3,146
2002/03	6	3,059	2,309	-	77	329	306	4,587	3,101
	6	3,059	2,636	-	76	335	305	4,886	3,325
2002/03									
July	6		208	-	4	34	29	486	3,108
August	6		200	-	7	34	26	4,578	3,104
September	6		181	-	7	27	22	4,638	3,160
October	6		215	-	6	37	31	4,618	3,138
November	6		201	-	7	32	30	4,620	3,133
December	6		204	-	8	29	29	4,620	3,123
January	6		195	-	7	-	-	5,140	3,501
February	6		225	-	6	19	17	5,172	3,535
March	6		270	-	7	32	31	5,120	3,542
April	6		241	-	7	29	28	5,190	3,537
May	6		237	-	7	32	33	5,183	3,519
June	6		259	-	3	30	30	5,106	3,508

Table 5.13: Performance of Cement Industry

Year / Month	No. of Units Covered	Annual Installed Capacity (000M.tons)	Production ('000' MT)	Employment (Nos.)	
				Total	Production Workers
1991/92	8	2,369	2,364	4,046	2,717
1992/93	7	2,500	2,492	3,635	2,361
1993/94	7	2,500	2,328	3,294	2,101
1994/95	8	2,900	2,677	3,150	1,967
1995/96	8	3,560	3,534	3,861	2,555
1996/97	8	3,560	3,506	3,847	2,423
1997/98	10	5,550	3360 (a)	3,976	2,351
1998/99	10	5,495	4,102	4,000	2,361
1999/00	10	6,545	4,299	3,746	2,218
2000/01	10	6,545	4,042	3,814	2,263
2001/02	10	6,545	4,074	3,060	1,680
2002/03	10	6,545	4,569	3,104	1,693
2002/03					
July	10		376	3,114	1,701
August	10		325	3,109	1,698
September	10		376	3,112	1,696
October	10		404	3,117	1,694
November	10		413	3,118	1,691
December	10		337	3,115	1,693
January	10		421	3,106	1,688
February	10		306	3,100	1,693
March	10		496	3,098	1,694
April	10		386	3,093	1,692
May	10		352	3,091	1,690
June	10		377	3,075	1,689

a) Decrease is due to closure of two units in addition to artificial shortage of raw material

Source:-Bureau of Statistics, Punjab, Lahore.

Table 5.14: Performance of Re-Rolled Steel Industry

Year/Month	No. of Units Covered	Annual Installed Capacity (M.tons)	Production (MT)	Employment (Nos.)	
				Total	Production Workers
1991/92	31	287,000	113,166	3,541	3,201
1992/93	31	287,400	120,346	3,604	3,279
1993/94	33	289,400	75977 (a)	3,771	3,492
1994/95	33	289,400	56,928	3,590	3,308
1995/96	33	289,640	73,800	2,243	1,470
1996/97	33	283,640	65,366	2,003	1,295
1997/98	33	283,640	67,701	1,683	1,316
1998/99	34	283,640	90,285	1,698	1,317
1999/00	34	283,640	128,626	1,701	1,306
2000/01	34	300,000	118,641	1,650	1,278
2001/02	34	300,000	144,800	1,630	1,274
2002/03	34	300,000	194,438	1,617	1,267
2002/03					
July	34		17,489	1,607	1,268
August	34		17,775	1,592	1,268
September	34		16,554	1,621	1,271
October	34		17,319	1,621	1,266
November	34		16,259	1,621	1,266
December	34		16,013	1,621	1,266
January	34		14,061	1,621	1,266
February	34		14,747	1,621	1,266
March	34		16,167	1,621	1,266
April	34		14,900	1,621	1,266
May	34		15,750	1,621	1,266
June	34		17,404	1,621	1,266

a) Fall in production is due to Lay-off during August 1993 and February 1994, closure of 3 units due to shortage of raw material and less production in PECO Ltd., Lahore.

Source:- Bureau of Statistics, Punjab, Lahore.

Table 5.15: Performance of Bicycle Industry

Year/Month	No. of Units Covered	Annual Installed Capacity numbers	**Production numbers**	**Employment (Nos.)**	
				Total	Production Workers
1991/92	6	610,000	493,353	3,620	2,934
1992/93	6	610,000	588,567	3,462	2,833
1993/94	5	625,000	563,687	3,399	2,751
1994/95	5	685,000	474,485	3,169	2,525
1995/96	5	625,000	545,114	3,178	2,568
1996/97	5	625,000	432,438	3,125	2,505
1997/98	5	625,000	452,124	2,989	2,447
1998/99	5	655,000	503,988	2,826	2,377
1999/00	5	655,000	534,097	2,774	2,328
2000/01	4	655,000	569,560	2,786	2,311
2001/02	4	655,000	553,395	2,330	1,952
2002/03	4	655,000	629,695	1,919	1,691
2002/03					
July	4		50,942	1,823	1,617
August	4		54,423	1,830	1,605
September	4		50,982	1,780	1,555
October	4		56,290	1,805	1,557
November	4		56,677	1,818	1,568
December	4		44,193	1,816	1,562
January	4		56,861	1,931	1,706
February	4		44,798	1,946	1,719
March	4		50,471	2,129	1,864
April	4		59,537	2,030	1,810
May	4		53,574	2,018	1,847
June	4		50,947	2,106	1,885

Source :- Bureau of Statistics, Punjab , Lahore.

Table 5.16: Performance of Diesel Engine Industry

Year/Month	No. of Units Covered	Annual Installed Capacity (numbers)	**Production (numbers)**	**Employment (Nos.)**	
				Total	Production Workers
1991/92	23	6,696	1,280	117	99
1992/93	23	6,696	1,896	116	95
1993/94	23	6,675	1,507	114	96
1994/95	23	6,706	369 (a)	98	88
1995/96	23	6,406	344	81	67
1996/97	23	6,856	187	72	53
1997/98	23	6,856	173	67	48
1998/99	23	6,856	153	62	47
1999/00	23	6,856	196	76	60
2000/01	23	6,800	200	70	52
2001/02	23	6,800	200	70	52
2002/03	23	6,800	128	65	49
	23	6,800	2,611	109	90
2002/03					
July	23		209	95	78
August	23		211	95	79
September	23		210	95	78
October	23		209	95	78
November	23		210	95	78
December	23		212	95	78
January	23		210	95	78
February	23		211	95	78
March	23		209	97	80
April	23		210	90	74
May	23		256	179	152
June	23		254	181	150

a) Less demand .as imported diesel engines were available at cheaper rates at that time.

Source:-Bureau of Statistics, Punjab, Lahore.

Table 5.17: Performance of Electric Fans Indutry

Year/Month	No. of Units Covered	Annual Installed Capacity (numbers)	Production (numbers)	Employment (Nos.)	
				Total	Production Workers
1991/92	39	546,750	316,454	1,218	988
1992/93	39	561,500	360,151	1,248	1,008
1993/94	39	580,500	419,321	1,258	1,024
1994/95	39	596,100	418,840	1,298	1,003
1995/96	39	602,139	454,143	1,191	947
1996/97	39	638,139	436,918	1,105	859
1997/98	39	638,139	518,582	1,212	931
1998/99	50	1,057,000	554,471	1,267	964
1999/00	50	863,520	656,406	1,340	1,034
2000/01	40	1,153,099	808,544	1,419	1,162
2001/02	40	1,200,000	904,736	1,479	1,199
2002/03	40	1,200,000	1,213,508	1,596	1,326
2002/03					
July	40		101,137	1,542	1,277
August	40		83,718	1,443	1,187
September	40		53,547	1,399	1,136
October	40		53,689	1,478	1,207
November	40		64,611	1,504	1,239
December	40		76,012	1,524	1,262
January	40		105,699	1,576	1,309
February	40		104,709	1,583	1,320
March	40		135,162	1,692	1,432
April	40		138,165	1,738	1,465
May	40		156,796	1,771	1,499
June	40		140,263	1,897	1,579

Source:- Bureau of Statistics, Punjab, Lahore.

Table 5.18: Performance of Electric Motors Industry

Year /Month	No. of Units Covered	Annual Installed Capacity (numbers)	**Production (numbers)**	**Employment (Nos.)**	
				Total	Production Workers
1991/92	21	74,640	15,053	114	97
1992/93	21	73,740	17,473	120	103
1993/94	21	76,240	13,586	116	99
1994/95	21	76,240	9,476	99	87
1995/96	21	75,540	5,345	88	78
1996/97	21	75,540	2,628	86	76
1997/98	21	75,540	5,083	101	88
1998/99	21	75,540	3,448	103	88
1999/00	21	75,540	3,437	94	79
2000/01	21	80,500	4,503	101	84
2001/02	21	80,500	5,454	118	101
2002/03	19	80,500	6,293	118	101
2002/03					
July	19		705	118	101
August	19		640	118	101
September	19		589	118	101
October	19		500	118	101
November	19		443	118	101
December	19		393	118	101
January	19		371	118	101
February	19		319	118	101
March	19		452	118	101
April	19		506	118	101
May	19		667	118	101
June	19		708	118	101

Source:- Bureau of Statistics, Punjab, Lahore.

Table 5.19: Performance of Electric Transformers Industry

Year/Month	No. of Units Covered	**Production (Numbers)**	**Employment (Nos.)**	
			Total	Production Workers
1991/92	8	11,501	2,781	2,248
1992/93	8	13,560	2,962	2,339
1993/94	8	11,392	3,270	2,559
1994/95	8	14,070	3,490	2,717
1995/96	8	10,995	3,280	2,543
1996/97	8	2943 (a)	3,006	2,245
1997/98	8	2,949	2,699	2,017
1998/99	8	7,033	2,668	2,030
1999/00	8	5,297	2,710	2,079
2000/01	8	4,703	2,752	2,056
2001/02	5	6,509	2,994	2,322
2002/03	5	9,765	3,239	2,476
2002/03				
July	5	413	2,911	2,235
August	5	498	2,914	2,239
September	5	915	2,914	2,239
October	5	433	2,797	2,135
November	5	502	2,898	2,136
December	5	755	2,796	2,135
January	5	855	2,792	2,133
February	5	427	3,771	2,132
March	5	1,463	3,773	3,087
April	5	760	3,769	3,079
May	5	744	3,770	3,080
June	5	2,000	3,767	3,080

Note:-Annual installed capacity is not available.

a)The decrease is due to:-

i) Less demand as reported by Climax Engineering Ltd.,Gujranwala and PEL Ltd., Lahore.

ii)Shortage of imported Components as reported by PEL Ltd., Lahore.

Source:-Bureau of Statistics, Punjab, Lahore.

Table 5.20: Performance of Tractor Industry

Year/Month	No. of Units Covered	Production (Numbers)	Employment (Nos.)	
			Total	Production Workers
1991/92	4	9,817	1,305	730
1992/93	4	17,127	1,087	611
1993/94	4	14,907	1,076	652
1994/95	4	17,144	1,084	604
1995/96	4	16,208	1,074	601
1996/97	4	10,223	1,015	624
1997/98	4	14,142	986	604
1998/99	4	26,663	988	621
1999/00	4	34,504	969	620
2000/01	4	31,625	931	645
2001/02	4	24,651	928	633
2002/03	4	27,047	835	581
2002/03				
July	4	1,886	842	584
August	4	1,652	846	588
September	4	1,080	843	587
October	4	1,597	839	583
November	4	2,302	836	581
December	4	2,283	835	580
January	4	1,761	833	580
February	4	2,113	832	578
March	4	2,829	833	578
April	4	3,410	830	578
May	4	3,338	824	573
June	4	2,796	823	581

Note:-Annual installed capacity is not available.

Source:-Bureau of Statistics, Punjab, Lahore.

Table No. 5.21: Summary Statistics of Censuses of Manufacturing Industries

Item	Unit	1988-89	1989-90	1990-91	1991-92	1995-96	2001-02
Reporting Units	(Number)	2,589	2,461	2,452	2,210	2,364	2,357
Average Daily Employment during the	(000 Number)	241	266	302	298	300	376
Employment Cost	(Million Rupees)	6,774	8,664	10,670	11,636	17,637	28,563
Value of Fixed Assets at the end of the year	"	31,925	41,539	52,915	58,249	123,684	201,105
Industrial Cost	"	76,455	87,758	116,637	127,380	241,859	368,991
Gross Value of Industrial Production	"	107,290	125,231	164,563	180,330	329,431	517,761
Gross Value Added	"	30,835	37,473	47,926	52,950	87,572	148,770
Indirect Taxes	"	7,501	9,960	12,892	14,504	21,573	31,718

Source:- Bureau of Statistics, Punjab, Lahore

Table 5.22: Summary Statistics of Census of Manufacturing Industies by Major Industry Group, The Punjab: 2000/01

(Cost/value in Million Rupees)

	No. of Reporting Factories	Average Daily Employment during Year (000 Nos)	Employment Cost	Value of Fixed Assets at the end of the year	Industrial Cost	Gross Value of Industrial Production	Gross Value Added	Indirect Taxes
All Industrial Groups	**2,357**	**376**	**28,561**	**201,107**	**368,991**	**517,762**	**148,771**	**31,716**
Food	358	35	2,907	26,307	81,083	101,332	20,251	4,459
Beverages	17	5	518	1,806	4,639	9,826	5,187	2,220
Tobacco	3	3	261	1,198	4,141	14,985	10,843	10,758
Textiles	601	202	11,964	98,759	141,887	196,390	54,502	2,480
Wearing Apparel (Except Footwear)	53	23	1,333	5,242	9,843	13,632	3,789	(161)
Leather & Leather Products	48	3	239	741	6,145	7,943	1,799	(110)
Footwear (Except Rubber & Plastic Footwear)	9	7	681	429	2,254	4,138	1,883	338
Ginning & Pressing of Fibre	221	7	275	1,049	27,802	29,463	1,660	181
Wood & Cork Products (Except Furniture)	18	1	58	424	372	481	109	40
Furniture & Fixtures	13	-	13	35	146	187	40	(4)
Paper & Paper Products	48	8	795	5,488	12,977	16,801	3,824	2,021
Printing, Publishing & Allied Industries	33	1	75	142	291	440	149	9
Drugs & Pharmaceutical Products	72	7	704	1,850	4,589	7,171	2,582	40
Industrial Chemicals	43	10	2,548	20,165	17,993	34,121	16,129	1,225
Other Chemicals	49	4	658	1,704	5,568	8,611	3,043	1,079
Rubber Products	23	1	82	162	607	828	222	20
Petroleum & Coal Products	3	-	13	18	415	449	35	17
Plastic Products N.E.C.	28	1	77	964	805	1,165	360	106
Pottery, China & Earthenware	27	2	137	637	539	960	421	71
Glass & Glass Products	8	2	145	1,234	942	1,457	515	122
Other Non-Metallic Mineral Products	33	5	673	17,703	6,044	12,725	6,680	5,594
Iron & Steel Basic Industries	103	4	269	1,444	9,484	10,583	1,099	174
Non-Ferrous Metal Basic Industries	10	-	11	32	129	168	39	22
Metal Products Except Machinery	127	6	999	1,342	2,880	5,143	2,264	185
Machinery (Except Electrical)	132	8	1,049	3,757	11,171	14,085	2,914	122
Electrical Machinary, Apparatus Appliances and Supplies	102	10	682	4,544	5,583	9,408	3,825	931
Transport Equipment	69	5	334	1,519	4,644	5,754	1,110	23
Scientific, Precisionand Measuring Instruments &Equipment s	48	3	296	817	1,860	2,930	1,069	(51)
Sports & Athletic Goods	38	11	600	1,164	3,288	5,206	1,918	(228)
Miscellaneous Industries	20	2	165	431	870	1,380	510	33

Note :-Due to assurance of confidentiality provided to the respondents under the Industrial Statistics Act, information for industry group in which number of factories is less than three is not being shown separately.Information for such industry group has, been included in Major Group of Misc. Industries.

Source:-Bureau of Statistics, Punjab, Lahore.

Table 5.23: Summary Statistics of Census of Manufacturing Industries by District, The Punjab : 2000/01

(Cost/Value in Million Rupees)

Division/District	No. of Reporting Factories	Average Daily Employment during the Year ('000' No)	Employ-ment Cost	Value of Fixed Assets at the end of the Year	Industrial Cost	Gross Value of Industrial Production	Gross Value Added	Indirect Taxes
The Punjab	**2,357**	**376**	**28,562**	**201,105**	**368,992**	**517,762**	**148,767**	**31,721**
Bahawalpur Divn.	**138**	**11**	**1,312**	**6,104**	**27,097**	**37,065**	**9,968**	**790**
Bahawalnagar	79	4	181	1,786	11,035	11,971	936	122
Bahawalpur	19	2	54	299	2,528	2,899	371	80
R. Y. Khan	40	5	1,077	4,019	13,534	22,195	8,661	588
D. G. Khan Divn.	**33**	**15**	**1,136**	**12,401**	**18,705**	**26,464**	**7,758**	**2,388**
D. G. Khan	10	3	365	6,664	6,693	11,045	4,351	1,724
Layyah	4	1	51	124	606	803	197	69
Muzaffargarh	15	11	717	5,597	10,913	14,106	3,193	593
Rajanpur	4	-	3	16	493	510	17	2
Faisalabad Divn.	**344**	**57**	**3,591**	**25,187**	**58,054**	**76,699**	**18,645**	**2,694**
Faisalabad	272	46	2,949	19,725	45,732	60,990	15,258	1,494
Jhang	45	8	487	3,780	8,923	11,346	2,423	946
T. T. Singh	27	3	155	1,682	3,399	4,363	964	254
Gujranwala Divn.	**456**	**45**	**2,472**	**10,013**	**25,909**	**34,866**	**8,957**	**212**
Gujranwala	289	12	676	3,370	11,367	14,117	2,750	360
Gujrat	30	6	343	694	1,925	3,052	1,128	8
Hafizabad	6	3	270	2,362	1,947	2,756	809	104
Mandi Baha-ud-Din	3	1	66	1,228	1,003	1,516	513	131
Narowal	3	-	6	29	743	787	43	-
Sialkot	125	23	1,111	2,330	8,924	12,638	3,714	(391)
Lahore Divn.	**1,014**	**190**	**15,831**	**106,685**	**180,953**	**253,442**	**72,489**	**8,337**
Lahore	637	71	7,171	23,632	56,608	81,810	25,202	3,652
Kasur	121	49	3,002	29,626	44,017	64,625	20,608	1,042
Okara	22	2	157	2,045	3,148	4,521	1,373	384
Sheikhupura	234	68	5,501	51,382	77,180	102,486	25,306	3,259
Multan Divn.	**241**	**24**	**1,404**	**6,386**	**32,819**	**42,641**	**9,821**	**4,026**
Multan	123	11	957	2,897	15,026	18,817	3,791	538
Khanewal	38	4	198	2,278	9,332	10,619	1,288	256
Lodhran	17	-	19	75	1,382	1,471	89	7
Pakpattan	9	1	75	45	1,223	1,618	394	158
Sahiwal	38	7	119	870	4,012	8,082	4,069	3,056
Vehari	16	1	36	221	1,844	2,034	190	11
Rawalpindi Divn.	**92**	**21**	**1,835**	**11,257**	**16,283**	**30,835**	**14,551**	**10,582**
Rawalpindi	52	9	679	3,507	6,270	9,452	3,181	1,141
Attock	14	4	315	1,021	2,316	3,505	1,189	280
Chakwal	6	4	206	2,985	2,355	3,269	914	567
Jhelum	20	4	635	3,744	5,342	14,609	9,267	8,594
Sargodha Divn.	**39**	**13**	**981**	**23,072**	**9,172**	**15,750**	**6,578**	**2,692**
Sargodha	23	4	224	2,154	2,708	4,277	1,569	320
Bhakkar	2	2	92	951	1,109	1,351	242	107
Khushab	8	5	326	5,319	2,948	4,131	1,183	814
Mianwali	6	2	339	14,648	2,407	5,991	3,584	1,451

Source:- Bureau of Statistics, Punjab, Lahore.

Table 5.24: Number of Registered Factories by District

Division/District	No. of Factories Employing Persons 1998 (As on 30th June)			No. of Factories Employing Persons 1999 (As on 30th June)		
	Total	Less than 100	100 or more	Total	Less than 100	100 or more
The Punjab	**6,396**	**5,505**	**891**	**5,979**	**5,131**	**848**
Bahawalpur Divn.	**450**	**416**	**34**	**431**	**398**	**33**
Bahawalnagar	92	88	4	84	80	4
Bahawalpur	200	186	14	194	180	14
Rahim Yar Khan	158	142	16	153	138	15
D. G. Khan Divn.	**224**	**189**	**35**	**248**	**212**	**36**
D. G. Khan	82	69	13	89	75	14
Layyah	7	5	2	8	6	2
Muzaffargarh	95	76	19	102	83	19
Rajanpur	40	39	1	49	48	1
Faisalabad Divn.	**912**	**782**	**130**	**941**	**813**	**128**
Faisalabad	750	648	102	774	672	102
Jhang	98	80	18	98	80	18
T. T. Singh	64	54	10	69	61	8
Gujranwala Divn.	**1,343**	**1,265**	**78**	**1,279**	**1,200**	**79**
Gujranwala	743	722	21	695	673	22
Gujrat	261	240	21	251	231	20
Hafizabad	8	5	3	7	4	3
Mandi Baha-ud-Din	11	7	4	11	7	4
Narowal	8	8	-	8	8	-
Sialkot	312	283	29	307	277	30
Lahore Divn.	**2,253**	**1,799**	**454**	**1,921**	**1,507**	**414**
Kasur	242	136	106	247	41	106
Lahore	1,536	1,362	174	1,240	1,100	140
Okara	61	51	10	41	31	10
Sheikhupura	414	250	164	393	235	158
Multan Divn.	**787**	**722**	**65**	**766**	**702**	**64**
Khanewal	124	113	11	121	111	10
Lodhran	46	46	-	46	46	-
Multan	307	274	33	278	245	33
Pakpattan	41	40	1	52	51	1
Sahiwal	132	122	10	133	123	10
Vehari	137	127	10	136	126	10
Rawalpindi Divn.	**279**	**214**	**65**	**287**	**221**	**66**
Attock	42	30	12	44	31	13
Chakwal	14	5	9	14	5	9
Jhelum	34	22	12	33	21	12
Rawalpindi	189	157	32	196	164	32
Sargodha Divn.	**148**	**118**	**30**	**106**	**78**	**28**
Bhakkar	9	7	2	8	6	2
Khushab	22	11	11	18	8	10
Mianwali	15	8	7	14	8	6
Sargodha	102	92	10	66	56	10

Source *:- Bureau of Statistics, Punjab, Lahore.*

Table 5.25: Number of Registered Factories by Major Industry Group
The Punjab (As on 30th June)

Major Industry Group	No. of Factories Employing Persons 1998			No. of Factories Employing Persons 1999		
	Total	Less than 100	100 or more	Total	Less than 100	100 or more
All Industrial Groups	**6,396**	**5,505**	**891**	**5,979**	**5,131**	**848**
Food Except Beverages	952	839	113	865	755	108
Beverages	54	29	25	48	27	21
Tobacco	9	3	6	8	2	6
Textiles	1,347	950	397	1,290	898	392
Wearing Apparel Except Footwear	120	104	16	102	88	14
Leather & Leather Products	115	98	17	113	95	18
Footwear Except Rubber Footwear	44	38	6	34	28	6
Ginning Pressing & Balling of Fibre	732	717	15	728	713	15
Wood & Cork Products Except Furniture	36	30	6	33	27	6
Furniture & Fixtures Except Metal	43	43	-	37	37	-
Paper & Paper Products	84	65	19	81	61	20
Printing, Publishing & Allied Industries	94	86	8	84	76	8
Drugs & Pharmaceutical Products	114	87	27	104	84	20
Industrial Chemicals	87	64	23	81	63	18
Other Chemical and Petroleum/Coal Products	123	111	12	120	110	10
Rubber & Plastic Products	125	110	15	119	105	14
Pottery China/Earthenware	65	59	6	65	58	7
Glass & Glass Products	31	19	12	29	17	12
Other Non-Metallic Mineral Products	249	232	17	268	251	17
Iron and Steel Basic Industries	19	18	1	18	17	1
Non-Ferrous Metal Basic Industries	353	340	13	337	326	11
Fabricated Metal Products Except Machinery	478	455	23	414	390	24
Machinery Except Electrical	363	333	30	346	319	27
Electrical Machinery & Apparatus	179	144	35	171	140	31
Transport Equipment	117	108	9	111	103	8
Measuring Equipment	304	288	16	59	46	13
Sports Goods	58	45	13	227	216	11
Others	101	90	11	87	77	10

Source: *- Bureau of Statistics, Punjab, Lahore*

Table 5.26: Production of Major Manufactured Items, Pakistan and The Punjab

Item	Unit	2001-02			2000-2001		
		Pakistan	Punjab	% Share of Punjab	Pakistan	Punjab	% Share of Punjab
Cotton Yarn (a)	Million Kgs.	1,385	966	70	1,464	1,007	69
Cotton Cloth* (b)	Million	491	298	61	494	279	57
Vegetable Ghee (c)	'000' M.Tons	839	388	46	772	358	46
Sugar (d)	"	3,247	2,053	63	3,686	2,340	64
Fertilizers	"	5,056	3,022	60	5,189	3,353	65
Cement	"	9,935	4,074	41	10,845	4,569	42
Paper & Paper Board	"	548	295	54	376	333	89
Soda Ash	"	215	215	100	280	278	99
Caustic Soda	"	150	144	96	164	157	96
Sulphuric Acid	"	59	43	73	56	42	75
Cigarettes	Million Nos.	55,318	27,715	50	49,365	24,214	49

** Production of Cloth in the Punjab is in linear million metres.*

a) Excludes the production of man-made yarn/fibre.

b) Excludes the production of man-made cloth/fabrics.

c) Includes Islamabad Units but excludes Cooking Oil Produced by Ghee Mills.

d) Includes Sugar produced from Cane, Sugar Beet and Gur.

Source:-For Pakistan:-I)All items except Cement and Paper & Paper Board, Federal Bureau of Statistics, Economic Affairs and Statistics Division Govt. of Pakistan, Karachi.

ii) For Cement and Paper & Paper Board, Central Board of Revenue, Islamabad .

For Punjab:-I)All items except Cotton yarn and Cotton cloth, Bureau of Statistics, Punjab, Lahore

ii) For Cotton Yarn and Cotton Cloth Textile Commissioner Karachi.

Table 5.27: Industry-wise Loans Disbursed by Pakistan Industrial Credit and Investment Corporation Limited in the Punjab

Industrial Group	1997-98	1998-99	1999-00	2000-01	2001-02	2002-03
Loans Disbursed-Total	**154**	**324**	**188**	**605**	**850***	**1,085**
Sugar	-	-	-	-	-	66
Cotton Textiles	154	324	188	605	850	705
Chemical's Ceramics & Glass	-	-	-	-	-	268
Engineering	-	-	-	-	-	6
Miscellaneous	-	-	-	-	-	40

* *Include Rs.80.033 millions against guarantees and Rs. 369.236 millions against lease.*

Source:- Pakistan Industrial Credit and Investment Corporation Limited (PICIC) Karachi

Table 5.28: Industry-wise Loans Disbursed by the Industrial Development Bank of Pakistan in the Punjab

Industrial Group	1997-98	1998-99	1999-2000	2000-2001	2001-02	2002-03 (p)
Loans Disbursed-Total	**195**	**70**	**51**	**47**	**26**	**26**
Food Industries	3	12	7	31	1	1
Manufacturing of Cotton Textile	4	-	-	-	-	-
Manufacturing of Other Textiles	7	4	0	-	25	25
Paper & Paper Products	1	-	2	12	-	-
Manufacturing of Rubber Products (Except Footwear)	-	-	-	0	-	-
Manufacturing of Chemicals & Chemical Products.	170	43	-	-	-	-
Hotels and Motels	5	-	-	-	-	-
Cold Storage Including ICC Plants	-	0	-	-	-	-
Others	4	10	41	4	-	-

Source: - Industrial Development Bank of Pakistan, Karachi.

Table 6.1: Population Census

Census year	Enumeration Period		Census Date		Intercensal interval (Year)	Growth Rate(%)
1951	9th to 28th Feb.	1951	28th Feb.	1951	-	
1961	12th to 31st Jan.	1961	31st Jan.	1961	10	2.17
1972	16th to 30th Sept.	1972	16th Sept.	1972	11.62	3.41
1981	1st to 15th March	1981	1st March	1981	8.46	2.74
1998	2nd to 18th March	1998	2nd March	1998	17	2.64

Table 6.2 : Area, Population, Percentage of Area and Population, Density

Locality	Area (Sq.Kilo-metres)	Census Population (Thousand Persons)					Density (Persons Per Sq. K.M.)				Annual Growth Rate (Percentage)			
		1951	1961	1972	1981	1998	1961	1972	1981	1998	1961/1951	1972/1961	1981/1972	1998/1981
PAKISTAN	**796,096**	**33,740**	**42,880**	**65,309**	**84,254**	**132,352**	54	82	106	166	2.45	3.67	3.06	2.69
	(100)	**(100)**	**(100)**	**(100)**	**(100)**	**(100)**								
North West Frontier Province	74,521	4,557	5,731	8,389	11,061	17,744	77	113	148	238	2.2	3.33	3.32	2.82
	(9.36)	(13.51)	(13.37)	(12.85)	(13.13)	(13.41)								
Federally Administered Tribal Areas	27,220	1,332	1,847	2,491	2,199	3,176	68	92	81	117	3.2	2.61	(-)1.47	2.19
	(3.42)	(3.95)	(4.31)	(3.81)	(2.61)	(2.40)								
Federal Capital Territory, Islamabad	906	96	118	238	340	805	130	263	375	889	2.08	6.22	4.34	5.19
	(0.11)	(0.28)	(0.28)	(0.36)	(0.40)	(0.61)								
Punjab Province	205,345	20,541	25,464	37,607	47,292	73,621	124	183	230	358	2.17	3.41	2.74	2.64
	(25.79)	(60.88)	(59.38)	(57.58)	(56.13)	(55.63)								
Sindh Province	140,914	6,048	8,367	14,156	19,029	30,440	59	100	135	216	3	4.63	3.56	2.8
	(17.70)	(17.93)	(19.51)	(21.68)	(22.59)	(23.00)								
Balochistan Province	347,190	1,167	1,353	2,429	4,332	6,566		7	12	19	1.49	5.16	7.09	2.48
	(43.61)	(3.46)	(3.16)	(3.72)	(5.14)	(4.96)								

Note:- *Figures in Parenthesis are percentages.*

Source:- *i) For Area: Cartographic Office, Survey of Pakistan, Rawalpindi.*

ii)For Population: Population Census Organization, Economic Affairs, and Statistics Division Government of Pakistan, Islamabad.

Table 6.3: Area and Population by Tehsil, The Punjab: 1951, 1961, 1972 1981 and 1998 Censuses

Division/District/ Tehsil	Area (Sq.K.M.)	Population (Thousand Persons)				
		1951	1961	1972	1981	1998
The Punjab	**205345**	**20541**	**25464**	**37607**	**47292**	**73621**
Bahawalnagar Distt.	**8878**	**631**	**822**	**1073**	**1374**	**2061**
Bahawalnagar	1729	183	229	309	367	542
Chishtian	1500	149	197	254	327	498
Fort Abbas	2536	65	102	136	196	285
Haroonabad	1295	115	156	188	258	382
Minchinabad	1818	119	138	186	226	354
Bahawalpur Distt.	**24830**	**527**	**736**	**1071**	**1453**	**2433**
Ahmadpur East	1707	188	241	344	444	718
Bahawalpur	2372	146	231	355	457	807
Hasilpur	1372	128	168	231	197	318
Khairpur Tamewali	888	(Included in Hasilpur Tehsil)			117	185
Yazman	18491	65	96	141	238	405
R.Y.Khan Distt.	**11880**	**663**	**1016**	**1399**	**1841**	**3141**
Khanpur	1246	108	228	325	421	684
Liaquatpur	6727	144	228	305	395	699
Rahim Yar Khan	1715	248	323	437	575	986
Sadiqabad	2192	163	237	332	450	772
D.G.Khan Dist.	**11922**	**384**	**480**	**692**	**944**	**1643**
D.G.Khan	3814	238	311	465	636	1151
Taunsa	2769	101	117	162	226	366
(Tribal Area)	-5339	45	52	65	-82	126
Layyah Distt.	**6291**	**162**	**273**	**495**	**666**	**1121**
Chaubara	2755	17	36	65	94	161
Karor	1824	50	92	174	226	369
Layyah	1712	95	145	256	346	591
Muzaffargarh Distt.	**8249**	**589**	**717**	**1070**	**1498**	**2636**
Alipur	1391	211	241	336	231	398
Jatoi	1010	(Included in Alipur Tehsil)			242	447
Kot Addu	3471	143	185	313	450	808
Muzaffargarh	2377	235	291	421	575	983
Rajanpur Distt.	**12318**	**243**	**297**	**451**	**639**	**1104**
Jampur	2322	112	129	201	276	485
Rajanpur	2078	84	104	156	214	397
Rojhan	2905	47	63	94	127	208
(Tribal Area)	-5013	(b)	(b)	(b)	-21	-14
Faisalabad Distt.	**5856**	**1549**	**1990**	**3164**	**3562**	**5429**

Table 6.3: Area and Population by Tehsil, The Punjab: 1951, 1961, 1972 1981 and 1998 Censuses

Division/District/ Tehsil	Area (Sq.K.M.)	Population (Thousand Persons)				
		1951	1961	1972	1981	1998
Chak Jhumra	654	(Included in Faisalabad Sadar Tehsil)			202	254
Faisalabad City	168	702	1023	1705	1182	2140
Faisalabad Sadar	1186				666	924
Jaranwala	1811	438	483	738	748	1054
Sammundri	753	409	484	721	378	516
Tandianwala	1284	(Included in Sammundri Tehsil)			386	541
Jhang Distt.	**8809**	**876**	**1078**	**1562**	**1971**	**2835**
Chiniot	2643	330	397	571	694	965
Jhang	4153	363	441	631	817	1199
Shorkot	2013	183	240	360	460	671
Toba Tek Singh Distt.	**3252**	**604**	**693**	**1078**	**1134**	**1622**
Gojra	916	200	229	339	357	495
Kamalia	1336	170	193	326	342	510
Toba Tek Singh	1000	234	271	413	435	617
Gujranwala Distt.	**3622**	**795**	**1000**	**1615**	**2108**	**3401**
Gujranwala	914	578	745	1245	1098	1927
Kamoke	834	{(Included in Gujranwala Tehsil)}			273	406
Naushera Virkan	678				295	424
Wazirabad	1196	217	255	370	442	644
Gujrat Distt.	**3192**	**743**	**835**	**1177**	**1408**	**2048**
Gujrat	1463	397	433	625	745	1093
Kharian	1154	346	402	552	543	780
Sarai Alamgir	575	(Included in Kharian Tehsil)			120	175
Hafizabad Distt.	**2367**	**252**	**292**	**444**	**568**	**833**
Hafizabad	1189	252	292	444	332	485
Pindi Bhattian	1178	(Included in Hafizabad Tehsil)			236	348
Mandi Baha-ud-Din Distt.	**2673**	**415**	**491**	**722**	**846**	**1161**
Malakwal	759	(Included in Phalia Tehsil)			240	300
Mandi Baha-ud-Din	759				325	461
Phalia	1155	415	491	722	281	400
Narowal Distt.	**2337**	**513**	**550**	**835**	**909**	**1265**
Narowal	1065	252	266	386	443	627
Shakargarh	1272	261	284	449	466	638
Sialkot Distt.	**3016**	**961**	**1045**	**1510**	**1803**	**2723**
Daska	1026	291	332	490	574	861
Pasrur	978	252	257	374	426	612
Sialkot	1012	418	456	646	803	1250
Lahore Divn.	**16104**	**3550**	**4388**	**6555**	**8670**	**14248**

Table 6.3: Area and Population by Tehsil, The Punjab: 1951, 1961, 1972 1981 and 1998 Censuses

Division/District/ Tehsil	Area (Sq.K.M.)	Population (Thousand Persons)				
		1951	1961	1972	1981	1998
Kasur Distt.	**3995**	**761**	**854**	**1186**	**1528**	**2376**
Chunian	1212	391	419	599	389	585
Kasur	1891	370	435	587	736	1157
Pattoki	892	(Included in Chunian Tehsil)			403	634
Lahore Distt.	**1772**	**1135**	**1626**	**2588**	**3545**	**6319**
Lahore Cantt.	917	1135	1626	2588	2032	3778
Lahore City	855				1513	2541
Okara Distt.	**4377**	**731**	**828**	**1124**	**1487**	**2233**
Depalpur	2502	307	332	500	669	1031
Okara	1241	424	496	624	578	862
Renala Khurd	634	(Included in Okara Tehsil)			240	340
Sheikhupura Distt.	**5960**	**923**	**1080**	**1657**	**2110**	**3321**
Ferozewala	1902	219	259	397	550	999
Nankana Sahib	1662	249	292	419	509	684
Safdar Abad	1057	455	529	841	429	589
Sheikhupura	1339				622	1049
Multan Divn.	**21136**	**3192**	**4010**	**5721**	**7534**	**11577**
Khanewal Distt.	**4349**	**636**	**774**	**1068**	**1370**	**2068**
Jahanian	549	(Included in Khanewal Tehsil)			164	250
Kabirwala	1804	251	310	403	456	659
Khanewal	784	179	219	321	353	543
Mian Channu	1212	206	245	344	397	616
Lodhran Distt.	**2778**	**289**	**364**	**559**	**740**	**1172**
Karor Pacca	778		236	362	236	362
Lodhran	1111	289	364	559	283	472
Multan Distt.	**3720**	**725**	**984**	**1506**	**1970**	**3117**
Jalalpur Pir Wala	978	(Included in Shujabad Tehsil)			230	358
Multan City	304	507	721	1115	913	1501
Multan Sadar	1632				555	831
Shujabad	806	218	263	391	272	427
Pakpattan Distt.	**2724**	**{ 380**	**440**	**616}**	**844**	**1287**
Arifwala	1241	380	440	616	406	604
Pakpattan Sharif	1483				438	683
Sahiwal Distt.	**3201**	**604**	**744**	**944**	**1281**	**1843**
Chichawatni	1591	262	321	412	553	785
Sahiwal	1610	342	423	532	728	1058
Vehari Distt.	**4364**	**558**	**704**	**1028**	**1329**	**2090**
Burewala	1295	200	265	369	473	730
Mailsi	1639	185	226	342	442	705
Vehari	1430	173	213	317	414	655

Table 6.3: Area and Population by Tehsil, The Punjab: 1951, 1961, 1972 1981 and 1998 Censuses

Division/District/ Tehsil	Area (Sq.K.M.)	Population (Thousand Persons)				
		1951	1961	1972	1981	1998
Rawalpindi Divn.	**22254**	**2182**	**2537**	**3778**	**4433**	**6660**
Attock Distt.	**6857**	**481**	**528**	**741**	**877**	**1275**
Attock	1350	233	244	345	323	501
Fateh Jang	1249	84	94	129	149	214
Hassanabdal	350	(Included in Attock Tehsil)			93	136
Jand	2043	65	75	105	165	228
Pindi Gheb	1865	99	115	162	147	196
Chakwal Distt.	**6524**	**460**	**508**	**700**	**776**	**1084**
Chakwal	3120	311	335	460	428	598
Choa Saidan Shah	472	(Included in Chakwal Tehsil)			80	106
Talagang	2932	149	173	240	268	380
Jhelum Distt.	**3587**	**368**	**415**	**592**	**659**	**937**
Jhelum	1062	191	211	311	353	517
Pind Dadan Khan	1267	102	124	168	188	264
Sohawa	1258	75	80	113	118	156
Rawalpindi Distt.	**5286**	**873**	**1086**	**1745**	**2121**	**3364**
Gujar Khan	1457	210	232	348	360	494
Kahuta	1096	124	146	219	232	313
Kotli Sattian	304	(Included in Kahuta &Murree Tehsils)			83	81
Murree	434	99	117	186	157	177
Rawalpindi	1682	440	591	992	1066	1928
Taxila	312	(Included in Rawalpindi Tehsil)			223	371
Bhakkar Distt.	**8153**	**234**	**332**	**500**	**666**	**1051**
Bhakkar	2427	138	188	287	265	425
Darya Khan	1719	(Included in Bhakkar Tehsil)			147	233
Kalur Kot	2239	65	96	138	147	223
Mankera	1768	31	48	75	107	170
Khushab Distt.	**6511**	**271**	**363**	**547**	**641**	**906**
Khushab	4011	215	295	448	516	731
Nurpur	2500	56	68	99	125	175
Mianwali Distt.	**5840**	**316**	**414**	**595**	**712**	**1057**
Isa Khel	1863	76	96	154	160	257
Mianwali	2689	240	318	441	374	532
Piplan	1288	(Included in Mianwali Tehsil)			178	268
Sargodha Distt.	**5854**	**890**	**1104**	**1553**	**1912**	**2666**
Bhalwal	2115	311	376	522	633	820
Sahiwal	829	(Included in Shahpur Tehsil)			173	237
Sargodha	1536	404	511	719	723	1081
Shahpur	767	175	217	312	206	274
Sillanwali	607	(Included in Sargodha Tehsil)			177	254

Table 6.4: Population by Tehsil and Area, The Punjab: 1981 and 1998 Censuses

Division/District/Tehsil	1981 ('000' Persons)			1998 ('000' Persons)			Urban Population(Percentage)	
	Total	Urban	Rural	Total	Urban	Rural	1981	1998
The Punjab	**47,292**	**13,053**	**34,239**	**73,621**	**23,019**	**50,602**	**27.6**	**31.3**
Bahawalnagar Distt.	**1,374**	**245**	**1,129**	**2,061**	**393**	**1,668**	**17.8**	**19.1**
Bahawalnagar	367	88	279	542	134	408	24.0	24.7
Chishtian	327	62	265	498	102	396	18.9	20.5
Fort Abbas	196	19	177	285	34	251	9.7	12.2
Haroonabad	258	53	205	382	85	297	20.5	22.0
Minchinabad	226	23	203	354	38	316	10.2	10.7
Bahawalpur Distt.	**1,453**	**330**	**1,123**	**2,433**	**665**	**1,768**	**22.7**	**27.3**
Ahmadpur East	444	70	374	718	117	601	15.8	16.3
Bahawalpur	457	197	260	807	429	378	43.1	53.2
Hasilpur	197	37	160	317	71	246	18.8	22.4
Khairpur Tamewali	117	16	101	185	27	158	13.7	14.6
Yazman	238	10	228	406	21	385	4.2	5.2
R.Y.Khan Distt.	**1,841**	**300**	**1,541**	**3,141**	**617**	**2,524**	**16.3**	**19.6**
Khanpur	421	71	350	684	150	534	16.9	21.9
Liaquatpur	395	15	380	699	33	666	3.8	4.7
R.Y.Khan	575	141	434	986	275	711	24.5	27.9
Sadiqabad	450	73	377	772	159	613	16.2	20.6
D.G.Khan Distt.	**944**	**122**	**822**	**1,643**	**229**	**1,414**	**12.9**	**13.9**
D.G.Khan	636	102	534	1,152	191	961	16.0	16.6
Taunsa	226	20	206	365	38	327	8.8	10.4
(Tribal Area)	(82)	(-)	(82)	(126)	(-)	(126)	(-)	(n.a.)
Layyah Distt.	**666**	**63**	**603**	**1,121**	**144**	**977**	**9.5**	**12.8**
Chaubara	94	-	94	161	-	161	-	n.a.
Karor	226	11	215	369	38	331	4.9	10.3
Layyah	346	52	294	591	106	485	15.0	17.9
Muzaffargarh Distt.	**1,498**	**157**	**1,341**	**2,636**	**342**	**2,294**	**10.5**	**13.0**
Alipur	231	18	213	398	29	369	7.8	7.3
Jatoi	242	30	212	447	53	394	12.4	11.9
Kot Addu	450	44	406	808	120	688	9.8	14.9
Muzaffargarh	575	65	510	983	140	843	11.3	14.2
Rajanpur Distt.	**639**	**62**	**577**	**1,104**	**161**	**943**	**9.7**	**14.6**
Jampur	276	28	248	485	68	417	10.1	14.0
Rajanpur	215	27	188	397	82	315	12.6	20.7
Rojhan	127	7	120	208	11	197	5.5	5.3
(Tribal Area)	(21)	(-)	(21)	(14)	(-)	(14)	(-)	(n.a)
Faisalabad Distt.	**3,562**	**1,245**	**2,317**	**5,430**	**2,319**	**3,111**	**35.0**	**42.7**
Chak Jhumra	202	17	185	254	32	222	8.4	12.6
Faisalabad City	1,182	1,104	78	2,140	2,009	131	93.4	93.9

Table 6.4: Population by Tehsil and Area, The Punjab: 1981 and 1998 Censuses

Division/District/Tehsil	1981 ('000' Persons)			1998 ('000' Persons)			Urban Population(Percentage)	
	Total	Urban	Rural	Total	Urban	Rural	1981	1998
Faisalabad Sadar	666	-	666	924	23	901	-	2.5
Jaranwala	748	69	679	1,055	137	918	9.2	13.0
Sammundri	378	31	347	516	55	461	8.2	10.7
Tandlianwala	386	24	362	541	63	478	6.2	11.6
Jhang Distt.	**1,971**	**444**	**1,527**	**2,834**	**663**	**2,171**	**22.5**	**23.4**
Chiniot	694	160	534	965	259	706	23.1	26.8
Jhang	817	204	613	1,199	305	894	25.0	25.4
Shorkot	460	80	380	670	99	571	17.4	14.8
T.T.Singh Distt.	**1,134**	**186**	**948**	**1,622**	**306**	**1,316**	**16.4**	**18.9**
Gojra	357	68	289	495	118	377	19.0	23.8
Kamalia	342	80	262	510	128	382	23.4	25.1
Toba Tek Singh	435	38	397	617	60	557	8.7	9.7
Gujranwala Distt.	**2,108**	**927**	**1,181**	**3,401**	**1,719**	**1,682**	**44.0**	**50.5**
Gujranwala	1,098	698	400	1,927	1,320	607	63.6	68.5
Kamoke	273	71	202	406	152	254	26.0	37.4
Naushera Virkan	295	20	275	424	34	390	6.8	8.0
Wazirabad	442	138	304	644	213	431	31.2	33.1
Gujrat Distt.	**1,408**	**357**	**1,051**	**2,048**	**568**	**1,480**	**25.4**	**27.7**
Gujrat	745	215	530	1,093	363	730	28.9	33.2
Kharian	543	118	425	780	168	612	21.7	21.5
Sarai Alamgir	120	24	96	175	37	138	20.0	21.1
Hafizabad Distt.	**568**	**133**	**435**	**833**	**228**	**605**	**23.4**	**27.4**
Hafizabad	332	93	239	485	148	337	28.0	30.5
Pindi Bhattian	236	40	196	348	80	268	16.9	23.0
Mandi Baha-ud-Din Distt.	**846**	**81**	**765**	**1,161**	**176**	**985**	**9.6**	**15.2**
Malakwal	240	23	217	299	31	268	9.6	10.4
Mandi Baha-ud-Din	325	45	280	462	113	349	13.8	24.5
Phalia	281	13	268	400	32	368	4.6	8.0
Narowal Distt.	**909**	**90**	**819**	**1,265**	**154**	**1,111**	**9.9**	**12.2**
Narowal	443	65	378	627	103	524	14.7	16.4
Shakargarh	466	25	441	638	51	587	5.4	8.0
Sialkot Distt.	**1,803**	**475**	**1,328**	**2,723**	**713**	**2,010**	**26.3**	**26.2**
Daska	574	112	462	861	196	665	19.5	22.8
Pasrur	426	48	378	612	78	534	11.3	12.7
Sialkot	803	315	488	1,250	439	811	39.2	35.1
Kasur Distt.	**1,528**	**332**	**1,196**	**2,376**	**542**	**1,834**	**21.7**	**22.8**
Chunian	389	37	352	585	61	524	9.5	10.4
Kasur	736	230	506	1,157	366	791	31.2	31.6
Pattoki	403	65	338	634	115	519	16.1	18.1

Table 6.4: Population by Tehsil and Area, The Punjab: 1981 and 1998 Censuses

Division/District/Tehsil	1981 ('000' Persons)			1998 ('000' Persons)			Urban Population(Percentage)	
	Total	Urban	Rural	Total	Urban	Rural	1981	1998
Lahore Distt.	**3,545**	**2,988**	**557**	**6,319**	**5,209**	**1,110**	**84.3**	**82.4**
Lahore Cantt.	2,032	1,687	345	3,778	3,128	650	83.0	82.8
Lahore City	1,513	1,301	212	2,541	2,081	460	86.0	81.9
Okara Distt.	**1,487**	**273**	**1,214**	**2,232**	**514**	**1,718**	**18.4**	**23.0**
Depalpur	669	101	568	1,031	210	821	15.1	20.4
Okara	578	154	424	862	272	590	26.6	31.6
Renala Khurd	240	18	222	339	32	307	7.5	9.4
Sheikhupura Distt.	**2,110**	**381**	**1,729**	**3,321**	**871**	**2,450**	**18.1**	**26.2**
Ferozwala	550	71	479	999	290	709	12.9	29.0
Nankana Sahib	509	48	461	684	69	615	9.4	10.1
Safdar Abad	429	86	343	589	137	452	20.0	23.3
Sheikhupura	622	176	446	1,049	375	674	28.3	35.7
Khanewal Distt.	**1,370**	**230**	**1,140**	**2,068**	**362**	**1,703**	**16.8**	**17.5**
Jahanian	164	16	148	250	25	225	9.8	10.0
Kabirwala	456	54	402	659	99	560	11.8	15.0
Khanewal	353	102	251	543	152	391	28.9	28.0
Mian Channu	397	58	339	616	89	527	14.6	14.4
Lodhran Distt.	**740**	**74**	**666**	**1,172**	**169**	**1,003**	**10.0**	**14.4**
Dunyapur	221	16	205	338	29	309	7.2	8.6
Karor Pacca	236	36	200	362	75	287	15.3	20.7
Lodhran	283	22	261	472	65	407	7.8	13.8
Multan Distt.	**1,970**	**798**	**1,172**	**3,117**	**1,315**	**1,802**	**40.5**	**42.2**
Jalalpur Pirwala	230	16	214	358	32	326	7.0	8.9
Multan City	913	732	181	1,501	1,198	303	80.2	79.8
Multan Sadar	555	12	543	831	28	803	2.2	3.4
Shujabad	272	38	234	427	57	370	14.0	13.3
Pakpattan Distt.	**844**	**114**	**730**	**1,287**	**183**	**1,104**	**13.5**	**14.2**
Arifwala	406	44	362	603	74	529	10.8	12.3
Pakpattan	438	70	368	684	109	575	16.0	15.9
Sahiwal Distt.	**1,281**	**201**	**1,080**	**1,843**	**302**	**1,541**	**15.7**	**16.4**
Chichawatni	553	50	503	785	73	712	9.0	9.3
Sahiwal	728	151	577	1,058	229	829	20.7	21.6
Vehari Distt.	**1,329**	**181**	**1,148**	**2,090**	**335**	**1,755**	**13.6**	**16.0**
Burewala	473	86	387	730	152	578	18.2	20.8
Mailsi	442	41	401	705	89	616	9.3	12.6
Vehari	414	54	360	655	94	561	13.0	14.4
Attock Distt.	**877**	**131**	**746**	**1,275**	**271**	**1,004**	**14.9**	**21.3**
Attock	323	66	257	501	160	341	20.4	31.9
Fateh Jang	149	14	135	214	26	188	9.4	12.1

Table 6.4: Population by Tehsil and Area, The Punjab: 1981 and 1998 Censuses

Division/District/Tehsil	1981 ('000' Persons)			1998 ('000' Persons)			Urban Population(Percentage)	
	Total	Urban	Rural	Total	Urban	Rural	1981	1998
Hassanabdal	93	27	66	136	38	98	29.0	27.9
Jand	165	-	165	228	17	211	-	7.5
Pindi Gheb	147	24	123	196	30	166	16.3	15.3
Chakwal Distt.	**776**	**65**	**711**	**1,084**	**132**	**952**	**8.4**	**12.2**
Chakwal	428	44	384	598	80	518	10.3	13.4
Choa Saidan Shah	80	-	80	106	14	92	-	13.2
Talagang	268	21	247	380	38	342	7.8	10.0
Jhelum Distt.	**659**	**168**	**491**	**937**	**259**	**678**	**25.5**	**27.6**
Jhelum	353	136	217	517	200	317	38.5	38.7
Pind Dadan Khan	188	32	156	264	47	217	17.0	17.8
Sohawa	118	-	118	156	12	144	-	7.7
Rawalpindi Distt.	**2,121**	**1,015**	**1,106**	**3,364**	**1,789**	**1,575**	**47.9**	**53.2**
Gujar Khan	360	34	326	494	67	427	9.4	13.6
Kahuta	232	9	223	313	19	294	3.9	6.1
Kotli Sattian	83	-	83	81	-	81	-	-
Murree	157	16	141	177	22	155	10.2	12.4
Rawalpindi	1,066	795	271	1,928	1,410	518	74.6	73.1
Taxila	223	161	62	371	271	100	72.2	73.0
Bhakkar Distt.	**666**	**97**	**569**	**1,051**	**168**	**883**	**14.6**	**16.0**
Bhakkar	265	42	223	425	69	356	15.8	16.2
Darya Khan	147	32	115	233	54	179	21.8	23.2
Kalur Kot	147	23	124	223	36	187	15.6	16.1
Mankera	107	-	107	170	9	161	-	5.3
Khushab Distt.	**641**	**146**	**495**	**906**	**229**	**677**	**22.8**	**25.3**
Khushab	516	133	383	731	214	517	25.8	29.3
Nurpur	125	13	112	175	15	160	10.4	8.6
Mianwali Distt.	**712**	**139**	**573**	**1,057**	**220**	**837**	**19.5**	**20.8**
Isa Khel	160	22	138	257	44	213	13.8	17.1
Mianwali	374	59	315	532	103	429	15.8	19.4
Piplan	178	58	120	268	73	195	32.6	27.2
Sargodha Distt.	**1,912**	**503**	**1,409**	**2,666**	**749**	**1,917**	**26.3**	**28.1**
Bhalwal	633	139	494	820	167	653	22.0	20.4
Sahiwal	173	21	152	236	50	186	12.1	21.2
Sargodha	723	291	432	1,081	458	623	40.2	42.4
Shahpur	206	37	169	274	51	223	18.0	18.6
Sillanwali	177	15	162	255	23	232	8.5	9.0

Source: Population Census Organization, Economic Affairs & Statistics Division, eb. 1986)" and 1998 Population Census.Govt. of Pakistan, Islamabad, "1951-81 Population of Administrative Units ((As on 4th Feb. 1986)" and 1998 Population Census

Table 6.5: Population by Tehsil and Sex, The Punjab: 1981and 1998 Censuses

Division/District/Tehsil	1981 ('000' Persons)			1998 ('000' Persons)			Sex Ratio (Males Per 100 Females)	
	Both Sexes	Male	Female	Both Sexes	Male	Female	1981	1998
The Punjab	**47,292**	**24,860**	**22,432**	**73,621**	**38,094**	**35,527**	**110.8**	**107.2**
Bahawalnagar Distt.	**1,374**	**722**	**652**	**2,061**	**1,067**	**994**	**110.7**	**107.3**
Bahawalnagar	367	194	173	542	283	259	112.1	109.3
Chishtian	327	172	155	498	256	242	111.0	105.8
Fort Abbas	196	103	93	285	147	138	110.8	106.5
Haroonabad	258	134	124	382	196	186	108.1	105.4
Minchinabad	226	119	107	354	185	169	111.2	109.5
Bahawalpur Distt.	**1,453**	**772**	**681**	**2,433**	**1,279**	**1,154**	**113.4**	**110.8**
Ahmadpur East	444	237	207	718	376	342	114.5	109.9
Bahawalpur	457	243	214	807	431	376	113.6	114.6
Hasilpur	197	104	93	317	163	154	111.8	105.8
Khairpur Tamewali	117	61	56	185	96	89	108.9	107.9
Yazman	238	127	111	406	213	193	114.4	110.4
Rahim Yar Khan Distt.	**1,841**	**978**	**863**	**3,141**	**1,637**	**1,504**	**113.3**	**108.8**
Khanpur	421	223	198	684	355	329	112.6	107.9
Liaquatpur	395	209	186	699	363	336	112.4	108.0
Rahim Yar Khan	575	305	270	986	515	471	113.0	109.3
Sadiqabad	450	240	210	772	404	368	114.3	109.8
D.G.Khan Distt.	**944**	**497**	**447**	**1,643**	**854**	**789**	**111.2**	**108.2**
D.G.Khan	636	335	301	1,152	600	552	111.3	108.7
Taunsa	226	119	107	365	188	177	111.2	106.2
(Tribal Area)	(82)	(43)	(39)	(126)	(66)	(60)	(110.3)	(110.0)
Layyah Distt.	**666**	**351**	**315**	**1,121**	**579**	**542**	**111.4**	**106.8**
Chaubara	94	49	45	161	84	77	108.9	109.1
Karor	226	119	107	369	189	180	111.2	105.0
Layyah	346	183	163	591	306	285	112.3	107.4
Muzaffargarh Distt.	**1,498**	**793**	**705**	**2,636**	**1,373**	**1,263**	**112.5**	**108.7**
Alipur	231	123	108	398	209	189	113.9	110.6
Jatoi	242	128	114	447	231	216	112.3	106.9
Kot Addu	450	238	212	808	419	389	112.3	107.7
Muzaffargarh	575	304	271	983	514	469	112.2	109.6
Rajanpur Distt.	**639**	**341**	**298**	**1,104**	**582**	**522**	**114.4**	**111.5**
Jampur	276	146	130	485	254	231	112.3	110.0
Rajanpur	215	115	100	397	209	188	115.0	111.2
Rojhan	127	69	58	208	111	97	119.0	114.4
(Tribal Area)	(21)	(11)	(10)	(14)	(8)	(6)	(110.0)	(133.0)
Faisalabad Distt.	**3,562**	**1,879**	**1,683**	**5,430**	**2,827**	**2,603**	**111.6**	**108.6**
Chak Jhumra	202	107	95	254	130	124	112.6	104.8
Faisalabad City	1,182	627	555	2,140	1,122	1,018	113.0	110.2
Faisalabad Sadar	666	350	316	924	479	445	110.8	107.6

Table 6.5: Population by Tehsil and Sex, The Punjab: 1981and 1998 Censuses

Division/District/Tehsil	1981 ('000' Persons)			1998 ('000' Persons)			Sex Ratio (Males Per 100 Females)	
	Both Sexes	Male	Female	Both Sexes	Male	Female	1981	1998
Jaranwala	748	394	354	1,055	549	506	111.3	108.5
Sammundri	378	197	181	516	265	251	108.8	105.6
Tandlianwala	386	204	182	541	282	259	112.1	108.9
Jhang Distt.	**1,971**	**1,041**	**930**	**2,834**	**1,474**	**1,360**	**111.9**	**108.4**
Chiniot	694	367	327	965	503	462	112.2	108.9
Jhang	817	432	385	1,199	623	576	112.2	108.2
Shorkot	460	243	217	670	348	322	112.0	108.1
T.T.Singh Distt.	**1,134**	**591**	**543**	**1,622**	**832**	**790**	**108.8**	**105.3**
Gojra	357	186	171	495	254	241	108.8	105.4
Kamalia	342	179	163	510	263	247	109.8	106.5
Toba Tek Singh	435	226	209	617	315	302	108.1	104.3
Gujranwala Distt.	**2,108**	**1,114**	**994**	**3,401**	**1,770**	**1,631**	**112.1**	**108.5**
Gujranwala	1,098	582	516	1,927	1,010	917	112.8	110.1
Kamoke	273	145	128	406	210	196	113.3	107.1
Naushera Virkan	295	156	139	424	220	204	112.2	107.8
Wazirabad	442	231	211	644	330	314	109.5	105.1
Gujrat Distt.	**1,408**	**727**	**681**	**2,048**	**1,026**	**1,022**	**106.8**	**100.4**
Gujrat	745	384	361	1,093	547	546	106.4	100.2
Kharian	543	284	259	780	395	385	109.7	102.6
Sarai Alamgir	120	59	61	175	84	91	96.7	92.3
Hafizabad Distt.	**568**	**301**	**267**	**833**	**433**	**400**	**112.7**	**108.3**
Hafizabad	332	175	157	485	252	233	111.5	108.2
Pindi Bhattian	236	126	110	348	181	167	114.5	108.4
Mandi Baha-ud-Din Distt.	**846**	**448**	**398**	**1,161**	**595**	**566**	**112.6**	**105.1**
Malakwal	240	127	113	299	153	146	112.4	104.8
Mandi Baha-ud-Din	325	172	153	462	236	226	112.4	104.4
Phalia	281	149	132	400	206	194	112.9	106.2
Narowal Distt.	**909**	**471**	**438**	**1,265**	**636**	**629**	**107.5**	**101.1**
Narowal	443	230	213	627	317	310	108.0	102.3
Shakargarh	466	241	225	638	319	319	107.1	100.0
Sialkot Distt.	**1,803**	**942**	**861**	**2,723**	**1,396**	**1,327**	**109.4**	**105.2**
Daska	574	299	275	861	440	421	108.7	104.5
Pasrur	426	221	205	612	307	305	107.8	100.7
Sialkot	803	422	381	1,250	649	601	110.8	108.0
Kasur Distt.	**1,528**	**806**	**722**	**2,376**	**1,244**	**1,132**	**111.6**	**109.9**
Chunian	389	204	185	585	305	280	110.3	108.9
Kasur	736	389	347	1,157	605	552	112.1	109.6
Pattoki	403	213	190	634	334	300	112.1	111.3
Lahore Distt.	**3,545**	**1,898**	**1,647**	**6,319**	**3,329**	**2,990**	**115.2**	**111.3**
Lahore Cantt.	2,032	1,088	944	3,778	1,995	1,783	115.3	111.9

Table 6.5: Population by Tehsil and Sex, The Punjab: 1981and 1998 Censuses

Division/District/Tehsil	1981 ('000' Persons)			1998 ('000' Persons)			Sex Ratio (Males Per 100 Females)	
	Both Sexes	Male	Female	Both Sexes	Male	Female	1981	1998
Lahore City	1,513	810	703	2,541	1,334	1,207	115.2	110.5
Okara Distt.	**1,487**	**785**	**702**	**2,232**	**1,167**	**1,065**	**111.8**	**109.6**
Depalpur	669	353	316	1,031	537	494	111.7	108.7
Okara	578	306	272	862	456	406	112.5	112.3
Renala Khurd	240	126	114	339	174	165	110.5	105.5
Sheikhupura Distt.	**2,110**	**1,117**	**993**	**3,321**	**1,729**	**1,592**	**112.5**	**108.6**
Ferozwala	550	292	258	999	519	480	113.2	108.1
Nankana Sahib	509	268	241	684	355	329	111.2	107.9
Safdar Abad	429	226	203	589	304	285	111.3	106.7
Sheikhupura	622	331	291	1,049	551	498	113.7	110.6
Khanewal Distt.	**1,370**	**720**	**650**	**2,068**	**1,072**	**996**	**110.8**	**107.6**
Jahania	164	86	78	250	129	121	110.3	106.6
Kabirwala	456	240	216	659	343	316	111.1	108.5
Khanewal	353	185	168	543	281	262	110.1	107.3
Mian Channu	397	209	188	616	319	297	111.2	107.4
Lodhran Distt.	**740**	**391**	**349**	**1,172**	**609**	**563**	**112.0**	**108.2**
Dunyapur	221	116	105	338	174	164	110.5	106.1
Karor Pacca	236	125	111	362	189	173	112.6	109.2
Lodhran	283	150	133	472	246	226	112.8	108.8
Multan Distt.	**1,970**	**1,048**	**922**	**3,117**	**1,636**	**1,481**	**113.7**	**110.5**
Jalalpur Pir Wala	230	122	108	358	186	172	113.0	108.1
Multan City	913	486	427	1,501	797	704	113.8	113.2
Multan Sadar	555	296	259	831	431	400	114.3	107.8
Shujabad	272	144	128	427	222	205	112.5	108.3
Pakpattan Distt.	**844**	**445**	**399**	**1,287**	**669**	**618**	**111.5**	**108.3**
Arifwala	406	214	192	603	312	291	111.5	107.2
Pakpattan	438	231	207	684	357	327	111.6	109.2
Sahiwal Distt.	**1,281**	**674**	**607**	**1,843**	**953**	**890**	**111.0**	**107.1**
Chichawatni	553	290	263	785	403	382	110.3	105.5
Sahiwal	728	384	344	1,058	550	508	111.6	108.3
Vehari Distt.	**1,329**	**701**	**628**	**2,090**	**1,084**	**1,006**	**111.6**	**107.8**
Burewala	473	249	224	730	378	352	111.2	107.4
Mailsi	442	233	209	705	366	339	111.5	108.0
Vehari	414	219	195	655	340	315	112.3	107.9
Attock Distt.	**877**	**447**	**430**	**1,275**	**636**	**639**	**104.0**	**99.5**
Attock	323	168	155	501	257	244	108.4	105.3
Fatch Jang	149	76	73	214	107	107	104.1	100.0
Hassanabdal	93	49	44	136	70	66	111.4	106.1
Jand	165	80	85	228	108	120	94.1	90.0
Pindi Gheb	147	74	73	196	94	102	101.4	92.2
Chakwal Distt.	**776**	**381**	**395**	**1,084**	**518**	**566**	**96.5**	**91.5**

Table 6.5: Population by Tehsil and Sex, The Punjab: 1981and 1998 Censuses

Division/District/Tehsil	1981 ('000' Persons)			1998 ('000' Persons)			Sex Ratio (Males Per 100 Females)	
	Both Sexes	Male	Female	Both Sexes	Male	Female	1981	1998
Chakwal	428	211	217	598	286	312	97.2	91.7
Choa Saidan Shah	80	40	40	106	52	54	100.0	96.3
Talagang	268	130	138	380	180	200	94.2	90.0
Jhelum Distt.	**659**	**333**	**326**	**937**	**468**	**469**	**102.1**	**99.8**
Jhelum	353	180	173	517	264	253	104.0	104.3
Pind Dadan Khan	188	95	93	264	130	134	102.2	97.0
Sohawa	118	58	60	156	74	82	96.7	90.2
Rawalpindi Distt.	**2,121**	**1,099**	**1,022**	**3,364**	**1,723**	**1,641**	**107.5**	**105.0**
Gujar Khan	360	174	186	494	236	258	93.5	91.5
Kahuta	232	112	120	313	149	164	93.3	90.9
Kotli Sattian	83	42	41	81	39	42	102.4	92.9
Murree	157	82	75	177	91	86	109.3	105.8
Rawalpindi	1,066	568	498	1,928	1,014	914	114.1	110.9
Taxila	223	119	104	371	194	177	114.4	109.6
Bhakkar Distt.	**666**	**351**	**315**	**1,051**	**543**	**508**	**111.4**	**106.9**
Bhakkar	265	139	126	425	219	206	110.3	106.3
Darya Khan	147	78	69	233	121	112	113.0	108.0
Kalur Kot	147	77	70	223	115	108	110.0	106.5
Mankera	107	57	50	170	88	82	114.0	107.3
Khushab Distt.	**641**	**327**	**314**	**906**	**451**	**455**	**104.1**	**99.1**
Khushab	516	263	253	731	363	368	104.0	98.6
Nurpur	125	64	61	175	88	87	104.9	101.1
Mianwali Distt.	**712**	**365**	**347**	**1,057**	**530**	**527**	**105.2**	**100.6**
Isa Khel	160	80	80	257	126	131	100.0	96.2
Mianwali	374	192	182	532	268	264	105.5	101.5
Piplan	178	93	85	268	136	132	109.4	103.0
Sargodha Distt.	**1,912**	**1,004**	**908**	**2,666**	**1,373**	**1,293**	**110.6**	**106.2**
Bhalwal	633	330	303	820	422	398	108.9	106.0
Sahiwal	173	92	81	236	119	117	113.6	101.7
Sargodha	723	382	341	1,081	561	520	112.0	107.9
Shahpur	206	107	99	274	140	134	108.1	104.5
Sillanwali	177	93	84	255	131	124	110.7	105.6

Source: Population Census Organization,Economic Affairs & Statistics Division, Government of Pakistan, Islamabad.

Table 6.6 : Population by Age group (15 Years and Above) ,Marital Status and Sex, The Punjab: 1998 Census

Age-Group/Years	Both Sexes					Male					Female				
	Total	Never Married	Married	Widowed	Divorced	**Total**	Never Married	Married	Wido-wed	Divorced	**Total**	Never Married	Married	Wido-wed	Divorced
Total	**42,317**	**13,474**	**26,138**	**2,518**	**187**	**21,892**	**8,156**	**12,838**	**840**	**58**	**20,425**	**5,318**	**13,300**	**1,678**	**129**
15 - 19	**7,585**	6,819	742	18	6	**3,896**	3,723	164	8	1	**3,689**	3,096	578	10	5
20 - 24	**6,553**	3,836	2,668	30	19	**3,281**	2,440	824	13	4	**3,272**	1,396	1,844	17	15
25 - 29	**5,323**	1,518	3,732	48	25	**2,704**	1,112	1,563	22	7	**2,919**	406	2,169	26	18
30 - 34	**4,651**	563	3,989	72	27	**2,419**	416	1,964	30	9	**2,232**	147	2,025	42	18
35 - 39	**3,580**	217	3,250	90	23	**1,885**	153	1,692	33	7	**1,695**	64	1,558	57	16
40 - 44	**3,266**	133	2,975	136	22	**1,669**	87	1,533	42	7	**1,597**	46	1,442	94	15
45 - 49	**2,627**	79	2,361	171	16	**1,342**	52	1,234	51	5	**1,285**	27	1,127	120	11
50 - 54	**2,457**	77	2,100	265	15	**1,295**	49	1,162	79	5	**1,162**	28	938	186	10
55 - 59	**1,707**	47	1,405	246	9	**921**	29	812	77	3	**786**	18	593	169	6
60 Years & Above	**4,568**	185	2,916	1,442	25	**2,480**	95	1,890	485	10	**2,088**	90	1,026	957	15

Table 6.7: Population by Religion and Area, The Punjab: 1998 Census

(Thousand Persons)

Religion	Total	Urban	Rural
Total	**73,621**	**23,019**	**50,602**
Muslim	**71,575**	22,156	49,419
Christian	**1,700**	753	947
Ahmadi	**181**	85	96
Hindu	**93**	15	78
Scheduled Castes	**24**	3	21
Others	**49**	7	42

Source: Population Census Organization, Statistics Division, Government of Pakistan, Islamabad.

Table 6.8: Disabled Population by Nature of Disability and Sex The Punjab: 1998 Census

(Thousand Persons)

Nature of Disability	Total	Male	Female
Disabled-Total	**1,827**	**1,074**	**753**
Blind	**155**	85	70
Deaf and Dumb	**149**	85	64
Crippled	**380**	236	145
Mentally Retarded	**144**	78	66
Insane	**123**	72	51
Having more than one disability	**147**	78	69
Other disability	**728**	439	289

Source: Population Census Organization, Statistics Division, Government of Pakistan, Islamabad.

Table 6.9: Population by Age-Group, The Punjab: 1998 Census

(Thousand Persons)

Age-Group (Years)	Total		Urban		Rural	
	Both Sexes	Male	Both Sexes	Male	Both Sexes	Male
Total - All Ages	**73,621**	**38,094**	**23,019**	**12,073**	**50,602**	**26,023**
Less than						
0-4	10,481	5,350	2,941	1,501	7,540	3,849
5-9	11,226	5,822	3,214	1,658	8,012	4,164
10-14	9,597	5,031	3,075	1,595	6,522	3,436
15-19	7,585	3,896	2,577	1,327	5,007	2,569
20-24	6,553	3,281	2,210	1,146	4,343	2,135
25-29	5,323	2,703	1,788	951	3,535	1,752
30-34	4,651	2,419	1,575	853	3,076	1,566
35-39	3,579	1,884	1,250	678	2,329	1,206
40-44	3,265	1,669	1,104	589	2,162	1,080
45-49	2,627	1,342	828	439	1,799	903
50-54	2,457	1,295	747	399	1,710	896
55-59	1,706	921	505	277	1,201	644
60-64	1,608	861	448	241	1,160	620
65-69	1,002	547	277	153	725	394
70-74	906	500	229	128	676	372
75 Years & Above	1,054	575	250	138	804	437

Source: Population Census Organization, Statistics Division, Government of Pakistan, Islamabad.

Table 6.10: Population of Major Cities / Towns

City/Town (Including Respective Cantonment)	Population (Thousand Persons)					Annual Growth Rate		Estimated Population			
	1951	1961	1972	1981	1998	1981/1972	1998/1981	Jun-03	03-Dec	Jun-04	Dec-04
Lahore City	**849**	**1,296**	**2,170**	**2,952**	**5,144**	**3.7**	**3.3**	**5,762**	**5,814**	**5,867**	**5,920**
Lahore	789	1,228	2,023	2,707	4,578	3.5	3.1	5,089	5,132	5,175	5,219
Lahore Cantt.	60	68	147	245	566	6.2	5.1	673	682	692	701
Rawalpindi City	**237**	**340**	**615**	**795**	**1,410**	**3.1**	**3.4**	**1,585**	**1,600**	**1,615**	**1,630**
Rawalpindi	153	197	373	457	782	2.4	3.2	873	880	888	896
Rawalpindi Cantt.	84	143	242	338	628	4.0	3.7	712	720	727	734
Multan City	**190**	**358**	**539**	**732**	**1,198**	**3.7**	**2.9**	**1,352**	**1,365**	**1,378**	**1,391**
Multan	175	340	504	696	1,078	3.9	2.6	1,194	1,203	1,213	1,223
Multan Cantt.	15	18	35	36	120	0.3	7.3	158	161	165	169
Gujranwala City	**121**	**196**	**361**	**659**	**1,226**	**7.4**	**3.7**	**1,378**	**1,390**	**1,403**	**1,417**
Gujranwala	121	196	324	601	1,133	7.6	3.8	1,276	1,288	1,300	1,313
Gujranwala Cantt.	(a)	(a)	37	58	93	5.5	2.8	102	102	103	104
Sialkot City	**156**	**167**	**204**	**302**	**421**	**4.8**	**2.0**	**464**	**466**	**470**	**474**
Sialkot	124	147	184	258	358	4.1	2.0	394	396	399	402
Sialkot Cantt.	32	20	20	44	63	9.8	2.1	70	70	71	72
Sargodha City	**78**	**129**	**200**	**291**	**459**	**4.5**	**2.7**	**522**	**527**	**533**	**538**
Sargodha	78	83	166	232	371	4.0	2.8	425	429	434	438
Sargodha Cantt.	-	46	34	59	88	6.7	2.4	97	98	99	100
Bahawalpur City	**42**	**84**	**134**	**180**	**408**	**3.6**	**4.9**	**467**	**472**	**477**	**482**
Bahawalpur	42	84	116	152	356	3.3	5.1	409	414	418	423
Bahawalpur Cantt.	-	-	18	28	52	5.4	3.7	58	58	59	59
Jhelum City	**38**	**52**	**70**	**106**	**147**	**5.1**	**1.9**	**160**	**161**	**163**	**164**
Jhelum	29	41	64	93	129	4.5	1.9	141	142	143	144
Jhelum Cantt.	9	11	6	14	18	10.5	1.5	19	19	20	20
Faisalabad	**179**	**425**	**823**	**1,104**	**2,009**	**3.5**	**3.6**	**2,246**	**2,266**	**2,286**	**2,306**
Jhang	**73**	**95**	**132**	**196**	**293**	**4.8**	**2.4**	**329**	**332**	**335**	**338**
Sheikhupura	**30**	**12**	**81**	**141**	**280**	**6.8**	**4.1**	**273**	**275**	**277**	**280**
Gujrat	**47**	**60**	**100**	**155**	**252**	**5.3**	**2.9**	**284**	**287**	**290**	**293**
Kasur	**63**	**75**	**101**	**156**	**245**	**5.3**	**2.7**	**229**	**231**	**233**	**235**
Rahim Yar Khan	**15**	**44**	**74**	**119**	**234**	**5.8**	**4.1**	**308**	**311**	**313**	**315**
Sahiwal	**50**	**75**	**107**	**151**	**209**	**4.2**	**1.9**	**261**	**263**	**266**	**268**
D. G. Khan	**36**	**47**	**72**	**102**	**191**	**4.2**	**3.8**	**214**	**216**	**218**	**220**

a) Established in 1966-67.

Source: Population Census Organization, Statistics Division, Government of Pakistan, Islamabad.

Table 7.1: Punjab: Current Receipts

Rs million

	1990/91 Actuals	1991/92 Actuals	1992/93 Actuals	1993/94 Actuals	1994/95 Actuals	1995/96 Actuals	1996/97 Actuals	1997/98 Actuals	1998/99 Actuals	1999/00 Actuals	2000/01 Actuals	2001/02 June final	2002/03 June final
TOTAL CURRENT RECEIPTS	**28,714**	**37,940**	**42,898**	**50,962**	**60,743**	**75,644**	**84,518**	**76,343**	**84,084**	**97,954**	**107,011**	**107,727**	**132,399**
TAX RECEIPTS	**22,197**	**32,877**	**36,712**	**44,991**	**56,163**	**69,889**	**78,429**	**67,390**	**71,434**	**83,225**	**93,095**	**93,916**	**109,094**
Federal tax assignments	**18,674**	**28,716**	**32,382**	**40,506**	**50,338**	**63,096**	**70,485**	**59,684**	**62,354**	**71,881**	**81,128**	**83,354**	**95,904**
Income and corporation tax	8,297	11,239	14,737	18,646	23,546	31,616	36,382	18,898	21,192	22,250	23,633	27,841	30,183
Sales tax	8,811	9,458	10,548	14,120	18,915	22,008	24,634	10,865	14,527	23,926	31,219	34,103	39,357
Others	*1,566*	*8,020*	*7,097*	*7,740*	*7,877*	*9,472*	*9,470*	*29,922*	*26,635*	*25,705*	*26,276*	*21,410*	*26,364*
Customs	1,516	895	220	191	0	0	0	15,319	13,209	12,863	13,109	10,204	14,107
Excise duty on Natural Gas	50	160	116	212	361	563	550	641	169	233	303	261	303
Surcharge on Natural Gas/petro./ferti.	0	454	359	538	585	736	384	418	331	843	984	1,291	1,120
Other Federal Excise Duties	0	6,512	6,403	6,798	6,931	8,173	8,535	12,659	11,880	11,736	10,504	9,631	9,761
Gift tax\Wealth\CVT	0	0	0	0	0	0	0	885	1,046	30	1,377	23	1,073
Provincial taxes	**3,523**	**4,161**	**4,330**	**4,485**	**5,824**	**6,793**	**7,944**	**7,706**	**9,080**	**11,344**	**11,967**	**10,562**	**13,190**
Direct taxes	*828*	*1,078*	*1,259*	*1,373*	*1,627*	*1,646*	*2,434*	*2,251*	*2,873*	*3,970*	*3,571*	*3,140*	*4,442*
Urban immovable property tax	110	187	355	416	418	156	776	171	201	190	476	17	994
Agriculture income tax	0	0	0	0	0	0	145	619	1,000	1,217	672	556	623
Worker Welfare tax	0	0	0	0	0	0	0	0	0	0	0	0	2
Registration fee	139	154	148	123	126	175	160	166	156	247	227	232	341
Land revenue (tax)	531	686	707	790	1,025	1,231	1,263	1,174	1,373	2,129	2,010	2,160	2,309
Capital gains tax	4	4	2	2	1	1	1	1	0	0	0	0	0
Taxes on profes,trades and callings	44	47	47	42	56	84	88	120	143	187	185	175	172
Others	0	0	0	0	0	0	0	0	0	0	0	0	0
Indirect taxes	*2,695*	*3,083*	*3,071*	*3,112*	*4,197*	*5,147*	*5,510*	*5,455*	*6,206*	*7,374*	*8,397*	*7,422*	*8,749*
Motor vehicle tax	563	584	676	669	937	867	994	1,141	1,328	1,602	1,593	1,610	1,944
GST on Services											934	1,094	1,236
Stamp duties	1,594	1,865	1,807	1,792	2,047	2,541	2,543	3,080	3,426	4,416	3,218	3,458	4,281
Entertainment tax	153	135	127	158	193	149	169	186	206	236	206	47	
Electricity duties	36	53	31	33	504	804	798	95	82	81	1,549	161	167
Hotel tax	66	31	39	25	85	65	116	92	80	96	81	93	90
Provincial excises	79	113	173	233	202	290	368	427	524	472	490	524	555
Infrastructure cess													
Education cess	0	1	1	1	1	91	1	183	213	47	3	0	0
Cotton cess	187	278	211	181	212	318	243	225	201	279	0	354	342
Other	18	21	8	19	16	21	278	26	144	145	323	81	133
NON-TAX RECEIPTS	6,516	5,063	6,186	5,971	4,580	5,756	6,089	8,953	12,650	14,729	13,916	13,811	23,305
Interest	*80*	*187*	*84*	*120*	*87*	*342*	*13*	*1,285*	*117*	*327*	*1,271*	*1,188*	*988*
Dividends	13	11	27	152	5	9	25	33	12	23	63	17	255
Royality on Natural Gas and Oil										750	738	858	936
Civil Adminstration Receipts	294	479	567	535	626	678	629	665	752	816	934	844	1,116
General Administration	*83*	*121*	*111*	*110*	*118*	*167*	*102*	*111*	*112*	*121*	*134*	*104*	*122*
Defence services receipts	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Law and Order	211	358	455	425	508	511	527	554	640	696	800	740	994
User Charges	2,450	2,371	2,385	2,916	2,898	2,978	3,491	4,110	4,343	4,447	4,466	4,928	4,753
Community Services	*238*	*306*	*269*	*282*	*347*	*347*	*412*	*517*	*580*	*486*	*409*	*432*	*618*
Works	221	261	208	231	288	296	346	433	503	421	353	397	581
Public Health	17	45	60	51	59	51	66	84	77	65	56	35	37
Social Services	696	767	629	898	721	763	1,010	993	1,078	997	999	1,351	899
Education	*461*	*486*	*369*	*613*	*388*	*432*	*646*	*588*	*643*	*640*	*652*	*712*	*603*
Health	92	123	120	139	152	176	193	228	280	165	138	527	143
Others	144	158	140	146	181	155	170	177	155	192	209	112	153
Economic Services	*1,516*	*1,298*	*1,487*	*1,736*	*1,831*	*1,868*	*2,070*	*2,601*	*2,685*	*2,965*	*3,058*	*3,145*	*3,236*
Irrigation (largely water charges)	855	624	727	894	989	1,040	1,169	1,470	1,712	1,890	1,951	1,932	1,837
Others	662	675	760	841	841	828	901	1,130	973	1,075	1,107	1,214	1,399
Others	0	0	0	0	0	0	0	0	0	277	491	367	377
Excise duty on minerals	0	0	0	0	0	0	0	0	0	277	278	367	377
Physical, Planning and Housing	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
Electricity Profits from WAPDA	0	0	0	0	0	0	0	0	0	0	213	0	0
Naturalization. Citizenship,passport etc.	0	0	0	0	0	0	0	0	0	0	0	3	0
Grants; non-development	2,836	1,168	2,179	1,309	60	7	9	302	1,028	5,836	4,130	3,746	8,260
Federal Govt. Non Development	2,836	1,168	2,179	1,309	60	7	9	302	1,028	5,836	4,130	3,746	8,260
Foreign Non-Development						0	0	0	0	0	0	0	0
Others	843	847	946	939	905	1,742	1,920	2,559	6,398	2,253	1,822	1,862	6,621

Source: Government of the Punjab, Finance Accounts (1990/91-2000/01) & Combined Civil Accounts (2001/02 & 2002/03).

Table 7.2: Punjab Current Transfer

Rs million

	1990/91 Actuals	1991/92 Actuals	1992/93 Actuals	1993/94 Actuals	1994/95 Actuals	1995/96 Actuals	1996/97 Actuals	1997/98 Actuals	1998/99 Actuals	1999/00 Actuals	2000/01 Actual	2001/02 June Final	2002/03 June Final
PUNJAB													
TOTAL CURRENT TRANSFERS(inc. grants)	**21510**	**29884**	**34560**	**41815**	**50399**	**63103**	**70495**	**59986**	**63383**	**77716**	**85259**	**87100**	**104164**
Federal tax assignments	18674	28716	32382	40506	50338	63096	70485	59684	62354	71881	81128	83354	95904
Income and corporation tax	8297	11239	14737	18646	23546	31616	36382	18898	21192	22250	23633	27841	30183
Sales tax	8811	9458	10548	14120	18915	22008	24634	10865	14527	23926	31219	34103	39357
Others	1566	8020	7097	7740	7877	9472	9470	29922	26635	25705	26276	21410	26364
Customs	1516	895	220	191	0	0	0	15319	13209	12863	13109	10204	14107
Excise duty & Royalty on Natural Gas	50	160	116	212	361	563	550	641	169	233	303	261	303
Surcharge on Natural Gas/petro./ferti.	0	454	359	538	585	736	384	418	331	843	984	1291	1120
Other Federal Excise Duties	0	6512	6403	6798	6931	8173	8535	12659	11880	11736	10504	9631	9761
Workers welf. Tax/CVT	0	0	0	0	0	0	0	885	1046	30	1377	23	1073
Federal Government	2836	1168	2179	1309	60	7	9	302	1028	5836	4130	3746	8260
Development	4879	4880	4881	4882	4883	4884	4885	4886	4887	4888	4889	4890	4891
Non-Development	2836	1168	2179	1309	60	7	9	302	1028	5836	4130	3746	8260

Source: Table 1.

Table7. 3: Punjab Total (Current And Development) Expenditures

Rs million

	1990/91 Actual	1991/92 Actual	1992/93 Actual	1993/94 Actual	1994/95 Actual	1995/96 Actual	1996/97 Actual	1997/98 Actual	1998/99 Actual	1999/00 Actual	2000/01 Actual	2001/02 June Final	2002/03 June Final
TOTAL EXPENDITURES	**43,643**	**48,444**	**52,593**	**52,211**	**68,087**	**80,095**	**77,331**	**82,089**	**88,563**	**105,339**	**105,960**	**107,899**	**125,875**
General Administration	2,947	3,735	4,667	4,724	8,142	14,667	11,877	9,544	12,759	14,175	15,671	14,130	16,055
Law & order	3,342	3,709	4,225	4,646	5,491	5,965	6,328	7,041	7,540	8,766	9,680	10,347	12,919
Defense	0	0	0	0	0	0	0	0	0	0	0	0	0
Social services	12,935	14,753	16,172	18,183	22,539	24,913	25,365	29,941	30,075	32,009	32,610	35,752	42,509
Education	9,579	11,049	12,093	13,963	17,049	19,144	19,281	22,921	22,663	23,451	24,941	27,330	31,711
Primary	4,789	5,932	6,146	7,283	9,140	10,433	10,331	13,389	12,907	13,930	14,172	15,525	18,247
Secondary	2,460	2,682	2,917	3,494	4,207	4,807	4,911	5,255	5,331	5,822	6,599	6,939	7,697
University & College Edu	947	763	1,225	1,322	1,462	1,748	1,801	1,948	1,989	2,240	2,275	2,504	3,164
Professional & Technical Edu & Teachers Trng	825	848	1,138	1,016	792	875	935	914	1,072	427	624	663	805
Others	558	823	667	847	1,446	1,281	1,303	1,414	1,364	1,031	1,271	1,699	1,807
Health	2,538	2,884	3,157	3,608	4,391	4,636	4,666	5,634	5,789	7,142	6,768	7,498	9,381
General Hospitals & Clinics	2,187	2,451	2,709	3,048	3,661	3,952	4,020	4,736	4,954	5,660	5,995	6,474	8,196
Mother & Child	17	14	16	17	20	38	20	27	23	24	30	30	49
Other Facilities & Preventive Measures	11	11	11	13	17	32	17	26	20	21	28	51	48
Other	324	409	420	530	692	615	609	844	792	1,437	715	943	1,088
Population	0	0	0	75	391	492	0	418	548	709	0	0	570
Other Social Services 1/	817	820	923	536	708	641	1,418	969	1,076	707	901	924	847
Economic Services	8,701	10,035	8,519	6,010	9,123	10,579	9,547	9,371	10,654	11,861	14,158	14,519	16,927
Agriculture	2,218	2,399	2,766	2,600	3,276	3,409	3,369	3,910	4,237	4,040	4,206	4,639	5,499
Irrigation	3,163	3,326	3,108	2,520	3,541	4,849	4,878	4,074	3,983	4,053	4,019	4,366	4,555
Fuel and power													
Industries and mineral resources	197	192	194	195	238	226	265	208	242	1,003	1,033	1,148	1,601
Transport and Communication	25	0	0	0	0	0	0	0	5	5	11	31	21
Other Economic Services 2/	3,098	4,117	2,451	695	2,068	2,096	1,035	1,178	2,188	2,759	4,889	4,335	5,252
Community services	5,832	5,717	6,988	6,390	9,319	9,677	8,375	10,228	9,082	8,480	7,377	8,676	11,504
Works (Administration civil)	54	63	69	80	109	103	109	143	136	124	135	717	171
Highways, Roads & Bridges & Building & Struct.	4,499	4,185	5,054	4,747	6,968	6,246	5,315	6,432	6,452	5,684	5,417	5,523	9,148
Water Supply and Sanitation	0	0	0	0	0	0	0	0	0	0	0	0	0
Public Health Engineering	1,107	1,192	1,348	1,255	2,088	3,068	2,709	3,510	2,401	2,647	1,700	2,346	536
Broadcasting	0	0	0	0	0	0	0	0	0	0	0	0	0
Urban Town Planning & Regulator Services	0	0	0	0	0	0	0	0	0	0	23	0	87
Scientific Research and Survey	0	0	0	0	0	0	3	3	3	4	4	4	5
Other Community Services	171	277	517	309	154	259	240	139	90	21	99	86	1,557
Subsidies	582	908	541	46	505	1,153	1,502	1,133	2,942	3,500	4,000	2,505	3,000
Interest payments	7,955	9,130	10,520	11,945	12,467	12,951	13,669	13,966	14,311	14,743	15,667	15,605	15,317
Grants & Investments	*1,274*	*449*	*931*	*236*	*499*	184	302	866	1,199	11,802	6,796	6,365	7,644
Unallocable	76	7	30	31	1	5	366	0	0	4	0	0	0

1/ Includes Natural Calamities and Religious Affairs.

2/ Includes Land Reclamation, Rural Development, Transport & Communication, Other Economic Services & Unallocable.

3/ Includes Works Urban and Rural, and Scientific Research.

Source: Government of the Punjab, Finance Accounts (1990/91-2000/01) & Combined Civil Accounts (2001/02 & 2002/03).

Table 7.4: Punjab Current Expenditures

Rs million

	1990/91 Actual	1991/92 Actual	1992/93 Actual	1993/94 Actual	1994/95 Actual	1995/96 Actual	1996/97 Actual	1997/98 Actual	1998/99 Actual	1999/00 Actual	2000/01 Actual	2001/02 June Final	2002/03 June Final
CURRENT EXPENDITURES	**32,834**	**37,093**	**42,659**	**45,769**	**56,418**	**68,290**	**68,668**	**69,596**	**75,977**	**91,081**	**94,969**	**96,290**	**108,913**
General Administration	2,839	3,700	4,625	4,708	8,122	14,626	11,854	9,530	12,733	13,993	15,665	14,043	15,789
Law & order	3,342	3,709	4,225	4,646	5,491	5,965	6,328	7,027	7,532	8,764	9,678	10,347	12,919
Social services	12,425	13,674	15,361	17,305	21,222	23,373	24,209	27,213	27,751	30,057	31,878	34,857	40,867
Education	9,422	10,511	11,611	13,683	16,750	18,661	19,062	21,513	21,709	23,049	24,675	26,686	31,025
Primary	4,789	5,909	6,013	7,234	9,013	10,433	10,246	12,150	12,191	13,617	14,052	15,157	17,935
Secondary	2,408	2,588	2,901	3,474	4,194	4,806	4,904	5,250	5,325	5,808	6,525	6,905	7,611
University & College Edu	938	761	1,214	1,315	1,452	1,741	1,798	1,936	1,974	2,230	2,247	2,409	2,891
Professional & Technical Edu & Teachers Trng	771	761	894	929	750	835	935	914	937	365	586	662	805
Others	516	493	590	732	1,341	847	1,179	1,264	1,281	1,029	1,265	1,553	1,782
Health	2,298	2,506	2,931	3,078	3,892	4,123	4,168	4,837	5,142	6,445	6,344	7,315	9,029
General Hospitals & Clinics	1,959	2,086	2,494	2,525	3,230	3,469	3,562	4,102	4,377	5,159	5,573	6,296	7,852
Mother & Child	17	14	16	17	20	38	20	27	23	24	30	30	43
Other Facilities & Preventive Measures	11	11	11	13	12	27	17	26	20	21	26	49	48
Other	312	395	410	523	630	589	569	682	722	1,241	715	940	1,087
Population	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Social Services	705	657	819	544	580	589	979	862	900	563	859	855	813
Economic Services	4,160	4,461	4,951	4,890	5,872	7,323	7,862	7,013	7,058	7,868	8,355	9,446	10,556
Agriculture	1,732	1,848	2,103	2,270	2,718	2,927	2,989	3,286	3,764	3,590	3,842	4,217	4,958
Irrigation	1,966	2,067	2,323	2,127	2,603	3,796	4,254	2,977	2,709	2,852	2,993	3,141	3,471
Industries and mineral resources	190	181	192	195	237	224	237	208	230	1,003	1,033	1,148	1,601
Transport and Communication	25	0	0	0	0	0	0	0	5	5	11	31	21
Other Economic Services	246	366	333	298	313	377	382	541	350	417	475	909	506
Community services	1,262	1,413	2,167	2,109	2,584	2,806	2,841	3,327	3,320	3,092	3,218	3,730	5,040
Works (Administration civil)	54	63	69	80	109	103	109	143	136	124	135	254	171
Highways, Roads & Bridges & Building & Struct.	1,104	1,232	1,841	1,729	2,128	2,047	2,086	2,454	2,586	2,516	2,621	2,963	4,716
Public Health Engineering	77	74	212	243	288	396	403	587	505	427	360	483	90
Urban Town Planning & Regulator Services	0	0	0	0	0	0	0	0	0	0	0	0	27
Scientific Research and Survey	0	0	0	0	0	0	3	3	3	4	4	4	5
Other Community Services	27	43	45	57	59	259	240	138	90	21	98	26	31
Subsidies	562	868	532	0	500	1,100	1,500	1,131	2,942	3,500	4,000	2,505	3,000
Interest payments	7,955	9,130	10,520	11,945	12,467	12,951	13,669	13,966	14,311	14,743	15,667	15,605	15,317
Grants & Investments	220	134	248	137	160	145	88	390	330	9,061	6,507	5,759	5,426
Unallocable	69	4	30	29	0	0	317	0	0	4	0	0	0

1/ Includes Natural Calamities and Religious Affairs.

2/ Includes Land Reclamation, Rural Development, Transport & Communication, and Other Economic Services.

3/ Includes Works Urban and Rural, and Scientific Research.

Source: Government of the Punjab, Finance Accounts (1990/91-2000/01) & Combined Civil Accounts (2001/02 & 2002/03).

Table 7.5: Punjab Development (Revenue And Capital) Excpenditures

Rs million

	1990/91 Actual	1991/92 Actual	1992/93 Actual	1993/94 Actual	1994/95 Actual	1995/96 Actual	1996/97 Actual	1997/98 Actual	1998/99 Actual	1999/00 Actual	2000/01 Actual	2001/02 June Final	2002/03 June Final
DEVELOPMENT EXPENDITURES	**10,809**	**11,351**	**9,934**	**6,442**	**11,669**	**11,805**	**8,663**	**12,493**	**12,586**	**14,258**	**10,991**	**11,609**	**16,962**
General Administration	108	35	42	16	20	41	23	14	26	182	6	87	265
Law & order	0	0	0	0	0	0	0	14	8	2	2	0	0
Social services	509	1,079	811	878	1,317	1,541	1,156	2,728	2,324	1,952	732	895	1,642
Education	157	538	482	281	298	483	219	1,407	954	402	266	644	686
Primary	0	23	133	50	128	0	85	1,239	716	312	120	368	311
Secondary	52	95	17	20	13	1	7	5	6	14	74	35	86
University & College Edu	9	2	11	8	10	7	3	13	15	10	28	94	273
Professional & Technical Edu & Teachers Trng	54	88	243	88	42	40	0	0	135	62	38	1	0
Others	42	331	77	115	105	434	124	150	83	3	6	147	25
Health	240	378	225	531	499	514	498	797	647	697	424	183	352
General Hospitals & Clinics	228	365	215	523	431	482	458	634	577	500	422	177	344
Mother & Child	0	0	0	0	0	0	0	0	0	0	0	0	6
Other Facilities & Preventive Measures	0	0	0	0	5	5	0	0	0	0	1	3	0
Other	11	14	10	7	62	26	39	162	70	196	0	3	1
Population	0	0	0	75	391	492	0	418	548	709	0	0	570
Other Social Services	112	163	104	-8	129	52	440	106	176	144	42	68	35
Economic Services	4,541	5,574	3,568	1,120	3,251	3,256	1,685	2,358	3,596	3,993	5,803	5,074	6,371
Agriculture	486	552	663	330	558	482	380	624	473	450	364	423	541
Irrigation	1,197	1,260	785	393	938	1,053	624	1,096	1,274	1,201	1,026	1,225	1,084
Industries and mineral resources	7	12	2	0	1	2	28	0	12	0	0	0	0
Transport and Communication	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Economic Services	2,852	3,751	2,118	397	1,755	1,719	653	637	1,837	2,342	4,414	3,426	4,745
Community services	4,570	4,304	4,821	4,281	6,735	6,871	5,535	6,901	5,762	5,388	4,159	4,946	6,465
Works (Administration civil)	0	0	0	0	0	0	0	0	0	0	0	464	0
Highways, Roads & Bridges & Building & Struct.	3,395	2,953	3,213	3,018	4,840	4,199	3,228	3,978	3,865	3,168	2,796	2,559	4,431
Public Health Engineering	1,030	1,118	1,136	1,011	1,800	2,672	2,306	2,923	1,896	2,220	1,339	1,863	447
Urban Town Planning & Regulator Services	0	0	0	0	0	0	0	0	0	0	23	0	61
Scientific Research and Survey	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Community Services	144	233	472	252	95	0	0	0	0	0	1	60	1,526
Subsidies	20	40	9	46	5	53	2	2	0	0	0	0	0
Interest payments	0	0	0	0	0	0	0	0	0	0	0	0	0
Grants & Investments	1,053	316	683	98	339	39	213	476	869	2,741	289	607	2,219
Unallocable	8	3	0	2	1	5	49	0	0	0	0	0	0

Source: Government of the Punjab, Finance Accounts (1990/91-2000/01) & Combined Civil Accounts (2001/02 & 2002/03).

EXPLANATORY NOTES
ON
MANUFACTURING INDUSTRIES SECTION

This Section includes statistics on the following topics:-

i) Monthly Survey of Industrial Production and Employment.
ii) Annual Census of Manufacturing Industries (CMI).
iii) Registered Factories and their Employment by District and Industry.
iv) Industrial Credit.

MONTHLY SURVEY OF INDUSTRIAL PRODUCTION AND EMPLOYMENT.

Statistical tables included in this section contain data on production and employment for the years 1991-92 to 2000-01 and monthly data for 2000-01 as well in respect of 34 items manufactured by 21 selected large scale industries in the Punjab.

This information has been collected through Bureau's Monthly Survey of Industrial Production and Employment which was started in October, 1971. Industry-wise proformae are used for the purpose. Data from non-responding factories is collected by Bureau's O

Coverage is complete in respect of Cotton Cloth (mill sector), Woollen and Worsted Cloth, Jute Textile, Sugar, Cigarettes, Cement, Caustic Soda, Sulphuric Acid, Fertilizers, Bicycles, Soft Drinks and Juices. Coverage for the remaining manufactured product

1 Cotton Yarn, Vegetable Ghee and Paper and Paper Board . It excludes some units.
2 Woollen Yarn, Knitting Wool and Blankets: It excludes some units.
3 Leather Tanning: All large Tanneries are covered.
Footwear: 13 large and medium size factories including Bata, Service and Raja are being covered. Production of these factories was about 98% (of Footwear
4 Production) of registered units of the Province.
Steel Re-rolling:- According to Bureau's Establishment Survey of Steel Re-rolling Industry conducted during 1975-76, about 90% of the Production is being
5 covered in the current survey.
6 Diesel Engines:- 23 Factories whose production is about 75% of the total production of Diesel Engines are being covered.
7 Electric Fans:- All large and medium size factories are covered.

Steps for Improvement:- To complete coverage in respect of Woollen Textile, Leather Tanning, Footwear, Electric Fans, Steel Re-rolling Industries

Efforts are made to keep the list of factories up-to date in consultation with Central Board of Revenue, PICIC, ADBP and Directorate of Labour Welfare, Punjab.
Scope of the Monthly Survey of Industrial Production and Employment is being extended to some more Industries.

ANNUAL CENSUS OF MANUFCTURING INDUSTRIES (CMI)

This section contains tables on Summary Statistics (Fixed Assets, Employment, Employment Cost, Industrial Cost, Value of Production, Gross Value Added of registered factories reporing for the annual Census of Manufacturing Industries for the years 1988-89

Federal Bureau of Statistics:-

a) Planning of Census in collaboration with Provincial Bureaus of Statistics and Directorates of Industries.
b) Preparation of Questionnaire, Tabulation Plan and Editing Instructions in consultation with all concerned Federal Ministries, Provincial Departments and
c) Preparation and Publication of CMI tables at national level.
d) Maintenance of an up-to-date list of manufacturing establishments.

e) Printing and Mailing out of Questionnaires.

Directorate of Industries and Mineral Development, Punjab:-

a) Notification of the questionnaires.
b) Collection of CMI returns.
c) Preliminary editing of CMI returns.

Bureau of Statistics, Punjab:-

a) Statistical examination of CMI returns.
b) Computer processing of CMI returns.
c) Conducting of Non-response Survey for estimation of data for the establishments not reporting for the Census.

Scope & Coverage:

All factories, carrying on manufacturing or repairing activities and registered or eligible for registration under Section 2 (J) or 5 (i) under the Factories Act 1934 (Amended in 1973), are covered under the Census. It, however, excludes Defence and other

Definitions:

Important terms used in the section are defined as under:-

i) **REGISTERED FACTORIES:**

An establishment is said to be registered under Section 2 (J) of Factories Act 1934, (Amended in 1973) if ten or more workers are working on any day of the preceding twelve months and in any part of which manufacturing process is being carried on with or

ii) **GROSS VALUE OF FIXED ASSETS:**

It includes the gross value of land, building, plant, machinery, transport and other fixed assets i.e. equipment, furniture etc., as at the end of the year.

iii) **EMPLOYMENT:**

It is the total average daily employment during the year computed from the monthly employment data reported in CMI returns adjusted for contract labour.

iv) **EMPLOYMENT COST:**

It includes wages and salaries, cash and non-cash benefits and the amount paid to contract labour.

v) **INDUSTRIAL COST:**

It includes cost of raw materials, fuel and electricity consumed and payments made to others for repair, maintenance of building and machinery and processing of establishments materials.

vi) **GROSS VALUE OF INDUSTRIAL PRODUCTION:**

It includes value of products and by-products, sale-proceeds from industrial waste, receipts for industrial work done and services rendered to others, sale of electricity and value of ` net work in process'. The value of products and by-products includes

vii) **GROSS VALUE ADDED**

This is worked out by subtracting industrial cost from the gross value of industrial production.

Limitations of CMI

1 The mailing list used for the census may not be up-to date.

2 The reported data contained reporting errors and inconsistencies, which were corrected on the basis of available supplementary information or/and past data.

3 Census results become available with a time-lag of 2-3 years due to the time taken for collection, editing and tabulation processes.

4 Size and nature of non-response varies from year to year. Since non-response surveys could not be conducted for all the years, the Census results were not adjusted for non-response, they may not be comparable from year to year.

The Bureau of Statistics has, during recent years, taken the following steps to improve the Census Results:-

1 List of registered factories is being kept up-todate.

2 Reported data is subjected to manual as well as computer statistical editing, before final tabulation. Missing information estimated.

3 The cases, where reporting errors cannot be corrected without changing the reported information significantly, managements of the concerned units are asked to reconcile the discrepancies observed in their data. Corrections are made in the light of their

4 Efforts are being made to complete editing and tabulation as early as possible, after receipt of returns from Directorate of Industries and Mineral Development, Punjab.