An Introduction to the 1998-99 Pakistan Socio-economic Survey (PSES)

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The Pakistan Institute of Development Economics, established by the Government of Pakistan in 1957, is an autonomous research organisation devoted to carrying out theoretical and empirical research on development economics in general and on Pakistan-related economic issues in particular. Besides providing a firm foundation on which economic policy-making can be based, its research also provides a window through which the outside world can see the direction in which economic research in Pakistan is moving. The Institute also provides in-service training in economic analysis, research methods, and project evaluation.

CONTENTS

List of Tables

1. INTRODUCTION

In the late 1980s Pakistan embarked a programme of structural reforms to manage fiscal balances and external accounts in order to place the economy on the path of high and sustained growth. The impact of such a programme on the distribution of income and incidence of poverty has featured prominently in the development debate. It arose out of the concern that these programmes in the developing countries had often initially led to a worsening of the distribution of income and an increase in the incidence of poverty. With the financial assistance from the International Development Research Centre, Canada, the Pakistan Institute of Development Economics (PIDE) designed a research project entitled Micro Impacts of Macroeconomic Adjustment Policies (MIMAP) to improve the design of policies, which combine growth objectives with an improvement in income distribution, alleviation of poverty and an improvement in the welfare of vulnerable groups in Pakistan. This project focuses on determining the impact of structural adjustment policies on the poor and vulnerable groups of the society. The study also examines the impact of these policies on the extent of participation of different groups in different types of labour market.

These objectives of the MIMAP project have been achieved by three ways: carrying out a household survey in rural and urban areas, using the existing secondary socio-economic data sources to produce some case studies, and developing a Computable General Equilibrium (CGE) model. This brief paper is quite focused. It describes the methodology and scope of the household survey carried out by the PIDE between March and July 1999, with an aim to generate nationally representative data to examine the incidence of poverty and distribution of income. It also includes information on household composition, schooling, labour market, sources of income, credit, fertility, child mortality, health, and nutrition.

The next section outlines the objectives of the household survey, followed by the design of the survey as proposed in the MIMAP project. The modified design is presented in Section 4, followed by a discussion on the seasonality in Section 5. The

contents of the questionnaire are discussed briefly in Section 6. A brief description of the experience of pre-testing the questionnaire is the subject matter of the next section. Nature of the training imparted to field enumerators is reported in Section 8. The processing of data and scope of the survey are discussed respectively in Sections 9 and 10. The sample characteristics are reported in the last section.

2. OBJECTIVES OF THE HOUSEHOLD SURVEY

There is a consensus that poverty, which was very high in Pakistan in the 1960s, declined during the 1970s. This decline continued until the late 1980s. However, there is no consensus regarding the incidence of poverty in the 1990s. Jafri (1999), for example, shows that decline in poverty continued in the early 1990s. Amjad and Kemal (1997), on the other hand, show an increase in poverty in the early 1990s. No information on the incidence of poverty is available after the period of 1993-94. The common source of data for measuring poverty in Pakistan is the Household Integrated Economic Survey (HIES). The last HIES was conducted in 1996-97 but the data has only recently been released. Thus estimates of poverty based on the 1996-97 HIES data set are not available. This necessitated the need to conduct a household survey to measure the incidence of poverty for more recent period and also to compare it with the earlier estimates of poverty.

Moreover the HIES does not contain information on health, mortality and nutritional status of vulnerable groups such as children, pregnant and lactating women and aged people. Even other similar surveys including the Pakistan Integrated Household Survey do not provide detail information on both income/expenditure and health and nutritional status of the vulnerable groups.[1] There was a need to launch a survey that has combined information on income/expenditure with that of health, child mortality and nutrition. The MIMAP project filled these gaps. It has generated a data set sufficient to measure both the incidence of poverty and nutritional status of vulnerable groups.

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[1] The 1998-99 Pakistan Integrated Household survey is an exception since it has incorporated income and expenditure component of the HIES along with some modules concerning health, nutrition and migration.

3. PROPOSED SAMPLE DESIGN

In the MIMAP project proposal, household survey was divided into two components: poverty survey and nutrition survey. It was proposed that the poverty survey would be conducted in 1200 households: 360 from slum areas in the four provincial capitals (Karachi, Lahore, Peshawar and Quetta) and 840 from rural areas of the four provinces, selecting one district from each province. Nutrition survey was proposed to be conducted from 300 households (urban 90 and rural 210). In the proposal it was also suggested that the urban survey should be completed in the first year, while the second year was specified for the rural survey. This sample design had several shortcomings.

Firstly, it is common in Pakistan to conduct household surveys simultaneously in urban and rural areas. This is particularly important for gathering income and expenditure data from both urban and rural areas with the same reference period. A one-year difference between the urban and rural surveys, as suggested in the MIMAP project proposal, would have made it difficult to combine two data sets to obtain consistent information at the national level.

Secondly, it was also suggested in the proposal that urban survey would be carried out only in slum areas of the four provincial capitals. But after long discussions with policy makers and scholars working in the area of poverty, it was realised that exclusion of high and middle-income localities from the household survey would limit the scope of the study. Moreover, limiting the sample to only four provincial capitals would have made the survey unrepresentative as about half of the urban population lives in these towns [Arif and Ibrahim (1998a)]. It was therefore not possible to get accurate estimates of poverty to compare them with the previous studies.

Finally, to examine the impact of structure adjustment programme on the poor households, it was necessary to have comparable data sets for two regimes, with and without adjustment. This objective could not be achieved from the sampling design suggested in the proposal.

4. MODIFIED SAMPLE DESIGN

In view of the above-mentioned limitations, sample design of the household survey was modified substantially. Now the universe of the household survey named as '1998-99 Pakistan Socio- Economic Survey' (PSES) consists of all urban and rural areas of the four provinces of Pakistan defined as such by 1981 population census excluding FATA, military restricted areas, districts of Kohistan, Chitral, Malakand, and protected areas of NWFP. The population of the excluded areas constitutes about 4 percent of the total population.

The village list published by the population census organisation in 1981 was taken as sampling frame for drawing the sample for rural areas. For urban areas, sampling frame developed by the Federal Bureau of Statistics (FBS) was used. In this frame each city/town has been divided into enumeration blocks of approximately 200 to 250 households. Cities having population of half a million or more such as Karachi, Lahore, Faisalabad, Rawalpindi, Multan, Hyderabad and Peshawar were treated as self-representing cities (SRCs). Islamabad and Quetta, being federal and provincial capitals respectively, were also considered as the SRCs. Each of these cities constituted a separate stratum and also further sub-stratified according to low, middle and high-income groups. The remaining urban population in each division of all the four provinces was grouped together to form a stratum. A division thus was treated as an independent stratum. Rural population of each district in Punjab, Sindh and NWFP was grouped together to form a stratum. For Balochistan province a division was treated as a stratum.

Two stage stratified sample design was adopted for the 1998-99 PSES. Enumeration blocks in urban domain and Mouzas/Dehs/villages in rural domain were taken as primary sampling units (PSUs). Households within the sampled PSUs were taken as secondary sampling units (SSUs). Within a PSU, a sample of 8 households from urban domain and 12 households from rural domain was selected.

As noted above, the main objective of the 1998-99 PSES was to examine the impact of structural adjustment programme on poor and vulnerable groups. The survey was carried out in those PSUs that were covered in the second quarter of the 1987-88

5

HIES, the last survey carried out before the commencement of structural adjustment programme in 1989. The selection of PSUs that were covered in the pre-adjusted period would make possible to analyse the impact of adjustment programme on poor and vulnerable groups of the society.

Distribution of the 1998-99 PSES sample by province with rural/urban breakdown is reported in Table 1. For comparison, the sample of the 1987-88 HIES is also shown in this Table. The entire sample of the 1987-88 HIES was drawn during the whole year from 1403 PSUs (755 rural and 648 urban). The PSUs were grouped into four equal parts and one group of 351 PSUs was enumerated in one quarter. The 1998-99 PSES was carried out in those 351 PSUs that were covered during the second quarter of the 1987-88 HIES. It was completed in about four months, March - June, 1999. The sampled households covered during the 1998-99 PSES numbered 3564 (2268 rural and 1296 urban).

Table 1

Distribution of the Sample PSUs and SSUs with their Urban/Rural and Provincial Break-down, 1987-88 HIES and 1998-99 PSES

Province	Number of Sample PSUs			Number of Sample SSUs		
	Total	Rural	Urban	Total	Rural	Urban
1998-99 PSES						
Punjab	189	110	79	1952	1320	632
Sindh	87	38	49	848	456	392
NWFP	50	27	23	508	324	184
Balochistan	25	14	11	26	168	88
Pakistan	351	189	162	3564	2268	1296
1987-88 HIES						
Punjab	756	440	316	9796	5696	4100
Sindh	348	152	196	4509	1963	2546
NWFP	200	108	92	2566	1386	1180
Balochistan	99	55	44	1273	716	557
Pakistan	1403	755	648	18144	9761	8383

The Federal Bureau of Statistics (FBS) carried out the 1998-99 PSES. The data generated by this survey is representative at the national level as well as for rural and urban areas of the country. However, there is a need to clarify one point. As mentioned earlier that the entire sample of the PSES was drawn from those PSUs that were covered during the 1987-88 HIES. In 1987-88 the entire country was divided by the FBS into 18000 PSUs. In the 1990s this number has increased to 23000. The question is whether

this change in the total number of PSUs has affected the representativeness of the PSES sample. The change however has not affected it for two reasons. First, the numbers of PSUs were primarily increased in urban areas. In other words, the change in rural domain was minimal. Second, even in urban domain, because of increase in number of dwellings in some PSUs or reclassification of urban areas, the boundaries of old PSUs were changed in such a way that on average each PSU consisted of 200 to 250 households. Only few entirely new PSUs have been added. These minor adjustments in the sampling frame are not likely to affect the representativeness of the sample.

Only male interviewers were involved in gathering data for the PSES. All the demographic, nutrition and health information related to women and children were also collected by these enumerators. Weighing machines were provided to interviewers and they were given sufficient training to collect data on these issues. However, the possibility that they could not gather accurate data on some issues like weight/height of children and women can not be ruled out. Involvement of female interviewers could have enhanced the quality of data on demographic, nutrition and health issues.

5. THE PSES SAMPLE AND SEASONALITY

The HIES sample is drawn during the whole year from the selected PSUs, which are grouped into four equal parts. Each part of the PSUs is enumerated in one quarter. Similarly, the Pakistan Labour Force Survey (PLFS) distributes equally the selected PSUs across the twelve months of the survey year [Pakistan (1995)]. By distributing the sample in the whole year, both the HIES and PLFS thus take care of the seasonal variations. The data sets generated by these surveys are representative for the whole year.

However, the 1998-99 PSES was completed in only four months, March – June, 1999. Apparently it did not take care of the seasonal variations. Although these variations are not likely to affect the major part of the data set generated by the PSES, it may have affected some variables such as employment and health. Seasonal unemployment particularly is induced by fluctuations in the demand for labour. The demand for agricultural employees declines after the planting season and remains low until the harvest season. The PSES was carried out at the time of wheat harvesting in most part of

the country and cotton sowing in Punjab and Sindh provinces. The demand for agricultural workers in rural areas could be high when the survey was carried out, resulting a relatively lower level of unemployment [Nasir (1999)].

The seasonal variations may also affect the incidence of certain diseases; for example, diarrhoeal morbidity in the rainy season as compared with the other seasons is usually higher [Arif and Ibrahim (1998b)]. While the 1998 PSES sample was not drawn during the whole year, the incidence of those diseases that are likely to be affected by the seasonal variations may not be representative for the survey year.

6. QUESTIONNAIRE INSTRUMENT

The questionnaire used in the 1998-99 PSES was divided into ten major sections: household roster, labour force and employment, income and expenditure, birth history of women aged 15-49 years, nutritional and immunisation status of children and pregnant and lactating women, health and health care status of all individuals, and housing conditions. Three sub-modules dealing with agricultural and non-agricultural establishments and community variables were also part of the PSES questionnaire. A list of the variables contained in different sections and sub-modules of the questionnaire is provided in Appendix 1.

7. PRE TESTING OF THE QUESTIONNAIRE

Before launching the survey, the questionnaire was tested in both urban and rural areas of Rawalpindi districts. For the urban area, the fieldwork was carried out in three localities of Rawalpindi City, Westridge, Satellite Town and Dhok Chiragdin, reflecting high, middle and low-income areas respectively. Four teams participated in a one-day long fieldwork. Each team was consisted of three members (one male and one female) and one supervisor. Females were responsible to fill those parts of the questionnaire that were related to women and children. Each team was assigned to fill two questionnaires, and all the four teams were successful in achieving their targets.

A village Dhok Badhal, situated 50 km from the Rawalpindi City, was selected for testing the questionnaire in a rural area. The four teams who worked in Rawalpindi City

also participated in this pre-testing. The two lady health visitors, who were assigned to get height and weight of women and children, also assisted these four teams. Like in the urban area, the four teams who worked in the rural area were assigned to fill eight questionnaires, two for each team. These teams were also successful in achieving their targets. The lady health visitors were also able to measure the height and weight of married women aged 15–49 years and children aged 5 years or less. Arm circumferences of the later were also measured.

Pre-testing of the questionnaire provided an excellent opportunity to understand the field problems and shortcomings of the questionnaire. In general its structure was found to be good with minor problems in some parts of the questionnaire such as household roster, employment and nutrition. With detailed deliberations among team members, these problems were removed and the improved version of the questionnaire was used in the survey.

8. TRAINING

A comprehensive plan was chalked out to train field enumerators and supervisors. For this purpose five centres were selected: Rawalpindi, Peshawar, Lahore, Multan and Karachi. The duration of the training camps at each of these centres was three days. The first day was given to explaining each variable (question) included in the questionnaire. On the second day, the participants were sent to the field to fill one questionnaire, followed by a general discussion. The trainers checked all the completed questionnaires. The problems found during the checking were discussed on the third day.

9. DATA PROCESSING

A qualified and trained team of trainers carried out office editing of the filled in questionnaires. In fact, most of the editors were those who have participated in the pre-testing. Microsoft Access 97 was selected to build an application for data entry. A team of operators entered data on 14 computers under the supervision of a systems analyst from the PIDE.

After completing the data entry, the Microsoft Access files from all computers

were exported to make ".dbf" files and then saved as SPSS system files. These scattered SPSS system files were merged in a single file of each section of the questionnaire. The data of main household questionnaire was stored in 28 different SPSS system files. These files contain data on individual, household and community levels.

An extensive data cleaning was also carried out. Each problematic questionnaire was thoroughly checked and then corrected in the data files that covered almost all steps missed during editing and entry phases. The household level files can be joined on the basis of the Identification code, whereas the individual level files can be joined on the basis of a composite key variable comprising the Identification code and the individual code. The individual code may vary like, a person code, a child code, a mother code, an item code or a commodity code, etc.

10. SCOPE OF THE MIMAP QUESTIONNAIRE

Unlike other household surveys in Pakistan, the PSES questionnaire is a multidimensional instrument for collecting comprehensive information on socio-economic characteristics of population. It has specific sections about the vulnerable groups such as children, women and elder population. The data collected through this questionnaire is very rich source not only to examine both the distribution of income and incidence of poverty but it is also useful in establishing the social characteristics of the poor in terms of gender, rural/urban and regional status. By using this data set, it is also possible to examine the impact of macroeconomic policies on various groups in formal and informal market participation such as wage and self-employed categories. The PSES survey data set is particularly a rich source for investigating the health and nutritional status of vulnerable, like children, pregnant and lactating women and aged persons. The questionnaire includes several questions regarding the schooling of children and use of health services during illness (Appendix 1). It would thus be possible to examine 'who benefits from public expenditure on education and health in Pakistan?

11. PSES SAMPLE CHARACTERISTICS

A brief description of the PSES sample characteristics is made in this section. These

characteristics have also been compared in Table 2 with the characteristics as reported by the 1998-99 Pakistan Integrated Household Survey (PIHS). Of the households covered in these two surveys, household size appears to be roughly similar: 6.5 in the PSES and 6.8 in the PIHS. However, the proportion of female-headed households is higher (8.2 percent) in the PSES than in the PIHS (6.5). Females who head their households in Pakistan are mainly widowed/divorced or they are heading households because their husbands are working somewhere else within the country or overseas.

The illiteracy rate was also similar in the two surveys: 44 percent in the PSES and 45 percent in the PIHS. A perusal of the primary school enrolment data suggests substantial male/female differentials. In the PSES, the enrolment rate was reported to be 75 percent for males and 55 percent for females. In comparison, the PIHS displayed relatively high enrolment rates for both males and females, 76 and 60 percent respectively.

The PSES data show that the rate of open unemployment in 1998-99 was 6 percent. While the PIHS data sets does not provide information on labour force, the unemployment rates estimated from the PSES have been compared in Table 2 with the 1996-97 Labour Force Survey (LFS), which shows unemployment rate (6.1 percent), again very close to the results of the PSES. Unemployment ratio was higher in urban areas as compared to rural areas. However, the PSES shows relatively higher level of urban unemployment (8.0 percent) than the level as shown by the 1996-97 LFS (7.2 percent). The gender specific unemployment reflect higher incidence for females than for males (not show in Table 2). Gender differentials are more pronounced in urban areas. The average number of earners is 1.5 in the PSES and 1.6 in the 1996-97 HIES.

Information relating to facilities such as water, toilet and sanitation reflect a widespread deprivation. For instance, only 37 percent of the PSES sampled households have an access to tap water. According to the PIHS, this percentage was as low as 20 percent. Similarly, less than half of the households have the facility of toilet with flush. About one-fifth of the households, according to the PSES, were connected with underground drain. The corresponding percentage was 16, as shown by the PIHS data sets (Table 2). In short, it appears that the PSES has generated data set comparable with the other nationally representative data sources.

Table 2

Sample Characteristics of the PSES, Compared with   the PIHS, 1998-99

Characteristics	PSES 1998-99	PIHS 1998-99
Average Household Size	6.5	6.8
Household Headed by Female (%)	8.2	6.5[a]
Literacy Rate (Both Sexes) (%)	44.0	45.0
Primary School Enrolment		
Male	67.1	76.0
Female	54.9	60.0
Mean Number of Earners Per Household	1.5	1.6[b]
Unemployment Rate (%)		
Rural	5.1	5.6[c]
Urban	8.0	7.2[c]
Total	6.0	6.1[c]
Source of Drinking		
Water Tap	37.0	20.0
Hand Pump/M. Pump	58.4	75.0
Well	4.4	3.0
Others	0.2	2.0
Toilet Facilities		
Toilet with Flush	41.8	44.0
Toilet without Flush	10.9	2.0
No Toilet	47.3	54.0
Sanitation (Connected with)		
Under Ground Drain	22.2	16.0
Open Drain	30.6	34.0
No System	47.2	50.0

Note: [a]Refers to the 1996-97 Pakistan Fertility and Family Planning Survey (PFFPS).

[b]Refers to the 1996-97 Household Integrated Economic Survey (HIES).

[c]Refers to the 1996-97 Labour Force Survey (LFS).

Appendix 1

VARIABLES CONTAINED IN THE MIMAP QUESTIONNAIRE

Section 1: Household Roster

Place of residence

Relationship to the head of household

Sex

Age (in completed years)

Religion

Marital status

Literacy and level of education

Type of school and medium of instruction

Vocational/technical education

Migration status

    Place from where moved in

    Period of movement

    Place where moved out

Section 2: Employment and Earnings

Activity status

Employment status

Industry status

Occupational status of main job

Occupational status of secondary job

Number of hours worked on main job

Number of hours worked on secondary job

Total work experience

On the job training

Downswing/privatisation and unemployment

Labor market earnings from first job

Labor market earnings from the second job

Earnings from other activities

Pension and social security

Section 3: Household Expenditure

Food

Clothing and Footwear

Fuel and Lighting

Transport

Housing

Household Effects

Personal Effects

Recreation

Medical

Education

Miscellaneous Items

Durable Goods

Section 4 : Ownership of Durable Items of the Household

Bicycle

Radio

Television

Video Cassette Recorder

Sewing Machine

Knitting Machine

Washing Machine

Electrical appliances

Camera

Refrigerator

Gas stove

Car/Jeep

Motor cycle/scoter

Personal Computer

Air-conditioner

Other items

Section 5: Transfer Income

Zakat, User, Nazrana, or Fitrana

Domestics and Foreign Remittances

Assistance from Government / other Sources

Grants / Inheritance

Pension

Section 6: Ownership of Land and Property

Expected Value of Property and land

Rent form Property and Land

Value of the Property Sold

Value of the property Purchased

Money spent on renovations

Value of the Property or land Received as Gift

Value of the Property or land Lost

Section 7: Financial Assets and Liabilities

Total bank Deposits

Total savings

Total Interest / Profit Received

Total Withdrawal

Total Securities, Types and Value

Profit / Interest on Securities

Total Loans to Pay

Amount Paid

Amount Remains

Time Period for payment and Interest Rate

Purpose and Institution From which Loan Received

Life Insurance

Annual Installments and Duration

Total Payment Made

Provident Fund

Annual Contribution

Balance

Section 8: Balance Sheet

Total Income

Total Expenditure

Income/Expenditure Ratio

Section 9: Demographic and Health Information

1. Birth History of Women Aged 15-49 Years

Children ever born

Date of birth

Children alive

Children died

Reasons of Death

2. Pre and Post-Natal Care During the Last Five Years

Prenatal consultation

Nature of the prenatal consultation

Tetanus toxoid injection

Birth attendant

Postnatal check-up

3. Nutritional Status of Children Aged 5 Years and Less

Height and weight

Arm circumference

Immunisation

Ever Breast-feeding

Duration of breast-feeding

Age when the child was given solid food

Use of milk for children

Diarrhea during the last two weeks

Other illness

4. Nutritional Status of Currently Pregnant and Lactating Women

Height and Weight

Use of different food items during the pregnancy/lactation

Change in the Food

Special diet

5. Diarrhea during the Last Two Weeks

Frequency of Diarrhea

Consultations with Health Attendant

Distance to Health Facility

Time Spent per Visit

ORS Treatment

Diet Information During Diarrhea

Section 10: Health Information and Housing Facilities

(i) Illness

Illness in the last two weeks

Type of illness

Consultations with health attendant

Recovery time from the illness

(ii) Housing

Present occupancy status

Number of rooms

Source of drinking water

Sanitation system

Type of toilet facilities

Garbage collection

(iii) Aged Persons

Any Illness

Medical Treatment

Medical Expenses

Who Paid

Place for Rest

Any Helper

Income and Source

Agricultural Establishments (Sub-Module)

Agricultural land ownership

Land rented out

Land rented in

Harvesting of different crops during the last year

Livestock

Agricultural operating expenses during the last year

Persons working and labour costs

Hand tools ownership

Non-Agricultural Establishment (Sub-Module)

Major activity of the business

Persons working during the last working month

General operating expenses and revenues

    Manufacturing

    Mining and quarrying

    Service related business

    Transport

    Wholesale and retail trade

    Hotels and restaurants

    Construction

Land, building, equipment and other items owned

Community Variables (Sub-module)

Availability of different types of school

Availability of health facilities

Availability of population welfare centre

Water supply

Sanitation.

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