

Asian Development Bank
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Social Protection Index for Committed Poverty Reduction

Final Report
Volume 2. The SPI Handbook
September 2005

Halcrow China Limited
In association with
The Institute of Development Studies, University of Sussex

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Asian Development Bank

**TA 6120- REG: Social Protection Index for Committed
Poverty Reduction**

Final Report

Volume 2. The SPI Handbook

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Table of Contents

I. Introduction	1
A. General	1
B. Study Background and Objectives	1
C. The Definition of Social Protection	2
D. Key Features of the Social Protection Index	3
E. Important Points	3
F. Structure of the Handbook	4
II. Data collection	5
A. General	5
B. Key Statistics and Indicators	5
C. Information on Social Protection Programs	8
III. Data Synthesis and Calculation Procedures	15
A. General	15
B. Calculation of the Social Protection Expenditure Indicator (SPEXP)	17
C. Calculation of the Social Protection Coverage Indicator (SPCOV)	20
D. The Poverty Targeting Rate	27
E. Impact of SP Programs on Expenditures	30
F. Calculating the Social Protection Index	32
IV. Analysis of Household Survey Data	33
A. General	33
B. Obtaining and Evaluating Household Survey Data	33
C. How to do the Analysis	35
D. How to use the Results	37
V. Presentation of Results	40
A. Report Format	40
B. Chapter 1: Introduction	40
C. Chapter 2: Country Overview	40

D. Chapter 3: Current Social Protection Programs and Activities	40
E. Chapter 4: Derivation of Social Protection Summary Indicators	41
F. Chapter 5: Calculation of the Social Protection Index	41

Annexes

1. Largest SP Programs by SPI Component	42
2. Algebraic Formulations of Formulae	44
3. Summary Tables and Figures	47
4. References	52

Tables

Table 2.1. Summary Development Indicators	6
Table 2.2. Key Statistics	7
Table 2.3. Social Protection Components and Types of Programs	9
Table 2.4. Checklist for Information on Social Protection Programs	11
Table 3.1. Definition of Summary SP Indicators	15
Table S2. SPEXP Calculation Sheet	19
Table 3.2. Target Group Codes	22
Table 3.3. Reference Populations for Coverage Calculations	23
Table 3.4. Alternative Weighting of Coverage Rates	24
Table S4. SPCOV Calculation Sheet	26
Table S7. PTR Calculation Sheet	29
Table S9. SPIMP Calculation Sheet	31
Table 4.1. Households receiving SP Benefits	36
Table 4.2. Example of Analysis of Household Survey Data on SP Programs	36
Table S7A. PTR Calculation when using HIES Data	39
Table A. 1. Largest SP Programs in terms of Expenditure	42
Table A. 2. Largest SP Programs in terms of Beneficiaries	42

Table A. 3. Largest SP Programs in terms of Poor Beneficiaries	43
Table A. 4. Largest SP Programs in terms of Expenditure on the Poor	43
Table S3. SP Expenditure by SP Category, 200?	47
Table S5. Summary Table of Target Group Beneficiaries	47
Table S6. Target Group Coverage Rates	48
Table S8. Summary of PTR Estimates	48
Table S10. Derivation of SP Impact Indicator (SPIMP)	48
Table S11. Derivation of Scaled Value and SPI	49

Figures and Boxes

Figure 3.1. Diagrammatic Representation of the Derivation of the Social Protection Index	16
Figure 3.2. Derivation of Coverage Indicator (SPCOV)	21
Box 4.1. Calculation of Overlap Rates	38
Box 4.2. Calculation of PTR from HIES data.	38
Figure S1. Social Protection Expenditure	50
Figure S.2. Target Group Coverage Indicators	50
Figure S.3. SPI Summary Indicators	51
Figure S4. SPI Values	51

Abbreviations and Acronyms

ADB	Asian Development Bank
AHS	Average household Size
CSWN	Children with Special Needs
DFID	Department for International Development
DMC	Developing Member Nation
FFW	Food for Work
GDP	Gross Domestic Product
GTZ	Gezellschaft fur Technische Zusammenarbeit
HDI	Human Development Index
HIES	Household Income and Expenditure Survey
IFI	International Financing Institution
ILO	International Labour Office
IMR	Infant Mortality Rate
LFS	Labour Force Survey
LSMS	Living Standards Measurement Survey
MCF	Micro-Credit Finance
MDG	Millennium Development Goals
NGO	Non-Government Organisation
PPP	Purchasing Power Parity
PTR	Poverty Targeting Rate
SOE	State-Owned Enterprise
SP	Social Protection
SPEXP	Social Protection Expenditure Indicator
SPCOV	Social Protection Coverage Indicator
SPI	Social Protection Index
SPIMP	Social Protection Impact Indicator
TOR	Terms of Reference
UN(DP)	United Nations (Development Program)
WB	World Bank
WFP	World Food Program
WDR	World Development Report (published by World Bank)
WHO	World Health Organisation

I. INTRODUCTION

A. General

1. This handbook describes the methodology for obtaining the required information and then calculating a country's Social Protection Index. It has been prepared in accordance with paragraph 19 of the Terms of Reference for ADB TA6120: Social Protection Index for Committed Poverty Reduction.

B. Study Background and Objectives

2. The publication and adoption of the ADB's Social Protection Strategy in 2001, along with the social protection strategies adopted by other international organizations and bilateral donors, heralded a growing recognition that the Millennium Development Goals for poverty reduction cannot be achieved purely through the promotion of economic growth and the development of physical and social infrastructure. Interventions are also necessary to directly address the needs of the poorest and to prevent members of vulnerable groups from falling into poverty following community-wide or household-specific shocks.

3. As a result, the ADB and other development agencies have established social protection (SP) units, developed SP strategies and programs and produced a number of publications and reviews of SP activities in different countries¹. To date, however, there have been relatively few attempts to quantify the impact of SP activities in terms of expenditure, beneficiaries or the impact of the programs.

4. In order to remedy this situation, the ADB commissioned TA 6120: Social Protection Index for Committed Poverty Reduction² in February 2004. The primary objectives of this study were:

- To describe SP activities in six Asian countries: Bangladesh, Indonesia, Mongolia, Nepal, Pakistan and Vietnam.
- To compile statistical information on SP activities in these countries.
- To develop a Social Protection Index (SPI) that summarises a country's SP activities and, hence, can enable assessments of a country's SP activities over time as well as cross-country comparisons.

5. Work on this study took place throughout 2004 and the first half of 2005 and involved four main steps:

- Step 1: Reviewing the ADB's definition of Social Protection and formulating the Study methodology and technical approach
- Step 2: Conducting a review of social protection policies and programs in countries and compiling statistical data on their SP activities

¹ See for example Ortiz I., ed. (2001 and 2002), Guhan (1994), Holzmann and Jorengsen (2000). DFID and GTZ currently have social protection strategies in preparation.

² For the sake of brevity, references to this study are hereafter referred to simply as TA6120.

- Step 3: Deriving summary indicators of SP for each country
- Step 4: Combining the summary SP indicators into a Social Protection Index.

6. The results of the different stages of the Study have been presented in a number of reports³ and the Final Report⁴ contains a comprehensive summary of the study methodology, findings and conclusions.

7. The following paragraphs describe the definition of the Social Protection adopted for this study and the main features of the Social Protection Index.

C. The Definition of Social Protection

8. The starting point for this Study was the ADB's definition of Social Protection. The ADB has defined Social Protection as *'the set of policies and programs designed to reduce poverty and vulnerability by promoting efficient labour markets, diminishing people's exposure to risks, and enhancing their capacity to protect themselves against hazards and the interruption/loss of income'*⁵. Furthermore, Social Protection is defined as comprising five major kinds of activities: labour-market policies and programs, social insurance, social assistance, micro/ area-based schemes, and child protection⁶.

9. In order to develop a feasible and sound methodology for the creation of a Social Protection Index (SPI), we have carefully reviewed this definition. Our conclusion, taking into account the numerous conceptual and practical issues, was that it was necessary to narrow the ADB's particularly wide-ranging⁷ definition of SP in order to:

- prevent the SPI being dominated by activities, e.g. related to health, education and rural/community development, which are not normally included in most definitions of social protection;
- provide information which could be synthesized and compared across individual programs and countries; and
- was achievable within the resources available to the study.

10. Following numerous discussions both within the Study Team and with social protection specialists from the ADB, the following definition of Social Protection was adopted for this project:

The set of policies and programs that enable vulnerable groups⁸ to prevent, reduce and /or cope with risks, AND that:

³ Halcrow et al, *TA6120 Social Protection Index for Committed Poverty Reduction, Inception Report* (March 2004), *Vietnam Pilot Study* (June 2004), *Country Reports for Bangladesh, Indonesia, Mongolia, Nepal, Pakistan and Vietnam, Final Versions* (May 2005), *Multi-Country Report* (February, 2005). Most of these reports can be viewed at <http://www.adb.org.vn/Publications/subject.asp?id=226&s=0&wp=2>

⁴ Halcrow et al, *TA6120 Social Protection Index for Committed Poverty Reduction, Final Report* (September 2005). This handbook constitutes Volume 2 of this Final Report.

⁵ Ortiz, 2001, p.41.

⁶ ADB, *Social Protection Strategy*, p. 13, Manila, 2001.

⁷ See Appendix 3 of the ADB, *Social Protection Strategy - Progress Report to the Board of Directors*, Manila, 2002 which lists the types of projects considered to fall within the definition of Social Protection.

⁸ The primary target groups for social protection policies, which reflect the ADB's definition of social protection, are the unemployed/ underemployed, the elderly, the sick, the poor, the disabled and children with special needs.

- *are targeted at the vulnerable groups;*
- *involve cash or transfers in kind; and*
- *are not activities usually associated with other sectors such as rural development, basic infrastructure, health and education.*

11. Based on this definition, a schedule of the types of programs that need to be included as part of the Social Protection Index was established (see Table 2.3).

D. Key Features of the Social Protection Index

12. The Social Protection Index can be considered to be analogous to the Human Development Index (HDI) developed by the UNDP to provide a summary measure of a country's development situation in terms of its income, education and health. Similarly the SPI provides a summary measure of a country's social protection activities.

13. The SPI is derived from four summary indicators, each reflecting different facets of a country's SP activities, namely:

- Social Protection Expenditure (SPEXP) defined as the percentage of total SP expenditure to GDP.
- Social Protection Coverage (SPCOV) defined as the percentage of SP beneficiaries to the target population.
- Social Protection Distribution defined as the Poverty Targeting Rate (PTR), i.e. the percentage of the poor who receive SP transfers (either in cash or in kind).
- Social Protection Impact (SPIMP) defined as the amount of SP expenditure going to the poor as a percentage of the poverty line.

14. The SPI itself is then derived from these four component indicators using scaling and weighting methods similar to those used for the HDI.

15. The SPI is seen as a useful tool for making cross-country comparisons of social protection activities and for monitoring a country's social protection provision over time. Additionally, the component indicators and the program specific information collected to calculate the index provide the basis for a diagnostic assessment of the current scope, cost, coverage, targeting and impact of a country's SP provision. Finally, the process of producing the SPI, involving as it does, numerous meetings and discussions with officials responsible for SP programs, will raise in-country awareness of its SP activities.

E. Important Points

16. The work that you will need to undertake in order to calculate the Social Protection Index (SPI) for your country is not technically complex. It does however require painstaking and diligent work as the great majority of data that you will need is not likely to be available from any centralised or easily accessible sources.

17. You will need to make contact with a large number of agencies, obtain and review a substantial number of reports and statistical digests, undertake a lot of follow-up visits, and do a lot of double-checking. At various times, you will need to exercise your professional judgement.

18. It is anticipated that you will be working in two person teams which will enable you to discuss and resolve many of the issues and difficulties that are likely to arise.
19. Your work will also be considerably facilitated by:
- the fully automated EXCEL workbook on CD ROM which is attached to this handbook. This workbook, which was not available to the TA6120⁹ consultants, considerably reduces the tasks of data synthesis (Chapter IV) and the calculation of the SPI (Chapter V). These Chapters have been written so as to explicitly refer to the format and layouts contained in this workbook;
 - the availability of the abovementioned Country and Final Reports. The Country Reports provide examples of the report that you will be producing (although your reports will be significantly shorter, see Chapter VIII). The Final Report contains more explanation of the methodology and the outputs;
 - concentrating on obtaining the necessary information from the largest SP programs from a limited number of key agencies. Experience shows that these are the programs that essentially determine the final values of the indicators and the SPI itself. Concentrating on these programs will make your task easier as you will need to spend correspondingly less time on the more numerous, smaller programs;.
20. You will need good but not advanced knowledge of EXCEL.

F. Structure of the Handbook

21. This handbook is structured as follows:
- Chapter II defines the types of social protection programs that are included in this study, the data that will need to be collected, how it is to be collected and alternative sources for this information.
 - Chapter III describes the procedures for synthesizing the information collected in Chapter II in order to derive the four summary SP indicators and how these are combined into the SPI itself.
 - Chapter IV shows how household survey data can be analysed to provide much of the information required for the study.
 - Chapter V describes the format of the Country Social Protection Report that will present the results of the Study.
 - Annexes 1 to 4 contain the algebraic formulations of the SPI and its indicators (A1), the largest SP programs for each four summary indicators from the 6 countries participating in TA6120 (A2), summary tables and figures (A3), and a list of references consulted (A4).
22. To facilitate the task of calculating the SPI, an EXCEL workbook has been produced which automates, as far as possible, the tasks of data synthesis (Chapter IV) and the calculation of the Social Protection Index (Chapter V). A copy of this workbook, entitled SPICALCULATION.XLS, can be found on the CD ROM at the end of this handbook.

⁹ ADB TA6120: Social Protection Index for Committed Poverty Reduction, 2004-05; the 'abbreviation' TA6120 is used for the sake of brevity.

II. DATA COLLECTION

A. General

23. This Chapter describes the information that needs to be collected in order to complete this study, the likely sources of this information, difficulties that may be encountered in its collection, and some suggestions on the approach to adopt in interviews with officials in the agencies/ organisations responsible for social protection programs.

24. The information required falls into two general categories:

- Key statistics and indicators.
- Data on social protection programs.

B. Key Statistics and Indicators

1. Basic Indicators

25. In order to provide non-national readers with some background information on a country's development situation, a number of key indicators should be provided. These are listed in Table 2.1 together with probable sources for this data.

2. Key Statistics

26. In order to provide SP indicators that are comparable across countries, it is necessary to divide the data on SP activity in each country by common denominators. Table 2.2 lists the statistics that are required for this purpose together with likely sources for this information.

27. In every case, the data for the reference year, i.e. the year for which the SP information is being compiled, should be used. Where information for this year is not available, estimates will need to be made using simple interpolations or extrapolations. If such adjustments are not possible, the data for the latest available year should be used.

28. This information should be entered into spreadsheet BASICSTAT in the SPICALCULATION workbook, Table S.1.

Table 2.1. Summary Development Indicators

Indicator	Unit/ Variable	Probable source
Population	Millions	Use estimate from Table 2.3.
Annual growth rate	% pa	Annual statistical abstract
Urbanisation	% population	Most recent census or WDR
Age Structure	% aged 0-14 years	Most recent census
GDP (PPP)	US\$ billion	World Bank Development Report (WDR), World Bank
Real GDP growth	Average growth rate over last 5 years at constant prices	
GDP per capita (PPP)	US\$	
Government Expenditure	% of GDP	Annual statistical abstract
Agriculture	% of GDP	
Employment Rate	Empl. as % of pop. Aged 15+	Census or LFS
Agricultural Employment	% of total employment	
Infant Mortality Rate	Per 1,000 live births	Annual statistical abstract or national Human Development Report
Life Expectancy at birth	Years	
Primary Schooling	Completion Rate	WDR
Literacy	% 15 +years who are literate	Annual statistical abstract or national Human Development Report
Poverty (headcount) *	% poor	As for Table 2.3
Poverty Gap *	-	National poverty report
Poverty \$1 a day (headcount)	% poor	WDR
Poverty Gap \$1 a day	-	
Human Development Index	Rank (out of 175 countries) Value	UN Development Indicators Report

* National Poverty estimates.

Table 2.2. Key Statistics

Statistic	Preferred source	Alternative source
GDP (current price)	Annual statistical abstract	
Total Population	Current estimate from statistical abstract	Extrapolation from most recent census using estimated growth rate.
Number of unemployed/ under-employed*	Labour force survey (LFS)	Application of unemployment / under-employment rates to current estimate of labour force.
Population aged 60 years and over	% in most recent census applied to current population estimate	
Population living below national poverty line	Current official estimate applied to current population estimate	
Disabled population	Census question on disability or national disability report**.	Census or LFS information on population stating 'invalidity' or 'disability' as the reason for non-activity.
Children aged 5 to 14 years	% in most recent census applied to current population estimate	
Poor children aged 5-14 years	Analysis of recent poverty survey.	Application of current poverty level to current estimate of total children aged 5-14 years.
Per capita poverty line income (annual)	Current official estimate	Extrapolation using rate of inflation from most recent estimate.
Average household size	Census or recent national household survey	

* Defined for the purposes of consistency as those working under 25 hours per week.

** If available, information should be disaggregated by the level of disability, e.g. severe, moderate, slight.

C. Information on Social Protection Programs

1. The Relevant Programs

29. Based on the definition of Social Protection established for this Study (see I.C), Table 2.3 lists the types of programs for which information needs to be collected. These programs have been classified according to the ADB's typology of SP activities.

30. The following should be noted:

- The key criteria for inclusion are that programs must: (a). be clearly targeted at groups in need of Social Protection, e.g. the poor, the unemployed, the old, the sick, the disabled, and children with special needs (CWSN); and (b). involve direct transfers in cash or in kind to beneficiaries.
- Social protection activities that are not amenable to quantification, e.g. legislation relating to labour standards, women and children's rights, empowerment and consciousness raising projects and programs, are excluded.
- Programs that are generally seen as falling within the health or education sectors, such as health care (including HIV/AIDS and reproductive health), immunisation, nutrition, pre-school education, general vocational and technical education are excluded. Programs to improve the quality of teaching or health care in poor areas are also excluded
- Programs that fall within the general category of rural/ community development are excluded along with those that concentrate on the construction of physical assets or social infrastructure, e.g. roads, water supply/ irrigation networks, schools or clinics.
- Micro-credit/ finance (MCF) programs are included where they are targeted at poor households, or are associated with micro-insurance schemes. Mainstream rural credit programs are excluded.

Table 2.3. Social Protection Components and Types of Programs

Social Protection Component/ Types of Program	Comments
Labour Market Programs	
Direct employment generation through public works programs	Including Food for work programs.
Direct employment generation through loan based programs	Included if loans are subsidised and/or job creation is an explicit objective of the program.
Labour exchanges and other employment services	
Unemployment benefits	If distinct from Social Insurance and including retrenchment programs.
Skills development and training	Included if targeted at particular groups, e.g. the unemployed or disadvantaged children. General vocational training is excluded.
Social Insurance Programs	
Programs to cover the risks associated with unemployment, sickness, maternity, disability, industrial injury and old age	
Social Assistance and Welfare Programs	
Welfare and social services targeted at the sick, the poor, orphans, the disabled and other vulnerable groups	
Land tax exemptions/ food aid programs	
Subsidised health treatment costs	
Cash/in-kind transfers (e.g. food stamps, food aid)	
Temporary subsidies for utilities and staple foods	Only if imposed in times of crisis and if targeted at particular vulnerable groups. General subsidies are excluded even if their rationale is to assist the poor.
Micro and Area-based schemes (community-based)	
Micro-credit/ finance schemes (when target at the poor and excluding mainstream rural credit schemes)	Included only if targeted at poor households. Mainstream rural credit schemes are excluded.
Micro-insurance schemes	Excluding programs only providing life insurance and savings schemes.
Agricultural insurance	
Child protection	
Educational assistance (e.g. school-feeding, scholarships, fee waivers)	
Health assistance (e.g. reduced fees for vulnerable groups)	Included under Social Assistance unless targeted specifically at children.
Street-children initiatives	
Youth programs to reduce health risks (especially HIV/AIDS and drugs) and anti-social behaviour.	
Family allowances (e.g. in-kind or cash transfers to assist families with young children to meet part of their basic needs).	Excluding any transfers through the tax system.

Source: Adapted from Ortiz ed, *Defining an Agenda for Poverty Reduction - Proceedings of the First Asia and Pacific Forum on Poverty*, Volume 2, p. 57, ADB, Manila, 2002; ADB, *Social Protection Strategy*, pp. 14–22, Manila, 2001

2. The Information to be Collected on Social Protection Programs

31. The key information that needs to be obtained for each relevant SP program are:
- annual expenditure;
 - number of beneficiaries;
 - proportion of beneficiaries who are poor based on the current national poverty line.
32. Other information that needs to be collected are a description of each SP program, including the implementing agency, objectives, target group, eligibility criteria, and benefits provided. The information should be collected using the checklist contained in Table 2.4.
33. The following general points should be noted:
- The information needs to be collected from qualifying programs operated by government, NGOs (international and national) and international organisations (e.g. the ADB, the World Bank, the UN, ILO, and bilateral agencies such as GTZ, USAID and DFID). (See para. 40 below)
 - Where possible data should be collected for 3 consecutive years; where this is not possible, as may often be the case, information for the latest available year will be adequate.
 - Extrapolations are necessary when information is only available for a sample of a certain type of program, e.g. the total number of residents of privately run orphanages can be estimated by multiplying the number of such orphanages by the average number of occupants.
 - Email/ telephone contacts of informants should be obtained as, very often, clarifications/ additional information are required and follow-ups are required.
34. The following specific points should be noted:
- Loan-based programs (job creation and MCF): for these programs it is necessary to obtain the total value of loans issued in each year along with the number of loans issued and an estimate of the number of beneficiaries. In some cases, only cumulative information is available; in these cases, annual figures can be obtained by subtracting the data for the previous year from that of the current year.
 - Social Insurance: care must be taken to obtain information which disaggregates expenditure and beneficiaries by the different types of benefit, e.g. old age (pensions), sickness, maternity, invalidity, etc. The information on the annual contributions and number of contributors should also be collected where possible.
 - Health insurance (including micro-insurance): for these schemes, the total membership (including family members where these are also covered) is the key item of information and not the number of actual beneficiaries in that year. Annual expenditure (i.e. amount of benefits paid out) however remains the key expenditure variable.
35. More detailed descriptions of the exact information that is required for calculating the four SPI component indicators is provided in Chapter IV.

Table 2.4. Checklist for Information on Social Protection Programs

Asian Development Bank: Social Protection Index Social Protection Program - Information Checklist					
Interviewer and date (including any follow-ups):					
Name of Program:		Details of person interviewed	Name:		
Responsible Agency:			Position:		
Years program first implemented		Funding Sources (approx. %)	Govt.	foreign	Private
			..%	..%	..%
Program Description (including objectives, target group(s), activities):					
Main eligibility criteria and characteristics of beneficiaries					
:Description of Benefits Provided (in cash and in kind):					
Expenditure and Beneficiaries		Year			
		2005	2004	2003	
No. of persons participating (for insurance schemes)					
No. of beneficiaries (i.e. actually receiving benefits)					
Annual cost / expenditure (in local currency)					
Any other relevant information (E.g. Other sources of information)					

NB. You will probably need to use 2 pages for the larger programs as well as appending any detailed statistical information.

3. Data Sources

36. The following sources should be researched:

- government statistics and reports;
- reports by international organisations and consultants;
- annual reports of NGOs and;
- discussions and interviews with agencies responsible for SP programs;
- household survey data¹⁰.

37. Experience from TA6120 suggests that the great majority of information will come from direct interviews with program operators. In most countries, there is an almost complete absence of centralised or easily available information on SP programs and in particularly beneficiary numbers and characteristics.

38. **The emphasis should be on obtaining the required information for the major programs¹¹.** These will vary from country to country but are likely to include:

- Job creation programs (public works / Food for Work or loan-based)
- Social insurance (usually including health insurance)
- Social assistance/ welfare programs operated by government e.g. the ministry of social welfare)
- Health care assistance, either through the issuance of health certificates or enrolment at reduced or no cost into health insurance schemes
- Educational assistance
- Micro-credit programs.

39. Accordingly, the initial priority should be to make contact with the agencies responsible for these programs, namely:

- Ministry of Labour¹²
- Ministry of Social Welfare
- Ministry of Health
- Ministry of Education
- Social Insurance Agency¹³ (if independent from government ministry).

¹⁰ See Chapter IV for a description of how to use and analyse this type of data.

¹¹ Results from the 6 TA6120 countries showed that around 10 programs accounted for 80-90% of the final 'values' of all four SP summary indicators. Annex 1 lists the largest programs for each summary indicator found in the 6 TA6120 countries.

¹² These are generic names and will vary from country to country.

¹³ In some countries there may be several such agencies with responsibilities for different sections of the population, e.g. civil servants, the private formal sector, the military. Where this is the case, each needs to be contacted.

- Micro-credit operators, especially NGOs although there may well be recent reports summarising MCF activities that will reduce the need for direct interviews.

40. You are required to collect information on the SP programs operated by NGOs and international organisations as well as those operated by government. In practice, it has been found that most NGO programs do not qualify as SP programs using the above-mentioned criteria; the main exceptions which will need to be investigated are micro-credit and finance programs (MCF), the operation and management of facilities for the physically and mentally disabled, and programs targeted at CSWN (e.g. orphanages, street children). If a central NGO coordinating body or council exists, this should be used to identify NGOs involved in relevant social protection programs. This centre may also have some of the information required thus reducing the need to contact each NGO. A similar situation is likely to exist with regard to programs run by international organisations where it was found that only UNICEF and the World Food Program (WFP) had large qualifying programs; ILO had relevant programs but these tended to be much smaller. The WHO had large inoculation or disease eradication programs but these fall under the category of mainstream health sector and not Social Protection programs. Other agencies, e.g. the World Bank and UNDP, may however have produced reports (e.g. poverty assessments or social sector studies) which contain useful information; the existence of such reports needs to be checked.

41. In some countries, the administration of some SP programs has been decentralised to local government (e.g. to provincial level). In many of these cases, adequate information will still be collated by central government. However where these programs are financed out of local budgets, you should visit two or three local governments (starting with the capital city where you are based) to collect information on the types of programs administered. You will then need to make a judgement on whether these programs are significant enough to affect the summary indicators. If the answer is 'NO' you need to do no more; if the answer is 'YES' you should make additional visits and then extrapolate to produce national estimates of the expenditure and beneficiaries for these programs. Based on our experience with TA6120, it is unlikely that SP programs financed by provincial governments will be significant except in the largest countries, e.g. India and China.

4. Data Collection Procedures

42. This data collection exercise can only be undertaken with the agreement of the national government who will appoint a person or agency to be the prime point of contact. Before data collection starts there should therefore be a meeting with this person/ agency. If this person is in the Ministry of Social Welfare, they should be able to provide direct access to most of the Social Assistance programs. They should also be used to provide contacts and introductions to the other agencies listed above.

43. In TA6120, consultants' personal contacts with individuals and agencies also considerably facilitated the process, and these contacts should be used wherever possible. The resident ADB mission may also be able to provide useful contacts and introductions although their assistance may be restricted by protocol issues.

44. It is generally unlikely that all the required information will be obtained during the first visit to an agency. It is also not desirable to request detailed information on SP programs from senior officials who may have limited time and detailed knowledge of their programs. The recommended procedure is therefore to: (a). explain the objectives of the study to a senior official in the agency; (b). request the name of someone more junior, who can spend time describing the programs and providing the required data; and (c). identify and obtain any departmental reports and statistics that can provide the information and thus reduce the time needed for face to face meetings. Much of the required information WILL be available

in the form of annual budgets and annual reports and obtaining these will reduce the work for all concerned.

45. Once these reports have been obtained and reviewed follow-up meetings/ telephone calls/ emails can be used to seek clarifications and request additional items of information.

46. **While the key data required is not extensive and should be available, even if not in easily accessible form, the experience from the previous TA6120 indicates that obtaining this information successfully will require persistence and a painstaking approach involving numerous follow-ups for clarification and double-checking.**

47. The application of professional judgement is also likely to be necessary at various times during data collection. This is to be expected but any assumptions made should be cross-checked with those responsible for program implementation in order to confirm, or otherwise, their appropriateness. Occasions where professional judgement is most likely to be required are described in the Chapter IV.

48. To reiterate, the emphasis must be on obtaining the required information for the largest SP programs in terms of expenditure, numbers of beneficiaries, and poverty targeting¹⁴. Once these have been identified and the information obtained, other programs need to be considered if they significantly influence ANY of the summary indicators.

49. **At the end of the data collection phase, you must be confident that you have identified all the major SP programs and have obtained the best information possible on each of these programs.**

¹⁴ Note that the largest programs will often differ depending on which indicator is under consideration. However it is generally considered unlikely that information on more than 15-25 programs will be needed in order to provide the upwards of 90% of the final SP summary indicator values.

III. DATA SYNTHESIS AND CALCULATION PROCEDURES

A. General

50. The SPI is derived through the combination of four summary Social Protection (SP) indicators. Table 3.1 defines these indicators which are the building blocks of the SPI.

Table 3.1. Definition of Summary SP Indicators

Summary Indicator	Name	Description	Comment
Social Protection Expenditure	SPEXP	SP expenditure as % of GDP	
Social Protection Coverage	SPCOV	SP beneficiaries as %age of target population	Combination of coverage rates of 7 priority SP target groups
Poverty Targeting	PTR	Poor SP beneficiaries as % of poor population	Double-counting of beneficiaries needs to be allowed for.
Social Protection Impact	SPIMP	Per capita SP expenditure going to the poor as % of current poverty line.	Similar methodology to PTR but no need to allow for overlaps.

51. The four summary indicators selected reflect four distinct, yet inter-linked, aspects of Social Protection:

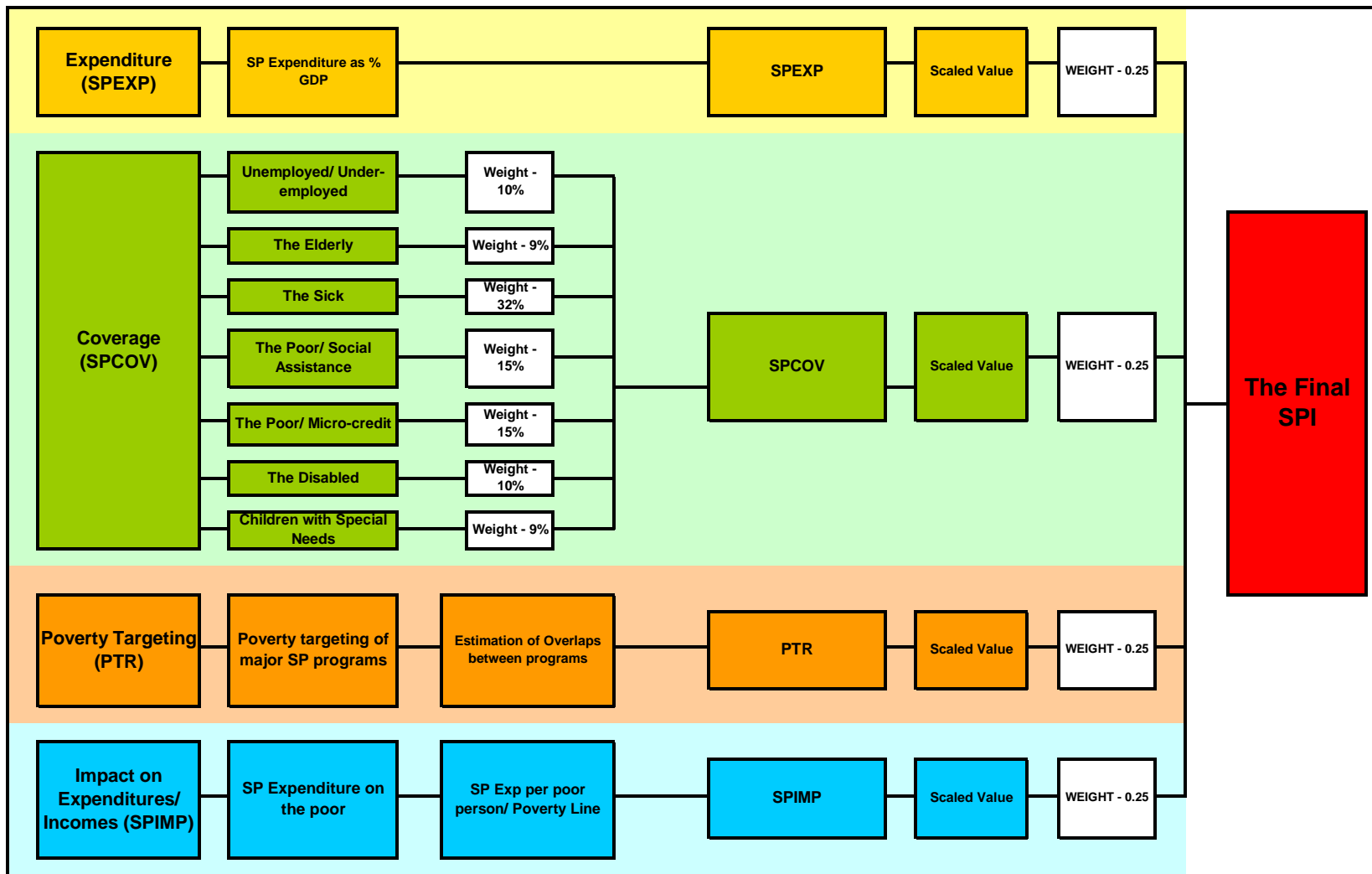
- two (SPEXP and SPIMP) relate to SP expenditure and two (SPCOV and the PTR) relate to SP coverage;
- two (SPEXP and SPCOV) relate primarily to general social protection programs and policies (e.g. the care of the elderly and health insurance) while two (PTR and SPIMP) relate mainly to SP programs that are targeted at the poor;
- SPIMP also provides an indication of the effectiveness of current SP activities as it provides a measure of the impact of SP transfers on the income/expenditure of the poor.

52. Chapter IV describes the procedures needed to obtain the summary indicators.

53. Once the four summary indicators have been obtained, they have to be scaled. Scaling is necessary because, although the four indicators are all expressed in percentages, their denominator and therefore ranges differ. The scaled values then need to be weighted in order to produce the final SPI. Chapter V describes the method and calculation procedures for these steps while Figure 3.1 provides a diagrammatic representation of the process for constructing the SPI from the four summary indicators.

54. For those interested, Annex 1 contains the algebraic formulations of the four summary indicators. Full understanding of these is not however required in order to carry out the work needed for this study.

Figure 3.1. Diagrammatic Representation of the Derivation of the Social Protection Index



55. This remainder of this Chapter describes the procedures needed to calculate the summary SP indicators – expenditure (SPEXP), coverage (SPCOV), poverty targeting (PTR) and impact (SPIMP).and to combine these into the Social Protection Index (SPI).

56. The procedures have been facilitated by their incorporation into a series of linked spreadsheets contained in EXCEL workbook SPICALCULATION. A copy of this workbook on CD ROM is provided at the end of this handbook. The six spreadsheets are named SPEXP, SPCOV, PTR, PTR2¹⁵, SPIMP and SPI. Tables in this workbook are prefaced by an **S** to distinguish them from the other tables in this handbook. Illustrative examples of these tables are presented in this Chapter while others (the automatically generated summary tables and figures) are contained in Annex 3. All programs and numbers in these tables are hypothetical. When adapting the spreadsheets for your own country, be careful not to alter the cells highlighted in yellow – which contain formulae or data that should not be changed.

57. The workbook has been designed to accommodate 30 SP programs without the need for reformatting. In practice, we expect that around 15-25 significant SP programs will be identified in most countries, of which only around 10 will exert a significant influence on the summary indicators and the final SPI.

B. Calculation of the Social Protection Expenditure Indicator (SPEXP)

58. SPEXP is defined as the ratio of total SP expenditure to GDP. It is calculated automatically in the SPI spreadsheet once information on the annual expenditure associated with each identified SP program is entered into this spreadsheet. The category of program also needs to be entered. Table S2 shows the layout of this spreadsheet.

59. The information that needs to be inserted is:

- Col. B: The name of the program
- Col. C: The implementing agency
- Col. D: The category – LMP: Labour Market Programs, PEN: pensions, HI: health insurance, OSI: Other Social Insurance¹⁶, SA: Social Assistance; MAB: micro-area based (incl. MCF), CP: Child Protection.
- Col. E: annual expenditure in local currency.

60. It is permissible to group programs if they are: (a). implemented by the same agency; (b). they are targeted at the same group with similar eligibility criteria; (c). they are small programs. Such grouping is most likely to apply to MCF programs operated by NGOs, child protection programs (e.g. orphanages operated by NGOs), the smaller government Social Assistance programs. Programs targeted at the disabled should, however, always be kept separate.

61. The calculation of SPEXP, the breakdown by SP category (Table S3) and the associated chart¹⁷ is fully automated once the GDP, in local currency and for the reference

¹⁵ This spreadsheet is only needed if household survey data is available, see next Chapter.

¹⁶ NB. Social Insurance schemes essentially cover contributory and formal sector programs. Subsidised health insurance programs or social welfare pensions should be classified under social assistance (SA).

¹⁷ Note that the different components of Social Insurance (pensions, health insurance, etc.) are combined in the chart.

year, is inserted into spreadsheet BASICSTAT. Your country's SPEXP value is displayed in cell C54. Table S3 and Figure S1 in Annex 3 present the summary information.

62. Apart from general difficulties associated with obtaining the information, the most significant potential difficulty relates to the need to provide the total value of MCF loans issued in the reference year and not the cumulative amount loaned or the amount of loans outstanding. The same applies to loan-based job creation programs although annual expenditure on these is likely to be available from the government implementing agency.

63. Care must also be taken with job creation based on public works programs. For these programs only the labour component of the expenditure should be included, i.e. the costs of materials, plant, administration etc. must be excluded. Obtaining this estimate may require getting an estimate of the number of work days involved and multiplying by the average daily wage. This is an example of where ingenuity and persistence are likely to be required.

64. Note that annual expenditures need to be used. Where a project lasts several years, e.g. UNICEF projects, total project expenditure needs to be divided between the number of years the project is expected to last. If a year by year breakdown of expenditure is not available, one can simply divide total project expenditure by the project's years.

65. **As a general point, all assumptions should be noted in the comments columns associated with the spreadsheet (or as footnotes). These should be used wherever estimates have had to be made owing to expenditure data not being directly available.** This comment applies equally to the calculation of the other three summary indicators.

Table S2. SPEXP Calculation Sheet

C. Calculation of the Social Protection Coverage Indicator (SPCOV)

1. General

66. The second element of the Social Protection Index is the coverage of Social Protection Programs (SPCOV). Unlike SP expenditure, the coverage indicator is derived from the coverage rates for 7 key Social Protection target groups, namely:

- the unemployed/ under-employed - labour market programs;
- the elderly - pension schemes and other assistance for the elderly;
- the sick - health insurance schemes, micro-insurance, subsidised health cost fee exemption schemes;
- the poor - social assistance and welfare programs;
- the poor - micro-credit programs¹⁸;
- the disabled - disability programs;
- children with special needs child protection programs.

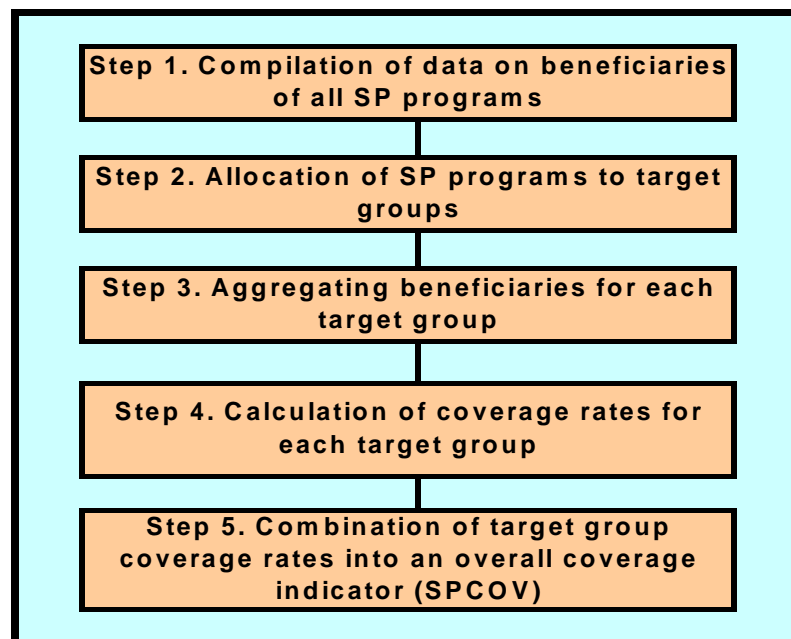
67. These groups were selected as they are considered to represent the groups around which most SP programs and policies will be formulated. These individual coverage rates will also be understandable to most policy makers in both the national and international context, and will provide additional information that can be used by policy makers in the evaluation of the effectiveness of current SP activities. This would not have been the case if a single coverage indicator had been derived from the information on individual SP programs.

68. The procedure for deriving the coverage indicator based on the above SP target groups is shown diagrammatically in Figure 3.2. As can be seen, there are 5 steps. The following paragraphs describe the issues relating to the execution of each of these steps. References are to Spreadsheet SPCOV in the SPI calculation file.

69. It should be noted that several of the following tasks will be considerably facilitated if good household survey data on the targeting of SP programs is available. Reference should be made to Chapter VI which describes how such information can be obtained and applied to the derivation of this indicator. As good household survey data is by no means always available, the remainder of this Chapter assumes that such data is not available.

¹⁸ The reasons why it was decided to assess coverage of MCF programs separately from other programs targeted at the poor were: (a).MCF programs, which involve loans, are qualitatively different from other social assistance programs that essentially involve targeted transfers; and (b). to avoid the need to deal with potential overlaps between MCF and other social assistance programs.

Figure 3.2. Derivation of Coverage Indicator (SPCOV)



2. Compilation of Data on Individual Programs (Step 1)

70. Spreadsheet SPCOV automatically replicates the projects identified in the previous sheet. The number of beneficiaries for each program must then be inserted into column C of Table S4.

71. Compiling the information on beneficiaries is likely to prove considerably more difficult than that for expenditure, often involving repeated visits to implementing agencies. In a number of cases, the required information was simply not available and estimates had to be made using, for instance, the average level of expenditure per beneficiary or grossing up from partial data with frequent cross-checking to ensure that the results were plausible.

72. In compiling the number of beneficiaries the following specific points need to be noted:

- Beneficiaries of job creation programs are those actually working as a result of these programs. Where beneficiary numbers include other family members, these numbers need to be divided by the average household size to give the number of those actually gaining some employment from these schemes.
- In contrast, beneficiaries of MCF programs are usually reported in terms of households. As these programs bring benefits to the entire household, they should be multiplied by the average household size in order to give the total population benefiting from these programs.
- Beneficiaries for pension programs are those currently receiving pensions and not the total number of pension scheme members.

- Beneficiaries for health insurance and other health assistance schemes are those covered / who are scheme members and not just those receiving benefits in the reference year.

73. Wherever adjustments or assumptions are needed to estimate beneficiary numbers, this fact should be noted in the comments column (D).

3. Allocation of Program Beneficiaries to Target Groups/ Program Types (Step 2)

74. The next step is to allocate the programs to the primary target group firstly by inserting the codes shown in Table 3.2 into column E in the spreadsheet; and secondly, by inserting a '1' into the appropriate column F to L. In most cases, this is straightforward, e.g. pension programs are targeted at the elderly, training programs, job creation and retrenchment programs are targeted at the unemployed/ under-employed, etc.

Table 3.2. Target Group Codes

Target Group	Code (for insertion into column D)	Target Group	Code
Unemployed/ under-employed	LMP	The poor - micro-credit	MCF
The elderly	ELD	The disabled	DIS
The sick	HEA	Children with special needs (including educational assistance programs)	CP
The poor - social assistance/	SA		

75. It should be noted that beneficiaries of some programs can be allocated to more than one target group. Some programs target more than one group, e.g. assistance to the elderly who are poor; similarly, with food for work programs that would go to both the unemployed and poor categories. The same applies to health assistance targeted at the poor, and education assistance programs that will usually be targeted at children who are also poor.

76. In this and similar cases, the program beneficiaries need to be allocated to both the relevant target groups: e.g. beneficiaries of social assistance programs targeted at the elderly will be allocated to both the elderly and the poor target groups. On the spreadsheet, this is done by inserting a '1' into the other applicable target group in columns F to L.

4. Aggregating Beneficiaries for Each Target Group (Step 3)

77. This step involves summing the beneficiaries of all programs providing assistance to each target group. This is done automatically in the spreadsheet based on the insertions into columns F to L with the results being contained in Table S5 of SPCOV spreadsheet.

78. An issue that may need to be addressed is that of 'young pensioners': in two TA6120 countries, Mongolia and Pakistan, it was found that a substantial proportion of pensioners were not of pensionable age due to early retirement (both countries) and pensions being granted to disabled persons (Mongolia). If this is the case in your country, you should obtain estimates of 'old', 'young' and 'disabled' pensioners. 'Old' pensioners were allocated to the elderly target group and 'disabled' pensioners to the disabled category. The remaining 'young' pensioners were assigned to the unemployed / labour market category category as (a). these beneficiaries could not be excluded from the calculations altogether, (b). their inclusion with 'old' pensioners would distort the subsequent calculation of the

coverage rate, and (c). the provision of early retirement pensions can be seen as a type of unemployment/ retrenchment benefit¹⁹, even if many of these beneficiaries are likely to have obtained new employment. Adjustments for 'young pensioners' and any other such adjustments deemed necessary must be made manually in column D of Table S5.

79. In some cases, it is also necessary to allow for overlaps between different programs for the same target group, e.g. recipients of food aid who also benefited from other social assistance programs. In practice, this did not prove to be a major issue as most programs for each target group were aimed at different sub-groups. These overlaps arose where there were more than one large-scale program in existence, e.g. food aid and land tax exemptions and/or educational/ health assistance programs targeted at the poor. They were found to be most significant for Social Assistance and Child Protection programs. Estimates of the amount of overlap should be made where these are considered to exist AND be significant enough to affect the resultant coverage rates. Unless household survey data exists, it is recognised that this estimate will be primarily a matter of judgement²⁰. Adjustments for these overlaps are made by inserting the percentage overlap into column F of Table S5.

80. Column G of Table S5 contains the final estimates of the number of beneficiaries this is calculated automatically. An example of this Table is contained in Annex 3.

5. Calculation of Target Group Coverage Rates (Step 4)

81. Having obtained the number of beneficiaries for each SP program category (the numerator), it is now necessary to calculate the coverage rate by dividing by a reference population for each target group (the denominator). These reference populations were selected, following extensive discussions, as providing the best approximation of the size of the potential target group. They are shown in Table 3.2. These reference populations, which are part of the key statistics listed in Table 2.2 will have been entered into spreadsheet BASICSTAT from where they are automatically transferred into Column E of Table S6, which then calculates the coverage rates for each target group. These rates are presented diagrammatically in Figure S2. Table S6 and Figure S2 are to be found in Annex 3.

Table 3.3. Reference Populations for Coverage Calculations

Category/ Target Group	Reference Population
Labour Market Programs: un-/underemployed	Unemployed + underemployed
Assistance to the elderly	Population Aged 60+ years
Health Care Assistance	Total population
The poor - social assistance	Poor population*
The poor - micro-credit	Poor population
Assistance to the disabled	The disabled population
Child Protection	Poor children, aged 5-14 years**

* Defined according to the official national poverty line.

** Defined in this way as the majority of applicable programs involved educational assistance, especially for primary and lower secondary schooling.

¹⁹ The alternative would have been to include this group in the social assistance category. As members of this group will mostly come from the formal sector, they are less likely to be poor, it seems more logical to see tis 'benefit' as compensation for unemployment rather than poverty.

²⁰ A method for estimating overlaps is described in section D, the Poverty Targeting Rate, where this issue is of greater importance.

6. Combination of Coverage Rates into a Summary Coverage Indicator (Step 5)

82. Having obtained coverage rates for the seven target groups, it is now necessary to combine these into an overall coverage indicator (SPCOV). There are two basic approaches:

- taking the arithmetic mean of the individual coverage rates (the unweighted approach)
- deriving a weighted average based on the size of the reference populations (the weighted approach).

83. These two approaches have very different implications. Essentially the use of the arithmetic mean accords equal weight to each target group in the calculation of SPCOV, irrespective of the size of the reference population, the weighted approach gives much greater importance to the target groups with the largest reference population, i.e. the sick. Table 4.3 shows how these weights vary.

84. There were intensive discussions during TA6120 as to which approach to adopt. Essentially expert opinion was split²¹. Interestingly, when the experts' responses were averaged (col.3 in Table 3.4), the results are virtually identical to those obtained by simply averaging the other two sets of weights (column 4).

Table 3.4. Alternative Weighting of Coverage Rates

SP Program Category/ Target Group	Weighting Approach			
	Unweighted	By Reference Population *	Manila Conference	Average of Unweighted/ weighted
	1	2	3	4 = (1+2)/2
Labour market programs	14.3%	5%	9.9	10%
Assistance to the elderly	14.3%	4%	10.6	9%
Health care assistance	14.3%	50%	32.1	32%
Social Assistance	14.3%	16%	15.1	15%
Micro-credit programs	14.3%	16%	12.4	15%
Assistance to the Disabled	14.3%	5%	10.1	10%
CSWN	14.3%	4%	9.8	9%
TOTAL	100%	100%	100%	100%

* These factors are derived from an all country average.

Source: TA6120, Final Report, August 2005

85. Given the above, it was decided to use the weights obtained by averaging those implied by the unweighted and reference population weighted approaches (i.e. column 4) as:

²¹ Participants were given a form with three options: to use the unweighted average, to use the weighted average or to assign their own weights. Of the 25 completed forms, 5 preferred the unweighted approach (i.e. assigning equal weight to each target group), 7 preferred weighting using the reference populations, and the remaining 13 (50%) assigned their own weights. Similar results were obtained when the same exercise was carried out at an earlier workshop.

- there is no justification for preferring the unweighted over the weighted methods, or vice versa;
- they reflect the diversity of expert opinion;
- it is logical that the overall coverage indicator should reflect both the size of the reference populations and the need to ensure that the smaller target groups make a significant contribution to the overall indicator.

86. The application of these 'average' weights to the target groups coverage rates in Table S5 produces the overall coverage rate. This calculation occurs automatically with the overall coverage indicator (SPCOV) being displayed in cell G64.

7. Final Comments on Calculation of SPCOV

87. **It is recognised that none of the above steps are likely to be straightforward and problems will inevitably be encountered**, as they were during TA6120. Professional judgement and estimates will be required at several points. THEREFORE, when you have first completed the Table and calculated the coverage rates, look at them and think whether they are realistic. This applies particularly if coverage rates appear to be very high or very low. In these cases, you need to examine the data to see why this is. Possible reasons, all of which occurred in TA6120 and which only came to light after the coverage rates were first calculated, are:

- Coverage of the un-/ underemployed seems high: look to see if beneficiary numbers relate to entire households and not just individuals who received work.
- Very high coverage of the elderly: this could be due to the inclusion of a large number of early retirees ('young pensioners') (see above).
- High coverage of social assistance programs: look for substantial overlaps between some of these programs.
- Low coverage rates: omission of important programs, input errors (mis-types and incorrect units - millions instead of 000s), mis-classification of programs in columns F-L of Table S4.

88. Therefore, if you are uncertain about some of the coverage rates, you need to double-check and correct any data errors, and then make adjustments, e.g. by reducing / increasing the overlaps, until you have rates which you are confident are plausible. The preparation of these tables is thus an iterative process that may need to be repeated more than once.

Table S4. SPCOV Calculation Sheet

D. The Poverty Targeting Rate

89. The Poverty Targeting Rate (PTR) provides an indicator of the distributional impact of SP programs. The PTR is obtained by dividing the number of poor SP beneficiaries by the poor population.

90. Deriving the PTR requires the two sets of information:

- An estimate of the number of poor beneficiaries for each of the identified SP programs.
- An estimate of the overlaps between these programs, so as to avoid the double-counting of beneficiaries, i.e. households receiving benefits from more than one program.

91. Unless good household income and expenditure survey (HIES) data is available (see Chapter IV), the required information has to be obtained through knowledge of the poverty targeting of each program. This information can be obtained from reports (by the agencies themselves, IFIs or consultants) or in discussion with agencies themselves. The procedure is inevitably *ad hoc* as, in many cases, the implementing agencies do not maintain data disaggregated by poor and non-poor beneficiaries. On the other hand, knowledge of the programs and their target groups allied to indications of the extent of leakage²² enables reasonable estimates to be obtained.

92. The *ad hoc* approach therefore involves some or all of the following:

- identifying SP programs where the poverty targeting is obvious, such as the social assistance programs targeted at the very poor where the PTR is likely to be close to 100%. In contrast, pension and health insurance schemes that only benefit government servants and formal sector employees, may be expected to have PTRs close to zero;
- obtaining PTRs from reports (where necessary making adjustments for the poverty line used);
- estimating PTRs in discussions with officials responsible for the programs;
- professional judgment.

93. Spreadsheet PTR sets out the calculation procedure. Column B and C replicate the names of the programs and the number of beneficiaries from the previous sheet (SPCOV) and need not be entered. The PTR for each program is inserted into column D with a note on the reason for its selection needs to be made in column E. The number of poor beneficiaries is then automatically calculated in column F.

94. Summing the numbers of beneficiaries in column F (Cell F35) produces a high estimate of the total number of poor beneficiaries as, in most countries, especially those with several major SP programs, some people may receive benefits from more than one program. In some countries, where there are several major overlapping programs, the high estimate of the PTR can exceed 100%; this is clearly implausible.

²² Leakage is defined as the extent to which benefits do not reach the intended target group, i.e. program beneficiaries who fall outside this group.

95. Conversely, a low estimate is obtained by taking the PTR of the largest program, i.e. the program with the most poor beneficiaries in column F. This assumes that all beneficiaries of other SP programs are also beneficiaries of the largest program. Again, this is implausible unless the largest program has almost complete coverage which is possible but generally unlikely.

96. In order to obtain a 'best' estimate, it is necessary to assign overlap rates to each program in column H of the PTR spreadsheet. Again it is necessary to adopt an *ad hoc* procedure as outlined below:

- eliminate programs with no poor beneficiaries (e.g. social insurance and other schemes for the formal sector) by entering 100% in the relevant cell in column H;
- identify those programs where there is compelling evidence that there is a complete overlap (e.g. as between micro-insurance and micro-credit), and give these a 100% overlap rate;
- identify those programs with no overlap, e.g. residential care programs, and give these a 0% overlap rate;
- assign a zero (0%) overlap rate to the largest program;
- assign an overlap rate to the remaining programs equal to the PTR of the largest program²³.

97. The spreadsheet then automatically calculates the number of net poor beneficiaries in cell I35. These are then summed and divided by the poor population (automatically transferred from BASICSTAT) to provide the 'best' estimate of the overall PTR. Table S7 contains a summary of the PTR results.

98. As with SPCOV, it will probably be necessary to repeat this exercise a few times to assess the sensitivity of the PTR to different assumptions for the PTRs of individual programs and overlap rates. It should be noted that the issue of overlaps only becomes important if there are more than one SP program with significant coverage of the poor population. If there is only one large program, this will dominate the PTR; if there are no large programs, overlaps will be insignificant.

99. The calculation of the PTR will be considerably simplified if household survey data is available (see Chapter IV) and this data should be obtained and analysed wherever possible.

²³ If for instance, 25% of the poor population were beneficiaries of the largest program, applying this overlap rate to the remaining programs assumes that the population benefiting from these programs has an equal probability of being a beneficiary of the largest program. In the absence of other information, this assumption is considered to be reasonable.

Table S7. PTR Calculation Sheet

E. Impact of SP Programs on Expenditures

100. While the Poverty Targeting Rate provides an indication of the extent to which SP programs reach the poor, it provides no information on the magnitude of the assistance provided. This is a crucial issue and we have therefore derived an indicator of the impact of SP transfers on expenditures. Given that the over-arching goal of the ADB and other IFIs is the reduction of poverty, we have based this indicator (SPIMP) on the amount of social protection expenditure going to the poor.

101. SP expenditure to the poor is estimated by using data on program expenditures and the previously derived PTRs. Multiplying one by the other and then summing gives an estimate of the total SP expenditure going to the poor. The procedure is actually simpler than deriving the PTR indicator, as there is no need to consider the overlaps between programs. It is also fully automated in sheet SPIMP with program names and expenditures being taken from sheet SPEXP and the PTRs from sheet PTR.

102. The resultant total SP expenditure going to the poor is then divided by the poor population to give the average per capita SP expenditure going to the poor²⁴. This is the numerator of SPIMP. The denominator is the per capita poverty line²⁵. Both the poor population and the poverty line income are transferred from BASICSTAT. The results are presented in Table S9.

103. It should be noted that all calculations for SPIMP are automated.

²⁴ We recognise that this methodology assumes that average benefits from a program to the poor are the same as to the not poor, and that this may not hold true for some programs, e.g., pensions. There is however no realistic alternative to this assumption.

²⁵ The poverty line needs to be for the same year as the SP information. If an estimate is not available from official statistics, the most recent estimate needs to be adjusted by the official inflation rate.

Table S9. SPIMP Calculation Sheet

F. Calculating the Social Protection Index

104. Once the four summary indicators have been calculated, two steps are necessary in order to obtain the SPI itself:

- Scaling of the summary indicators; and
- Weighting of the resultant scaled indicator values.

105. This Chapter explains the procedures needed to carry out these steps. In practice, they have been fully automated in spreadsheet SPI of the workbook.

1. Scaling of Indicators

106. As the indicators represent very different indicators with widely differing ranges, they have to be scaled before they can be combined. The approach that we have adopted, which is a variant of that used to calculate the Human Development Index developed by the UN, is to scale using the ratio of each country's indicator value to the maximum value of any country in the dataset. This method has the advantages of being simple, easily understandable and producing scaled values varying between 0 and 1. The formulation is as follows:

$$\text{Scaled Value for country } i = V_i / V_{\max}$$

107. These calculations are carried out automatically in spreadsheet SPI using the maximum values from the six countries participating in TA6120 (see Table S11). The only information that needs to be entered is the name of your country in cell B12. The spreadsheet contains a comparison of the scaled value of the four summary indicators against the average of those obtained for the 6 TA6120 countries in the form of a star graph (Figure S3 in Annex 3).

2. Weighting of SPI Components

108. The final stage in calculating the SPI is the application of weights to the scaled values of the four SPI components obtained above. The approach adopted to weighting involves the application of equal weights (i.e. 25%) to each component. This approach, which replicates that used in the HDI, was considered to be the most logical and simple, particularly as it closely mirrors the opinions of the consultant team and other experts consulted during the course of TA6120. Sensitivity tests also showed that even substantial changes in the weights, with much greater variation than those put forward by the experts, produced relatively small changes in the final SPI values.

109. The application of weights and the calculation of the final SPI is contained in Table S11 in spreadsheet SPI Figure S4 (in Annex 3) compares your country's SPI against those for the 6 TA6120 countries. All you need to do is insert your country's name and revise the rankings.

IV. ANALYSIS OF HOUSEHOLD SURVEY DATA

A. General

110. We have referred on several occasions to the potential usefulness of household survey data in the derivation of the information needed to calculate the summary indicators, and especially the coverage and poverty targeting rates. This Chapter describes how to find out whether this information can be used for your country, how to obtain the survey data base and how to carry out the necessary analysis.

111. HIES data should be used in the calculation of the SPI wherever possible as it is likely to produce more robust results and will avoid the need to rely on the estimation methods described in III.C and D.

B. Obtaining and Evaluating Household Survey Data

112. While most countries conduct periodic household income and expenditure surveys (HIES), these surveys are only useful if the following conditions are met:

- a) the HIES was conducted within the last few years (otherwise the data generated will not match with that collected on current SP programs)
- b) questions on whether households benefit from the most important SP programs have been included in the HIES questionnaire.
- c) it is possible to obtain the unit record (or household) level data from the national statistics office including a constructed variable for total expenditure per household. It should be emphasized that the published reports/summary tables from the HIES are UNLIKELY to provide sufficient information for calculating the coverage and impact on expenditure indicators.
- d) the person(s) calculating the SPI is either familiar with a statistical package such as SAS, SPSS, or STATA and has experience of working with household survey data, OR can hire someone to do the necessary manipulations and produce the required tabulations.

113. In assessing whether these conditions can be met, the first step (which will address both a and b above) is to obtain the questionnaire and supporting documentation for the most recent household survey conducted in a country. This survey should be nationally representative and ideally follow a standard methodology (such as the World Bank's Living Standard Measurement Survey of Integrated Household Survey formats).²⁶ The questionnaire of the survey should then be carefully inspected to see if it contains information on whether households benefit (or participate) in different types of SP programs and how much they receive from these programs. This usually involves going through the whole questionnaire page by page, as information on receipt of pensions, disability allowances or educational scholarships may be in different parts of the questionnaire from those on

²⁶ See Deaton (1997) or Grosh and Glewwe (2000) for more information on these household surveys.

“participation” in anti-poverty programs. In particular, questions on non-employment income sources need to be examined.

114. Assuming that the HIES questionnaire includes questions on the most important SP programs in a country²⁷, the next step is to approach the national statistics office for access to the unit record data of the survey. This will usually be distributed in the form of a CD containing the responses of each of the several thousand households who have been surveyed with their names and addresses deleted to protect their anonymity.²⁸ Different national statistics office will have very different procedures for accessing HIES data. In some countries, the HIES data can be purchased for a set fee simply by contacting the national statistics office, writing a letter explaining what you intend to use the data for, and paying the appropriate fee. In others, a more involved process of approval may be involved or it may be easier to obtain the data by going through an international donor organisation or university which already has approved access to the data. In a few countries, access to the unit record data of the HIES is only made available to selected government officials, and in these cases it may be necessary to either hire one of these people to produce the necessary tables or abandon any attempt at using the HIES for construction of the SPI. Note that of the 6 TA6120 countries, three had recent HIES data that was accessible, one had a recent survey but the results had not been published and two did not have any recent survey information.

115. If it seems likely that the national statistics office will make the unit record HIES data available, it is advisable to check whether several other pieces of information are available on the electronic data files they sell/distribute to the public. These are

- (i) the sampling weights (possibly accompanied by cluster and stratification variables) which are used to ‘weight’ the household records in order to produce national representative statistics;
- (ii) a poverty categorisation of the household based on the official poverty line, i.e. poor/not poor;
- (iii) a total expenditure variable for each household, constructed from the (usually rather detailed) consumption modules of the questionnaire;
- (iv) the official poverty line(s) to be used in analysis of the survey (These may differ between regions/province or between rural and urban areas).
- (v) the format of the data files distributed: usually these will be either SPSS, SAS or STATA format though other formats do exist.

116. It is usually the case that both (i) and (iii) will be available within the database, although the location and names of these variables may not be obvious. (iii) may or may not be available within the electronic data files but can easily be inputted once the appropriate information is obtained (either from the HIES document or from a document of the relevant Government agency). If it is not clear from the documentation, it is also important to check if these poverty lines are expressed on per capita or a per adult equivalent basis (see below). Note that (iii) and (iv) are not necessary if (ii) is present.

117. Once the necessary data has been obtained, it is important to obtain the services of someone who is familiar with analysing HIES data if these are not within the skill set of the

²⁷ If there is no recent survey data or it does not include any relevant information, there is no need to read the rest of this chapter.

²⁸ For some countries, LSMS surveys can also be downloaded from the World Bank website (www.worldbank.org/lms/) although note that their data LSMS Information Table is not always up-to-date.

team calculating the SPI. If that person has experience working with the particular HIES to be used, this is ideal and they will already 'know their way round' the data. It should be stressed that analysing HIES data is a skilled and technical job. However, a huge number of SP programs are included in the HIES, an experienced analyst should be able to produce the tabulations required for the computation of the SPI in two or three days (perhaps doubling this time, if the analyst is not already familiar with the survey in question).

C. How to do the Analysis

1. Data Manipulation

118. As mentioned, HIES data can be used to calculate coverage and poverty targeting rates for all SP programs that are covered by the survey. We assume that the survey is nationally representative and that sample weights²⁹ and the poverty status of the household are available. If the poverty status is not available, it is necessary to construct an indicator variable indicating whether or not each household in the HIES is poor or not. This can usually be done quite simply using an IF command, with the indicator variable taking the value 1 if the household's per capita expenditure is less than the national poverty line and 0 otherwise³⁰. All survey analysis packages will have an IF command available.

119. The second step is to construct an indicator variable taking the value 1_{porgA} IF a sample individual (or household) receives benefits from the particular program, and 0 otherwise. A separate variable needs to be created for every program mentioned in the survey. Note that if the information is provided in the income section, i.e. in monetary terms, the variable needs to be constructed whenever this variable has a value exceeding 0³¹.

2. Crosstabulation

120. Once the variables are set up, producing the results only involves a simple cross-tabulation of the program incidence variables against poverty status. Care must however be taken to apply the sampling weights to the results in order that the total number of households in the country receiving benefits from each SP program is produced. Table 4.1 gives an example of how this table would look; the data is for Vietnam³². Note that with most survey analysis packages, individual crosstabulations have to be produced for each program, they can then be summarised as shown.

²⁹ If the sample weights are not available, the analysis can still be carried out but advice will need to be taken about the representativeness of the results and any biases that may occur.

³⁰ As mentioned in that section, the poverty targeting calculations should be based on national poverty lines. Usually, these are based on a cost of basic needs methodology and are quoted in per capita expenditure terms. However, some times poverty lines are quoted in per adult equivalent terms and sometimes income rather than expenditures is used as the welfare measure. In these cases, the steps described below will need to be modified appropriately.

³¹ If there are questions on both whether income from a program is being received and on the amount received, the variable should be 1 IF 'prog. received' OR IF 'amount received' > 0.

³² Data is derived from analysis of Vietnam Housing and Living Standards Survey, 2002.

Table 4.1. Households receiving SP Benefits

Program	Households Receiving Program benefits (000s)		
	Not Poor	Poor	Total
Pensions	1,888	426	2,314
Social Allowance	937	879	1,816
Invalid, Heroic	922	395	1,317
Lonely elderly/ Disabled	110	104	214
Insurances	316	58	374
VBSP	124	268	392
PCF	9	12	21
Agric. Tax Exemption	390	1,070	1,460
Education assistance	1,081	1,376	2,456
Housing Assistance	22	67	89
TOTAL HOUSEHOLDS	13,012	4,788	17,800

Source: Halcrow/ IDS, *Vietnam Country Report, final version*, May 2005.

121. The next step is to calculate the percentage of poor households receiving SP program benefits. This can either be done within the survey analysis package or by inputting the results into EXCEL and generating the percentages there. Table 4.2, using the data contained in Table 4.1, shows how the results can be presented.

Table 4.2. Example of Analysis of Household Survey Data on SP Programs

Program	% of all Households who benefit 1	Percentage of Beneficiaries		Poor beneficiaries as % of poor households 4
		Non Poor 2	Poor 3	
Pensions	13.0	81.6	18.4	8.3
Social Allowance	10.2	51.6	48.4	17.1
Invalid, Heroic	7.4	70	30	7.7
Lonely elderly/ Disabled	1.2	51.5	48.5	2.0
Insurances	2.1	84.5	15.5	1.1
VBSP	2.2	31.6	68.4	5.2
PCF	0.12	43.4	56.6	0.2
Agric. Tax Exemption	8.2	26.7	73.3	20.8
Education assistance	13.8	44.0	56.0	26.7
Housing Assistance	0.5	24.3	75.7	1.3

Source: Vietnam Country Report, May 2005

D. How to use the Results

1. Target Group Coverage Rates (SPCOV)

122. For this purpose, the data of total beneficiaries from Table 4.1 should be used. The numbers of beneficiaries should first be inserted into col. C of spreadsheet SPCOV. These programs then need to be allocated to the different target groups, i.e. labour market, the elderly, the sick (health assistance), the poor (social assistance), micro-credit, the disabled, and child protection (including educational assistance) using the procedure described in III.C. Table S.5 is then calculated automatically. But note the following:

- The above information cannot generally be used for health assistance coverage as this needs to reflect the number of scheme members/ eligible people and not those actually benefiting. The data can be used if it refers to those eligible/ scheme members but this is unlikely.
- For program categories except social assistance and MCF, assuming that there is only one beneficiary per household, the numbers of households can be used directly.
- For social assistance and MCF, we would assume that benefits affect all household members. It is therefore necessary to multiply the household numbers by the average household size before entering the data into Table S3³³.
- It is unusual for all type of social protection programs to be enumerated in a household survey. Orphans, disabled people and others living in institutions are likely not to be included in the sampling frame of any household survey, while many smaller (perhaps NGO operated) programs may be missed from the questionnaire. Therefore it will be necessary to supplement the total number of program beneficiaries using the information obtained in the check-list interviews described in Chapter 2, Section C. In situations where there are both household survey and interview based estimates of the number of program beneficiaries, professional judgement should be used in deciding which is the better estimate.

123. The second step involves the calculation of 'within group' overlap rates if there are more than one major program in the same group, e.g. land tax exemptions and educational attendance. The procedure is shown in Box 7.1.

³³ If the survey includes household size, this can be done automatically by weighting by individual level sampling weights. The individual level sampling weight is simply the household level sampling weight multiplied by the size of that household.

Box 4.1. Calculation of Overlap Rates

A. Create an indicator variable (I_{progAB}) which includes all households benefiting from programs a and b using the following type of statement:

$$I_{\text{prog AB}} = 1 \text{ if } I_{\text{progA}} = 1 \text{ OR } I_{\text{progB}} = 1$$

B. $I_{\text{prog AB}}$ is then cross-tabulated against the poverty status of households and expressed as a percentage of these (as in Table 7.2).

C. The overlap rate OV_{AB} is then calculated by:

$$OV_{\text{AB}} = 1 - [(I_{\text{progAB}} - I_{\text{progA}}) / I_{\text{progB}}] \text{ [NB Program A is the program with the larger coverage]}$$

D. The overlap rate is then inserted into the appropriate cell of column F in Table S4.

2. Poverty Targeting

124. One advantage of using HIES information to calculate the overall PTR is that this can be done in a single stage without the need to calculate program specific targeting rates³⁴ and then calculate the overlap rates separately, although these can be of interest. The procedure is straightforward and is described in Box 4.2.

Box 4.2. Calculation of PTR from HIES data.

A. An indicator variable (I_{All}) covering N programs is created as follows:

$$I_{\text{all}} = 1 \text{ if } I_{\text{A}} = 1 \text{ OR } I_{\text{B}} = 1 \text{ OR } I_{\text{C}} = 1 \text{ OR } I_{\text{N}} = 1$$

NB. This is similar to the procedure described in Box 7.1.

B. The I_{ALL} variable is then cross-tabulated against the poverty status of households to give a direct estimate of the combined PTR for SP programs A to N.

C. The result is the number of households benefiting from these programs which must be weighted by the individual sampling weights³⁵ to give the total number of beneficiaries. This number is inserted into column I of spreadsheet PTR2 which has been adapted from PTR. .

D. Estimates of the poverty targeting and overlap rates are made for programs not covered by the HIES as described in Chapter III.D and inserted into columns D and G in PTR2. In practice, the majority of programs not covered are likely to be either small and/or will have a clear overlap rate, e.g. programs involving residential care are unlikely to be covered by an HIES.

E. The overall PTR is then calculated automatically as before once the total poor population has been entered.

3. The Impact Indicator (SPIMP)

125. Although program specific poverty targeting rates are not required for the calculation of the PTR when household survey data is available, they are needed to calculate SPIMP as this indicator does not need to allow for overlaps. The program specific PTRs in our example are shown in column of 3 of Table 7.2. They were calculated from Table 7.1 by dividing the number of poor beneficiary households by the total beneficiary households. The resultant percentages need to be inserted into column D of spreadsheet SPIMP for this for this indicator to be calculated.

³⁴ Program specific targeting rates must however be calculated in order to estimate the impact indicator (SPIMP).

³⁵ See footnote 8.

Table S7A. PTR Calculation when using HIES Data

V. PRESENTATION OF RESULTS

A. Report Format

126. This Chapter describes how the previously obtained data and results should be integrated into a Country Social Protection report. This Report should have the following Chapters:

1. Introduction
2. Country Overview
3. Current Social Protection Programs and Activities
4. Derivation of Social Protection Summary Indicators
5. Calculation of the Social Protection Index.

127. Annexes should list the organisations contacted and the references consulted.

128. The following paragraphs describe the suggested content of each Chapter.

B. Chapter 1: Introduction

129. This Chapter should describe the objectives of the study as set out in your Terms of Reference, its background (based on previous country reports, the definition of Social Protection adopted for this study, reproduce Table 3.1 which describes the SPI as being composed of four summary indicators, and the report structure. It should also contain a summary of the main results - the summary indicators, their scaled values and the SPI. Figures S3 and S4 should be reproduced.

C. Chapter 2: Country Overview

130. The Country Overview should consist of the indicators contained in Table 2.1 and a brief prose description (2-3 pages) summarising the main features of the current development situation in your country.

D. Chapter 3: Current Social Protection Programs and Activities

131. This Chapter should start with a brief description of the data collection process including its objectives, the primary point of contact, the main sources, and any problems / difficulties encountered. A second section needs to include Table 2.3 which sets out the types of programs which are relevant to this study.

132. The main content will consist of information on all the identified Social Protection Programs presented using the checklist contained in Table 2.4. These should be structured around the 5 SP components, namely: labour market programs, social insurance, social assistance, area based programs (including micro-credit/ finance) and child protection. Where the information was obtained from reports rather than direct interviews, it can be presented in the form of prose descriptions and tables without the need to use the checklist.

133. The Chapter should be completed by a brief overview of Social Protection in your country concentrating on the major programs.

E. Chapter 4: Derivation of Social Protection Summary Indicators

134. Following a brief introduction, this Chapter should be structured the four summary indicators: SPEXP, SPCOV, PTR, and SPIMP. The section relating to each indicator should reproduce the tables and figures in the relevant spreadsheet, namely:

- Social Protection Expenditure (SPEXP); tables S2 (programs) and S3 (summary by SP component), and Figure S1 (comparisons with the six TA6120 countries).
- Social Protection Coverage (SPCOV): tables S4 (programs), S5 and S6 (summaries), and Figure S2. which compares target group coverage rates.
- The Poverty Targeting Rate (PTR): tables S7 (programs) and S8 (summary).
- Social Protection Impact (SPIMP): tables S9 and S10.

135. Each section should also contain a list of the 5 most important (largest) programs for each indicator and some brief comments on the results.

F. Chapter 5: Calculation of the Social Protection Index

136. This Chapter needs to reproduce Table S11 and Figures S3 and S4. You should also include a commentary on how your country's results compare with those from the other countries, and add some concluding remarks.

Annex 1: Largest SP Programs in the Six TA6120 Countries

Table A. 1. Largest SP Programs in terms of Expenditure

Rank	Bangladesh	Indonesia	Mongolia	Nepal	Pakistan	Vietnam
1	Micro-credit (58%)	Pensions for military, government, and formal sector employees. (67%)	Pension Fund (55%)	Pensions for government, and formal sector employees. (43%)	Pensions for military, government, and formal sector employees. (81%)	Social Security (46%)
2	Food security/ aid (17%)	Food security/ aid (15%)	Health insurance (13%)	Micro-credit (34%)	Health insurance (6%)	War invalids and contributors (20%)
3	Pensions for government employees (8%)	Health assistance (3%)	Social welfare (7%)	Social assistance (7%)	Zakat (4%)	Health Insurance (8%)
4	SOE retrenchment (6%)	Micro-credit (3%)	Educational assistance (5%)	Educational assistance (5%)	Micro-finance (4%)	Micro-credit (6%)
5	Vulnerable group development (2%)	Health insurance (formal sector) (3%)	Social welfare pensions (4%)	Food for work (3%)	Bait-ul-Mal (3%)	Job creation (subsidised business loans) (5%)
% of total SP Exp.	91%	91%	84%	94%	98%	85%

Source (al tables): Country Reports.

Table A. 2. Largest SP Programs in terms of Beneficiaries

Rank	Bangladesh	Indonesia	Mongolia	Nepal	Pakistan	Vietnam
1	Food security/ aid	Health care assistance	Health insurance	Micro-credit	Health care/ insurance (ESSI and armed forces)	Subsidised health care (incl. schoolchildren)
2	Micro-credit	Food aid/ security	Pensions	Educational assistance	Pension schemes	Formal health insurance
3	Vulnerable group development	Formal Health insurance	Micro-finance	Loan based job creation	Micro-finance	Land tax exemptions
4	School feeding/ educational assistance	Pension schemes	Social welfare pensions	Health care assistance	Bait-ul-Mal (social assistance)	Educational assistance
5	Micro-insurance programs	Educational assistance	Social assistance programs	Social assistance programs	Zakat (social assistance)	War invalids and contributors

Table A. 3. Largest SP Programs in terms of Poor Beneficiaries

Rank	Bangladesh	Indonesia	Mongolia	Nepal	Pakistan	Vietnam
1	Food security/ aid	Food aid/ security	Health insurance	Micro-credit	Bait-ul-Mal (social assistance)	Educational assistance
2	Micro-credit	Health care assistance	Social assistance	Micro-insurance	Micro-credit	Land tax exemptions
3	School feeding/ educational assistance	Educational assistance	Micro-finance	Loans for job creation	Zakat (social assistance)	Various social allowances
4	Micro-insurance programs	Social assistance	Pensions	Food for Work	Health assistance (EDHI)	Health care assistance
5	Food for work	Micro-credit	Disabled programs	Social assistance	na	Pensions
% of all poor beneficiaries	92%*	c. 95%	94%	76%	98%	93%

* No allowance for overlaps. These percentages therefore overestimate the number of poor people receiving SP.

Table A. 4. Largest SP Programs in terms of Expenditure on the Poor

Rank	Bangladesh	Indonesia	Mongolia	Nepal	Pakistan	Vietnam
1	Micro-credit (61%)	Food aid/ security (60%)	Pensions (30%)	Micro-credit (71%)	Pensions (39%)	Pensions (30%)
2	Food security/ aid (24%)	Social Assistance (14%)	Social assistance (13%)	Food for Work (8%)	Bait-ul-Mal (social assistance) (24%)	War invalids and contributors (22%)
3	Social assistance (5%)	Health care assistance (8%)	Educational assistance (9%)	Educational assistance (5%)	Zakat (social assistance) (20%)	Micro-credit (15%)
4	SOE retrenchment (2%)	Educational assistance (4%)	SI disability allowances (9%)	Loans for job creation (4%)	Children's programs (3%)	Social Assistance (5%)
5	School feeding/ educational assistance (2%)	Micro-credit / loans (3%)	Formal health insurance (8%)	Allowances for senior citizens (4%)	Khushal (job creation) (3%)	Formal health insurance (5%)
SP Exp. on the poor	94%	89%	69%	92%	90%	77%

Annex 2. Algebraic Formulations

A1. The Expenditure Indicator (SPIMP)

The expenditure indicator shows what percentage of a country's Gross Domestic Product is spent on social protection activities, i.e. total expenditure on social protection divided by GDP: Algebraically it is expressed as follows:

$$Expenditure = \sum_{s=1}^S \frac{E_s}{GDP} = \sum_{s=1}^S \frac{e_s B_s}{GDP}$$

where there are $s=1 \dots S$ social protection programs and E_s is the total expenditure of each program. Since the total expenditure of each SP program must equal the average expenditure per beneficiary (e_s) multiplied by the number of program beneficiaries (B_s), the numerator of this equation can also be expressed as $e_s B_s$. Note that both Government, private sector and NGO expenditures are included in the calculation of E_s .

A2. The Coverage Indicator (SPCOV)

The coverage indicator shows what percentage of people in a country benefit from SP programs. Unlike the other indicators the overall coverage indicator is made up of the weighted average of the coverage rates for seven priority target groups/ types of program, namely: (i). The unemployed/ under-employed (labour market programs); (ii). the elderly (pensions and other programs targeted at the elderly); (iii). the sick (health insurance and other types of targeted health assistance); (iv). the poor (social assistance programs); (v). the poor (MCF programs); (vi). the disabled (disability programs); and (vii). children with special needs (educational assistance, programs for orphans, street-children, etc.).

Algebraically, letting B_s denote the number of people who are beneficiaries of (and therefore 'protected' by) program s , and summing over all SP programs gives:

$$Coverage = \sum_{s=1}^S \frac{R_s}{\sum_s R_s} \frac{B_s}{R_s} = \sum_{s=1}^S w_s \frac{B_s}{R_s}$$

where there are $s=1 \dots S$ social protection programs. R_s is the reference population for program s , and represents the relevant target group for each type of social protection activity. w_s denotes the weight attached to each type of SP programs, and is calculated by dividing the size of the reference population for that program by the sum of the reference populations for each type of SP program. Further details on how the reference populations are determined are provided in Chapter III.

A3. The Poverty Targeting Rate Indicator (PTR)

137. The poverty targeting rate (PTR) indicator shows the percentage of the poor in each country that receives social protection transfers or other SP benefits (such as free schooling). It is expressed as follows:

$$PovertyTargeting = \sum_{s=1}^S \frac{B_s \cap P}{P} = \sum_{s=1}^S \frac{B_s \cap P}{H * N}$$

where there are $s=1 \dots S$ social protection programs, B_s is the number of beneficiaries of program s , P denotes the number of people living below the national poverty line, H is the headcount index of poverty and N is the total population. \cap represents the intersection between two groups, in this case between SP beneficiaries and the poor, so that $B_s \cap P$ represents the number of social protection beneficiaries who are poor.

In calculating this indicator, it will be necessary to allow for overlaps between programs in order to avoid double-counting, i.e. where the same people benefit from more than one program. This occurs in countries where there are one or more major SP programs that reach a substantial proportion of the poor population.

A4. The Impact on Incomes Indicator (SPIMP)

138. The PTR gives an indication of how SP programs are reaching the poor. It says nothing however about the impact of this assistance on household incomes/ expenditures. The final indicator, the impact indicator, is used for this purpose. It is defined as per capita SP expenditure going to the poor expressed as a percentage of the national poverty line income. The algebraic formulation is as follows:

$$Impact = \frac{\sum_s (E_s \cap P) / P}{z} = \frac{\sum_s e_s \cap P}{z}$$

where z is the poverty line, E_s is total expenditure on program s , e_s is the expenditure per beneficiary for program s , and P is the number of poor people. \cap again represents the intersection between groups, in this case between total expenditure and the poor.

139. In contrast to the PTR, it is not necessary to worry about the issue of overlaps between SP programs when calculating this indicator, as the SP transfers from different programs can simply be aggregated.

A5. Scaling of the Summary Indicators

140. Having calculated the four summary indicators of SP for each country, these indicators must be scaled and aggregated to produce the overall SPI. Scaling is necessary because, although the four indicators are all expressed in percentages, their denominator and therefore ranges differ. In the interests of simplicity and transparency, the maximum value scaling method has been used:

$$ScaledValue = \frac{V_i}{V_{max}}$$

where V_i is the value of the SP indicators and V_{max} is the maximum value for this indicator across the six TA6120 countries.

A6. Weighting of the Scaled Values

Once the summary indicators have been scaled, they are then aggregated to produce the overall SPI. Since different levels of importance may be attached to different summary indicators, different weights (w_i) may be applied to each indicator as follows:

$$SPI = w_1 \overline{Expenditure} + w_2 \overline{Coverage} + w_3 \overline{PovertyTargeting} + w_4 \overline{impact}$$

where $\sum w_i = 1$ and the overscoring represents scaled values.

In practice, when expert opinion as to what weights should be applied to each indicator was analysed³⁶, the results showed no significant difference than if equal weights (25%) had been applied. Accordingly, equal weighting of the four indicators has been adopted.

³⁶ Expert opinion was assessed by means of a questionnaire submitted at the workshop in Bangkok and the conference in Manila. In both cases, the results were similar.

Annex 3. Summary Tables and Figures of SPI Calculations

All values in the following tables and figures are hypothetical except those relating to the 6 countries forming part of the previous study. All these Tables and Figures are generated automatically in the SPICALCULATION workbook. Notes relating to these Tables are to be found in this workbook. Tables S2, S4, S7, S7A and S9 are contained in the main text of this report.

Table S3. SP Expenditure by SP Category, 200?

SP Category	Expenditure	%age
Labour Market Programs	702	3%
<i>Pensions</i>	8,100	32%
<i>Health Insurance</i>	3,500	14%
<i>Other Social Insurance (e.g. maternity, disability benefits)</i>	500	2%
ALL Social Insurance	12,100	48%
Social Assistance	7,047	28%
Micro-/ Area-based (incl. MCF)	3,666	14%
Child Protection	1,785	7%
TOTAL SP EXPENDITURE	25,300	100%
	GDP	850,000
	SP expenditure Indicator	3.0%
	6 Country average value	4.0%

Table S5. Summary Table of Target Group Beneficiaries

Target group	Beneficiaries (unadjusted)	Manual adjustments	Benefs 2	Within group overlap	Final estimate of target group beneficiaries
Unemployed/ under-employed	215	50*	265	5%	252
The elderly	130	-50*	80	0	80
The sick	500		500	0	500
The Poor - social assistance	2,517		2,517	25%	1888
The poor- MCF	300		300	0	300
The disabled	20		20	0	20
Children with Special Needs	300		300	15%	255

* Adjustment for 'young' pensioners, i.e. pension recipients below pensionable age. .

Table S6. Target Group Coverage Rates

Target group	Reference populations		Beneficiaries	Coverage Rate	Weights	6 country average
	Definition	000s				
Unemployed/ under-employed	Unemployed + underemployed	1,000	252	25.0%	10%	23.5%
The elderly	Population Aged 60+ years	700	80	11.4%	9%	34.3%
The sick	Total population	10,000	500	5.0%	32%	25.7%
The Poor - social assistance	Poor population	3,500	1,888	53.9%	15%	21.9%
The poor- MCF	Poor population	3,500	300	8.6%	15%	9.2%
The disabled	The disabled population	500	20	4.0%	10%	20.5%
Children with Special Needs	Poor children, aged 5-14 years	800	255	31.9%	9%	28.3%
			SPCOV	17.8%	100%	23.3%

Table S8. Summary of PTR Estimates

Poor beneficiaries (000s)		Poor Pop.	Poverty Targeting Rate (PTR)	
No overlaps	1,891	3,500	Upper bound	54%
100% overlap (largest program)	750	3,500	Lower bound	21%
Best estimate of overlaps	1,642	3,500	Best estimate	47%
			6 Country average	42%

Table S10. Derivation of SP Impact Indicator (SPIMP)

Variable	Value
Total Expenditure on the poor (??s. '000)	9,543
Poor population ('000)	3,500
SP expend. / poor person (??s./person)	2.7
Poverty line income per capita (annual) (??s./person)	80
SPIMP (per capita SP expenditure as percentage of poverty line income)	3.4%
6 country average	11%

Table S11. Derivation of Scaled Value and SPI

Indicator	Value	6 Country Maximum value	Scaled Value	6 country average scaled value
SPEXP	3.0%	10.5%	0.28	0.38
SPCOV	17.8%	50%	0.36	0.46
PTR	47%	73%	0.64	0.57
SPIMP	3.4%	21%	0.16	0.54
Final SPIs	Country	SPI Value	Ranking	
	Your country <i>(insert name)</i>	0.36	5	
	Pakistan	0.13	7	
	Nepal	0.29	6	
	Bangladesh	0.44	4	
	Vietnam	0.51	3	
	Indonesia	0.58	2	
	Mongolia	0.96	1	

Figure S1. Social Protection Expenditure

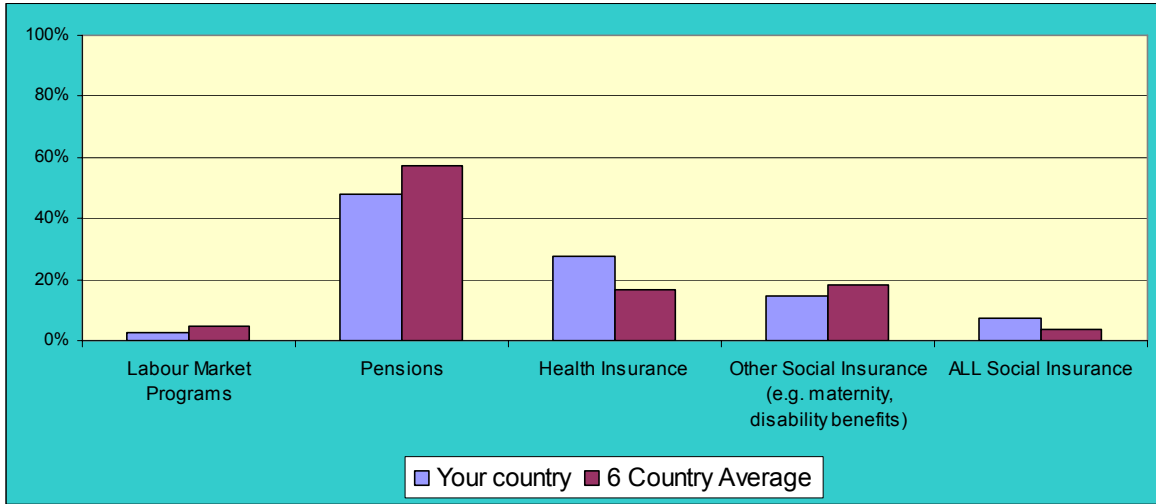


Figure S.2. Target Group Coverage Indicators

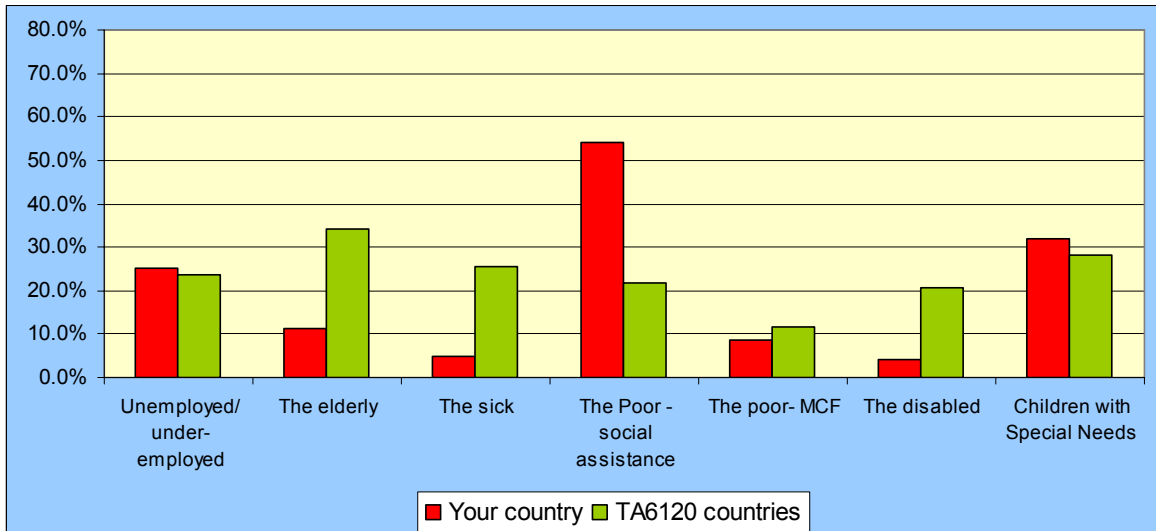


Figure S.3. SPI Summary Indicators

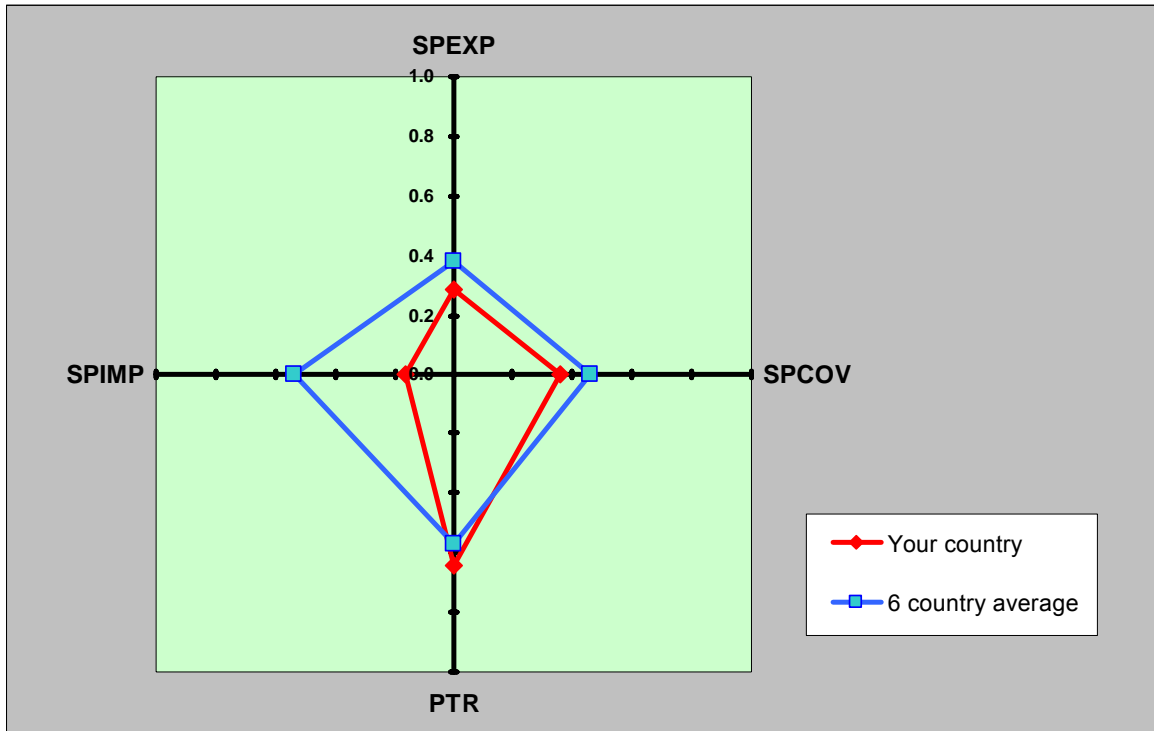
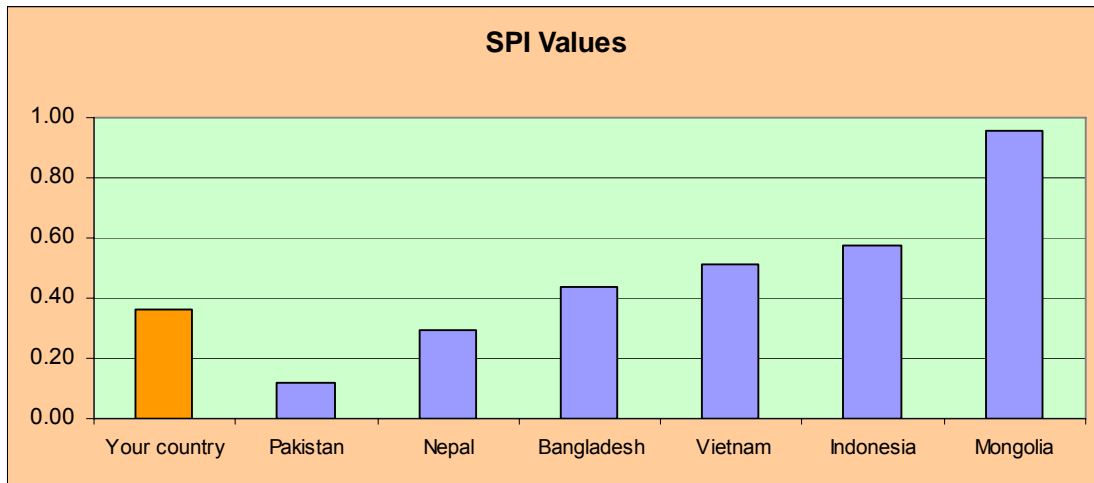


Figure S4. SPI Values



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