Understanding the Impacts of Development Interventions on Poverty

The Role of Research

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Centre for Poverty Analysis (CEPA)

A Co-publication of the:
Program for Improving Capacities for Poverty and Social Policy
Research (IMCAP) at the University of Colombo

Annual Symposium on Poverty Research in Sri Lanka
Series No. 3 - 2005

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ORGANISED BY

Centre for Poverty Analysis (CEPA)
IMCAP Program at the University of Colombo

SPONSORED BY

German Federal Ministry for Economic Cooperation and
Development (BMZ)
German Technical Cooperation (GTZ)
Konrad-Adenauer-Stiftung (KAS)

The views expressed in this volume are those of the individual authors and do not necessarily reflect the views of the confrence organisers or sponsors.

Acknowledgements

Foreward

This volume comprises of the papers presented at the 5th Annual Symposium on Poverty Research in Sri Lanka, held from 19th – 21st October, 2004 at the BMICH. This symposium was organized jointly by the Centre for Povety Analysis (CEPA), the IMCAP Programme of the University of Colombo and Section of the Sri Lanka Association for the Advancement of Science.

The Centre for Poverty Analysis (CEPA) which was established in May 2001 have been providing valuable consultative services to its clients involved in poverty impact monitoring in Sri Lanka. It is also engaged in analysis and research on poverty related issues in Sri Lanka, which would be extremely useful to the planners and policy makers, in their efforts in reducing poverty in this country.

The theme of the 5th Annual Symposium was 'Understanding the impacts of development interventions on poverty: The role of research'. The symposium gave an opportunity to young professionals and researchers to share ideas and learn from each others experience, so that they could make a better contribution in filling the knowledge gaps on poverty issues. The symposium also gave an opportunity to disseminate the useful findings of various research and analysis done by a number of researchers in this field. As there were a number of senior officials from the Governmental and Non Governmental organizations, participating at this symposium, it would have given them an opportunity learn more about the type of research and analytical work that have been done in the field of poverty. Such knowledge would be useful in planning and policy making related to Poverty Alleviation and Social Welfare Programmes. Although most of the Health and Educational Indicators show that the people of Sri Lanka, have benefited immensely from free education to all, including University Education and free Medical Care, efficient immunisation programmes, substantial poverty and under nutrition

in young children still remains, though there is a gradual reduction. As such properly identifying and targeting the destitute poor should be the number one priority in any welfare programme. For this purpose it is extremely important to measure and monitor the incidences of poverty at National, Sub national and also at smaller administrative area levels at regular intervals.

The Department of Census and Statistics (DCS) is providing reliable quantitative data on poverty. However, DCS is not involved in collecting any qualitative data on poverty at present. As such, CEPA could play, a major role in filling the information gaps by its research activities and qualitative studies related to poverty issues. I hope this publication will help those who are directly or indirectly involv ed in planning strategies or making policy decisions to reduce poverty in Sri Lanka.

A.G.W.Nanayakkara
Director General of Census and Statistics

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Introduction

Since the first Annual Symposium on Poverty Research in Sri Lanka was held in the year 2000, this annual event has gained substantial recognition as an important platform that brings together national and international scholars and practitioners from different disciplines to discuss new concepts and recent empirical findings on poverty in Sri Lanka. A dialogue on poverty in a multidisciplinary environment is expected to provide better directions for further research and analysis necessary to increase the understanding of dimensions and dynamics of poverty in Sri Lanka and to formulate effective strategies to alleviate poverty in the country. The participation of over a hundred government officials, academics and researchers, students, NGO representatives, and professionals working for bi- and multi-lateral donor agencies gives cause for optimism that a constructive dialogue took place at the 5th Annual Symposium which was held from the 19th to 21st of October.

Against this broad context, each Annual Symposium seeks to focus on one topical theme, with potential for learning and sharing. It is with this intention that the 5th Annual Symposium on Poverty Research in Sri Lanka focused on the 'role of research in understanding the impacts of development interventions on poverty'.

Given the emphasis that has been placed on social welfare and poverty reduction for decades and the national and international effort that has been concentrated in the sector, the obvious question is 'has there been an impact?' Impact monitoring and evaluation is being acknowledged as a vital element of development management. Its importance lies not only for validation of policies, programmes, and projects but more importantly to provide continuous feedback and learning that feeds into improved project steering and planning.

As the emphasis by the development sector and policy makers on assessing the impacts on poverty increases, so does the onus on professionals in the field to reflect on the rigour and relevance of the

methodology and conceptual framework used in assessing poverty impacts. The professional debates and the development of concepts, methods and tools have increased greatly during the last decade. However, as with many new and complex issues, it has thrown up as many questions as it has provided answers for.

The Symposium programme was developed with the intention of providing a forum for dialogue and exchange among academics, practitioners and other stakeholders on the questions of:

- How to make assessment of poverty impacts more rigorous?

- Is assessing poverty impacts too premature given the existing knowledge levels?

- How strong is the link between practitioners and researchers? Is there sufficient dialogue between researchers, service providers/consultants and practitioners on this area?

As the Symposium sought to discuss the issue holistically, the discussions looked at poverty impact monitoring at the three levels of macro, meso and micro. The thematic sessions of the Poverty Symposium were based on presentation and discussion of papers that gave priority to the Sri Lankan experience. Preference was given to new conceptual approaches for the analysis of poverty impacts and reflections on appropriate methodologies backed up by practical experience. The Symposium encouraged presentations on recent empirical research and findings that reflect methodological challenges

At the macro level, Anura Herath from the Department of Export Agriculture presented *A Review of Methodologies of Poverty Impact Evaluations in Sri Lanka,* which shows that despite a notable improvement in the technical and methodological aspects, progress is hindered by limitations of skills and expertise. The paper undertakes a review of six studies to highlight the local experiences of impact evaluations.

At the meso level, John Heath of Operation and Evaluation Division (OED), World Bank and Ranjit Wanigaratne of the Land Titling Project, Ministry of Lands and consultant to the OED, WB presented a paper on *Persistent Poverty: The Low Return of Irrigation Projects in Sri Lanka* that examines the repeat interview survey technique to understand the path of irrigated settlement development in the Mahaweli areas.

CIRM, Trincomalee presented the *Vulnerability Poverty Profile: Useful tool for Poverty Interventions Management in the North East Province* to illustrate the significance of the Vulnerability Poverty Profile (VPP) concept as a simple and practical tool for the comparison of poverty levels and dimensions in the North Eastern Province of Sri Lanka.

At the micro level, ITDG-South Asia looked at *Using Value Chain Analysis to Map Impacts of Agriculture Sector Development of Small Scale 'Poor' Farming Households* to illustrate value chain analysis as a method that could be developed to assess impacts of development interventions. This is also identified as one methodology that has not taken root outside of development academia and one that is largely untested in grassroots, practical development work.

The paper by Neranjana Gunatilleke of the Centre for Poverty Analysis (CEPA) shares the *Experiences at the Poverty Impact Monitoring (PIM) Programme at CEPA* and looks at issues relating to the conceptualisation, methodology and operationalisation of PIM in the light of CEPA's institutional experiences. It highlights some important crosscutting issues that CEPA has found particularly challenging.

The Symposium also included a panel discussion held to ascertain the availability of poverty related data. While researchers extensively use certain data sets generated by the Department for Census and Statistics (DCS) and the Central Bank of Sri Lanka (CBSL), there are many more which are highly under utilised. The focus of the panel discussion was on these under utilised data.

Each year, the final day of the symposium provides space for discussions which relate to the future of poverty research. This may take the form of new topic of research relating to poverty by senior researchers or presentations by new researchers. The final day of the 2004 Symposium had the overall theme of 'Facilitating Future Poverty Research in Sri Lanka', and focussed on providing a platform for young, up- coming researchers to present their papers.

Pahan Prasada of the Department of Agriculture, University of Peradeniya, presents his thesis on the topic of '*A study into the Fiscal Impacts of Civil Strife on Poverty and Income Distribution of Sri Lanka'.* The National Security Levy, in operation during the period of 1995-2001, is examined as a tax instrument that serves to capture the impact of the North- East conflict on the rest of the island.

Jayanthi Tennakoon of the Department of Economics, University of Peradeniya presents her research on '*International Female Migration in Sri Lanka: A Gender Economics Perspective'* that uses a micro-level primary sample survey and comparisons with results from previous studies to assess the gender-biased reasons for migration and welfare improvements that result from female migration. The study seeks to explain the reasons for the significant increase in volume of female migration from Sri Lanka, despite the negative effects highlighted in both the academic and popular literature.

As has been the tradition, a publication is the final tangible output of the Symposium. It is hoped that the compilation of selected papers and a summary of the panel discussion would contribute towards the growing debate by the development sector and policy makers on assessing the impacts of policies, programs and projects on poverty. The organizers of the 5th Annual Symposium on Poverty Research in Sri Lanka hope that the dissemination of the presented papers, in the form of this publication, meets the overall objective of making poverty impact monitoring more rigorous and policy relevant.

1.   Methodology from a Macro Perspective

A Review of Methodologies of Poverty Impact Evaluations in Sri Lanka

Anura Herath

Abstract

Poverty impact monitoring and evaluation has gained ever-greater importance in the poverty agenda. The overall volume of pro-poor development assistance in the world has increased since the millennium development goals were declared. Interest in understanding their impacts has also increased. The aim of this paper is to share local experiences of impact evaluations. Six evaluation studies, including a study of Samurdhi, were reviewed taking into account the concept employed, the approach, the methodology and the results. Strengths and weaknesses of methods, and challenges in impact monitoring were highlighted.

Many evaluations give predominance to the monetary concept and the logical framework combined with more quantitative and less qualitative methods. This approach is less efficient in capturing impacts, because development takes place in economically, socially, and politically volatile environments, where neat cause and effect associations leading to impacts could not be expected.

Over the last decade, the evaluation process has improved in its use of concepts, its approaches, its methodologies and its coverage of the multidimensional aspects of poverty. Nevertheless, poverty impact evaluation still faces challenges. There has been insufficient recognition of the concept of participation in evaluations; the limits to participation need to be defined; the robustness and confidence in findings generated from participatory and qualitative methods need to be considered; effective impact indicators need to be identified; effective counterfactuals must be recognised; the institutionalisation of evaluations must be

addressed; the amount of resources required has to be assessed; and evaluation processes have to be fully and appropriately documented.

The studies reviewed in this paper display a number of conceptual and methodological weaknesses. These weaknesses include: failure to explore carefully a sufficient range of methodological options in the design of the study; failure to combine qualitative and quantitative methods; failure to conceptualise participatory methods; failure to explore ways of compensating for deficiencies in baseline information; failure to use regular national databases as counterfactuals; and neglecting the political implications of poverty impact evaluations.

The review showed that there was still room for development in impact assessment even though there had been notable improvements in the technical and methodological aspects. A serious limitation is lack of adequate skills. Improvements in impact analysis will depend on improving skills and capacity.

1.   Introduction and Objectives

Poverty impact monitoring (PIM) of rural development projects is as important as implementing projects. PIM is a sub-set of monitoring and evaluation (M&E). In general, M&E includes a set of activities that enables the participants in a development project or a programme to judge whether project interventions have achieved their intended benefits and impacts.

Measuring impacts of development and humanitarian assistance dates back to the 1950s (Roche, 1999). Today it is even more important in the poverty agenda. The overall volume of worldwide development assistance targeted on poverty reduction has increased since the declaration of Millennium Development Goals (MDGs). Interest in the effects of development assistance on the level of poverty has also increased (World Bank, 2001/2002). Several UN agencies, donors, and NGOs are developing management systems based on results, partly in an attempt to demonstrate impacts more clearly (Hofmann *et al*, 2004). In order to enrich this emerging subject it is essential to share experiences of the conceptual, methodological and implementation of PIM. This paper contributes to that discussion.

The paper looks at the methodologies used by different donors and government institutions to evaluate poverty impacts of rural development projects. The aim is to highlight the strengths and weaknesses of methodologies with a view to improving the impact evaluation process. The paper has the following objectives:

- To comment on the conceptual frameworks used by different donors and institutions in poverty impact evaluations of rural development projects;

- To assess the use of such conceptual frameworks in developing evaluation methodologies;

- To identify the strengths and weaknesses of the methodologies employed

The paper is based on two types of secondary information sources: (i) literature on the subject of monitoring and evaluation (ii) either Impact Evaluation Reports or Project Completion Reports of selected projects for the review. It is organised as follows. Section 2 introduces definitions, concepts, approaches and indicators of impact evaluations. Section 3 reviews the following 6 evaluation studies:

Study 1: *Impact Evaluation of Kurunegala Rural Development Project and Second Rural Development Project (IFAD-funded International Fund for Agricultural Development) conducted in 1996;*

Study 2: *Project Completion and Impact Assessment Study of North Western Province Dry Zone Participatory Development Project (IFAD-funded) conducted in 2001;*

Study 3: *Impact Evaluation Study of Asia Development Bank's (ADB) Rural Credit Assistance Projects conducted in 2001;*

Study 4: *Impact assessment study of Rural Roads on Poverty Reduction (ADB-funded) conducted in 2002;*

Study 5: *Impact Assessment of Badulla and Anuradhapura Rural Development Projects (IFAD-funded) conducted in 2003 and 2004; and*

Study 6: *Assessment of Samurdhi conducted in 2001.*

An overall review of the studies, their strengths and weaknesses, and the challenges faced in impact monitoring are presented in section four. Section five concludes the paper with recommendations.

2. Definitions, Levels and Methods of Impact Assessment

2.1 Definitions and levels of impact assessment

There is no all-embracing definition of "impact" in relation to PIM. However, the Organisation for Economic Cooperation and Development / Development Assistant Committee (OECD/DAC) provides a commonly accepted definition: "The positive and negative, primary and secondary, and long-term effects produced by a development intervention, directly or indirectly, intended or unintended" (OECD/DAC 2002: 24). This definition could be modified to take account of the short-term focus of PIM. Impact can be analysed at many different levels: an individual, a project, a sector such as agriculture, a country level or at global level (for example, analysis of Millennium Development Goals. Impact analysis may have different uses for different stakeholders. It may have many different objectives: Demonstrating success, assessing the relative effectiveness of funding choices (between agencies or projects), and enabling wider judgments about the overall effectiveness of development interventions. Table 1 lists some other uses, which are by no means exhaustive, at different levels.

Table 1. Level of impact assessment and uses of assessment at each level

Level of assessment	Who wants to know and why? (Uses)	Coverage of this paper
The impact of particular rural development projects.	**Aid agencies:** to improve their work, demonstrate impact and make choices between projects. **Donors:** to help choose what to fund and to develop policy. **Agencies and donors:** to assess the impact of new approaches and innovations in programming. **National governments:** to guide planning, implementation and obtain feedback on interventions.	Several projects reviewed in this paper addressed this area.

Table 1. Level of impact assessment and uses of assessment at each level Contd.

Level of assessment	Who wants to know and why? (Uses)	Coverage of this paper
	Beneficiaries of Interventions: to reassess and modify targets in order to meet objectives.	
Impact of a particular rural development organisation.	**National governments:** to guide planning, implementation, response and to identify sound strategies for optimising input delivery.	In general this was not addressed although some evaluations made some reference.
	Donors: to inform choice between competing organisations and about whether to use NGOs or private contractors to deliver project inputs.	
	National governments: to choose who to register and work with as partners.	
	Beneficiaries of Interventions: to obtain information to judge relative merits of different organisations.	
Impact of development interventions at sector level.	**Aid agencies and donors:** to build up the evidence-base for what works; to develop sectoral policies and best practice protocols and guidelines.	Total sectoral level impacts have not been addressed.
	National governments: to put protocols in place.	
Impact of development programmes at country level.	**Donors:** to assess macroeconomic progress.	No attempt was made.
	Donor publics: to know whether the money they donated made a difference in desired direction.	
	National governments: to confirm whether international aid should have been sought.	
	Agencies: to make a case for increases in aid levels.	

2.2 Concepts that could be used in poverty impact monitoring

It is widely recognized that poverty has many aspects (Ellis, 2000, 1998; Sen, 1999). Improvements in all areas that contribute to poverty are needed if poverty is to be reduced. In order to understand fully the

impacts of development programmes, monitoring should take account of these various aspects of poverty. Poverty measurement concepts that embrace various aspects are, therefore, used as concepts in PIM too.[1] The literature presents several concepts that are used to understand and assess poverty. The predominant concepts are the monetary concept, the capabilities concept, the social exclusion concept and the participatory concept.[2]

Monetary concept:

The monetary concept dominates most of the impact assessment literature (Baker, 2000). The basic analytical approach involved when using the monetary concept is to set an income or expenditure line as a measure of the poverty of the target population. Then, the impacts of changes are assessed by how the target population's relationship to the poverty line has been affected.

Capability concept:

This concept concentrates on impacts on the capabilities of the poor: their physical, human, natural, and social capital, the vulnerability of their situations and their entitlements. Non-monetary aspects were the basic elements in Sen's capability approach. In this framework, poverty is defined as deprivation of capabilities or failure to achieve certain minimal or basic capabilities, where "basic capabilities" are "the ability to satisfy certain crucially important functioning up to certain minimally adequate levels" (Sen, 1999). Explanation of poverty and any impact assessment of poverty could include non-income aspects in line with the capability approach.

Social exclusion (SE) concept:

This was developed mainly to describe the processes of marginalisation and exclusion of people from mainstream functioning in industrialised

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[1]   See Kuan Xu and Lars Osberg (2002), for a detailed description of non-income methods of measuring poverty.

[2]   See Laderchi (2003) for a comprehensive review of these approaches.

countries (Laderchi *et al*., 2003). This is another way of understanding poverty and is, thus, useful in PIM. The European Union (EU) defines SE as a 'process through which individuals or groups are wholly or partially excluded from full participation in the society in which they live' (European Foundation, 1995). Atkinson (1989) illustrated this concept. He identified three main characteristics of SE:

- **<u>relativity</u>**
  (one group of a society is excluded in relation to another – this is commonly observed among people of some castes in rural development projects in Sri Lanka),

- **<u>agency</u>**
  (actions of an agent or agents only reach one group of people – people of remote rural up-country areas of Sri Lanka are cut off from development services),

- **<u>dynamics</u>**
  (meaning that future prospects are relevant as well as current circumstances – lack of strategies and actions to ensure sustainability of project interventions in Sri Lanka).

SE is addressed in poverty reduction projects through participatory planning. These aspects, although difficult to define and measure, as Laderchi *et al.* (2003) observed, could form part of qualitative indicators in impact assessments.

Participatory concept:
This approach, pioneered by Robert Chambers, aims to consult poor people in the assessment of poverty, and to describe the magnitude of poverty and what it means to poor people themselves (Chambers, 1997; Chambers, 1994). Participatory poverty assessments evolved from participatory rural appraisal defined as "a growing family of approaches and methods to enable local people to share, enhance and analyse their knowledge of life and conditions, to plan and to act" (Chambers, 1994).

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It is gaining wide acceptance in poverty assessment and also in poverty impact monitoring (Estrella and Gaventa, 1998). By 1998, half the completed World Bank poverty assessments included a participatory element (Laderchi *et al.*, 2003). Narayan used this approach in her extensive poverty assessment research (*Voices of the Poor* by Narayan *et al*, 2000). The participatory concept is a sound one which can profitably be used in PIM.

2.3   Methodologies for analysing and measuring impacts

Methodologies for poverty impact evaluations combine the concepts listed above with means of measurement. The four main approaches are:

- the **scientific approach**, which mainly generates quantitative measures of impact (quantitative approach);

- the **deductive or inductive approach** (analytical), which has more anthropological and socioeconomic content, relies on interviews with key informants, and draws on other similar or comparable cases;

- **participatory approaches**, which depend on obtaining the views of those benefiting from a programme;

- the **Log-frame approach** which describes the project process in terms of **inputs** which are combined to produce **outputs**, which in turn produce **outcomes** and result in a programme **impact**. The underlying logic of this assessment process is that if the inputs are not available in stipulated quantities at the right time, then the delivery of the outputs will be adversely affected. This negatively affects expected outcomes. This, in turn, will affect the overall impact.

Within these broad approaches, there are a number of tools for analysing impacts. They are often divided into qualitative and quantitative tools. Roche (1999) lists several groups of tools and methods, which are found in some of the reviews of this paper: Surveys, interviews, workshops and discussions, direct observation, participatory research, and case studies. It is widely argued that a mixture of methods and approaches is desirable to meet the broad objectives of impact assessment (Baker, 2000 and Herath, 2004). It is also helpful to include different concepts that are used to understand poverty. As Chelimsky (1995) reports, by using methods in complementary and critical ways (methodological triangulation), the strength of one can compensate for the limitations of others. The distinction between scientific, analytical and participatory approaches should be treated as complementary facets of impact assessment rather than polar opposites.

In the quantitative approach, two designs are widely used in PIM: experimental designs (randomised), which are the most robust, or quasi-experimental designs (non-randomised). The former method needs a randomly constructed treatment group that would get project benefits and a control group with a similar socioeconomic background that did not receive benefits. Unless it is planned at the beginning of the interventions, this method cannot be used for ex-post PIM. This method was used in the Philippines to assess the impact of Dropout Intervention Programme for school children (Tan, Lane and Lassibille, 1999).[3] The quasi-experimental designs are used when grouping is impossible. This method was used in some of the evaluations reviewed in this paper. Within the quasi-experimental designs, several methods are available, depending on the way the counterfactuals are established, to elicit net effects of a project: the matching method (select a similar non-beneficiary group that matches project beneficiaries and compare); the double difference method (compares the beneficiaries and non-beneficiaries [first difference] before and after the project [second difference]); and reflexive comparison (direct comparison of before and after situation using baseline data or respondents" recalled data). In the quasi-

experimental design, it is crucial to establish appropriate counterfactuals such as welfare levels of individuals who are not participating in the project. How a counterfactual is constructed or visualised depends on a number of factors, including programme coverage. For a project which has a partial-coverage (i.e. interventions are limited only to one or a few sectors), counterfactuals could be constructed by comparing project participants (the treatment group) with a non-beneficiary or comparison group.

A vast amount of development literature addresses participation in general and participatory monitoring and evaluation in particular (Estrella and Gaventa, 1998; Turton, 2001; Tandon, 1981; Chambers, 1997; Ashley and Hussein, 2000). A wide range of participatory tools and techniques that are used in Participatory Rural Appraisal (PRA) is available for PIM. They include semi-structured interviews, focus-group discussion, Venn diagrams, time-lines and historical profiles, ranking and impact flow charts. Some of the analyses reviewed in this paper have used various qualitative tools.

2.4 Indicators

Indicators are necessary for an effective PIM. The OECD/DAC defines indicators as the 'quantitative or qualitative factor or variable that provides a simple and reliable means to measure achievements, to reflect the changes connected to an intervention, or to help assess the performance of a development actor' (OECD/DAC, 2002).[4] Broadly two types of indicators are found in the literature: those that relate to the *implementation* of programmes (input, process and output indicators); and those concerning *effects* of programmes (outcome and impact indicators). If one applies these definitions to a tank rehabilitation

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[3]   High dropout rates and inadequate student learning in primary education was a problem in the Philippines: almost a quarter of Philippine children dropped out before completing sixth grade. In 1990-92, the government embarked on a Dropout Intervention Programme (DIP) to address these issues. There was an impact assessment of this programme in 1999.

project, the amount of money allocated for tank rehabilitation is an input indicator; the strategy adopted in the rehabilitation (whether it is through private contractors or through farmer organizations) is a process indicator; the number of tanks actually rehabilitated is an output indicator; the extent of land cultivated under rehabilitated tanks is an outcome indicator; and the incremental income generated is an impact indicator.

Most of the impact assessments reviewed in this paper concentrated on the first three indicators. Can such indicators provide insights into the impact of an intervention? Process and output indicators can be used as a proxy for impact where there is strong evidence of causality between the intervention being studied and the related impact. For example, small and medium industries would provide an incremental income if properly established. With interventions that have a vast literature documenting attributable benefits in a safe environment, the need to show "proof" that the intervention produced a desired impact may be academic. Proper identification of such interventions and their outputs and also the stability of the environment would suffice to approximate impacts. Moreover, donors tend to favour process and output indicators, which they find to be convenient and cost-effective ways of monitoring their own activities, rather than effects or impact indicators. Many of the cases reviewed in this paper have output indicator assessments. This is so in many other humanitarian projects in the world as Hofmann *et al* (2004) observed.

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[4] This is only one definition. Different definitions of indicators for specific purposes are found in the literature. See Gosling and Edwards (1995) and Baker (2000) for a further theoretical account on impact indicators (definitions, concepts and assessment methods etc.). According to the World Bank PRSP Sourcebook, a "good indicator" is a direct and unambiguous measure of progress - more (or less) is better; measures factors that reflect the objectives; varies across areas, groups, over time, and is sensitive to changes in policies, programmes, institutions; is not easily blown off course by unrelated developments and cannot be easily manipulated to show achievement where none exists; can be tracked (better if already available), is available frequently, and is not too costly to track (Prennushi et al., 2000).

2.5   Data requirements

Quantitative and qualitative data are required to establish indicators. Table 2 attempts to link minimal and ideal data requirements with different quantitative evaluation designs or methods. Household data mainly collected through quantitative techniques are probably the most widely used in impact evaluations with quantitative methods. Ideally, panel data, before and after interventions, is the best for establishing impacts in evaluations. But this is, in many instances, constrained by time and resources. If only post intervention data is available, it is still possible to conduct a sound evaluation by choosing an appropriate evaluation design with good indicators.

Each method has its own advantages and disadvantages, some of which are listed in Table 3. A good evaluation would use a combination of methods, within resource limitations, to optimise the advantages while minimising disadvantages.

Table 2. Minimum and optimum data requirements for quantitative evaluation methods

Evaluation methodology	Minimum data requirement	Ideal data requirement
Experimental designs.	Single cross-sectional data of treatment (beneficiaries) and control (non-beneficiaries) group.	Panel data on both treatment and control groups with a baseline data set of the beneficiary population.
Quasi-experimental designs: 1. M a t c h i n g methods	National cross-section surveys or household expenditure surveys covering the intended beneficiaries of the interventions.	Large survey and smaller project-based household survey both with two points (before & after) in time to control contemporaneous events.
2. Reflexive comparison & double difference method.	Baseline and follow-up data on beneficiaries.	Time series or panel data on beneficiaries and comparable non-beneficiaries.

Source: Based on Baker (2000)

Table 3. Merits and demerits of different methods of impact monitoring

Methods	Advantages	Disadvantages	Comment
Experimental designs	- Random selection of treatment and control groups provides a statistically robust assessment through perfect counterfactuals. - Simplicity in interpreting results (difference between the means of an indicator of two groups). - Subjective interpretation is minimised in the analysis.	- Two groups need to be established at project inception. There are ethical problems in denying project benefits to the control group. - Impossible to delineate a control group for projects having complete coverage (as against partial coverage). - Collection of panel data (which gives the best comparison) is costly and time consuming.	None of the Sri Lankan projects reviewed applied this method.
Quasi-experimental designs	- The treatment & control groups needed for comparison in matching, double difference, and reflexive comparison are selected after the project so that demerits in the selection process are minimised. - Existing data could be used to assess the treatment group making the analysis cheaper.	- Results are less reliable than with experimental design method because methodology is less statistically robust - Statistically complex anaytical procedure is required - The two groups are not randomly selected and thus there will be a selection bias, which either over or under estimates project interv entions.	A few evaluations used matching, double difference and reflexive comparison methods, but with less theoretical emphasis.
Qualitative methods	- Flexibility (especially if basic principals of negotiation, participation, learning and flexibility are used). - Analysis could be carried out with rapid appraisal techniques at less cost.	- Some level of subjectivity involved in data collection - Lack of a strictly comparable comparison group and therefore difficulty in establishing counterfactuals	Several projects reviewed used qualitative and participatory methods to evaluate impacts.

Table 3. Merits and demerits of different methods of impact monitoring Contd.

Methods	Advantages	Disadvantages	Comment
Qualitative methods	- Stakeholders' perceptions, priorities, conditions and processes that would affect project impacts could be well understood. - Increased authenticity of evaluation outcomes because of participation - Increase local level capacity in evaluations which eventually helps in assisting project implementation - Strengthen accountability to donors	- Although quantitative techniques can be applied to participatory methods, they are less statistically robust (however, qualitative techniques can be modified to obtain statistical rigour in analyses (see Barahona & Levy (2002)) - Difficulty in generalizing into a larger population - Skill of study teams in conducting participatory assessment needs to be improved. - Difficult to assess household level situations such as food insecurity, coping strategies, vulnerable situation.	

2.6 Constraints in poverty impact assessments

In addition to methodological difficulties and data deficiencies, impact assessment faces various other constraints that undermine the quality of assessments. In the worst case they discourage the carrying out of essential impact assessment exercises. A brief examination of commonly encountered constraints follows.

Lack of consensus over the objectives of interventions: At project level or at national levels, a degree of clarity over the objectives of poverty reduction interventions is required in order to assess impacts. The impact of a tank rehabilitation programme on poverty reduction is significantly different from creating an effective credit culture. In each

case, different indicators will be required to assess effects and impacts. Although both contribute to poverty reduction in the long run, short-run measurements need to take account of what effects are expected. Many projects reviewed in this paper were undermined by ambiguity in this area.

Lack of baseline data and seasonality issues: Impact assessments are often handicapped by a lack of baseline data and knowledge about regular seasonal variations in key indicators. It is difficult to show with confidence that a pro-poor programme has had an impact without knowing the rate at which poverty reduction was taking place before the intervention began, and after it was implemented. In such cases, established norms of welfare or other traits can be applied as an assumed baseline, but with less robustness in the assessment. Few of the studies reviewed in this paper had baseline data.

Control groups and regression analysis: A commonly used research tool in the social sciences is the comparison between a group that has received benefits and a control group that has not received benefits. This allows changes over time between those affected by a project and those outside a project to be compared. However, the technique has rarely been used in Sri Lanka for impact assessment. This is the case in other countries too (Hofmann, 2004). For ethical reasons, it is difficult to exclude a group of poor people from receiving the benefits of a project while a group of their neighbours enjoys the advantages brought by the project. Some projects report that a particular group does not receive inputs because of problems with access or lack of their own resources. These groups have been used as a control in some assessments. But, as Hallam (1998) also pointed out, comparisons between people who received assistance and those who did not (non-beneficiaries), need to be done very carefully as non-beneficiaries are not necessarily an ideal control group.

Problems of attribution: Impact may be measured by demonstrating increase in income, improvement in social capital or greater food

security. The improvements cannot be attributed with certainty to any particular intervention. Has poverty reduced because of tank rehabilitation, Samurdhi, a health intervention, a water and sanitation programme, and formation of a community based organisation (CBO) or because of local coping mechanisms? The answer may well lie in a combination of all of these factors. It is nearly impossible to determine the relative significance of different interventions.

Because of these constraints and methodological limitations, it is difficult to provide irrefutable proof. There may be some situations in which analysing rather than measuring impact is more appropriate. Maxwell and Conway (2003) had suggested that 'if impact cannot be established scientifically or precisely (i.e. cannot be measured), it can at least be estimated and described by postulating and testing logical linkages between aid activities and observed changes'. Often, observation and judgement are useful complements to "measurement". Some of the assessments reviewed have attempted to use this approach.

3. Review of Impact Assessments of Selected Projects

3.1 Selection of projects with impact assessment for the reviews

A poverty impact evaluation would be worth conducting if,

- an intervention (policy or programme) were considered of strategic relevance for poverty reduction;

- the evaluation of a particular policy or programme contributed to filling knowledge gaps about what works in poverty reduction;

- the policy or programme tests an innovative approach to poverty reduction.

The projects that satisfy either one or many conditions listed above were selected for this review. A brief overview of each selected study is presented in this paper, and the methodology and results of PIM is then reviewed.

3.2   Review of projects and PIM methodologies

This section, the core of the paper, reviews the concepts and methodologies adopted in impact evaluations of selected projects in Sri Lanka. The main idea of the review is to learn from evaluation experiences, identify gaps in concepts and methods of evaluation and also to bring out areas that need to be strengthened in poverty impact evaluations. The following materials are used for the review:

- Impact Evaluation Studies of selected projects;

- Project Completion Reports of selected project when Impact Evaluation Studies are not available;

- Special impact studies conduced by the donors (mainly ADB) of selected projects.

Study 1: Impact Evaluation Report: Sri Lanka – Kurunegala Rural Development Project (KRDP) (Credit 891-CE) and Second Rural Development Project (SRDP) (Credit 1079-CE), World Bank (1996) - conducted in 1995.

Objectives:
This study, conducted by the Operation Evaluation Department of the World Bank, assessed the impacts of two projects, which have been specifically aimed at assisting the poor and have pioneered a number of participative techniques in project planning and implementation. These two were the first IRDP type of projects implemented in Sri Lanka. They did not explicitly address poverty reduction[5], but were designed to produce a replicable regional development model for raising

productivity, employment, income, and living standards for the rural population (World Bank, 1996: 13).

Evaluation concept:

The assessment process focused on outcome, impacts and sustainability of project interventions (log-frame concept). The main area of study was not the many aspects of poverty but performance of key project components (irrigation, agricultural production, coconut and spice crop production, and credit). The income-generation attributable to project components was the main link in the study with questions relating to poverty. A before and after project evaluation approach was used to identify impacts, but the methodology did not clearly address a system of establishing counterfactuals.

Methodology:

The evaluation was carried out in two phases: basic data gathering and evaluation proper. Implementing agencies were asked to collect information relating to performance and impacts. There was acknowledgement that these data was incomplete and often internally inconsistent because of poor institutional practice in data collection on PIM. The evaluation proper was carried out using a variety of participatory techniques, ranging from focus group discussions, timeline analyses and income pie charts to assess income increments, social mapping, and pair-wise matrix ranking. The impacts assessment had two approaches: firstly beneficiaries' information was used to assess the change and secondly farm models mimicking with and without situations were used to assess the changes.

Major findings on poverty impacts:

- Tank rehabilitation, coconut and spice cultivation brought an increase in income;

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[5] Increasing economic growth and subsequent impact on poverty reduction was assumed to be the development thrust in the 1970-1980"s, when these two projects were designed.

- Sources of income changed from wage labour and paddy cultivation to commercial types of farm based production;

- Road and power supply development brought a marginal increase in new opportunities;

- The water supply improved;

- There was a marginal increase in employment. However, these changes were not robustly established using counterfactuals.

Short review:
The concept and the methodology were not effective for the assessment of poverty-related impacts in general and non-monetary aspects in particular. Other shortcomings included a lack of dependable baseline data, methodological deficiencies in establishing counterfactuals, lack of poverty impact indicators, and failure to try to establish causality between interventions and impacts.

Study 2: Project Completion and Impact Assessment Report: Loan No. 309-Sri (IFAD): North Western Province (NWP) Dry Zone Participatory Development Project, Sri Lanka, (IFAD, 2001) – conducted in 2000.

Project objective:
The long-term goal of the project was poverty alleviation, establishment of food security and the broad-based economic development of the rural poor in the dry zone of NWP.

Evaluation concept:
A single study covered the project completion review and the impact assessment. The participatory approach was used as the concept of evaluation. The evaluation looked mainly at monetary issues but also examined some non-monetary aspects and the material achievements of the project.

Methodology:

No baseline study was available and PRA tools were extensively used to collect data for the impact assessment. Only a limited amount of primary data could be collected through PRA exercises, which were done in 14 villages out of a total of 548. During fieldwork, emphasis was on validation, cross-checking and updating of secondary data. The Annex of this paper illustrates the steps needed to collect data which captures diverse impacts. PRA tools resource-mapping tools (before and after project), Venn and linkage diagram (before and after project), and historical matrices listing up to about 15 variables (before and after project) have been used for data collection. With these data the study qualitatively assessed project impacts. A series of simple comparisons of before and after project situations demonstrated impacts. Counterfactuals were not established, because of lack of baseline and control group data.

Results:

The study qualitatively assessed the impact of the project on income increase, employment generation and also change of employment type, wealth increase as indicated by housing improvement, improvement in farming systems, regularisation of land ownership, the empowerment of women and social empowerment.

Short review:

Although the participatory concept was used, deficiencies in the methodology prevented capturing all poverty-related impacts. Other shortcomings included lack of baseline data, absence of counterfactuals for comparison, and lack of poverty impact indicators.

Study 3: Impact Evaluation Study conducted by ADB on ADB's Rural Credit Assistance in Bangladesh, People's Republic Of China, Indonesia, Nepal, Philippines, Sri Lanka, and Thailand, January 2001 (ADB, 2001) – conducted in 2001.

To assess the impact of ADB's assistance to rural credit and derive lessons from it. Sri Lankan ADB Projects included in the analysis were Rural Credit Project (approved on 6.12.1979); Livestock Development Project (approved on 7.12.1982); Aquaculture Development Project (approved on 3.11.1983); Small and Medium Industries Project (approved on 21.02.1989); Perennial Crops Development Project (30.08.1988); Smallholder Tea Development Project (approved on 21.02.1989); Second Small and Medium Industries Project (approved on 30.05.1991); Southern Province Rural Development Project (approved on 26.11.1991).

Poverty impact assessment of credit programmes is important, as the use of credit in poverty reduction is a relatively new subject. It was only in the 1990s that the ADB External Panel Report (Panel Report, 1989) recommended that rural credit operations should be used as a means of reducing poverty. In recent years, the ADB and IFAD have gone beyond credit services and promoted voluntary savings on a limited scale (see IFAD projects in Sri Lanka in the late 1990s). They have emphasised market-orientated interest rates (see ADB projects in late 1990s) and paid more attention to financial viability. The poor need to have some level of entrepreneurial capacity and also be empowered to take the full use of credit in reducing their poverty. New methods and tools need to be developed in PIM In order to reflect these emerging trends in credit-related interventions.

Evaluation concept:
The basis of the assessment was the log-frame concept with monetary indicators. The evaluation assumed that availability of credit would positively influence production, productivity, improvements in agriculture, employment, income- generation, accumulation of financial assets, and wealth increase. In addition, relationships established by clients with lending institutions, and changes in rural financial institutions, implementing agencies and executive agencies were also

examined as impacts. There was an assumption that these effects would contribute to poverty reduction, but the study failed to specify how. A combination of quantitative methods (a survey) and some tools of qualitative methods were used. Impact measurement levels (beneficiaries or institutions) or indicators were not established.

Methods:

Purposive socio-economic surveys were used, but the degree of representation of all the beneficiaries was not reported. The survey was not designed to attempt an analysis of with and without project situations. Therefore, relevant counterfactuals were not established through the survey. Information analogous to counterfactual information was obtained from financial institutions. The survey collected information from financial institutions, sub-borrower profiles and benchmark studies for the purposes of their monitoring and evaluation. This addressed the without project situation of the sub-borrowers and provided counterfactuals to some extent. Although this was a less satisfactory approach, the study adopted it in the absence of other counterfactual information. The methodology was undermined by failure to establish links between the project and benefits to poor people and failure to establish the cause of any benefits.

Major findings:

- Income improved at household level because of the projects

- Farm mechanisation increased farm production

- Foreign exchange became available

Short review:

Conceptually the assessment examined processes and effects rather than attempting a poverty-related impact assessment. Deficiencies in the assessment included lack of dependable baseline data; methodological deficiencies in establishing counterfactuals; poverty impact indicators which focused solely on the provision of opportunities; failure to

establish a cause and effect link between interventions and impacts; and severe attribution gap. Similar limitations were a feature of studies in other countries.

Study 4: Impact of Rural Roads on Poverty Reduction: A Case Study-Based Analysis (ADB, 2002) – conducted in 2001

Objective:
This ADB study assessed and compared the impacts of investments in rural roads in reducing poverty in Indonesia, the Philippines, and Sri Lanka. The primary study asked:

- How do rural roads help reduce poverty?

- How can rural road projects be designed to achieve greater reduction in poverty?

Evaluation concept:
The study accepted that poverty is a multidimensional condition, and that lack of income is only one component. Poverty was perceived through the livelihood model of DFID. It was measured using the capability approach[6]. This enabled the study to show how improved rural roads shaped livelihoods and increased opportunities.

Method:
The methodology was formulated to capture poverty impacts in both quantitative and qualitative terms. A household survey and a variety of PRA techniques were used. In addition to socio-economic variables, classical road impact assessment tools such as traffic and passenger surveys and changes in vehicle operating costs (VOCs) were also used.

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[6]   Poverty is here defined as a deprivation in assets and entitlements essential to life, and a susceptibility to periodic physical and economic shocks, and seasonal crises. It also describes a state of voicelessness and an inability to influence the structures, institutions, and processes that shape rural livelihoods. Fieldwork revolved around the analysis of livelihoods through using a capital assets-based approach. It was assumed that people had five principal types of capital assets, and the relative strengths and weaknesses of these assets determined vulnerability, susceptibility to shocks, and ability to participate in wider institutions and processes (ADB, 2002: 8).

Different tools were used sequentially. The intention was that the data would be cumulatively validated at each phase. The qualitative data was fed into a framework structure that captured not only the outcomes of the project intervention but also the factors that affected impacts. The use of different tools ensured effective cross-checking and validation through triangulation of findings. Adequate control mechanisms were used in the methodology to minimise the attribution gap. Since projects under consideration had already experienced rural road intervention, it was not possible to use an experimental design technique with randomly established control groups. Instead, the study used a quasi-experimental design with control groups that resembled the intervention groups. Because baseline information was not available, the study did not use the double difference technique properly. However, with control sites, recall techniques were tried in an attempt to compare before and after conditions in a qualitative sense. Even the recall techniques proved to be quite difficult to use in the case study areas. The road appeared not to be one of the most important determinants in the villagers' routines and, therefore, road-related information could not be easily recalled. In the end, given the absence of useful baseline information or detailed recalled information, it was difficult to use even a modified double difference technique precisely. Rigorous attribution of impacts was, as a consequence, impossible. Instead, the control sites were used to understand and compare the difficulties that the poor face without accessibility, and the extent to which easing this constraint would improve their status. This enabled the comparisons of with and without project situations to a certain extent, reflecting one aspect of the double difference method.

Major findings[7]:
The findings illustrated the effectiveness of the methodology:

- Rural roads will not automatically lead to cheaper and better transport services to everybody through competition

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[7] Results are listed to indicate the benefits and the coverage of the methodology.

- The road projects enabled the non-poor to increase their income and other benefits much more quickly than the poor

- Time-saving was an important benefit for the poor

- Livelihood opportunities outside the village were better exploited

- The overall trend of commercialisation has not increased because of improved roads

- More project respondents than control group respondents felt that food security had improved

Short Review:

The study had a well-thought-out concept to explain poverty, and it had skilfully developed the methodology to encompass all facets of the concept. Methodology included both quantitative and qualitative techniques. Information was triangulated to improve the quality of the study results. However, the study could not establish with confidence the impacts on the livelihood capitals and the vulnerable situation of the poor because of the lack of counterfactuals and baseline data. It very clearly addressed the advantages of having pre-project baseline databases and continuous recording of relevant data during the project to compare the changes and verify poverty impacts.

Study 5 (two studies)[8]:

Project Impact Assessment, Second Badulla Integrated Rural Development Project (SBIRDP), Lanka Environment Development Services Pvt Ltd. March, 2003 <u>and</u> Project Impact Assessment, North Central Province Participatory Rural Development Project (NCP-PRDP), Lanka Environment Development Services Pvt Ltd. December, 2003 – conducted in 2003.

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[8]   Both studies have used almost the same methodology and therefore are reviewed together.

Two studies, funded by IFAD, conducted by a team of local consultants evaluated the poverty impacts of SBIRDP in Badulla district and NCP-PRDP in Anuradhapura, which were integrated rural development projects with the prime objective of poverty reduction.

Concept:
The multidimensional nature of poverty was emphasised in both studies and the livelihood framework was used to explain poverty relations. The monetary concept and the capability concept were incorporated into the analysis. Improvements in five livelihood capitals (physical, financial, natural, human and social) were examined, with a view to assessing capabilities outcomes in relation to vulnerable situations and livelihood.

Methods:
The approach adopted in data collection was the quasi-experimental design. The studies have selected post-project control groups that resemble the intervention groups from Grama Niladhari Divisions (GND) where the projects were not in operation. The double difference technique was used with respect to many poverty indicators where both control groups and good baseline information were available. NCP-PRDP had a baseline data-set on the pre-project situation which was dependable and almost complete, but that of the SBIRDP was incomplete. Instead, recall techniques were tried in SBIRDP evaluation to compare before and after conditions in a qualitative sense. Combinations of baseline data and control group information enabled the comparisons of with and without project situations with regard to many impact indicators.

Detailed socio-economic surveys of project beneficiaries, direct and indirect (controls group), PRA sessions, and focus group discussions with the community and officials, and in-field observations provided data for the studies. Both studies used distinctly different poverty groups, namely "destitute poor", "poor" and "moderately poor" to

track socio-economic differentiations. The project impacts on the three groups were separately analysed to examine whether project benefits were distributed equitably.

Poverty Impact Indicators:
Both studies constructed poverty impact indicators based on the PRA and the survey outcomes. The main indicators include changes in:

- Five types of livelihood capitals;

- Policies, institutions, and processors;

- Livelihood strategies;

- Livelihood outcomes;

- Vulnerabilities; and employment generation, increase in wealth index, increase in family income, enhancing food security, and improving coping strategies to meet conditions of vulnerability.

Most of them are livelihood outcomes of non-monetary nature reported by the respondents of the household surveys of both studies.

Major Findings:
The findings are similar in both studies and are listed below:

- Evidence was produced to show that income-change could be attributed to selected project interventions

- Head count index and poverty gap index were estimated in the NCP-PRDP study and compared with the baseline data indicating a reduction in poverty. It also showed that inequality of income has increased (greater income increase among the better-off)

- Using a wealth index, changes in family wealth was assessed in both studies and found that it has increased in both sites

- NCP-PRDP evaluation, using double difference method, and SBIRDP, using reflexive comparison, showed that the project contributed to increasing rural employment

- Increase in food security

- Both studies assessed whether respective projects had improved the coping strategies of the poor when facing situations in which they were vulnerable. The studies found that they did contribute to securing land ownership, reducing dependency on wage labour, increasing irrigation facilities, increasing off-farm jobs, improving farm technology, reducing indebtedness, and increasing social capital

Short Review:

Both studies used a livelihood framework to assess poverty impacts and captured most of the monetary and non-monetary aspects of poverty and project impacts on them. Lack of counterfactuals and baseline data was a limitation. The advantages of pre-project baseline databases and continuous recording of relevant data during the project to compare the changes and verify poverty impacts were clearly addressed. The studies revealed that the field staff lacked skills in conducting livelihood analysis in the field and summarising qualitative information.

Study 6: Samurdhi Programme – Reviewed study: An Empirical Evaluation of Samurdhi Programme (Glinskaya, 2001) conducted in 2001

Samurdhi was launched by an act of parliament in 1995. The main aim was to improve the economic and social conditions of young people, women and disadvantaged groups in society by,

- Broadening their opportunities for income-enhancement and employment

- Integrating them into economic and social development activities

- Linking family level economic activities with community development projects at village, district, divisional and provincial levels

- Mobilising their participation in the planning and management of projects and schemes for their betterment

- Fostering co-operation among them, promoting savings among them and assisting them to obtain credit facilities

- Facilitating the delivery of inputs and services of all type of service providers.

The Samurdhi programme of social assistance was launched in 1995 and it covered 21 out of 25 districts by the end of 1990s. It is financed by general revenue and the total expenditure was about half of the total welfare budget (excluding education and health), or about 1% of gross domestic product (total of 11,446 million LKR for Samurdhi in 2002 – about 0.7 % of GDP).

This programme was designed to alleviate poverty. The bulk of the programme resources are distributed as transfers of consumption grants to households, with eligibility determined by means-testing. In 1998, the household eligibility threshold was set at approximately one-third of the national poverty line (Glinskaya, 2001). The Samurdhi programme has three major components: provision of a consumption grant transfer (food stamp) claiming 80% of the total Samurdhi budget; a savings and credit programme carried out through Samurdhi banks; and workfare and social development programmes. Samurdhi has also established a social insurance programme, where beneficiaries pay the premium.

The Ministry of Samurdhi, Youth and Sports administers the programme. Three departments within the Ministry coordinate various Samurdhi functions: the Department of Poor Relief, the Department of the Commissioner General of Samurdhi, and Samurdhi Authority. There are district, divisional, and zonal-level Samurdhi officers attached to the authority.

<u>Studies on poverty impact assessment of samurdhi</u>

The Samurdhi Authority conducts regular progress monitoring, but no studies were done on poverty impact monitoring. Progress monitoring is limited to financial progress reporting at the divisional level, and auditing. An interview with the Director, Samurdhi Authority, conducted to collect information for this paper, revealed the limitations of formulating an impact-monitoring component of the Samurdhi programme. It was unequivocally stated at the interview that the level of knowledge and skills and the attitudes of senior and field level officers militate against effective monitoring of the poverty reduction impact of Samurdhi.

Glinskaya (2001) has conducted a scientific and empirical study on Samurdhi with the objectives of describing the structure of Samurdhi and examining its design and targeting outcomes. In the light of these results, the study stimulated a discussion of whether this programme is an effective vehicle for reducing vulnerability and poverty. This is the only published study available in the searchable literature which methodically assessed Samurdhi and highlighted its benefits and weakness. This study, however, cannot be considered as a poverty impact study of Samurdhi. Nevertheless, some of the findings are relevant to this paper and highlight the importance of including impact monitoring into the programme. The major findings of this paper are summarised below.

The study found that there are large disparities in Samurdhi coverage of households. While even middle-income families are benefiting, the poor in irrigation colonies and estates are least likely to benefit. The probability of being a Samurdhi recipient differs significantly according to ethnic status, party affiliation and voting patterns. Targeting errors are not random, but reflect flaws in the programme design that allow for the deliberate omission of deserving individuals.

The study illustrates the inefficiency of targeting Samurdhi beneficiaries. The programme misses 36% of the households, who deserve support, in the lowest expenditure quintile while about 40% of Samurdhi recipients are from higher income brackets. This targeting is comparable with the outcomes of untargeted systems, such as primary health care or primary education. Samurdhi however, has an equalising impact on welfare distribution in the country. The Gini coefficient[9] of income and expenditure with Samurdhi is 0.531 and 0.309 respectively. The counterfactual of the same figures without Samurdhi transfer is 0.544 and 0.320. Samurdhi reduces income and expenditure Gini by 2% and 3% respectively. Among recipients, Samurdhi supplies 14% of recipients' total household food expenditure. The impact on the welfare of households from the lowest quintiles is larger than on higher-income households.

Glinskaya (2001: 25) did not set out to give an explicit impact assessment. However, her study clearly revealed the necessity of assessing poverty impacts of Samurdhi in order to increase its effectiveness and efficiency. She reported that the programme does not appear to alleviate poverty or create opportunities for young and disadvantaged people. Moreover, Glinskaya reported that the credit and banking components of Samurdhi did not reach the poor (2001: 26). This paper strongly suggests that methodological experience and knowledge of other impacts assessments should be formally included in Samurdhi to facilitate PIM of the programme.

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[9] The Gini coefficient takes on values between 0 and 1 with zero interpreted as no inequality.

4. Assessment Studies Reviewed

4.1 Overall review of concept and methods

Addressing multidimensional issues in impact assessments is necessary for practical as well as conceptual reasons. Section 2.2 summarised how different concepts enabled poverty to be looked at from different angles. This section looks at how the concepts were used in selected studies of PIM and examines what steps have been taken to translate them into PIM methodologies. Many of the studies reviewed concentrated on a few selected aspects of poverty, the monetary concept being the predominant one. Two studies (study 4 & 5) out of six have conceptualised poverty as a multidimensional issue, and capability and participatory concepts have been used including income and many non-income issues. No study has attempted to use the social exclusion concept in PIM. However, the review indicated that Integrated Rural Development Programmes and IFAD-funded project studies could have found many reasons to use social exclusion elements.

Most of the impact assessment studies have used the logical framework approach. This approach puts the project being evaluated in the forefront and concentrates too much on project performance. Although this approach makes a lot of sense for donors and programme planners, poverty concepts are hardly addressed. Performance of the beneficiaries (usually the poor) in moving out of poverty (taking account of its various aspects) is not the most important factor. For projects and interventions that include activities with definitive and established cause (being project activities) and effect (being some dimensions of poverty) associations, this could be a satisfactory approach in poverty impact monitoring. However, because most of the rural development projects in the humanitarian sectors operate in economically, socially, and politically volatile environments, neat cause and effects associations could not be expected. The logical framework analysis is, therefore,

conceptually acceptable only up to the assessment at outcome level, but not beyond.

Some assessments, which were based on the monetary and logical framework approach, have used quantitative methodologies such as sample surveys. Among these assessments, few studies such as study 3 had reliable counterfactual information obtained from baseline surveys and these were profitably used in explaining impacts. Others have used methods similar to reflexive comparisons, and even in those there were no specific references to control groups and their formation. In some cases, reflexive comparison has taken the form of with and without comparison of project impacts.

The participatory concept was extensively used in studies 1, 2, 4 and 5, and studies 4 & 5 included many aspects of poverty in the assessment. Study 5 used a livelihoods framework which goes further than the participatory concept in many aspects. The principles of the Sustainable Livelihood Framework (SLF) were included in these assessments. The principles of the SLF allow it to capture the varying aspects of poverty. It draws attention to processes and stresses the multiple interactions between various factors that affect livelihoods. The SLF recognises the vulnerability of the context within which people operate to gain access to livelihood assets. The value of these assets varies with prevailing social, economic, institutional and organisational environment. The livelihood strategies – ways of combining and using assets – are adopted in pursuit of beneficial livelihood outcomes that meet their own livelihood objectives DFID (1999). The very nature of the livelihood concept means that assessments using it need both quantitative and qualitative data. The respective studies mentioned have employed both quantitative and qualitative techniques for the assessment. The review indicated that the methodology has adequately translated the important elements of monetary and capability approaches in PIM.

4.2   Methodological progress and lessons learnt

The studies under review were conducted over a period of about ten years (1992 to 2003). There is a definite improvement in the evaluation process in terms of concepts, methodologies and coverage of multidimensional issues of poverty impact assessment. The approaches initially dominated by the monetary concept were broadened in later studies to include non-monetary concepts. This is an important step forward in PIM.

The importance of participatory concepts, methodologies and tools are clearly emerging as vital to an understanding of the non-monetary issues of poverty impacts. The participatory concept and participatory poverty impact monitoring (PPIM) has much more to offer in PIM. The studies with participatory concepts reviewed in this paper used a variety of tools and analytical methods indicating that there is no single formula or fixed guidelines that explain what participatory monitoring is and how to do it. They have contributed to an emerging body of knowledge; indicated some challenges, which we should address; and also suggested possibilities for further methodological development. This section summarises some of the challenges that PIM should be addressing in the future, which were not adequately reflected in the reviews. This discussion must also take account of international experience in participatory monitoring.

The first challenge is to understand properly the concept of participation in relation to PPIM. The concept of PPIM should be a socially negotiated process[10] rather than a simple evaluation method. Stakeholders present their own views, needs and expectations in an assessment. Information sharing, ownership and the use of information need to be addressed in PPIM. The studies reviewed have not tried to examine this process. The evaluators have controlled and influenced the formation of the

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[10]   This is mentioned in the four broad principles of PM (IDS, 1998 and Estrella and Gaventa, 1998) namely principle of participation, principle of negotiation, principle of learning and principle of flexibility.

impact monitoring process with no significant contribution from the beneficiaries. The author's discussions with the community have shown that poverty impact indicators differ among community members according to their household status and poverty level (as they perceived it), age, gender, caste and even family size. When a methodology is being developed these issues should be taken into account.

The second challenge is to decide on the extent of participation. Although some of the studies allowed beneficiaries marginal participation in evaluations, the definition of "participation" was vague. Moreover, no study provided an accepted minimum standard which would qualify PPIM as "participatory". The international literature (see Estrella and Gaventa, 1998) describes similar problems. The extent of participation in PPIM is contentious and methodological development is needed in this direction. As noted in this review and in Abbot and Guijt (1997), there was a high level of participation at the data collection stage but it reduced later. It was noted that greater participation produced more relevant and useful impact information for stakeholders.

Thirdly, issues of the robustness of and confidence in the findings generated from a PPIM need to be addressed. The participatory assessments reviewed in this paper used qualitative data to assess certain poverty impacts (study 4 & 5). It is generally assumed that quantitative data and techniques generate robust results that are replicable, and can be generalised and scaled up. On the other hand, qualitative information allows a more subjective interpretation that is relevant to the specific local context. It appears that there is a trade-off between rigour and participatory expectations. The studies reviewed have not addressed this issue. It is necessary to examine whether or not there are inherent trade-offs in combining quantitative and participatory approaches. However, participatory and qualitative studies could be designed in such a way as to improve the robustness of and confidence in the results

(see Barahona and Levy (2002[11]) and Abeyasekera (2002) for a detailed account of the issue).

Fourthly, all the studies reviewed had indicators which were developed by the study teams without involving the beneficiaries. Studies 4&5 had a range of indicators, which measured impacts on monetary and several non-monetary parameters. New indicators need to be formulated to assess participation, empowerment, social process and social inclusion.

Fifthly, many studies demonstrated that the absence of baseline information was a crucial problem in impact monitoring. The problem is more severe in the PPIM approach, because even if some baseline data is available, as in study 5, it has not provided a good counterfactual base for qualitative parameters. Any programme interventions, therefore, should have simple and well-thought-out baseline information base.

Sixthly, none of the studies dealt with the question of the institutionalisation of PIM. Inter-institutional linkages are becoming important, as any type of PIM, and in particular PPIM, involves many participants from different institutions as well as from rural areas. The nature of institutional arrangements needs to be addressed and strategies should be developed to maintain such arrangements. Another related issue is whether PIM and PPIM can be taken over by local people, or built into the regular monitoring process of government institutions after the project is finished. All the studies reviewed indicated that the monitoring process would not be sustained after the end of the project.

The seventh challenge is the amount of resources required for PIM. Crucial factors in determining the way PIM is conducted are: sufficient

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[11] This paper aims to show that it is possible to generate statistics, which will be taken seriously by policymakers, from research using participatory methods. A key requirement is to produce results from a representative sample, which can be used to make generalisations in order to reach conclusions for the population of interest. This necessitates working in a larger number of sites, using participatory methods, than most studies do. However, the Malawi experience presented in this paper shows that it is possible to organise such studies at a reasonable cost.

numbers of technically capable people, financial resources and time. None of the studies considered the resources question let alone put forward any practical suggestions about how to estimate the commitment required. The studies indicated that adopting participatory concepts and approaches to PIM require more time, experience, commitment and a level of skills. The comparative review also suggests that participatory evaluations generate better quality results.

Finally, this review found strong evidence of the need for further documentation of the PIM process. There is generally greater emphasis on documenting the findings and results than on documenting the process of carrying out PIM. Because PPIM is new, with diversity in its structure, conduct and performance of methods, it is useful to look at the documentation of the process. Documentation of the process is essential, because, as the reviews indicated, the way PIM and, in particular, PPIM are conducted strongly influences the information and results obtained from assessments. Armonia and Campilan (1997) pointed out a similar flaw in the international literature in their survey of Asian case studies of impact assessments.

4.3 Conceptual and methodological weaknesses

Given the variation in project types, evaluation questions, data availability, cost, time constraints, and regional circumstances, each impact evaluation study has its own characteristics and requires some combination of both quantitative and qualitative methodologies to understand impacts on poverty. The evidence from the reviews shows that the qualitative and quantitative approaches could be complementary rather than mutually exclusive. Two IFAD project evaluations (study 5) provide evidence for this. Strong evaluations often combine methods in order to ensure robustness, representation and confidence of the results. Impact assessments based on combinations of with and without project information, and before and after project information are strongly

recommended from a methodological perspective (Subbarao *et al.*, 1999). Two studies (study 4 & 5) have adopted this approach.

A few studies combined quantitative and qualitative methods. This approach is considered as ideal (Baker, 2000), because it identifies quantifiable and qualitative poverty impacts, non-monetary impacts and offers an explanation of the processes and interventions that yielded impacts. The most serious weakness revealed in the review of the studies was the adoption of a single approach. Other weaknesses were lack of a conceptual basis, inadequate development of methodologies, failure to explore alternatives, which would compensate for gaps in baseline information, failure to test the robustness of results, and failure to use regular national databases as counterfactuals.

4.4   Possibilities for improving PIM

Each impact evaluation will have unique characteristics requiring different conceptual and methodological approaches. However, the literature and the author's experience can be used to draw out somegeneral features of best practice.

- A common defect was a failure to estimate the counterfactual. This could be remedied by (a) using random assignment to create a control group (experimental design – this needs to be establish at the beginning of the intervention), and (b) appropriately and carefully adopting other methods such as matching, reflexive comparison to create a comparison group (quasi-experimental design – this was demonstrated in some studies).

- Relevant data needs to be collected at baselines (properly planned at the beginning). Follow-up studies (including sufficient time-frame to allow for programme impacts) are needed to control for pre- and post-intervention differences

in participants, to minimise attribution gap and to establish intervention impacts.

- Failure to ensure statistically valid samples was a common problem. The treatment and comparison groups need to be large enough to establish statistical inferences and guarantee the robustness of results.

- Qualitative techniques need to be incorporated to allow for triangulation of findings.

- Administrative machinery needs to be in place so that PIM can be operated.

- National data over a set of socioeconomic variables such as income, schooling, gender, housing, consumption can be used when there are no data to construct a comparison group for matching. National household survey data could be combined with smaller surveys of project participants for evaluation purposes. The smaller survey could be carefully designed to use the same information and successfully conduct the matching exercise. This is difficult but worth trying.

- The political dimension could affect not only whether an evaluation should be carried out but also how it is implemented. Sometimes governments do not want to invest scarce resources in evaluation of projects. Samurdhi is a classic example. This needs to be discussed with politicians and they need to be convinced of the value of PIM. CEPA is an ideal institution for the purpose.

5. Conclusions and Recommendations

5.1 Main conclusions

This paper has reviewed current practice in impact assessment in poverty reduction projects. Despite notable improvements in the technical and methodological aspects of PIM, impact assessment could still be developed to a greater extent. The methodological and practical difficulties seem so profound that it is tempting to conclude that it is unrealistic to expect complete understanding of impacts in poverty reduction programmes. However, this does not mean that improvements are impossible.

Reviews of evaluations have consistently indicated that questions of impact are not adequately addressed. Promising approaches to impact analysis are, nevertheless, emerging. Reviews have suggested that field workers often lack the necessary skills to carry out the sort of improved qualitative or quantitative assessments that would allow impact to be effectively analysed. Improvements in the analysis of impact will therefore require investment in improving skills and capacity.

PIM approaches should not be restricted to the project level. There is also a need for greater investment in generating approaches built on detailed research evidence of what works. Project-based approaches that focus on determining impacts of selected interventions through a causal relationship from inputs to impacts should be complemented by approaches that examine changes in people's lives within broader external environments.

5.2 Recommendations

This paper described different approaches and methods of PIM. The choice of the appropriate approach may vary according to the context, the level of analysis and the degree of accuracy expected. The paper

indicated that sufficient and appropriate tools and methods exist and that they can provide reliable PIM. The general lack of knowledge about PIM arises more from the inappropriate use of different methods. Formal training programmes and institutional development should remedy the knowledge gap that exists. Strategies should also be developed to utilise available national databases in PIM.

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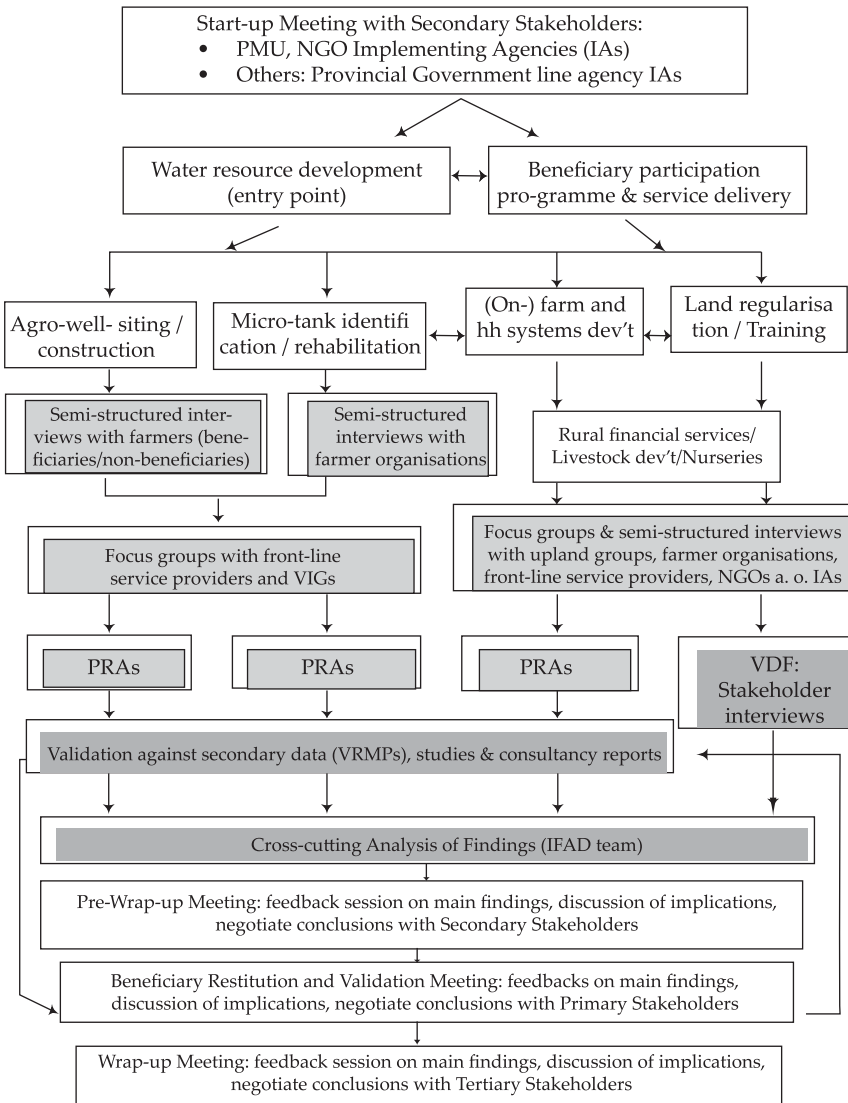
Poverty Related Data Available in Sri Lanka: Increasing its use in Poverty Research

Panel Discussion

Dr. Pat Alailima [PA] – Formerly Director General, Department of National Planning

Dr. Anila Dias Bandaranaike [ADB] – Director, Statistics, Central Bank of Sri Lanka

Professor KAP Siddhisena [KAPS] – Department of Demography, University of Colombo

Ms. Suranjana Vidyaratne [SV] – Director, Department of Census and Statistics

Moderated by:

Ms. Azra Jafferjee – Senior Professional, Centre for Poverty Analysis

1.   Rationale and Objective

The overall theme of this year's Annual Symposium on Poverty Research was poverty impact monitoring. While the first day of the Symposium was dedicated to theme-related papers, the second day focused on a more general discussion relating to improving poverty research in Sri Lanka. The importance of data in research does not need to be expanded upon. While it is accepted that Sri Lanka has reliable and high quality data sources, it has also become evident that many research efforts draw predominantly on core data sourced from only a few of these data sets. A substantial body of data exists which is not used to its full potential in poverty-related research, resulting not just in under-utilisation of data, but also leading to duplication of data collection.

This panel discussion was conceived by the organisers of the Symposium with the objective of stimulating awareness of potential research topics

by bringing into focus the *existing but little known and little used* data sets. The increased knowledge and usage of existing data sets could prevent the duplication of data collection by various institutions and research programmes.

2.   Summary of Panel Discussion

The panel discussion took the form of responses by panellists to questions posed by the moderator, followed by an open discussion. This report follows the same structure.

2.1   Data available at the department of census and statistics [Panellist – Ms. Suranjana Vidyaratne]:

The Department of Census and Statistics (DCS) is recognised as the primary agency for data collection and dissemination in Sri Lanka. The results of each Household Income and Expenditure Survey (HIES) is awaited by all those involved in poverty related research and implementation. In addition, the DCS has an enormous number of large and medium size data sets produced by the DCS cells in line ministries and other departments.

The following questions were put to Ms. Vidyaratne:

- Which data sets were most used by researchers?

- Which data sets had greater potential use for poverty-orientated research? That is, which data sets could be considered as under-utilised by poverty researchers?

Ms. Vidyaratne[1] pointed out that the Department for Census and Statistics conducted three censuses, namely

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[1]   See annex for presentation slides used during the discussion.

- Census of Population and Housing

- Agricultural Census

- Census of Industries

The first two censuses were identified as being very relevant to the topic of poverty.

The Census of Population and Housing. The most recent was conducted in 2001. It concentrated mainly on demographic characteristics and included questions on migration, labour force, fertility, physical and mental disability.

The Census included important data relevant to poverty research, which was rarely used by researchers. These included data pertaining to school attendance, literacy, occupation in agricultural and non-agricultural sectors, fertility levels, and disability. Data on disability included physical and mental disability. For comprehensiveness on disability data, those respondents who were identified as disabled were directed to a separate, more detailed questionnaire.

The Census captures important information about matters related to housing, which was identified as a very important determinant of poverty. Information was included about the materials used for construction of floor, walls and roof, access to toilet facilities, source and availability of water, source of energy, type of land tenureship and number of rooms.

Particularly important was the fact that the census data were available even at the lower administrative levels such as the Grama Niladari (GN) division.

Agricultural Census. This collected data related to demographic characteristics of agricultural operators, number of household members employed in agriculture, type and extent of agricultural land owned and

operated, agricultural equipment owned and used, crops cultivated, and livestock owned by the households. It was demonstrated that information about equipment owned might have a link to poverty since the data would show the type of equipment used and whether they are owned or hired. Even if operators hired the equipment, they could increase productivity that may help to reduce their degree of poverty. Data on income generated from agriculture and non-agricultural activities was also of great importance. The data could show whether the main source of income for poor people came from the agricultural sector or whether agricultural work was carried on purely at the subsistence level.

The main surveys carried out by the DCS were:

The Quarterly Labour Force Survey. This gathers data on school attendance, professional technical training received, employees' earnings, hours worked, expected occupation if unemployed, lowest wage earned in a particular occupation, and sources of assistance. Data on occupation and economic sector were available at the two-digit level[2]. This type of data, though very useful, was hardly used by researchers for poverty analysis.

Household Income and Expenditure Survey. This was the most popular source of data for poverty research and was frequently used by researchers. Data were collected on the extent of land cultivated, ownership of livestock, household consumption, income and expenditure.

The Child Activity Survey. This was conducted in 1999 and initiated as a one-off initiative. The survey had collected information on children's education, household work and economic activities, as well as the health and safety of children engaged in economic activities. This type of data

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2   The "two digit" level of disaggregation means disaggregation up to the sectoral level.

was identified as being very important for poverty analysis but was rarely used by researchers.

Price Statistics. The retail price indices and producer price indices were the type of price statistics that were produced by the DCS. It was noted that this type of price data has been available for almost 20 years.

Other data gathered at disaggregated levels were as follows:

In addition to the various surveys mentioned above, the DCS also collected data on education, health and vital statistics in collaboration with the relevant ministries. This was to aid ministries in the formulation of policy.

Health data included information on numbers affected by diarrhoea, low birth weight and immunization rates.

The Education Census, collected through the Ministry of Education, included data on repetition rate and school dropout rate.

Vital statistics such as infant, child and maternal mortality were collected on an annual basis by the respective divisional secretariats.

Participants interested in obtaining more information were directed to the DCS website at www.statistics.gov.lk

2.2 Data available at the Central Bank of Sri Lanka [Panellist – Dr. Anila Dias Bandaranaike]:

The Consumer Finances Survey (CFS) was the best known of the Central Bank of Sri Lanka's (CBSL) data sets, in terms of poverty analysis. The initial question put to Dr. Bandaranaike, by the moderator, focused on identifying what data sets were available from CBSL apart from the well-known surveys, and to what areas of poverty research they could be linked.

Dr. Bandaranaike said that while the CFS was the main set of data coming from the CBSL, other data published on prices and wages as well as the national budget and national income estimates, especially regional GDP, could and should be used for poverty analysis.

Consumer Finances Survey (CFS). The CFS was similar to the DCS's Household Income and Expenditure Survey (HIES), but on a smaller scale, and was composed of a sample of 12,000 households. Data was collected under seven broad sections at the national level. A list of the different sections showed the links to complementary DCS surveys and issues that were particularly relevant to poverty researchers were expanded upon. Since the 96/97 CFS, data at the micro level (household level) had been released to researchers for the first time. It was identified that data at this level was the most useful in terms of in-depth poverty research.

Section 1 -   demographic information

Section 2 -   housing conditions and household amenities, non-formal education usage, migration, health and land ownership. This complemented the population and housing census of the DCS

Section 3 -   labour force: This complemented the Quarterly Labour Force Survey of the DCS, which comprised 14 years of data

Sections 4 and 5 -   data on consumption and expenditure: this was very similar to the HIES questionnaire on expenditure

Section 6 -   income: this was very similar to the HIES questionnaire on income

Section 7 -   this collected information on savings, loans, and investments of households. It provided information

> on the type of activities the loans were used for, the sources providing loans. This information was very useful but was not used to the full by researchers.

Dr. Bandaranaike summarised the current status[3] of the ongoing CFS as follows:

The fieldwork for the CFS was completed in mid-October 2004. Killinochchi, Mannar and Mullaitivu were the only three districts that were not included in the survey. The census block, which was used as the sampling frame, was not available for these three districts due to the restrictions faced by DCS during the 2002 census. The CBSL hoped to release the report to the public in June 2005.

A big step forward, which has resulted from the cooperation between DCS and CBSL, was announced. In future, the DCS and the CBSL will coordinate the release of data, so that there would be only a three-year gap between the HIES and CFS, as against the current gap of five years. As the DCS and CFS data are the main sources of poverty measurements for Sri Lanka, this would enable the calculation of poverty measures with shorter gaps.

Price and wage data. Retail and producer prices, wages in the informal agricultural and construction sector have been collected by the CBSL since 1978. This information was tabulated from over 100 centres. Since the signing of the Memorandum of Understanding in 2002, centres in Jaffna, Mannar and Vavuniya have been re-activated. These data were a very good source for poverty related analysis. For example, comparison of prices across region and time (season) enabled the study of the volatility of the agricultural sector. This data set is one that can be used by poverty researchers more than it is currently.

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[3]   As of the date of the panel discussion: 21st October 2004

The National Budget. The government budget was another source that could be used more for poverty analysis. Provincial Council data showed what areas/sectors the budget was directed to. Although, at present, such information was not released at the national level, it could be given.

National Income Estimates: Poverty indicators could be linked to regional economic activity. For example, poverty was lowest in the Western Province where economic activity was greatest.

2.3   Data to monitor national level poverty and facilitate policy-making [Panellist – Dr. Pat Alailima]:

Dr. Pat Alailima has been involved with macro level policy for a long time and, more recently, has been looking at poverty issues from the Millennium Development Goals (MDG) perspective. Drawing on this knowledge base the following questions were asked by the moderator:

- Which data sets were used when carrying out the overview of MDGs in Sri Lanka?

- Were there any data sets that would be particularly interesting for further research on the subject?

- Which areas of policy and impacts on poverty could be researched further with the existing data sets?

Dr. Alailima began by congratulating the DCS for the release of the new official poverty line, signalling it as an important development The derivation of this poverty line required estimation of the "proportion of the population below the minimum level of dietary energy consumption", which is also an MDG indicator. This data brought out the startling finding that, although the proportion of the population in poverty had fallen from 26.1% in 1990 to 22.7% in 2002, as much as 50.9%

of the population in 1990, and 51.3% in 2002 had inadequate energy consumption.

Another important MDG indicator was "the share of the poorest quintile in national consumption", which required the ranking of persons according to their per capita consumption expenditure. However, in Sri Lanka, both data producing agencies provided income distribution data according to per capita income; this needed to change to be in line with international usage.

Purchasing power parity (PPP) was now being widely used internationally, but Sri Lanka is still relying on international agencies to do this calculation. It was recommended that the two official data producing agencies should use the data available to them to develop an appropriate series to facilitate the calculation.

Some of the limitations in the data sets in relation to monitoring the MDG indicators were identified as follows:

- Because universal education and healthcare were provided by the public sector in Sri Lanka, the valuation of education and health services was not included in household consumption. This was likely to affect the estimation of the poverty line. Poverty in Sri Lanka has never been below 20% and this could partly be attributed to the absence of these figures in household expenditure.

- The net enrolment ratio in primary school was usually calculated by taking those in the age group five to nine years, based on School Census data. This, however, gave a figure for Sri Lanka that was as low as 88% because the minimum school entry age was set at five and a half at January of the given year. This would make most of the children six years old in grade one. Therefore, it was more appropriate for the target group to be the six to ten-year-olds that would result in

the primary net enrolment ratio rising to approximately 96%. Further, data on school enrolment by age and sex should be collected and cross-tabulated annually. A major issue in the north and east was the multiple counting of students, due to displacement and relocation.

- With regard to the provision of education and health services, the lack of data on private sector contributions was becoming a major weakness, since private services in these areas were expanding rapidly. Even if it was difficult to obtain reliable data on expenditure/cost from the private sector, it should be possible to get data on admissions, disease patterns, facilities and services provided. Data collecting agencies and the statistical units in the relevant ministries should develop the necessary mechanisms to collect data on the social services provided by the private sector.

- In Sri Lanka, the classification of "slum" included both deteriorated permanent dwellings and shanties. The census categorises dwellings as permanent, semi-permanent and improvised, making it impossible to find where the slum dwellings would fit into. As slums were growing and had been identified in the MDGs as a special area of concern, some modification of this categorisation would be helpful.

- Finally, homeless people were usually excluded from surveys and censuses, and this was a drawback for poverty research in Sri Lanka, as homeless people were usually the poorest of the poor. Not having a permanent address also deprived them of the benefits of government programmes. This was a group that required more attention, and data collection would probably have to be done at night. (Ms Vidyaratne clarified this point in the subsequent floor discussion by

pointing out that the census did collect statistics on homeless people. Homeless people are included as a category under the housing unit; hence, the data was available).

2.4 Poverty data generated and utilised by academics [Panellist – Professor KAP Siddhisena]:

Since academics were well-placed to use data sets as well as to guide poverty research, the panel discussion moved on to Professor Siddhisena of the Department of Demography, University of Colombo, in order to bring out:

- The type of data that is most sought by academics.

- What data is generated by academics and students?

- The extent to which data generated by the academic system was made available to the public.

Professor Siddhisena said the need for data depended on the subject of research. Questions referring to whether academics use macro or micro data, for example, depended on the subject being researched and the type of research being carried out.

The Consumer Finances Survey (CFS) series by CBSL, and the one-off Sri Lanka Integrated Survey (SLIS) which included a sample size of 7,500 households, were widely used by academics who researched the multidimensionality of poverty.

Professor Siddhisena added that he was in the process of doing a study that employed principle component based factor analysis on eight indicators to create a composite index which sought to capture the many dimensions of poverty. The variables included were intended to reflect

both rural and urban issues.

The data required also depended on the type of analysis that one wanted to carry out. Sometimes it was necessary to collect household and community level data in addition to national level data. For example, some areas that have been researched by students, such as alcohol and poverty, poverty amongst three-wheeler drivers, forest degradation and poverty, and health and poverty needed to use a number of surveys as all the required information was not available in one survey. However, it was noted that using data obtained from various sources meant that the researcher had to be aware of problems of comparability.

Another issue faced by academics and researchers was the availability or non- availability of micro data. Although organisations such as Samurdhi and Janasaviya were identified as having a lot of micro data, it was considered that they are not easily available for researchers. The issue was that the data was not available in one place and, in some instances, might also not be easily accessible. Professor Siddhisena felt that the relevant authorities should be made aware of these issues.

Another problem was that of comparability. Various surveys had varying definitions and levels of disaggregation, thus raising the issue of reliability. Professor Siddhisena felt that this problem was there even with larger surveys.

Finally, Professor Siddhisena suggested that a data bank on poverty should be set up in Sri Lanka. The institutions involved in doing research in the development sector should think along the lines of creating a "povertynet", similar to "agrinet" that carries agricultural data. It was

also suggested that a comprehensive survey should be conducted to gather all relevant information pertaining only to poverty.

3.   Summary of the Floor Discussion

Summary of input from panel:

3.1   Health and education

➢   *Question:* What was the availability of data on private sector provision of education and health?

Answer: The need to include the private health and education services, and household spending on these sectors was acknowledged. However, a survey conducted in 1991 did, in fact, record private schools. The HIES records the expenditure of households on private education and healthcare. There was a problem with the lack of a sampling frame because of the fact that not all private schools are registered with the Ministry of Human Resources Development, Education and Cultural Affairs. A list of such schools was being prepared. This was a critical issue in the case of international schools and institutions providing private tuition.

The statistics branch at the Ministry of Health, Nutrition and Welfare also faced a major problem in getting timely health data from public hospitals. It might be even more difficult to obtain data from the private sector. Information on expenditure on education and health was available through the HIES However, other important aspects in these two areas need to be looked at. Special surveys should be conducted for education and health in order to capture these other aspects pertaining to private schools and hospitals.

> ➢ *Question:* 50% of outpatients were estimated to be going to private hospitals. Was this reflected in the income, expenditure of households?

Answer: Private education and healthcare may not be fully captured as the DCS did not do a separate education or health survey. However, there was some information on private provision in the HIES. It was difficult to include greater detail on these sections in the HIES as the questionnaire was lengthy and fatigue set in after a while. Also, the focus was on expenditure. Information such as school fees, boarding fees, tuition fees was available for the survey years. It may necessitate a separate survey on education at the household level. Information on private healthcare was less detailed. Discussions, however, were underway on expanding the HIES in order to cover this gap.

> ➢ *Question:* Data sources should be further improved to include areas such as alcoholism rates. Was this possible?

Answer: The HIES included a section on liquor. There were 18 items under the section on alcohol, drugs and cigarettes. The household's expenditure on those items was then recorded. This data has been available since 1980-81 in the HIES.

3.2   Potential for expanding current surveys

> ➢ *Question:* What level of interest was there at DCS and CBSL in having a regular multitopic survey? For example, combining the Demography and Health Survey (DHS) and the HIES. SLIS was done for this purpose.

Answer: The HIES collected detailed information on income and

expenditure. As it was a difficult area on which to gather information, there was a number of indirect sections. In 80/81 and 85/86, the Labour Force Survey (LFS) and the HIES were combined. However, there were a number of inaccuracies because of respondent fatigue and problems with completing the surveys on time.

The DCS was discussing the possibility of including other indicators in the HIES. This was something that needed to be done very carefully so as not to overload the questionnaire or to distort data accuracy and timelines.

From the view point of CBSL, it was confirmed that multi-surveys lose details on any one area. The CBSL attempted to do that in the CFS but the level of detail was limited.

3.3   Data relating to the northern and eastern regions

> *Question:* Has any new data been collected for the north and the east?

Answer: A separate DCS survey was done in the north and the east. The last HIES and Census could not be completed in Mullaitivu and Kilinochchi. The lists and maps were done for the areas in which the Census was conducted. These were used as the frame. In Mullaitivu and Kilinochchi a frame had to be created. The HIES was now being conducted in the north and the east and will be released in early 2005.

As for the CFS, only 2% of the sample was missed in Mullaitivu, Mannar and Kilinochchi. The initial results will be released by December 2004.

This will be the first data from the north and east to be released for 20 years. In areas like Jaffna, they were still going through a transition period. Large numbers of households differed from the Census block as people were now slowly returning to their homes.

3.4   Labour market related

➢   *Question:* 70% of employment is in the informal sector; it contributes a much smaller share of GDP. However, there were no records, no systems in place to track this group. How does one tackle these problems?

Answer: The Employees Provident fund (EPF) and ETF (Employees Trust Fund) might yield this kind of information. The response rate from the private sector was extremely poor. One way of overcoming this problem was by setting the systems in place. A start could be made by looking at EPF registrations. The GNs were required to have a record of the private economic activities of the village. However, in most cases, they were not updated. Unless they valued this information, the situation was unlikely to change. Those were the main limitations faced.

➢   *Question*: Was information on underemployment collected?

Answer: There were various definitions of underemployment: the education and employment mismatch, salary mismatch. Though they were not defined as underemployment, all variables were collected. By collecting data on the number of employees in the informal sector, for instance, one would be able to gain some idea of underemployment in the informal sector.

3.5   Miscellaneous themes

➢   *Question:* Has the DCS effectively captured the number of **female-headed households**?

Answer: Yes. In all the Household Surveys conducted by DCS, households headed by females could be identified. The Census also

captured temporary residents of a household. The preliminary Census included a question, "usually resident but temporarily absent". If the head of the household was classified as a male but he came into this category, and was still absent when the final Census is carried out, then it was possible to ascertain whether the household is female headed, even if the male was identified by the household as the head.

> ➢ *Question:* Was the **Agricultural Census** limited to areas of less than one acre?

Answer: No, it was not limited. Areas greater than one acre was also included.

> ➢ *Question:* Have data on **household assets** been collected?

Answer: Apart from agricultural equipment, information about assets was not collected.

> ➢ *Question:* Did data on **migration** include foreign migration or was it limited to migration within the country?

Answer: Both types of migration data were collected.

> ➢ *Question:* There was a lack of micro data on **access to infrastructure**. Couldn't the different cells of the DCS collect it?

Answer: In relation to CBSL, there were discussions currently going on to add access to services such as post offices, telecommunication services. The next CFS might include these questions. The DCS did not collect this data.

DATA SETS AVAILABLE WITH DCS FOR POVERTY RESEARCH CENSUS OF POPULATION AND HOUSING -2001

- **Demographic characteristics**
  age, sex, relationship to head, religion, ethnicity, attending school/ educational institution etc.
- **Migration (4 questions)**
- **Speaking, reading and writing ability (Sinhala, English, Tamil)**
- **Labourforce information(5 questions)**
  occupation, industry, employment status and sector (public/ private), unemployment*
- **Fertility questions(3 questions)**
- **Physical and mental disability**
- **Housing information**
  material of construction (wall/ floor/ roof), number of rooms, toilet facilities, drinking water, type of lighting and cooking, tenure*

  This information is available for lower Administrative areas.

CENSUS OF AGRICULTURE - 2002

- **Agricultural operator**
  sex, age, level of education, household composition, *land owned, land operated etc.**
- **Crops cultivated**
  Agricultural equipment owned / used*
  two wheel tractor, four wheel tractor, sprayers, threshers, weeders, etc.*
- **Livestock**
- **Other**
  extent (%) of agricultural work done by household member,*
  major income from agricultural work or other sources*
  occupation other than agriculture*

  This information is available at lower Administrative areas.

QUARTERLY LABOUR FORCE SURVEY
Conducted since 1990 on quarterly basis

- **Demographic characteristics**
  sex, age, relationship to head, ethnic group, religion, marital status, education attainment, *attendance at school or other institutions, professional technical training**
- **Employment**
  occupation, industry, hours of work, public/ private sector, employment status, duration of employment, *employee earnings**
- **Unemployment**
  expected occupation*, lowest wage*, steps taken, duration, first time job seeker or not, *source of assistance**

Information available at Province level and limited information at District level annually.

HOUSEHOLD INCOME AND EXPENDITURE SURVEY
Conducted every 5 years – 1980/81, 19985/86, 1990/91, 1995/96, 2002

- **Demographic variables**
  relationship to head, sex, age, ethnic group, religion, level of education, marital status, usual activity,
- **Expenditure**
  daily consumption on food, drink and tobacco, household expenditure on housing, fuel and light, non-durable goods, services and consumer durables for main household
- **Income**
  income from paid employment, other cash receipts, income from non-agricultural, agricultural, other agricultural activities, income in kind
- **Agricultural activities**
  land cultivated, crops (major) cultivated, livestock, value of household consumption*

CHILD ACTIVITY SURVEY - 1999

- **Demographic information of all household members.**
    - ➤ *Information on activities of the children (belonging to the household) such as education, household work and economic activities etc.**
    - ➤ *Information on health and safety of the children who are engaged in economic activities.**
    - ➤ *Information on perceptions of the parent of the children who are engaged in economic activities.**
- **General labour force information of the household members.**
    - ➤ *Information to determine living standard of the household.**
    - Ø *Information on household income and expenditure.**

DEMOGRAPHIC AND HEALTH SURVEY - 2000

- Reproduction and Contraception
- *Health of children and mother**
- Marriage , Fertility preferences
- Husband's background and work
- AIDS and other sexually transmitted diseases
- *Length and weight measurements**

PRICE STATISTICS

- *Retail prices**
  200 food and non-food items are covered. Collected from main towns in the districts.*
  Collected monthly
- *Producer prices**
  80 food items are covered.*
  Information at DS level*

**Data sets are available for about 20 years
Colombo city prices - Annually**

HEALTH

based on hospital administrative records (quarterly)

Number treated in government hospitals on following diseases, by sex and age groups.

- *Diarrhoea*, Cholera*, Tuberculosis, Iron deficiency malnutrition*, Vitamin deficiencies**
- Mental retardation , Liver diseases , Skin diseases
- *Low birth weight**
- Poisoning

EDUCATIONAL STATISTICS

Based on annual school censuses conducted by statistics branch of Ministry of Human Resources Development, Education and Cultural Affairs

Repetition Rate - by grade, sex, medium of study, district
Dropout Rate - by grade, sex, medium of study, district
Proportion of pupils starting grade 1 who reach grade 5 - national level
Primary Gross Enrolment Rate - national level
Secondary Gross Enrolment Rate - national level
Primary Net Enrolment Rate - national level
Secondary Net Enrolment Rate - national level

VITAL STATISTICS
Based on administrative records

- Infant mortality rate
- Child mortality rate
- Maternal mortality rate
- Available upto Divisional Secretary Divisional level, annually.

EDUCATIONAL DATA

School Dropout Rate	Already available for 1990 - 1992, 1998 - 2003
School Repetition Rate	Already available for 1990 - 1992, 1998 - 2003
Proportion of students reaching grade 5	Can be calculated form 1990 - 2003
Gross Primary enrolment rate	Already available for 2001 and 2002 and can be calculated 2003
Gross Secondary enrolment rate	Already available for 2001 and 2002 and can be calculated 2003
Net Primary enrolment rate	Already available for 2001 and 2002 and can be calculated 2003
Net Secondary enrolment rate	Already available for 2001 and 2002 and can be calculated 2003

Poverty Related data Available in Sri Lanka

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
School Dropout Rate	Av.	Av.	Av.	-	-	-	-	-	Av.	Av.	Av.	Av.	Av.	Av.
School Repetition Rate	Av.	Av.	Av.	-	-	-	-	-	Av.	Av.	Av.	Av.	Av.	Av.
Proportion of students reaching grade	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Gross Primary enrolment rate	-	-	-	-	-	-	-	-	-	-	-	-	-	✓
Gross Secondary enrolment rate	-	-	-	-	-	-	-	-	-	-	-	-	-	✓
Net Primary enrolment rate	-	-	-	-	-	-	-	-	-	-	-	-	-	✓
Net Secondary enrolment rate	-	-	-	-	-	-	-	-	-	-	-	-	-	✓

Av. - Already available
✓ - Can be calculated
- - Not Available

Repetition Rate

Definition

Proportion of pupils from a cohort enrolled in a given grade at a given school-year who study in the same grade in the following year.

Type of disaggregation

This indicator is disaggregated by grade (from grade 1 to 10), by sex, by medium of study, by district and by province.

Dropout Rate

Definition

Proportion of pupils from a cohort enrolled in a given grade at a given school-year who dropout of the school system in the course of the year.

Type of disaggregation

This indicator is disaggregated by grade (from grade 1 to 10), by sex, by medium of study, by district and by province.

Proportion of pupils starting grade 1 who reach grade 5

Definition

The percentage of a cohort of pupils enrolled in grade 1 of the primary level of education in a given school year who is expected to reach grade 5.

Type of disaggregation

This indicator is calculated by national level only. It is possible to calculate it by geographical location, medium of study and gender. With the existing inter district/province migration for schooling in the Sri Lankan education system, this indicator may give a wrong picture of the actual situation.

Primary Gross Enrolment Rate

Definition

The total enrollment in the primary level of education, regardless of age, expressed as a percentage of the official primary school age population.

Type of disaggregation

This indicator is disaggregated by national level only. Because of inter district/province migration for schooling, district wise/province wise indicator gives an erroneous picture of the actual situation.

Secondary Gross Enrolment Rate

Definition

The total enrollment in the secondary level of education, regardless of age, expressed as a percentage of the official secondary school age population.

Type of disaggregation

This indicator is disaggregated by national level only. Because of inter district/province migration for schooling, district wise/province wise indicator gives an erroneous picture of the actual situation.

Primary Net Enrolment Rate

Definition

The total enrollment of the official age group for the primary level of education, expressed as a percentage of the official primary school age population.

Type of disaggregation

This indicator is disaggregated by national level only. Because of inter district/province migration for schooling, district wise/province wise indicator gives an erroneous picture of the actual situation.

Secondary Net Enrolment Rate

Definition

The total enrollment of the official age group for the secondary level of education, expressed as a percentage of the official secondary school age population.

Type of disaggregation

This indicator is disaggregated by national level only. Because of inter district/province migration for schooling, district wise/province wise indicator gives an erroneous picture of the actual situation.

2. Methodology at the Meso Level

Persistent Poverty: Long-Run Evidence from the Mahaweli Multi-Purpose Irrigated Settlement Project

Ranjit D. Wanigaratne and John R. Heath

Abstract

This paper reviews the evidence from repeated assessments of farm households located within Sri Lanka's Mahaweli scheme. It uses data from a formal 2004 survey to vindicate judgments based on a series of quicker, more limited assessments made over the previous twenty years. Concerns raised in the early 1980s about the likely economic stagnation of the irrigated program area have been fully borne out by more recent evidence, supporting the case for policymakers to make greater use of quick assessments to track poverty trends.

1.   The Mahaweli Iterative Assessment Method

The technique was developed by Thayer Scudder of the California Institute of Technology (CALTEC), beginning in 1956, with studies of the impact of large-scale river basin development projects in the tropics.[1] His early research in Africa examined how people adjust to the damming of rivers whose banks have been their ancestral homes and whose waters have provided much of their families' livelihoods. The research was subsequently expanded to a wide variety of large-scale development projects in Africa, the Middle East and Asia, including land settlement projects.

Since 1979, Scudder and Kapila Vimaladharma, a social anthropologist and a former Sri Lankan civil servant, have together studied settler households in the Mahaweli downstream programme, using the methods of participatory rural appraisal.[2] The studies addressed:

- the stress settlers face in being evacuated from their traditional home villages

- coping mechanisms which they evolve to overcome the initial trauma

- the impacts upon household resource allocation

- changing attitudes and relationships with the development bureaucracy managing the project

- their changing world view, and aspirations for the future

- trends in settler investment, income and employment seeking patterns

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[1]   Thayer Scudder (1981), p.9

[2]   The two-member team was expanded in the 1990-2001 (the 9th survey) period with the addition of Ranjit Wanigaratne, co-author of this paper

- the impacts of non-farm vs. farm sectors in providing the impetus for an overall economic take-off

- the impact on regional capital formation

- the overall impact on national policy making resulting from settlement of the dry zone.

The methodology used was evaluation based on repeated interviews. The purpose of this methodology was "…not to produce statistically significant correlations for academic publications, but rather, timely information for policy-makers, planners, and implementing officials… complementing them with large-scale surveys will provide more 'reliable' information, there is apt to be a major cost, in terms of prompt initiation of corrective action associated with its delayed receipt. Such delays suggest that a more cost-effective approach would be to improve methodologies based on repeated interviews with small samples…." (Scudder, 1994, mimeo).

This survey work had three main aims, all of which were met:

- To evaluate the impact of the Accelerated Mahaweli Development Programme (AMDP) on over 94,000 households settled in upstream and downstream locations

- To assess the implications of those impacts for realisation of major goals of the programme, employment generation, increases in production and productivity, raising living standards and regional development

- To report the findings to the relevant Sri Lankan government agencies and donors within a fortnight after completion of each field survey.[3]

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[3] Thayer Scudder (1994), *Monitoring a large-scale resettlement program with repeated household interviews* (mimeo)

To date nine surveys have been made, including two in 1979 and one each in 1980,1982,1983,1984,1985,1989[4] and 2001.

1.1   Sample characteristics

The sampling unit is the household. The households were carefully selected based on:

- household characteristics

- ethnicity and religion

- entrepreneurial skills

- gender of household head

- location in the irrigation layout (top, middle or tail-end).

The sample size increased from 19 settlers in the first survey (1979) to 50 in the ninth (2001). By 2001 repeated interviews had been held with 47 households from Systems B, C, and H. In addition, three households from the new System G scheme were interviewed for the first time.

Experience suggests that 30 is an adequate number of households for capturing a good picture of the main development issues, providing:

- a disproportionate number of "key informants" are included

- supplemental information is gathered from community interviews

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[4]   Between 1989 and 2001 the Mahaweli Authority of Sri Lanka (MASL) took on a more inward-looking and a defensive attitude towards independent policy-orientated empirical studies which it thought were becoming increasingly critical of the management's failure to steer the downstream settler economy towards economic take-off. The position began to thaw as MASL moved deeper into restructuring and there was closer public scrutiny of its activities.

- "dropouts" (owing to death, incapacitation or migration) are replaced by relatives or neighbours of a similar socioeconomic standing.

1.2   Instruments

The survey uses an interview guide - a check-list of items and issues that has been progressively refined over the last 25 years. This enables the team to trace lifetime changes in the composition and asset base of the household, plus changes in the broader economic environment. The duration of household interviews was between 60 and 90 minutes. The interview guide was based on findings from a series of formal surveys carried out by the Institute for Development Anthropology, for an AID-funded global evaluation of settlement projects that was launched in 1979.

Data from respondent interviews were backed up by direct observation of the household and the home-garden, observation of the community and commerce, discussions with farmer organisations, and officials from the Mahaweli Authority main offices.[5]

1.3   Presentation

During the fieldwork, findings were cross-checked with information from local Mahaweli officers (the resident project manager of each downstream system and his key subject-matter staff), in order to get a rounded view of the change process. Findings were organised under the sub-headings of a model report and entered into a laptop so that, as soon as the fieldwork was concluded, a first draft could be shared with

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[5]   A detailed methodological paper on the repeated interviews technique and its application in evaluating the Accelerated Mahaweli Programme has been presented before by Thayer Scudder (September, 1990) in Krishna Kumar (Ed.) , *Innovative, Low- Cost Data Collection Methods in Development Settings: International Case Studies.*

policy makers. Recommendations were fine-tuned on the basis of these discussions, which sometimes involved closed-door seminars with high officials. The final report was distributed via sponsor agencies, including the Mahaweli Authority.[6]

2.   Issues

There are perhaps two weaknesses with the approach taken. First, the sample included a disproportionate number of evacuees and wealthier settlers (Scudder, 1990: 5). Those displaced by dam building accounted for about 16% of the 94,322 re-settled but they made up 30% of the sample[7]. The proportion of affluent settlers at the time of their inclusion within the "repeated interview" sample of 48 households was about 35%. However, two large sample surveys (1992) done in System H (N=3,200 households) and Systems G and C (N=1,000 households) reveal that those who are at the highest rung of the economic ladder (that is, receiving a cash income of equal to and over 30,000 LKR per month) accounted for only 2% - 3% of the total population.[8] The position has undergone some change over the last 12 years up to 2004, accounting for about 6% in System C (in System G it languished at 2%) by 2001[9] and for about 9% in System C by 2004.[10] Because of this bias, the overall level of poverty in the Mahaweli may have been underestimated.

But Scudder and Vimaladharma argued that including a disproportionate number of the better-off made it possible to determine whether those with the means to do so actually invested in irrigated agriculture, and

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[6]   But the recommendations of the Scudder and Vimaladharma studies were largely unheeded by policymakers.

[7]   PMU/MASL (1999) *Mahaweli Statistical Handbook*, Table 7, p. 6.

[8]   PMU/MASL (1992) *Baseline Survey of Mahaweli System H, G and C* (mimeo).

[9]   EU, Mahaweli Consolidation Project (2001), *Baseline Socio-Economic Survey of Systems C, Zone 2 and G,* Table 4.5, p. 44

[10]   WB-OED (2004), *Sri Lanka Irrigated Farming Household Survey*. P.34.

the extent to which they contributed to broader economic development in the region.

Second, when the sample was initially selected an attempt was made to cover households of different ethnic and religious characteristics, and to take account of the different ways in which households secured access to the settlements. By the ninth survey these criteria were arguably of less relevance in explaining household differentiation than economic characteristics such as income and holding size.

Offsetting these limitations, the longitudinal nature of the survey made it possible to track welfare changes occurring over the life-cycle of a given household. By 2001, the generation which had figured prominently in previous surveys as key household decision-makers and income-earners was giving way to a second generation. The way that households respond to stresses at different phases of the life-cycle could be studied, in line with the work of Chayanov (1935) and Hagerstrand (1936).

3.   The 2004 Follow-up Survey

Building on the findings from the earlier assessments and using roughly the same instrument, the World Bank (Operations Evaluation Department OED) conducted a broader survey of Mahaweli households in 2004.

3.1   Preparation

Background information was taken from:

- World Bank project appraisal and completion documents
- official studies and statistical reports
- interviews with past project managers

- site visits and field interviews with farmers and Mahaweli staff. This took about three weeks.

It was possible to use this information to:

- identify project areas and population characteristics

- estimate the expected impact of the irrigation investment

- understand expectations about handover of the system to farmers

- isolate key assumptions and constraints.

3.2 Sample selection

A representative sample of 200 households from Mahaweli System C was selected, including farmers from the head, middle and tail sections of the irrigation network.

3.3 Questionnaire formulation

The questionnaire took into account qualitative as well as quantitative aspects of settler production and costs, irrigation management, farmer attitudes towards adoption of new technology and environment conservation aspects, farmer organisations and their participation in operation and management (O&M) of irrigation works and services they provide to the farmer community, household employment, incomes and living standards. A check-list used by Scudder and Vimaladharma to determine household assets and living standards was slightly modified to capture issues arising from the background data. This checklist was included in the formal questionnaire. The questionnaire was tested, revised and applied. This took about one month overall.

3.4　Data analysis and write-up

One further month was needed for data analysis and write up.

The entire study period, from initial preparations to the final submission of the draft report, extended from mid-January to the end of April, 2004.

4.　Findings

4.1　Land tenure and holding-size differentiation

By 2004 settlers in System C had spent on average 19 years in the scheme (Table 1).

But conditions vary between the various zones. Zone 1, which was set up in the 1950s, had the longest-established settlers, most of them second or third generation. Land is subject to formal inheritance rights as prescribed by laws governing state land alienations, as well as common law governing private lands (which were also incorporated in this zone). Also, informal customary rights have been used to accommodate later generations, operationally on paddy holdings overall, but with a larger proportion in dwelling units on unirrigated highland.

In Zones 3, 4, 5 and 6 (created under the Mahaweli Accelerated Programme) land falls under the same tenure regime, but the length of residency varies from 10 to 20 years and holding sizes are smaller. The small size of the highland fraction of holdings has reduced the capacity to house succeeding generations, leading to encroachment on public lands and movement of population into the more recently established zones (principally, Zones 5 and 6).

Table 1. Average residency in the home-lot and the mode of occupation

Location		Average residency	Mode of occupation* (% of Total HH)				
System C		(Years)	1	2	3	4	Total
Zone 1	(n = 40)	50	15	80	5	-	100
Zone 3	(n = 40)	20	77	13	10	-	100
Zone 4	(n = 60)	14	67	17	13	3	100
Zone 5	(n = 30)	11	57	7	33	3	100
Zone 6	(n = 30)	10	43	0	50	7	100
Total	(n = 200)	19	53	25	20	2	100

Source: OED Farm Survey 2004

Key:* Mode of Home-lot Occupation: 1- Original Settler; 2- Inherited; 3
– Purchased; 4- Other

The Operations Evaluation Department (OED) survey confirmed the shift from a uniform to a more mixed system of tenure over the past two decades. Scudder and others in the early 1980s found that most farmers were the original settlers, enjoying the same (secure but not freely-transferable) land rights. By 2004 there was much more evidence of informal sale and leasing; and also cases of outright encroachment upon vacant home-lots by the landless second generation (Table 1).

70% of holdings remain close to the one-hectare allotment initially provided to settlers.[11] Most settlers continue to till one-hectare holdings on their own, pursuing a subsistence-orientated existence that is challenged by rising production costs and low farm-gate prices. But there are signs of size differentiation. Holdings in Zone 1, the oldest area, are highly fragmented; those in more recently settled areas (Zones 3-6) show little fragmentation (Table 2). One-fifth to one-quarter of

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[11]   Water allocation was organized on a one hectare turn-out basis. Holdings smaller than this were considered incapable of providing a satisfactory level of livelihood from irrigated paddy, under a given level of technology use and yields, for a farm household of five persons--the norm that was used in deciding on the holding size.

Table 2. Owned Irrigated Holding Size Differentiation

Location	Item				Sample households reporting (%)					
					Holding size classes in hectares					
System C	Reference period	Age of Project (years)	House-hold sample	Average area al-ienated	<0.41	0.41 to 0.82	0.82 to 1.22	1.22 to 1.63	>1.63	All
Zone 1 (n = 40)	2004	50	40	1.48	12.5	35.0	42.5	-	10.0	100
Zone 3 (n = 40)	2004	12	40	1.00	-	-	90.0	-	10.0	100
Zone 4 (n = 60)	2004	11	60	1.00	-	-	70.0	3.3	26.7	100
Zone 5 (n = 30)	2004	10	30	1.00	-	3.3	83.3	-	13.4	100
Zone 6 (n = 30)	2004	8	30	1.00	-	13.3	66.7	-	20.0	100
Total (n = 200)	**2004**		**200**	**1.10**	**2.5**	**9.5**	**70.0**	**1.0**	**17.0**	**100**

Source: OED Farm Survey 2004

Notes: The higher average figures for "average age of residency" in table 1, *vis-à-vis* "Age of the Project" in table 2 is due to the advance alienation form of settlement that has been followed, whereby residents take up temporary residence in the re-settlement zone, receiving employment and participating in the construction phase of irrigation networks and other infrastructure works, land clearing and levelling. The age of the project is drawn from official sources taking the terminal date of completion of settlement

holdings in Zones 4 and 6 are well above one hectare, indicating active buying-up or leasing-in of land, on an informal basis. Accumulation of land is associated with enterprising second-generation settlers with earnings from work in the armed forces, local government, commerce and factories, as well as work abroad.

The incidence of land purchasing ranged from 5% in the older non-MASL managed Zone 1 to as much as 50% in Zone 6, with an average of 20% across all study zones. In addition, occupation and claims of

ownership by those who have encroached upon or have been informally accommodated by regular settlers ranged between 3% and 7% in Zones 4 to 6.

Zones 5 and 6 were affected for almost two decades by ethnic strife, leading many settlers to move to safer areas. In the late 1990s the drying up of investment in irrigation system stabilisation and land levelling also pushed people to sell up. Many settlers drawn from among the landless in the wet zone moved back to their former homes. Others were simply attracted by the prospect of better employment elsewhere.

All of the respondents of the study sample from System C locations claimed that they had formal and legally contestable claims to the lands they occupied in land permits of various forms, land grant deeds, or in the form of duly signed and attested notes in land mortgages and leases. The current position as reported by respondents was the same five years ago according to an appendix table in the OED survey report. Yet, it is noted in official records of the System C project office that, in the Mahaweli System C, some of the lands have been informally sold or illegally occupied without formal titles to land. Fear of being expelled from land they illegally occupy may lead settlers to claim they have formal title when they do not. Table 3 attempts to adjust for this.

Table 3. Possession of formal titles to state lands occupation (% of total in each location)

Locations		Reported position on secure titles to occupied land (% of hhs)	Incidence of officially unacceptable title claims (% of hhs)	Adjusted position of secure titles (% of sample hhs.)
System C	**(n = 200)**	**100**	**25**	**75**
Zone 1	(n = 40)	100	5	95
Zone 3	(n = 40)	100	10	90
Zone 4	(n = 60)	100	16	84
Zone 5	(n = 30)	100	36	64
Zone 6	(n = 30)	100	57	43

Source: OED Farm Survey 2004

Informal leasing arrangements more than doubled between 2000 and 2004 (Table 4). Most leasing-out involves land mortgages while leasing-in is usually based upon a fixed-produce share cum cash-lease arrangement (*Vi Poronduwa*).[12] Households that lease out often do so in exchange for a cash payment that is needed to meet an exceptional, large expense (wedding, funeral, medical treatment). Most of the households who lease out are short of the family labour needed to cultivate paddy: for example, in the case of households headed by females or of elderly settlers. The transactions are usually valid for a season or two, with renewal by mutual agreement. Bonds of friendship and trust built up between the owners of the lands and those who lease-in through *Vi-Poronduwa* tend to reduce possibilities for new entrants.

Table 4. Percentage of Households Involved in Informal Land Leasing

Location		Average residency	Households involved in land leasing as a % of total sample households				
System C		(Years)	Leasing-in		Leasing-out		Total
Reported reference years			2004	2000	2004	2000	
Zone 1	(n = 40)	41	15	2	12	5	100
Zone 3	(n = 40)	20	17	7	0	0	100
Zone 4	(n = 60)	14	28	8	7	4	100
Zone 5	(n = 30)	11	7	0	8	2	100
Zone 6	(n = 30)	10	13	4	8	4	100
All	(n = 200)	19	21	6	9	3	100
Total number of cases			**42**	**11**	**19**	**7**	

Source: OED Farm Survey 2004

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[12] Under the *vi poronduwa* arrangement an agreement is made at times on a promissory note between the owner and the investor-user to provide 50 to 60 bushels (2.5 to 3 MT) of threshed and cleaned paddy to the owner for the right to cultivate the land, with those doing the cultivation bearing the full cost of production. Usually a small cash loan of about 2,000 LKR or more is paid to the owner, generally deducted from his fixed produce share. The *vi poronduwa* appears to be a tenure arrangement evolved from a combination of produce-share and cash-share tenancies.

Notes: Transactions-in and–out involve informal cash-driven land leases, mortgages, and sales to fixed produce share-cum- cash share transactions (*vi poronduwa*) and produce share arrangements (*ande*) --- with the *ande* form largely surviving in some locations in Zone 1.

Those who lease-in range from enterprising second generation settlers with cash savings to relatively well-off farmers who own two-wheel and four-wheel tractors who also have linkages with millers, transporters and input suppliers. These entrepreneurs usually operate several hectares and seem able to bear the high transaction costs of managing land parcels scattered over one or more settlement zones.[13]

Table 5. System C: Settler household two-season paddy production and paddy income characteristics (2003/2004)

Loca-tion	2-season culti-vated extent (ha.)	2-season pro-duction (kg.)	Aver-age season yield (kg/ha.)	Amount sold (kg.)	Mar-keted sur-plus (%)	Gross returns (LKR/year)	Cash returns (LKR./year)
Zone 1	1.84	7,767	4,221	6,638	85.5	94,603	82,448
Zone 3	1.99	9,426	4,737	8,733	92.6	100,917	82,642
Zone 4	2.53	11,222	4,436	9,472	84.4	125,730	106,272
Zone 5	2.05	9,163	4,470	7,640	83.6	109,421	91,646
Zone 6	0.95	4,242	4,465	3,117	73.5	45,390	33,372
ALL	1.98	8,974	4,532	7,529	83.9	102,793	86,830

Source: OED Farm Survey 2004

Notes: **/1** Net Cash returns = Cash income minus cash production costs

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[13]   The study by Wanigaratne and Vimaladharma (2001) demonstrates from a cost of production-net returns and reinvestment analysis that beyond 1 hectare paddy production becomes quite profitable, if the initial investment is backed by self-ownership of a tractor or ready access to a machine on a low rental.

4.2   Income disparities by zone

Paddy accounts for 99% of household income. Despite the sluggish growth in paddy yields, low farm-gate prices and increasing input costs, farmers prefer to avoid the risks associated with diversifying into other crops. Table 5 shows the production of paddy and returns to cash investment. The gross return was 2.03 LKR per rupee of production cost. The irrigation system design in System C and the overuse of water to grow paddy for over two decades (about 44 seasons) have possibly created soil and other conditions that do not lend themselves to the cultivation of other field crops. The need to squeeze the second-generation landless on to highland reservations has also reduced the area available for grazing. Stall-fed rearing of cattle and fish farming remains embryonic, and is not encouraged by existing programs of technical assistance.

Zone 4 is relatively privileged. In 2004 it had:

- an above-average cultivated area

- the highest output per household (though its average yield was 2% less than the System average)

- returns from sale of paddy that were 22% above the average. Zone 4 households also recorded the highest on-farm share (83.1%) of household income (Table 6).

Table 6. Distribution of average annual household gross income /1 by sub-sectors

System C	On-farm		Off-farm		Non-farm		Total	
	LKR	%	LKR	%	LKR	%	LKR	%
Zone 1	94,603	71.1	4,000	3.0	34,410	25.9	133,013	100
Zone 3	100,913	67.4	12,395	8.3	36,465	24.3	149,773	100
Zone 4	125,730	83.1	6,745	4.5	18,785	12.4	151,260	100
Zone 5	109,421	71.6	5,107	3.3	38,400	25.1	152,928	100
Zone 6 /2	45,390	78.2	1,933	3.3	10,767	18.5	58,090	100
Total	102,793	75.1	6,958	5.1	27,185	19.8	136,936	100

Source: OED Farm Survey

Notes: **/1 - Gross Income:** The total of cash income from sale of produce, wages, rentals, profits from all sources + imputed value of produce retained for consumption and seed + cash incomes from off-farm and non-farm sources.

/2 - The **Average Annual Net Cash Income** (cash income minus cash production costs) for Zone 6 was 24,422 LKR or 2,035 LKR per month, which placed most of its farmer households at an infra-subsistence poverty state.

The pre-eminence of Zone 4 is based on the scale of production, the well developed irrigation system, the relatively good water supply, well-functioning farmer organisations, the higher distribution of more appropriate terrain and soil conditions for paddy, and the close proximity to the administrative and service centre at Dehiattakandiya town, with its input and marketing services. Farmers in Zone 4 were less inclined to seek off-farm and non-farm income sources to supplement earnings from farming. At the other extreme, farm incomes in Zone 6 were lower (reflecting irrigation network defects and the lack of appropriate land levelling), particularly for those at the middle-to-lower end of the system. Gross income was only 44% of the system average. This may explain why this zone has the highest proportion of farmers who have informally purchased their holdings (Table 1). Discouraged by low returns, many of the original settlers appear to have sold up. The "settlement stress" in Zone 6 was commented on by Scudder in 1994.

The marketed surplus in paddy was uniformly high in System C (Table 7). This might suggest that this is a highly commercial operation. But more in-depth household record-keeping surveys done before in Mahaweli areas (Siriwardena: 1987), coupled with life-cycle case studies (Wanigaratne and Vimaladharma:2001), indicate that about 60% of paddy is sold to cover the cost of unforeseen contingencies: many of these "distress" sales occur immediately after the harvest when prices are at their lowest.

4.3   Income from outside farming

In all zones, most of the income earned outside the family farm came from non-farm rather than off-farm sources, that is, from sources outside the locality rather than from wages received from hiring out labour to neighbouring farms. Possibly the local farming economy does not generate much widespread demand for wage-labour and other services throughout the year, in view of the seasonal effects of its evolved paddy-paddy system. The non-farm sector development has been more marked in its relative share of the farm household income in recent years, principally because of a lack of diversification of the local agricultural economy.

Non-farm income was quite significant in the composition of household gross income, accounting for about 20% (Table 6). In Zones 1 and 3 which were adjacent to the Mahiyanganaya urban centre, the non-farm sub-sector accounted for 26% and 24%, respectively. Non-farm sources similarly accounted for a 25% share of the gross household income in Zone 5, which was closer to Dehiattakandiya, planned town centre of System C. The scale of production, the value of its lands, and the higher scale production and higher household incomes derived in Zone 4 have tended to keep its farmer household population in paddy as a profitable and a viable enterprise, discouraging a shift into non-farm sources for improvement of employment and income prospects.

Zone 6, in contrast, recorded both the lowest total average gross income and the lowest non-farm sector share among the different zones. This indicated a high incidence of infra-subsistence poverty. This was also reflected in issues related to the land-base discussed before. This zone has been relegated to the lowest developed area within the system, offering lower overall opportunities and showing more pronounced manifestations of poverty than the others. The situation is exacerbated by the transitory nature of settlement. The zone suffers from hidden land sales, movement of settlers back to their original home villages, low productive lands and lower private investment in land by its residents. Some people seek land mainly to obtain title security, rather than to develop the lands in an intensive way. Failings in the irrigation system and land levelling activity have added to the zone's problems.

4.4   Savings constraint

Net cash income is a reliable indicator of the capacity of a household to cater to its consumption needs and to save. An average farm household in the 2004 sample received a net cash income of about 63,000 LKR per year (Table 7). Averaging the results of two surveys conducted in System C in 2001 provided a consumption cost of about 52,000 LKR. Assuming a price inflationary increase of about 6% over the ensuing three year period places the consumption cost at 55,215 LKR by 2004. On a *ceteris paribus* assumption, the share of the net disposable income (net cash income minus consumption) available for savings and re-investment is estimated to be about 12% of the net cash income (that is, 7, 562 LKR per year) received by the average household.[14] On this account, Zone 6 recorded the lowest average net disposable figure of 2,931 LKR per year indicating a critical shortage of surplus cash supplies at household levels available for savings and re-investment.

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[14]   Based upon a crude estimate, the net disposable income was computed by deducting the estimated Average Annual Household Consumption Cost of 55,215 LKR(at 2004 prices) from the Net Cash Income of 63,017LKR received by an average farmer household in System C during the survey period. (2003/2004).

Table 7. Farmer household incomes in System C zones (all sources) (2003-04 cultivation year)

System C	Gross Income (LKR)	Net-Cash Income (LKR)	Total Cash Cost (LKR)	% Share of Paddy Cost of Production in Total Cash Cost	Subsistence Orientation	
					Net Cash Income as a % of Gross Income	Marketed Surplus
All	136,936	63,017	54,476	88.0	47.3	83.9
Zone 1	133,013	92,066	50,987	89.9	53.1	85.5
Zone 3	149,773	89,091	61,175	75.5	52.9	92.6
Zone 4	151,260	56,162	77,270	91.2	36.6	84.4
Zone 5	152,928	73,653	61,500	94.5	48.2	83.6
Zone 6	58,090	24,422	21,450	88.8	42.0	73.5

Source: World Bank/OED, 2004

Notes: **Gross Income:** The total of cash income from sale of produce, wages, rentals, profits, and imputed values of produce retained for consumption and seed.

Net Cash Income: Cash income from sale of produce, wages, rentals, profits minus cash costs.

Marketed Surplus: Quantity of produce sold as a % of total produced.

On this basis it appears the majority of settler families in Zone 6 witnessed critical cash constraints affecting household consumption of purchased food and other living needs.

4.5 Income distribution

Table 8 shows that 19% of the households in System C exist below the margin of subsistence (considered by the present study to be about 60,000 LKR per year), with 2% in abject poverty (annual cash income of below 18,000 LKR). The poor comprise encroacher families and younger

second-generation settlers who have only received small home-plots to construct homes, those with an active household labour force confined to the male head of household, those beset by drunkenness and apathy, households afflicted by disability and chronic sickness, and households headed by aged single men or women, or households headed by women with very young children.

Table 8. Percentage distribution of farmer households by cash income categories in   System C during the cultivation year 2003-04

Locations	Distribution of farmer households in select-ed income Categories (%)						TOTAL
	(LKR/ Year)						(%)
System C	< 18,000	18,000 – 24,000	> 24,000 – 60,000	> 60,000 – 120,000	> 120,000 - 240,000	> 24,000 – 60,000	
Zone 1	0	2	20	48	13	[17]	100
Zone 3	0	0	5	50	30	[15]	100
Zone 4	3	0	4	48	40	[5]	100
Zone 5	3	0	4	52	24	[17]	100
Zone 6	7	13	65	15	0	[0]	100
ALL	**2**	**2**	**15**	**41**	**22**	**[9]**	**100**

Source: OED Farm Survey 2004

*Note*: The median nominal cash income was 94,750 LKR.

About one-half of the farm families in System C receive an income that is roughly comparable to urban middle income groups.[15]   But these farmers are a long way from being the self-reliant, commercially-minded entrepreneurs that the Mahaweli programme initially aimed to promote.

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[15]   On average farmers in System C were better off than a widely-scattered sample of farmers on smaller irrigation schemes outside the Mahaweli that were also surveyed by OED in 2004 (beneficiaries of the National Irrigation Rehabilitation Project).

Table 9 and Chart 1 show that cash incomes received by farm households in System C more than doubled over a five-year period between 1989-90 and 1994-95, to reach a peak, but have since then followed a fluctuating downward trend in constant 1995 LKR. While the on-farm share of the total cash income has fallen, the slack has been taken up by non-farm sources, particularly since 2000.

Chart 1

Annual Cash Income Trends, Systems C
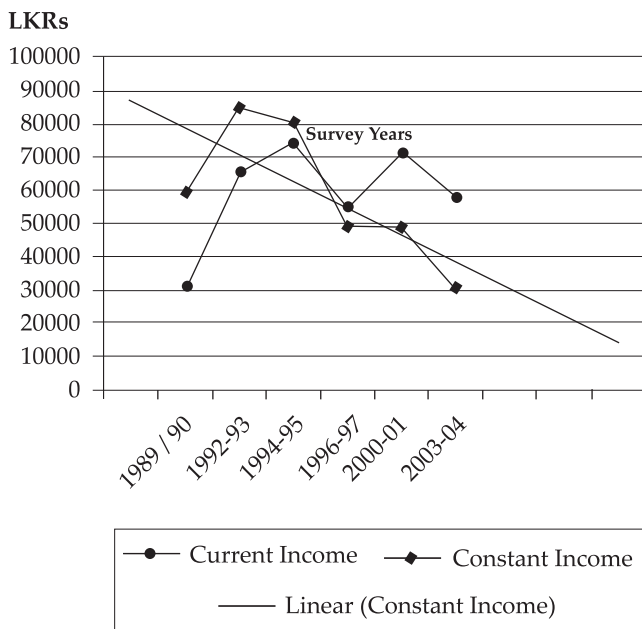
Table 9. System C: Temporal variation in net cash incomes over past fifteen years

Survey period	Net cash income per household per year		Share from		
			On-Farm	Off-Farm	Non-Farm
	Current LKR.	Constant 1995 LKR.	%	%	%
1989-90 /a	31,164	58,800	76.9	5.3	17.8
1992-93 /a	64,966	84,371	83.3	4.2	12.5
1994-95 /a /1	71,890	78,141	80.5	1.8	17.7
1994-95 /a /2	73,940	80,369	79.2	4.3	16.5
1996-97 /a	54,648	48,792	82.3	3.4	14.3
2000-01 /a	71,208	48,441	43.0	11.8	45.2
2003-04 /b	63,017	30,213	58.5	6.9	34.6

Sources: **a/**.Wanigaratne and Vimaladharma, 2001, Table 11,p.83; **b/** OED Farm Survey, 2004

Notes: **Annual net cash incomes** (Cash receipts from farm +off-farm + non-farm minus cash production costs) per household was 63,103 LKR (5,258 LKR /month) which placed an average System C settler household within the urban lower middle to poor class income earner category, with an average household size of five persons.

/1 & /2 : The average of /1 and /1 survey based prices underlying net cash incomes was considered as the basal value for computing 1995 constant prices based net cash income computations for preceding and subsequent years.

On-farm: Income from paddy and other field crops.

Off-farm: Income from wages from working as farm labour, rental charges for equipment/ machines and farm land.

Non-farm: All other income sources, including wages earned outside agriculture.

Table 10 shows that the modest changes in holding-size differentiation referred to earlier are mirrored in the absence of any clear trend toward income concentration. The bottom 40% of households has become slightly better-off since the early 1990s while the better-off have been treading water. This reflects the absence of development dynamism that Scudder and his colleagues predicted over 20 years ago.

Table 10. Temporal changes in the distribution of total cash income among settler households in System C

Income deciles	System C (Percentage shares of total cash income)			
	2003-04 /1	2000-01 /2	1996-97 /3	1991-92 /4
1	2.3	1.5	2.7	1.7
2	4.2	3.2	3.4	3.4
3	5.7	4.5	4.7	4.7
4	6.7	5.5	6.8	5.4
5	7.4	7.0	8.5	6.8
6	8.8	8.7	10.6	8.8
7	10.2	0.7	11.0	10.9
8	12.7	12.8	15.6	13.9
9	16.4	16.4	16.9	17.9
10	25.8	28.8	19.8	26.6
ALL	100.0	100.0	100.0	100.0
Share of Lowest 40%	18.9	14.7	18.6	15.2
Share of Highest 10%	25.8	28.8	19.8	26.6
Share of Highest 20%	42.2	45.2	36.7	44.5
Median Income				
(LKR. /Year)	94,750	71,208	44,556	21,720

Sources:
1. OED, Farm Survey 2004
2. MCP, Baseline Socio-Economic Survey on System G, 2001, processed data
3. PMU/MASL-PMHE, Baseline Socio-economic Survey, System C, 1997, Table.52, p.203.
4. PMU/MASL Survey on Settler Ability to Pay O&M Charges, System C, 1991, Table 8, p. 6.

In the Mahaweli, income trends for the poorest were slightly better than for the poorest 20% of households in nationwide household surveys (Table 11).

Table 11. Total cash income distribution in System C compared with the national income distribution (by selected deciles)

Years	Share of lowest 50%	Share of highest 20%
National		
1953	20.9	53.8
1963	19.3	52.3
1973	26.7	42.9
1978/79	23.3	48.9
1981/82	21.6	52.0
1990/91	21.2	51.3
1995/96	19.5	54.5
Mahaweli		
System C		
1991-92	22.0	44.5
1996-97	27.1	36.7
2000-01	21.7	45.2
2003-04	25.3	42.2

*Sources***:** OED Farm Survey, 2004

4.6   Life-cycle poverty considerations

Sen (1985:49) has noted that poverty is a life-cycle phenomenon. Households may move in and out of poverty owing to variations in income and assets over the course of a lifetime. Farm families witness significant gains and losses in income and consumption because of changes in the family labour-consumer ratio (Chayanov, 1966). A young farm family with a shortage of income-earners relative to consumers, witnesses shortfalls in income and consumption, keeping family members in poverty. As children come of age and become income earners, family income and consumption rises, and the family moves out of poverty. Subsequently as children marry and move out, the residual

family unit (parents and under-aged unemployed children) may once again witness a declining income, pushing them back into poverty. Unless savings are accumulated during periods of prosperity, or income flows into the family from members who have moved away, those left behind will remain poor.

Thus, over its life span, a poor or near-poor family may witness both short-term movements within a continuum of poverty of the sort described above, as well as long term in and out movements from poverty, with shifts in the family labour-consumer ratio and accompanying shifts in access to income sources. The Agrarian Research and Training Institute (ARTI) case studies of poor households of the Jansaviya Programme (Wanigaratne and Senanayaka (1990); and Scudder and Vimaladharma (1984,1985) and Wanigaratne and Vimaladharma (2001) repeat surveys of the Mahaweli, provide a tentative view of individual households which have witnessed such movements in and out of poverty over the course of a lifetime.

This paper has not disaggregated the existing data by the stage in the household lifecycle occupied by the respondents. Breaking down the data in this way would help shed light on how best to tail poverty interventions to the needs of the different generations. Ideally, this is achieved through longitudinal studies.

Nevertheless, a tentative disaggregation was made in identifying the age interval 21 to 35 years to be representative of the bulk of the second generation young and mature adult household heads among the 200 sample households. In terms of income the households headed by the second generation were weakly placed in all study Zones of System C with the exception of Zone six (See Table 12, below).

Table 12: System C: Income position of second generation headed households

Zone	Sample hh	Average net cash income (LKR/ Year)	First generation headed hh sample	Adjusted average net cash income (LKR/ Year)	Second generation (21-35 years) headed HH	Average net cash income (LKR/ Year)	Difference from adjusted zonal average
1	40	92,066	34	76,519	6 (15%)	39,375	-48%
3	40	89,091	35	92,197	5 (12%)	67,350	-27%
4	60	56,162	49	55,075	11 (18%)	42,768	-22%
5	30	73,653	27	74,564	3 (10%)	65,458	-12%
6	30	24,422	20	21,180	10 (33%)	34,905	65%
TOTAL	**200**	**63,017**	**155**	**69,642**	**35 (17%) /1**	**45,414**	**-35%**

Source: OED Farm Survey 2004

*Note: /***1 -** As a percentage of total sample population

Zone 6 recorded the lowest position among study zones in terms of average net cash income received by all farm households in general, and by households headed by second generation in particular. The average two-season cultivated extent in Zone 6 at 0.95 ha. was also 45% below the average (2.1 ha.) for all other zones (Table 5, page 9). This was attributed by the OED study to a (a) high incidence of irrigation defects, which affected on-farm water distribution and management, particularly in the middle-tail-end areas of the Zone, and (b) to a high incidence of informal *land* mortgages, cash leases, *vi poronduwa* arrangements and sales. The informal transactions are usually associated with fractions of one hectare land parcels let/sold by their owners in a cumulative way, season after season, until the entire holding is affected.

The two-season production of paddy in Zone 6 was also 55% lower than the average of other zones, even while its farmer households retained a marketable surplus of about 74%. This, perhaps combined with high-

distress sales, manifested within small paddy production, is likely to affect the food intake and nutrition of farmer households in this zone. The labour-consumer ratio among the second generation households in this zone at 1:1.11 was almost double (85%) the average for the rest of the study zones (1: 0.60). Pressures placed upon such households to sell more of what little they produce to gain some cash is high.

About 26% of the household labour force in this zone had moved out of home locations - the highest incidence among new zones of the Mahaweli System C. The principal purpose of out-movement is to seek employment in garment factories, other industries, services, including the armed forces, and as seasonal hired labour. In this setting off and non-farm sectors account for about 28% of the total cash incomes received by farm households. Among the second generation households of the zone, the percentage of households with members moving out of home locations to work in factories and service sectors outside of System C is less at 12%. This is off-set by seasonal job seeking within the home zone and in adjacent zones.

Thus, within the kind of overall subsistence-maintaining economy associated with the paddy mono-crop, Zone 6 was ranked the poorest among the zones, in terms of total agricultural output, as well as average farm household income. However, the second generation households in Zone 6 appear to have emerged above the zonal and System C average net cash incomes through a combination of:

- high labour drudgery in working their lands, which were adversely affected by defects in the irrigation system

- seeking hired labour opportunities in the home zone and in adjacent zones of System C

- high incidence of informal leasing, mortgaging and sale of portions, or the entirety, of their irrigated lands

- distress sales of the relatively small volume of paddy produced by them, probably at a high social cost.

5.   Conclusions

This paper has shown that successive investments in System C of the Mahaweli irrigation scheme have failed to boost incomes and employment from irrigated agriculture, with a limited multiplier effect on ancillary services in the locality and rising dependence on income from outside the Mahaweli.

Faced with this dilemma, policymakers may respond in one of three ways:

- *Accept the farming status quo (rice monoculture) and work on boosting paddy yields while trying to improve the incentive framework for rice cultivation.* This initiative would be similar to the late 1960s Special Projects scheme which revamped research and extension services, farmer organizations and boosted production and new technology use in 22 major irrigation schemes, which headed a national food production and production modernisation. In principle, the Mahaweli has the infrastructure for such an initiative to prosper within an emergent policy context of rural and agrarian development-led growth.

- *Diversify the farm economy, introducing higher-margin crops and livestock.* Various initiatives of this type have already been tried out over the years in the Mahaweli but have so far failed to shift the farming system away from monoculture. Diversification is the best way to increase the employment multiplier for the local economy. But it may be that the skills required are too sophisticated, and the risks are too great for the average smallholder to adopt a more diversified agriculture.

However, skills can be revamped and risks can be reduced through promotion of more market-linked and value-added scale-production strategies, such as area specialisation of crops, which hitherto have only been tried out on localised and experimental scale.

- *Leave the existing farm economy alone, focusing on providing health care, schooling, vocational skill development, business promotion centres, partly better to equip settlers to move out of the sector (and locality).* This would be consistent with the increasing share of household income accounted for by sources outside the Mahaweli. This policy of benign neglect of agriculture could be accompanied by interventions targeted at the poorest groups (for example, the older settlers, who stand to benefit more from introduction of a non-contributory pension scheme [as already practiced in rural Brazil and in a slightly contributory way in Sri Lanka] than they would from agriculture interventions)

However, an aspect which cannot be ignored is that the large investment which has been made into the infrastructure base in promoting the farm economy would be wasted. The scale of investment in Mahaweli development, and the social responsibility to those settled in the Mahaweli, dictate that where edaphic conditions favour the rice monocrop, rice needs to be made more productive. Nevertheless, the highland areas more suited for ground-water-fed high-value crop and livestock farming need more research and development than they get at present.

Whatever approach is taken there will be a continuing need to monitor poverty trends emerging from the subsistence-maintaining agricultural production system that has evolved in the Mahaweli. The method of rapid iterative assessment

practised in the Mahaweli could be extended. The base for such monitoring and evaluation has been already established by the Scudder sample and OED and other surveys in the Mahaweli System C, and comparable recent surveys on comparable indicators conducted in other areas of the Mahaweli. Therefore, two choices are proposed:

- A continuance of the Scudder methodology in the Mahaweli areas (and introducing it to a sample of other major irrigated schemes) with an additional short questionnaire to elicit important quantitative data that have been collected through the OED survey and other formal surveys, as a relatively low-cost and rapid policy-oriented research information collection strategy;

A continuance of the Scudder methodology as a rapid policy-oriented research information collection strategy. This could provide the qualitative information needed to complement quantitative information elicited from a similar small, but statistically valid sample, within the Mahaweli System (drawn from the OED survey and other recent surveys done elsewhere in the Mahaweli system on a comparable set of indicators), and for other irrigated settlement schemes.

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Vulnerability-Poverty Profile: A Useful Tool for Poverty Interventions Management in the North East Province

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Abstract

A considerable inflow of funds and development resources is coming to the North East Province (NEP) to support conflict-affected and impoverished villages and communities. To allocate these funds efficiently it is necessary to plan, identify and monitor poverty interventions using reliable poverty data. In the NEP, access to this data is still a problem. This paper will demonstrate that the Vulnerability-Poverty Profile (VPP) is a simple, pragmatic and useful tool for poverty intervention management in the NEP.

The VPP was initially developed by German Technical Cooperation-Integrated Food Support Programme (GTZ-IFSP) Trincomalee in 2000 covering all villages in the district. During the phasing out of this programme, the North East Provincial Administration recommended that an organisation be set up within the NEP that would disseminate the best practices of this and other projects. The North East Provincial Council (NEC) was particularly interested in the VPP as a best practice and recommended that it be expanded to the other districts. It was recognised that poverty research tools like the VPP could contribute to better assessment and management of poverty interventions in the whole of the NEP. The Centre for Information Resource Management (CIRM) reviewed the VPP, as it was used by IFSP, with a view to making it suitable for different key stakeholders in the NEP and for the broader geographical context.

The VPP provides detailed information about the poverty level of a village and should be regarded as a tool to plan and assess poverty interventions. The VPP does not measure the poverty level of individual villagers or families. It enables a comparison of poverty levels of villages within a district. The framework of the VPP is based on the conceptual understanding of poverty as a multidimensional phenomenon. Poverty is seen as a deprivation of a person's capabilities in a number of dimensions. Four dimensions reflect the poverty level of a village: economic, health, education and vulnerability. The dimensions are measured by nine indicators through a survey questionnaire with 61 questions. After analysing the data the villages are ranked into five codes of poverty.

CIRM suggests a few ways of using the VPP for assessing the impact of poverty interventions, either by comparing poverty levels or poverty dimensions at the indicator and sub-indicator level. The raw data can also be compared. CIRM does not yet have experience of these methods of impact assessment. At the moment we are at the development stage of using the VPP as an impact assessment tool.

1. Introduction

In the war-torn North East province (NEP), a large population is living in poverty. Government institutions, non-government organisations, international agencies and donor-supported projects are implementing interventions to alleviate the poverty of the people. This brings a considerable inflow of funding and development resources to the NEP that has to be allocated in the most efficient way to achieve the highest outcome possible.

This paper will demonstrate that the **Vulnerability - Poverty Profile (VPP)**[1], implemented by the Centre for Information and Resource Management (CIRM), is a simple and useful tool for managing poverty interventions in the NEP. The VPP provides information for development planning and impact assessment. Deficiencies in existing knowledge levels do not have to be an impediment to making effective use of the VPP. A grass-root-level officer/social worker can easily understand and use the VPP.

1.1 Background and Rationale

Managing poverty interventions requires reliable data. For every organisation or project that is involved in development work, it is important to have reliable data to develop a plan/concept and strategies for poverty interventions. The target group and the area of intervention should be selected on the basis of the data. Interventions need to be fine-tuned towards intended impacts during the course of the project and at the end of the project the impact must be evaluated. Reliable data is necessary to assess the impact of the interventions. Many organisations and institutions in the NEP are weak in project management and in evaluating and assessing the impact of their poverty interventions. It is,

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[1]   The Vulnerability-Poverty Profile is based on the Village Data Sheets developed by the Integrated Food Security Project (IFSP) implemented by GTZ in the Trincomalee district in 2000-2003.

therefore, important to have simple but effective tools to plan and design poverty interventions and to assess their impacts.

The availability of poverty data covering the whole north east is limited. In the NEP access to reliable data is still a major problem. The existing national data on poverty does not include data for the whole NEP. The Household Income and Expenditure Survey 2002/2003 conducted in the NEP covered the three districts in the east except for a few isolated Grama Nildharai (GN) division. In the north[2] about 60% of the housing units were covered. The survey has chosen a monetary approach that concentrated on household and income data and did not cover the multiple dimensions of poverty. CIRM has chosen the capabilities approach that sees poverty as a deprivation of person´s capabilities in a number of dimensions.

Most of the research conducted by local or foreign projects or organisations does not cover the data of the whole of the NEP. It often only involves a limited area like a few selected divisions in a district. Added to that is the fact that the different research activities ask different kinds of questions, focus on their special programme aspects. This makes it very hard to compare the impacts of poverty interventions in the NEP.

2.   The VPP: Importance and Objectives

The VPP delivers data to plan and assess poverty interventions in the NEP. VPP provides detailed information about the poverty level of a village. The profile should be regarded as a tool to plan and assess poverty interventions and not as a tool to determine who is poor and

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[2]   In Jaffna all divisions were covered except four; in Vavuniya all divisions were covered except one; in Mannar one out of the five divisions was covered. The districts of Kilinochchi and Mullaitivu were not covered. The Survey was conducted by the Department of Census and Statistics.

why a particular family or person is poor. It enables a comparison of the relative vulnerability/poverty level of villages within a district.

The VPP is already available for Trincomalee district and is now at the stage of being developed for the whole of the NEP. The research is being done for every village in every district in the NEP in the same way.

2.1 Initial experiences with the VPP

The VPP was initially developed by the GTZ-IFSP Trincomalee in 2000 covering all villages in the district. To facilitate the selection process of villages for IFSP support, the project needed more detailed village-level information to determine the poverty situation in each village and to rank the villages according to their specific poverty situation.

The VPP allowed GTZ-IFSP to target conflict-affected communities without having to consider perceptions of ethnic entitlements, spatial interest or political dominance. It became a tool for dialogue on development priorities with government institutions, non-government organisations, projects, agencies and the LTTE (Liberation Tigers of Tamil Eelam). The focus of the project, food insecurity, determined the choice for the three dimensions: conflict affectedness, food insecurity and inadequate social services. With help from officers from government and non-government institutions, a questionnaire was drafted to obtain poverty-related data at village level.

The VPP was not designed for impact monitoring but it also served that purpose in the IFSP project. It was used as a quantitative monitoring tool giving a broader overview of the changes in poverty/vulnerability level in all IFSP intervention villages in the Trincomalee district. Complementary to this effort, the project also did qualitative impact monitoring using a different method.

During the phasing out period of IFSP, the North East Provincial Administration recommended the establishment of an organisation within the NEP that would disseminate the best practices of IFSP and other projects. The NEPC was particularly interested in the VPP, as one of the best practices, and recommended that it be expanded to the other districts. It was recognised that poverty research like the VPP could contribute to better management and assessment of poverty interventions in the whole of the NEP. The provincial administration acknowledges the VPP as an NEP planning and impact assessment tool.

2.2   The current VPP

As the IFSP project was focussed on food insecurity, which determined the choice of the dimensions, CIRM found it necessary to review the VPP to make it suitable for different key stakeholders in the NEP and in the broader geographical context. The dimensions and indicators were reviewed and the questionnaire was adjusted. IFSP initially developed the VPP to facilitate the selection process of villages for project support. During the review of the VPP, CIRM kept in mind that the VPP should be a suitable tool for planning *and* impact assessment of poverty interventions.

After evaluating the VPP, CIRM set the following objectives for the present VPP:

- provide an overview of the nature and scope or range of poverty in the NEP

- provide baseline data for monitoring of project interventions

- facilitate planning /decision-making on the nature of transition, rehabilitation and development interventions

- facilitate transparent decision-making

- enable identification of villages for transition, rehabilitation and development interventions

- reasonable allocation of aid resources

The VPP is intended for agencies and donor funded projects orientated toward rehabilitation and basic development, whose activities are focused on, for example, (re)construction of basic infrastructure (irrigation, roads, and houses), promoting small-scale business and income-generation and resettlement and support for displaced people. The VPP can also be very useful as a planning and monitoring tool for the provincial and district administrations within the NEP[3], so that they are in a better position to address decisions on poverty intervention management, monitor the impact of these interventions and to guide new donor-supported projects and their governmental and non-governmental institutions. The Divisional and District Planning Secretariats and the Provincial Planning Secretariat can also use the VPP. A first step towards getting government officers involved is allowing for the data collection for the VPP to be done with the support of the Samurdhi Development officers, as enumerators. The District Planning Secretariat coordinates the data collection and does a first error check. By involving government officers in the VPP activities they get experience of collecting data and gain knowledge about the nature of the collected data. Their involvement will create ownership and it will lead to intensive use, proper maintenance and continuous updating of VPP.

3. The Conceptual and Technical Framework of the VPP

The objectives, purpose, (potential) users, and the method of data collection of the VPP influence its conceptual orientation / framework and the degree of complexity that can be measured.

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[3] A focus point of CIRM is to improve the capabilities of the institutions and organisations in the NEP in planning, coordinating and monitoring development activities.

3.1   Poverty as a multidimensional phenomenon

The framework of the VPP is based on the conceptual understanding of poverty as a multidimensional phenomenon. Definitions of poverty have changed over the last two decades. The definition that has gained general acceptance is that poverty is seen as a deprivation of a person's capabilities in a number of dimensions (Gunewardena 2004). This definition is used in the VPP.

3.2   Choice of dimensions

When it comes to defining the multiple dimensions of deprivation many different concepts have been developed. Four dimensions were chosen after taking account of these concepts and assessing which dimensions were most relevant to basic poverty interventions and monitoring activities in the special context of the NEP. These four poverty dimensions together determine the poverty code of a village. The dimensions are each captured by indicators as shown in the table below.

Table 1. Dimensions and indicators in the VPP

	Dimension	**Indicator**
1	Economic	Infrastructure Livelihood (agriculture, fisheries, employment)
2	Health	Health services Water and sanitation
3	Education	Educational services Education level
4	Vulnerability	Food security Conflict effects Social vulnerability

Economic:
This dimension includes the livelihood patterns and basic infrastructure conditions of the village. It covers opportunities of production and employment (single and multiple income sources) and access to basic economic infrastructure such as electricity and roads.

Health:
This dimension includes the availability and the degree of access to health services such as maternity clinics and dispensaries. It covers the condition of water and sanitation of households by considering aspects of access to safe drinking water and sanitation facilities.

Education:
This dimension includes the availability of and access to basic education by measuring availability of and accessibility to pre-school and primary school. It also covers school dropout rates.

Vulnerability:
The dimension of vulnerability is receiving more attention in poverty research, for example, by the World Bank (2001). In the VPP vulnerability is defined as exposure of people to sudden changes or continuous occurrence of an event in their environment or society such as war, epidemic outbreak, or drought. This causes a short-term shock or long-term deterioration and takes a long time to return to normal life. It includes the number of war widows and orphans, the number of times displacement happened in the village, the duration of displacement of the villagers and the number of families with less than three meals a day.

Socio-cultural (social status, dignity, discrimination, gender, ethnic, caste) and political (powerlessness, voicelessness) dimensions are increasingly used in poverty research but are not incorporated in the VPP. To measure these indicators a combination of participatory methods and national surveys using qualitative variables would be

required (Gunewardena 2004). Surveys like the VPP, implemented in a very broad geographic area with a big number of enumerators will not be effective in bringing out qualitative information on complex political and socio-cultural data.

3.3 Method of analysis

The VPP defines poverty with four dimensions, which are measured by nine indicators through a questionnaire. A few questions are not considered in the calculation; they only provide background information on the village, for example, ethnic composition and the presence of an Internally Displaced Person (IDP) welfare centre in the village.

For the VPP, we use composite indices, which impose weights by data itself rather than using weights estimated from people's choices. The dimensions and indicators in the VPP are composite indices, constructed by combining separate indices that are calculated with the theoretical framework - HDI (Human Development Index) method.

For example,

$$\text{index for connectivity (time taken to reach a town from a village)} = \frac{\text{Actual value} - \text{Minimum value}}{\text{Maximum value} - \text{Minimum value}}$$

The minimum and maximum values are the minimum and maximum values for the particular index in the district. The four dimensions (composite indices) are then cubed to enlarge the difference between them. The cubic root of the outcome is taken.

$$\sqrt[3]{(\text{Dimension 1})^3 + (\text{Dimension 2})^3 + (\text{Dimension 3})^3 + (\text{Dimension 4})^3}$$

The outcome is the absolute poverty level of the particular village. The villages are then ranked according to their poverty level. The top 20-percentile of the villages will go into code 5 (poorest); the next 20-percentile will go into poverty code 4 and so on. Poverty code 1 would contain the 20-percentile least poor villages. The poverty code for the village gives information on the relative poverty of the village compared to the other villages in the district.

3.4 From data collection to report

The data collection for the VPP is done with the support of the Samurdhi Development officers, as enumerators, in the villages. They receive an intensive training on how to obtain the relevant data and how to fill the questionnaire. After a plausibility check of the data it is entered into a relational database and then coded and processed in SPSS[4]. The report[5] contains the poverty profile for every village in a district in which the data for a village will appear in one sheet[6].

For every district to continue to update (collect new data) the VPP in future, the knowledge has to be passed on to relevant officers working in the districts. This is done by involving the Samurdhi Development Officers in collecting the data. In the Trincomalee district, CIRM trained Samurdhi Development Managers and Rural Development Officers who now can train the Samurdhi Development Officers and can coordinate the VPP research activities with the district-planning secretariat. CIRM can help the districts with the update, analysing the data if necessary.

It has to be taken into consideration that the number of villages can change over time. The experience of IFSP suggests that the VPP should be conducted in the whole district every three years.

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[4]   SPSS (Statistical Package for Social Science) is a statistical analysis tool.

[5]   Annex 2 contains a table and charts that show the outcome of the VPP for Batticaloa district. VPP data can be combined with GIS; we put an example of the IFSP VPP for Trincomalee district in annex 2.

[6]   Annex 4 shows an example of this sheet.

4.   The VPP as a Simple Tool for Assessing Poverty Interventions

The VPP provides an extensive range of poverty data for a whole district. This means that poverty interventions can be targeted precisely on those areas and those people which need them most. This same extensive range of poverty data can be used to monitor the impact of poverty interventions by carrying out the VPP surveys, during and at the end of a project. The results can be compared with the initial baseline data. This section will discuss the VPP as an impact assessment tool.

IFSP used the VPP as a quantitative impact assessment tool in addition to the qualitative methods. In 2000, they implemented the VPP in all 584 villages of the Trincomalee district as their baseline study. In 2003, only the intervention villages of IFSP (170) were assessed. For the baseline study and the impact assessment the method of analysis that was used was the poverty ranking of all the villages in the district by taking into account certain indicators and dimensions. The changes occurred during the period between 2000 and 2003 were entered in the database and then the new poverty code was calculated, which could be compared with the poverty code from the baseline study. The result of this method of impact assessment was acceptable.

4.1   Potential applications of the current VPP for impact assessment

When CIRM reviewed the VPP developed by IFSP, the method of impact assessment was also reconsidered. CIRM suggests several ways of doing an impact assessment using the current VPP. Impact assessment can be done by comparing the poverty level or the poverty dimensions or even the indicators and the raw data.

- *Compare the poverty level, after implementing the VPP in all villages of the district*
  Comparison of poverty levels at different time intervals is a method of assessing the impacts of poverty interventions. After implementing the VPP in all the villages the poverty level is compared with the level from the baseline study.

- *Compare the poverty level after implementing the VPP in only a few villages of the district*
  It is possible to implement the VPP in only a few villages and still be able to compare the poverty levels. When calculating the poverty level it is assumed that the data for the other villages stayed the same. The poverty level is then compared with the level from the baseline study. This impact assessment method would be practicable for organisations or projects that mostly select a few villages for their programmes. When the impact assessment is done only in a few villages the poverty ranking of all the villages in the district is no longer known.

- *Compare the poverty dimensions and indicators*
  Changes/impacts in each dimension and indicator can be assessed independently. This is practicable and it will be useful in assessing programmatic and sector interventions. This method can be used after the VPP is implemented in all villages or after it is implemented in a few villages. If the VPP is implemented in only a few villages then the considerations mentioned about comparing the poverty levels after implementation of the VPP in a few villages, should be noted.

- *Compare the raw data*
  Changes can also be assessed by comparing the raw data: for example, the number of families who cannot afford to have three meals a day and the time it takes villagers to travel to the nearest town, dispensary or primary school.

At this moment CIRM is implementing the VPP in every district in the NEP. This will be the baseline study, which can be used for impact assessment in future. CIRM has no experience yet of the above-mentioned methods of impact assessment. At the moment, we are at the stage of further developing our concept for using the VPP as an impact assessment tool.

5.   Strengths and Limitations of the VPP

CIRM has extensive experience of implementing the VPP as a planning tool. The experience in using the VPP as an impact assessment tool is based on the IFSP project in Trincomalee district. These experiences bring out a few strengths and limitations:

- The VPP captures most of the basic **data of poverty**.

- The VPP is a **simple and yet effective methodology** to identify and monitor/assess poverty interventions. Poverty data is translated into easily understandable and usable information for decision-making in poverty intervention management.

- It allows villages to be selected for support without regard to perceptions of ethnic entitlements, spatial interest or political dominance.

- The **loss of information** due to generalisation can be **minimised**.

- To develop a VPP for a whole district **takes a considerable amount of time but it is well manageable and quick to administer**. Repetitive activities like data entry and training of enumerators are time-consuming activities. Because the research is partly founded on existing structures, it is manageable and regular updating will be easier.

- The VPP does not have data on every household. It has **data related to families** present in the village.

- For the **impact assessment** the VPP baseline study provides data. The IFSP faced the problem of attribution when using the VPP as a baseline for the impact assessment of their development activities. The problem was addressed by using qualitative impact assessment methods complementary to the impact assessment of the VPP. This solved the problem of attribution.

- The VPP provides **fairly exact data but can still contain errors**. Each step in the development process of the VPP bears the possibility for misunderstandings and incorrect recording. We provide intensive training and verify data carefully but errors will ocur.

- The **comparability to national poverty data is limited** because a national reference is not available for every indicator. The concept, procedures and process of the VPP and the time/period of survey do not support the comparison with national poverty data.

- The VPP assumes that there will be **no drastic changes** in the context of the NEP.

- The extent to which **practices and processes in the context of the NEP** influence the daily life of people is **included to a limited extent** in the VPP. For example, the difficulties caused to people by the presence of armed forces.

6.   Conclusion

The VPP has proved to be a simple and useful tool to plan and assess poverty interventions in the NEP. It provides detailed information about the poverty level of a village. This enables a comparison of absolute poverty levels of different villages within a district and the relative poverty code of different villages within a district.

The VPP is now being implemented in the whole of the NEP and will be completed by the middle of 2005. Data has been collected in five out of the eight districts in the NEP, namely the districts of Batticaloa, Vavuniya, Mannar, Kilinochchi and Trincomalee. In total 2642 villages were covered. For the districts of Batticaloa, Vavuniya and Mannar draft reports have been published which will be finalised in January. The reports for Kilinochchi and Trincomalee will follow in the months of February and March.

The provincial administration has acknowledged the VPP as an NEP planning tool. The major donor funded projects like, NECORD (North East Community Restoration and Development Project, funded by ADB) and NEIAP (North East Irrigated Agriculture Project, funded by World Bank), have also incorporated the VPP as their planning tool.

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Annex 1

## Tables and charts on VPP Batticaloa district

S No	D S Division	No. of GN Division	No. of Villages	Poverty Code					No of Villages within povert code 4&5	Families presently not residing
				1	2	3	4	5		
1	Manmunai West (Vavunativu)	24	95	0	11	27	31	26	57	1
2	Koralai Pattu South (Kiran)	17	71	3	7	9	16	36	52	0
3	Porativu Pattu (Vellavely)	43	104	10	23	21	30	20	50	3
4	Eravur Pattu (Chenkalady)	35	104	14	28	20	27	15	42	0
5	Koralaipattu North (Vaharai)	16	49	0	1	9	17	22	39	0
6	Manmunai South West (Paddipalai)	24	39	0	5	14	7	13	20	2
7	Koralaipattu Central (Valaichchenai)	10	11	5	2	1	0	3	3	0
8	Manmunai (Arayampathi)	27	29	9	9	8	2	1	3	0
9	Koralipattu (Valaichchenai)	12	22	7	6	7	1	1	2	0
10	Manmunai North	48	66	38	20	6	2	0	2	3
11	Manmunai south Eruvilpattu (Kaluwanchik)	45	49	21	14	12	2	0	2	0
12	Kattankudi	18	18	15	2	0	1	0	1	0
13	Eravur Town	17	17	10	4	3	0	0	0	0
14	Koralaipattu West (Oddamavadi)	8	8	4	4	0	0	0	0	0

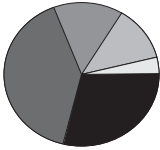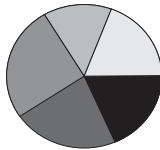| No	DS Division	No. of GN Diviosn	No. of Villages	Poverty Code					No. of villages within poverty code 4 & 5	Families presently not residing
				1	2	3	4	5		
1	Manmunai West (Vavunaitivu)	24	95	0	11	27	31	26	57	1
2	Koralaipattu South (Kiran)	17	71	3	7	9	16	36	52	0
3	Porativu Pattu (Vellavely)	43	104	10	23	21	30	20	50	3
4	Eravur Pattu (Chenkalady)	35	104	14	28	20	27	15	42	0
5	Koralaipattu North (Vaharai)	16	49	0	1	9	17	22	39	0
6	Manmunai South West	24	39	0	5	14	7	13	20	2
7	Koralaipattu Central (Valaichchenai)	10	11	5	2	1	0	3	3	0
8	Manmunaipattu (Arayanpathy)	27	29	9	9	8	2	1	3	0
9	Koralaipattu (Valaichchenai)	12	22	7	6	7	1	1	2	0
10	Manmunai North (Baticaloa)	48	66	38	20	6	2	0	2	3
11	Manmunai South Eruvilpattu (Kalawanchik)	45	49	21	14	12	2	0	2	0
12	Kattankudy	18	18	15	2	0	1	0	1	0
13	Eravur Town	17	17	10	4	3	0	0	0	0
14	Koralaipattu West (Oddamavadi)	8	8	4	4	0	0	0	0	0
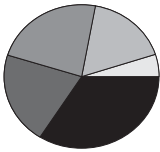
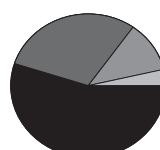Chenkalady
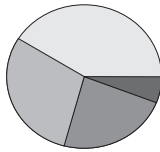
Eravur Town
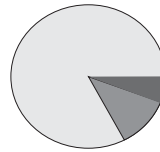
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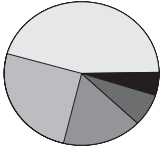
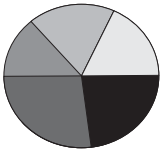Batticaloa
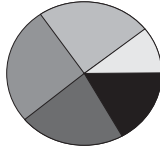
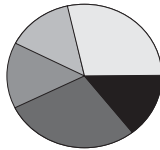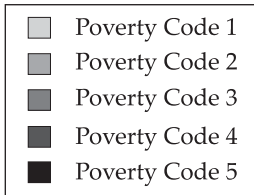Vavunaitivu
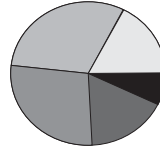
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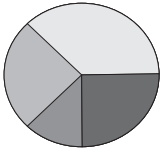
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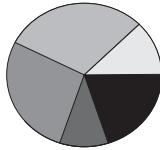
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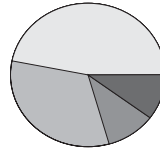
Kaluwanchikudy

Vaharai

Vellavely

Kiran

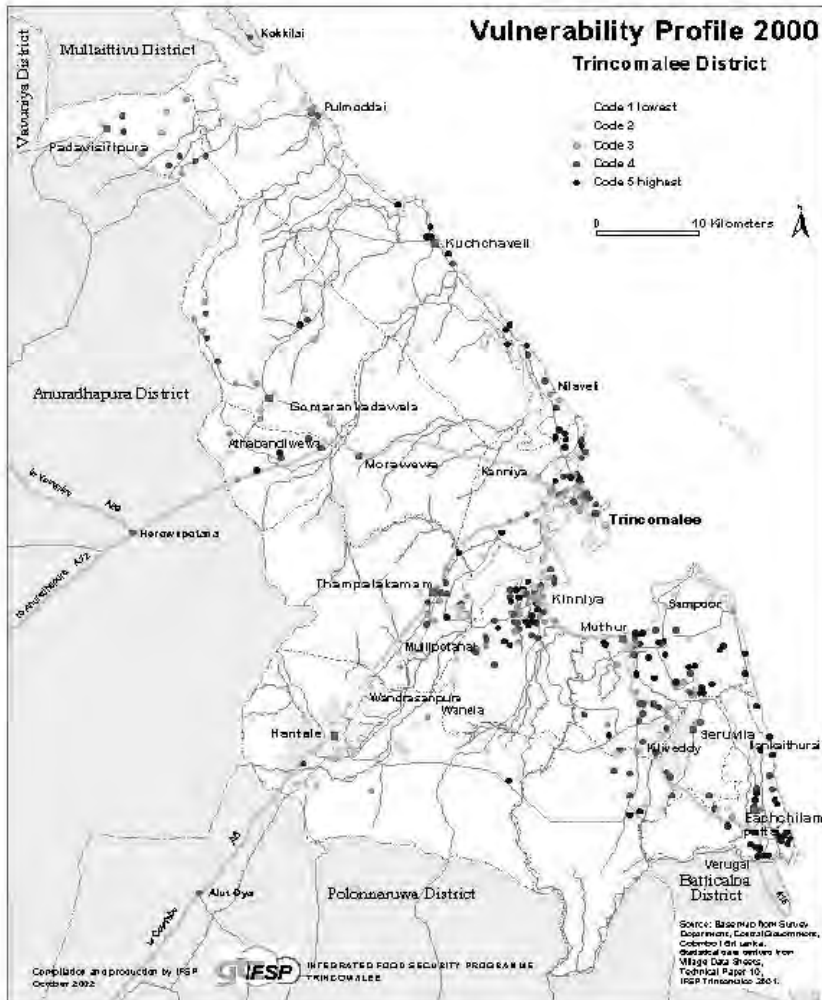Valaichchenai

Koralaipattu Central

Poverty Code 1
Poverty Code 2
Poverty Code 3
Poverty Code 4
Poverty Code 5

Annex 2

Vulnerability Profile 2000
Trincomalee District

Vulnerability- Poverty Profile Village Sheet

Poverty level	
Poverty code	
Poverty rank	

DSDivision	
GNDivision	
Village	

GENERAL VILLAGE INFORMATION
Total population	
Families	
Tamil families	
Muslim families	
Sinhala families	

VULNERABILITY
Village data
Women headed households	
Orphans	
Children employed	
Dependent families	
Directly affected by war	
Year of main displacement	
Displaced families	
Year of main resettlement	
Resettled families	
IDP families in the village	
Less than 3 meals a day	
Receiving food stamp	
Receiving dry ration	

EMPLOYMENT SITUATION
Contract labour / employees
Paddy cultivators	
Highland cultivators	
Livestock farmers	
Fishermen	
Lagoon fishing	
Inland fishing	
Unskilled wage labourers	
Skilled wage labourers	
Entrepreneurs	
Employee (govt / private / self)	
Employed abroad	

LIVING CONDITIONS
Housing condition
Permanent house	
Temporary shelter /	
partly damaged houses	
Electricity availability	

SUMMARY POVERTY INDICATORS
Food insecurity	
Conflicts effects	
Social vulnerability	
Infrastructure	
Livelihood	
Educational service	
Educational level	
Access to health service	
Water and sanitation	

POVERTY DIMENSIONS
Vulnerability	
Economics	
Education	
Health	

AGRICULTURE / FOOD PRODUCTION (acres
Summary agricultural information
Total cultivable paddy area	
Cultivable paddy area accessible	
Presently cultivated paddy area	
Total cultivable highland area	
Accessible highland area	
Presently cultivated highland	

WATER AND SANITATION
Village drinking water / toilets
Functioning private wells	
Common wells (drinkable)	
Common wells (Saline water)	
Families use pipe borne water	
Families use mobile water supply	
Private toilets	

EDUCATION FACILITIES
Village schools
Primary schools functioning	☐
If no, nearest distance (km)	
Time for travel (min)	
Nursery schools functioning	☐
If no, nearest distance (km)	
Time for travel (min)	
No. of school drop-out	

HEALTH SERVICES
Summary health and nutrition
Mobile health services available	☐
If no, nearest distance (km)	
Time for travel (min)	
Distance to nearest	
functioning Govt. dispensary	
Time for travel (min)	

Remarks:

Data collection : July 2004
CIRM Village Database

🏛 **District Planning Secretariat**
Batticaloa

CIRM
CENTRE FOR INFORMATION
RESOURCES MANAGEMENT

3. Methodology at the Micro Level

Using Value Chain Analysis to Map Impacts of Agriculture Sector Development on Small Scale Poor Farming Households

By the Intermediate Technology Development Group (ITDG) - South Asia, Colombo, Sri Lanka

Abstract

This research project is part of a larger programme being undertaken by the Intermediate Development Technology Group (ITDG) to investigate transformations in the agriculture sector, and to examine impacts on rural communities and the wider possible implications for poverty and food security. This research focuses on a specific, but significant, group which has traditionally played an important role in food security in Sri Lanka: home-based women paddy processors. We identified Global Value Chain Analysis, developed by the Institute of Development Studies-United Kingdom (IDS-UK) for the International Development Research Centre (IDRC), as an appropriate methodology for investigating how changes in paddy and rice production and marketing have impacted on women's processing, and the implications for household food security. Application of value chain concepts and tools outside research communities is rare. For a development organisation, value chain analysis proved effective in bridging the gap between researcher, practitioner and target group generating participatory and practice-orientated research. The experience of using value chain analysis revealed the possibility of wider application of the methodology into areas of social mobilisation, advocacy & communication activities as well as participatory impact assessments.

1. Introduction

During 2003-4 ITDG-South Asia coordinated a regional research project funded by the International Development Research Centre (IDRC)[1]. *Value chain analysis methodology* was applied to investigate the impacts of technological innovations in the rice sector on income-earning opportunities and food security of small-scale paddy farming communities, especially women, in the context of increasing liberalisation and commercial production, processing and marketing.

In an earlier IDRC-funded study conducted by ITDG on the dairy and cashew sectors in Sri Lanka, ITDG experimented with applying value chain concepts to gain a better understanding of market structures in these sectors and the constraints and opportunities of small-producers and processors.[2] This initial experiment in using value chain analysis showed it to be a versatile tool for investigating economic and social dimensions of production markets.

As a development organisation that also does research we were interested in further exploring the potential of value chain analysis methodology as a practical, participatory research tool that could be used by researchers and development practitioners. We were interested in how participatory value chain analysis methodology could be used to engage target groups (in this case women paddy processors) in the research process and, thus, at once provide a more balanced exchange of information between the researcher and the researched, and provide a more empowering research process. For these reasons, we selected value chain analysis methodology to conduct the regional research project.

ITDG is an organisation engaged in participatory development and is constantly seeking ways to ensure that its development activities

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[1]   www.idrc.ca

[2]   ITDG-South Asia, 2001, *The Impact of Globalisation on Women Home Based Workers in Food Processing Sub-Sectors in South Asia*, Colombo, Sri Lanka.

are based on the real expressed needs of poor and marginalised communities. Participation, especially of the most marginalised, is fundamental to our approach and essential for the effective identification of needs, project planning and implementation and impact assessment. Towards this end, this research experience was also used to assess the potential for application of participatory value chain analysis methods in other aspects of development projects and programming.

This paper presents the experience of using this relatively new tool for research and discusses potential application of participatory value chain analysis for impact assessment in particular.

1.1 Scope of this paper

In line with the focus of the CEPA 5th Annual Symposium on Poverty Research, this paper focuses on the application and relevance of the *value chain analysis methodology* adopted in the research project and on how value chain analysis methods were applied. It presents lessons and recommendations on the utility of value chain analysis methodology.

This paper does not dwell on the broader research findings and recommendations, except to illustrate observations, lessons or recommendations regarding the methodology. However, a brief overview of the research context and aims is provided to familiarise the reader with the research topic to which the methodology was applied.[3]

1.2 A brief overview of the research project

This is a regional research project, and studies were conducted in Bangladesh, India, Pakistan and Sri Lanka. The research focuses on a specific, but significant group which has traditionally played an important role in food security in South Asia: home-based women food

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3   A full set of research reports is available from ITDG-South Asia. Please see Footnote 1 for references.

processors. Specifically, the research investigates women's changing roles in paddy-rice sectors and implications for incomes and food security.

Rice is an important food and export crop in South Asia. Paddy cultivation and processing formed the backbone of traditional food systems, which were integrated with cultivating, collecting, rearing and fishing other foods. From ancient times, women and men shared cultivation, but women have been responsible for most post-harvest activities, including processing of paddy, alongside processing and preparation of other foods.

Agricultural policies in south Asia have focused on adoption of new technology, mechanisation and commercialisation of paddy-rice sectors at all levels ie production, harvesting, processing and marketing. While this has resulted in higher production levels and a reduction in rice imports, not enough attention has been paid to the implications of mechanisation, modernisation and commercialisation for livelihoods and food security of the people traditionally involved in small-scale paddy production and processing. In particular, there is a dearth of information on how these trends associated with globalisation impact on women's roles in paddy-rice sectors and implications for and food and income security at household levels.[4]

1.2.1 Research aims

- Investigate how paddy-rice production and marketing chains are governed and the participation of women in these chains.

- Demonstrate how changed status of women in paddy-rice chains impacts on household food security.

- Identify development strategies and formulate policy recommendations that are favourable to women processors.

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[4] coordinated by ITDG-South Asia on *The Impact of Globalisation on Women Home Based Workers in Food Processing Sub-Sectors in South Asia*, analysing the role and status of women in a variety of food processing sub-sectors in Bangladesh, India, Nepal, Pakistan and Sri Lanka. The report is available from ITDG-South Asia.

- Identify forums to share research outcomes for future influencing and advocacy

- Investigate the relevance and application of 'value chain analysis' in development research and practice.

2. Introduction to value chain methodology

In simple terms, a value chain *…describes the full range of activities that are required to bring a product from its conception, through its design, its sourced raw materials and intermediate inputs, its marketing, its distribution and its support to the final consumer. In other words, the chain can be seen as incorporating production, exchange, distribution and consumption - from the cradle to the grave of a given product or service.* [5]

Box 1: Why use value chain analysis?

- Value chain analysis helps to show what different players put in and get out and who are the winners and losers in the chain. It can help to explain the distribution of benefits, in income terms, or working conditions, job security etc. This makes it easier to identify the policies that can be implemented to enable individual producers and countries to increase their share of these gains.

- Value chain analysis focuses on the dynamics of inter-linkages especially the way in which enterprises/producers and countries are (globally) integrated.

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[5] Kaplinsky, R., & Morris, M., 2001, *A Handbook for Value Chain Research*, Institute of Development Studies, UK.http://www.eldisorg/cf/search/disp/docdisplay.cfm?doc=DOC11836&resource=flglob or www.ids.ac.uk/ids/global/pdfs/VchNov01.pdf

> - Value chain analysis is a way to deal with dynamic linkages between sectors, including between formal and informal sectors.
>
> - Value chain also allows for an easy uncovering of the dynamic flow of economic, organisational and coercive activities between producers within different sectors even on a global scale.
>
> - Value chain analysis is particularly useful for new producers, including poor producers and poor countries, which are trying to enter (global) markets.
>
> - Value chain analysis is a useful analytical tool for understanding the policy environment.
>
> - Value chain mapping allows each producer/enterprise to determine who else's behaviour plays an important role in its success.

Source: Extracted & adapted from Kaplinsky, R., & Morris, M., 2001, A Handbook for Value Chain Research, Institute of Development Studies, UK.

The study of market chains in establishing demand and supply levels is an established method for deciding production volumes and promotional strategies in the commercial sector. But the multidimensional and multistakeholder perspectives in value chain methodology offer wider and deeper prospects of investigation in social science research and value chain analysis is a tool that can be used for both economic and social analysis. See Box 1 for full benefits of the method.

This study used as its methodology guide value chain concepts and tools developed by the Institute of Development Studies (IDS) in the UK under its Global Value Chain Initiative.[6] Under this initiative, value chain concepts are applied in the study of economic development

in the context of global systems. The aim of the IDS Initiative is to *…develop more effective tools for policymakers and activists seeking to alleviate poverty through sustainable industrial upgrading and employment creation*[7]. Research studies include applications of global value chain concepts in analysing governance of global markets, identifying winners and losers, and investigating strategies and opportunities for gain in production markets for specific groups.[8]

Application of value chain concepts and tools outside the academic research community is increasing and there is a growing body of research using value chain analysis methodologies to investigate economic development issues, in the context of globalisation-poverty debates and in identifying opportunities for increased participation and benefits in global markets, particularly of marginalised groups. For example, WIEGO (Women in Informal Employment Globalising and Organising) have been mapping global commodity chains to analyse who is doing and getting what at each stage of the chains. HIVOS have recently launched an online forum to share case studies on analysing the rice chain in Asia with the aim of improving the position of small-scale rice farmers and labourers.[9] In Sri Lanka, the Ceylon Chamber of Commerce (CCC) and the Sri Lanka-German Private Sector Promotion Project (PSP) of GTZ recently initiated a "Pilot Study on Value Chain Approach to Improve Linkages between Exporters and Rural Producers" in Sri Lanka providing sector analysis and recommendations for the spice, fruit and vegetable sectors.[10]

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[6]   www.ids.ac.uk/globalvaluechains/

[7]   www.ids.ac.uk/globalvaluechains/about/index.html

[8]   See www.ids.ac.uk/globalvaluechains/publications/index.html for a list of relevant publications

[9]   http://www.dgroups.org/groups/hivos/ppp-rice/index.cfm

[10]   CCC-PSP-GTZ, 2003, *Value Chain Approach to Improve Linkages between Exporters and Rural Producers – A Pilot study on Selected Agricultural Products*, Series project Documents No.4.

3. Application of value chain analysis in the regional research project

Value chain analysis was a new tool to most of the participating researchers. It was important to ensure that each researcher had a good understanding of value chain concepts and tools, but was also given the flexibility to experiment with the method.

In developing the methodology, initially we consulted *A Handbook for Global Value Chain Research*, prepared by Raphael Kaplinsky and Mike Morris for the IDRC, which we distilled into Guidance Notes, selecting the concepts and tools from the Handbook that we felt were most relevant to our research objectives.[11] The Guidance Notes were shared and discussed with the collaborating regional researchers.

Having agreed on the broad research aims and objectives and having become familiar with the methodology, each country research team then developed terms of reference which outlined the scope and method to be adopted in their study. This necessarily differed from country to country according to different contexts, priorities and resources. In general terms however, each study comprised a literature review combined with application of value chain analysis methodology to investigate paddy-rice chains, focusing on women's roles and status. To greater and lesser extents, the studies also investigated implications for household food security, by combining value chain analysis with household level food security surveys. In all countries this involved field investigations in selected communities.

To maximise experimentation and lesson-learning about the methodology, the research was designed to allow flexibility in application of value chain concepts and tools across the countries and researchers. However,

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[11]   Kaplinsky, R., & Morris, M., 2001, *A Handbook for Value Chain Research*, Institute of Development Studies, UK. http://www.eldis.org/cfsearch/disp/docdisplay.cfm?doc= DOC11836&resource=flglob or www.ids.ac.ukids/global/pdfs/VchNov01.pdf

to ensure that feedback and analysis on the methodology was achieved, the following steps were set out:

- Introduction and familiarisation on value chain analysis methodology.

- Regular reporting from researchers to include methodology issues.

- Project end feedback on experiences on the application and relevance of the methodology included in final research reports.

- Analysis by ITDG of feedback to study different ways in which the methodology was applied in the studies, types of knowledge generated and issues arising.

- Sharing this analysis with researchers to continue dialogue.

- Discussions internally in ITDG with project staff on relevance of value chain concepts and tools to project and programme work.

Because each country adapted and applied value chain methods in different ways it is not possible to describe a single research method process adopted by every country. However, in general, small-scale, home-based women paddy processors were our entry point to paddy-rice chains.

All the studies began with a literature review followed by field level investigations. In Pakistan and Sri Lanka investigations were conducted in two different types of community. Two villages were selected in the rice belt of Pakistan; one where the landholdings were small and farmers/households grew paddy mostly for their domestic consumption. Livelihoods were diversified and traditional mechanisms of paddy production and processing were being employed. The other village had comparatively large landholdings. The farmers/households in this

village grew paddy mostly for marketing and used modern techniques of production and processing. Stakeholders were targeted within the village, as well as those operating in the nearby towns/marketplaces.

Similarly in Sri Lanka, value chain analysis was applied to study women's (changing) roles and household food security in two types of paddy systems, highly commercialised and largely subsistence.[12] In both Sri Lanka and Pakistan, value chain analysis was combined with a household level survey on food security in the selected communities.

In India and Bangladesh the value chain analysis was applied in order to explore emerging and new production markets in paddy-rice chains. Greater emphasis was placed on investigating horizontal links into value-added rice processing sub-sectors. Sample market investigations were carried out at both rural and urban locations in order to trace the forward and backward linkages of rice production and marketing. Important individuals in key national institutions concerned with rice and paddy production and its effects on the economy were also interviewed.

3.1   The mapping process

In mapping, we started with women post-harvest paddy processors and mapped vertically - downstream, for example, to paddy producers, and upstream, for example, to retailers and consumers; and to a lesser extent horizontally, to investigate sector linkages. Emphasis was on mapping and analysing women's participation in relation to the following:

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[12]   It should be noted that polarisation of paddy systems into two "types" is an oversimplification and within both commercialised and subsistence based systems, there is great diversity. Constraints of this study prevented us from doing a representative analysis of the range of different paddy systems in Sri Lanka. Therefore, the findings of our analysis should be taken as indicators and prompts for further research.

3.1.1 Mapping other players and activities in the paddy-rice chains using a 'gender lens'

This was the most basic level of mapping and involved identifying the full range of activities from paddy production to consumption in paddy-rice chains and identifying who is involved. The level of women and men's involvement along the chains was also mapped (See Figure 1 Annex 1).

In the research, we were interested in how women's participation in paddy-rice chains has changed and what impact increased levels of mechanisation and commercialisation have on women's participation. To explore this, two main strategies were adopted, (1) Mapping retrospectively. In Sri Lanka, elderly members of the selected communities were targeted to elicit their views on how paddy-rice chains were structured in the past. This allowed us to build up retrospective maps of paddy-rice chains. (2) Mapping different paddy-rice chains in Sri Lanka and Pakistan, representing largely subsistence-based paddy cultivation systems and highly commercialised systems.

In building up the initial gender-disaggregated maps the researchers used a combination of techniques. Literature reviews were used in conjunction with initial scoping visits to selected communities and discussions with key informants to sketch maps. These sketches were used to help identify our information needs and target players. The sketches were viewed as "skeletons", our task being to investigate the players and relationships and add values along the chains.

These same sketches/maps were then used during visits to the selected communities. Focus group and one-to-one discussions with women were used to revise and refine the maps on the basis of women's own perceptions and experiences. Other players were also targeted and focus group discussions were held with middlemen, wholesalers, retailers, millers, government officials etc.

On a number of occasions, while conducting focus group discussions in the field, flow diagrams were drawn up depicting new value chains as expressed in the discussions. The local participants in the discussion looked at these, made comments and these were revised as appropriate. In this way the process of investigation became extremely participative and thorough.

3.1.2 Markets

Mapping markets involved mapping the physical flow of commodities along the chain as well as the market characteristics such as:

- Who the different customers/buyers are in the chain and the percentage of sales going to different types of customers and markets.

- Which players feed into what markets.

- Where (geographically and sectorally) market players are located.

- What the characteristics of different market segments are in the chain.

- How knowledgeable different players are about markets.

Market knowledge and information is a key factor affecting bargaining power, performance and prospects of small producers and enterprises (whether home-based or formal) and therefore a key area of investigation in the value chain analysis. Mapping markets is also likely to reveal linkages into other sectors/value chains. This can identify new opportunities and help understand the policy and strategy implications.

3.1.3 Distribution of benefits

So far, the mapping has provided limited value in helping to analyse distributional patterns. Mapping the distribution of benefits involved

calculating incomes of different players in the chains, as compared to the value added by each player at each stage in the production and the numbers engaged.[13]

The Bangladesh study highlighted that the process of tracking value addition to a particular product at different stages of its life could easily get distorted by changes in the value of the product caused by speculative and illegal means. How do we deal with the value additions (to a product) achieved through both positive and negative means at different stages of the chain? For example, substantial addition to the price of rice can reportedly be achieved by the act of illegal hoarding and smuggling. Therefore it is imperative that a distinction is made in value chain analysis between price changes and true value changes through the application of labour and (valid) creative energy.

Non-monetary distribution of benefits was also analysed, for example, employment characteristics across the value chain to compare levels of income security, on-the-job risks, access to formal benefits and protection of the different players.

3.1.4 Access to services

Services and support can be institutions and organisations (for example, unions, financial services, producer societies, NGOs, consultancy groups, government extension activities, and protective laws and legislation). Mapping links to support and services is important as it shows where different types of support and services are concentrated in the value chain and the type of services and support to which different players have access.

3.1.5 Governance of the chains

The next, important step was to analyse the governance of the chains. Key questions on issues of governance of the chains were: "who are

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[13]   Kaplinsky, R., & Morris, M., 2001, p. 41.

the players that dominate the chain? In what ways have these players influenced the participation of women in the paddy sector?"

By collating all the information collected from the mapping exercises, it was possible to analyse the relationships between different players in the value chain to reveal power relations, levels of dependence, levels of protection/security in dealings between different players, barriers and keys to accessing information, markets and services, who decides how the chains are sanctioned and developed, how are they administered? This analysis was necessary in order to understand how and why certain players in the value chain are marginalised and disadvantaged, and to identify strategies for policy and grassroots levels. (See Figure 3 Annex 3)

4.1   Advantages of using value chain analysis as a research tool

This section provides feedback on the advantages and issues arising from using value chain analysis methodology as a research tool in the regional research project. This is followed by some comments on the relevance of using value chain analysis in impact assessment.

Box 2: Advantages of value chain analysis methodology in research

Value chain analysis can:

- Be used to investigate production chains, mapping markets (supply/demand, commodity flows, quantitative values like volumes and prices), roles of stakeholders, linkages (including cross-sector links).

- Be used to analyse "who gains at what cost and who loses what", "who is at the risk and who drives the market", and "who is most vulnerable" etc.

- Be a participatory tool because its application at grass roots level enables researchers/practitioners to sensitise stakeholders about issues and concerns that affect them.

- Because of its emphasis on visualisation of market links (or value chains) with the stakeholders (some of who might be illiterate), value chain analysis can be a stimulating and empowering process for researcher and researched.

- Be a process for providing feedback and improving access to information to the primary producers about the macro-level economic processes, behaviour of markets and policy changes in international as well as national arenas thus enabling a better return on their labour and creative energy.

- Reveal the interconnectedness between different chains and therefore inter-sector linkages and influences.

- Open up of new enterprise chains for small-scale producers and painting new scenarios for the future.

- Help in developing understanding for various non-conventional players that often remain out of the scene whenever the issues of a particular sector are discussed.

- Be a less expensive tool for enabling researchers to crosscheck assumptions/data at field level and make reliable conclusions with relative ease and efficiency.

- Be a tool for generating information to suit different audiences, communicate grassroots issues to the top and effectively make cases.

4.1 Linking macro with micro

In this study, value chain analysis methodology was used as a primary research tool with the aim of investigating trends in paddy-rice sectors and impacts on women's economic participation and household food security. Key trends associated with the globalising economy, namely mechanisation, technology adoption, commercialisation and associated economic liberalisation were identified as processes affecting paddy-rice sectors in all four countries. The aim of the research was to investigate how these macro-level trends impact at grassroots level, and on a specific group, women processors. Value chain methodology proved to have the potential to bridge the macro-micro gap. By mapping vertically and horizontally, value chain analysis provides a framework in which to analyse linkages and relationships between trends, processes and players at different levels in a given sector/production market from the perspective of different players in the chain.

For example, by mapping downstream from women processors to paddy farmers, the research was able to draw conclusions on how technology adoption and commercial farming practices have impacted upstream on women processors. By mapping horizontally, it was possible to analyse how liberalisation and privatisation in input markets in paddy sectors have affected households. Similarly, by mapping upstream, the study showed how liberalisation in paddy-rice markets has led to the entry of new players in the paddy-rice chain and facilitated analysis of the extent to which women's participation has been displaced or inhibited.

By mapping paddy-rice chains in both highly commercialised and still largely subsistence-based production and marketing systems, and by combining this with household food security surveys (as was done in Pakistan and Sri Lanka), the studies were able to provide indications of how different degrees of mechanisation and commercialisation variously impact on women's participation and household food security.

4.2   Making a case

When researchers are attempting to link macro-level trends with micro-level impacts, generating valid conclusions is difficult and often involves quantitative techniques. The disadvantage here is that the human story is often obscured by statistics. Development organisations often do not have the capacity for undertaking large, quantitative and statistical studies. Furthermore, often what is wanted is a way to tell the human story with depth and understanding.

To do this, development organisations often rely on case studies, personal histories and stories to portray key messages about issues, trends and impacts. The problem is that this type of information is often regarded as anecdotal and unrepresentative and is vulnerable to criticism.

This study showed that value chain methodology was a tool that could be used for both economic and social analysis. Its multidimensional and multistakeholder perspectives soon showed it to be very versatile and it also proved to be a less expensive tool for enabling the researchers to crosscheck data at field level and make reliable conclusions with relative ease and efficiency. These advantages meant that value chain analysis provided a more thorough approach for generating case studies both on broader-macro scenarios, and grassroots-micro experiences, providing qualitative and quantitative information and data to support a case.

OXFAM, for example, has used value chain analysis to make a case for the Make Trade Fair campaign. Through its case study of global markets in coffee, OXFAM demonstrates effectively how power asymmetries in the global coffee chain explain inter-country distribution of benefits and ultimately how the global coffee market marginalises at grassroots level.[14]

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[14]   www.eldis.org/csr/coffee.htm, www.maketradefair.com

4.3   Communicating to the top

Value chain analysis has the potential for elevating grass-roots issues because it establishes the linkages between actors and activities in different parts of the chain. For example, value chain analysis can help demonstrate to consumers in rich countries how their actions are part of a wider context and that their consumer power is part of a system which impacts on communities who remain largely invisible in markets. Similarly, in this study the quantitative (economic) and qualitative (social) information can be used to demonstrate to national policy makers the high value addition yet marginal returns of small-scale operators in paddy production chains. This can be used for making a case for greater recognition in policy, markets and extension.

4.4   A participatory tool

An important strength of value chain analysis was that is worked well as a participatory tool. Because its application at grassroots level enables a researcher to sensitise the stakeholders about issues and concerns that affect them it can be used, for example, for participatory rural appraisals.

Because of its emphasis on visualisation of market links (or value chains) with the stakeholders (some of who might be illiterate), the researching exercise is very stimulating to the researcher, while empowering to the interviewee producer groups.

Visually mapping the chain together with the women helped researchers learn about the women's perceptions about different links in the chain, at the same time as informing them about more distant links such as the national market, economic policies and international markets.

In Sri Lanka, the value chain methodology worked well as a participatory research tool by asking women to describe value chains. This proved a

good way of investigating who the women identified as key players. It was also effective for discussing the roles of different players, what influence they had over the women and their households, and how different players operate in the chain. Using this technique really engaged the women and the researcher found this a much better way of discussing the issues with the women, understanding their perceptions and helping the women to explore their own knowledge and understanding about the value chains.

In the India study too, the global value chain analysis methodology helped in sharing with the women the wider context of development, their role in delivering goods and services to a range of consumers, the process of globalisation and changing markets. Applying value chain analysis was challenging, for example, encouraging the women to think through each step and the extent to which they have contributed to the added value. The analysis revealed that the communities have not really come to grips with how larger processes associated with globalisation are impacting on their lives and it became evident that the women do not regard their contribution/labour in production-market chains as significant or of value.

Overall, the research experience showed that an appropriate application of the value chain analysis can enhance access to information about crucial market situations of a given product by women and men engaged in the primary end of the chain – thus creating the possibility of better returns to their labour and creative energy. Importantly, this can be a process for providing feedback to the primary producers (for example, women who are usually subjected to exploitation) about the macro-level economic processes and behaviour of the product in the face of policy changes in international as well as national arenas. The participatory application of value chain analysis helps address the failings of much research to provide direct feedback to the communities from whom information has been extracted.

In the Bangladesh study, it was found that mapping the value chain of a product in a participative way could also be an effective analytical and planning tool for policy decision-makers as much as for increasing women's negotiating power. In addition, engaging other players in the participatory mapping exercises could help to communicate grassroots issues to other players, generating knowledge, interest and commitment among other value chain stakeholders on the issues that affect marginalized groups.

4.5   Stakeholder analysis

The use of the methodology continued to open new windows of information regarding linkages between various players in the chains. It helped to identify various traditional and newer/modified forward and backward linkages between the players.

In Pakistan, for example, value chain analysis helped in developing understanding about various non-conventional players that are often not considered when the issues of a particular sector are discussed. For instance, it was found that there exists a very strong actor in the shape of the commission agent who usually undertakes bargaining activity between *aarhtis* (middlemen), mill owners and exporters. Stockists, also important players, were discovered during application of the methodology. Conventionally it is believed that the *aarhtis* are the source of all ills and control the market. But discussions and further probing with the upstream market stakeholders revealed that the stockist actually determines market prices.

4.6   Identifying new opportunities

The value chain approach can enable new opportunities chains for to be provided for small-scale producers.

The value chain analysis revealed the interconnectedness between different chains. In both India and Bangladesh the study identified horizontal links into value added rice processing sub-sectors that could provide new and expanding income generating opportunities for women who are marginalised in paddy production and marketing chains.

In Pakistan, the study dispelled the impression regarding placement of women in post harvest paddy processing and operations. It is often argued while formulating and advocating gender policies that women can be placed in packaging activities at rice mills. It was found, while discussing with the owners of the mills, that women used to be involved in such activities but with the introduction of newer and improved, automated packaging techniques; women are no more required for this activity. But at the same time it was discovered that besides these somewhat disappointing scenarios there is an abundance of opportunities available in the ever evolving global value chains of paddy-rice, provided the policy makers are able to first identify those opportunities and then devise strategies to help women explore them.

4.6.1 Painting new scenarios

Using participatory mapping tools in value chain analysis can be an effective way to engage communities in painting their own scenarios for the future and mobilising grassroots commitment to generating change. Because value chain maps identify roles of different stakeholders, this process can help communities not only identify future scenarios and practical solutions, but also help them to identify their own responsibilities and actions in achieving change.

4.7   Governance, power and politics

The methodology helped to identify and to understand "who gains at what cost and who loses what", "who is at the risk and who drives the market", and "who is most vulnerable".

Mapping of the access to services of different players and analysis of the influence relationships between players showed that women and small-scale farmers lack the access, connections and influence of players higher up in the chains. The paddy-rice chain analysis in all four countries showed that under free-market economic policies, the better-off sections of the population have benefited more (for example, importers, mill owners and exporters) compared to the poor producers and small-scale processors.

Gender inequalities emerged as a major concern. In the vertical marketing chain (from growers to consumers) women figure only at the source of the chain, that is, they are found among the cultivators, small rice traders and mostly among low paid paddy/rice processors. Men occupy all the high value links in the chains, for example, the wholesalers, the millers and rice importers are all-male. Women only work in some of the links as low-paid wage labour under very exploitative terms. The key business functions (that is, marketing, investment decisions and financial control) are monopolised by men and women remain largely invisible and therefore easily marginalised.

The middle links of the chains are important and powerful and these major links are not only controlled and managed by men, but also a group who are locally powerful in terms of caste and political affiliation. It was observed that the survivors or fittest in the chain are those players who had developed strong forward and backward links with other players in the chain, plus those who have strong links among the same category of players. In Sri Lanka, for example, governance of the rice chain is controlled by large millers who use their large storage capacity and high quality, bulk milling to manipulate prices and monopolise markets while exerting political influence at local and national levels. The owner of one of the large mills in Sri Lanka is now a member of parliament.

The research highlighted the utility of value chain analysis in revealing the less transparent governance issues in production-market chains. Chains can be described in terms of quantifiable flows of inputs, products and monetary values, and relationships understood in terms of official and codified rules and sanctions that apply to a given production-market chain. Yet although bracketed in conventional economics, the significance of power and influence and control is well understood and very evident in the governance of production markets. Within development economics, power and influence of particular groups and their access and control over resources and markets is known to be a major constraint on small producers and small enterprise. Equally, livelihood analysis increasingly recognises the importance of power as an asset that poor people lack.

Value chain analysis has much potential for identifying issues related to power, influence and control in governance of value chains. There is potential to develop such tools for analysing and presenting these issues in ways that can quantifiably demonstrate how power and influence in governance of markets impacts on small-scale operators. Analysis of influence and power relationships within any given chain could be combined with conflict analysis tools to explore further and define the nature of relationships between different players.

Finding ways of demonstrating and communicating the practical (social and economic) impacts on marginalised, poor communities that result from lack of transparency in governance is a prerequisite for identifying effective policy interventions and strategies capable of addressing the difficult political factors that are usually the real issues that prevent markets working for poor people.

In addition to analysing the economic winners and losers in transforming paddy-rice sectors, the study also sought to investigate the social and environmental dimensions of change. The participatory nature of value chain analysis facilitated analysis of wider implications of women's

changing roles. For example, the studies show that the reduced role of women in paddy seems to have serious implications for natural resource management, biodiversity and nutritional food intake of agricultural communities in rural areas.

The analysis of women's changing roles in the paddy-rice chains showed that cultivation and processing of paddy underpinned much larger and complex food systems over which women had control. It revealed how women's knowledge about natural resource management for food and other needs strengthened biodiversity and environmental sustainability while ensuring the family had access to a balanced nutritional diet. The decline in women's processing of paddy has also resulted in a decline in processing of other foods. In Pakistan, the study clearly indicates a rapid decline of the traditional rural set-up, which is not only affecting the social fabric of rural communities but also increasing food insecurity among villagers.

4.8 Generating a range of information for different audiences

Development organisations have a wealth of grass-roots experience and knowledge. Communicating this information remains an on-going challenge where the commitments of practical development work may squeeze resources and time for knowledge management activities. At the same time, development organisations need to meet demands for information from a variety of audiences; communicating messages to the general public, reporting to donors, feeding back to communities, internal reporting monitoring and evaluation. Value chain analysis could be a useful methodology for development practitioners in meeting these demands for a range of information.

5.   Some concluding comments on the relevance of value chain analysis for impact assessment

Mayoux (2003) in her paper "Trickle-Down, Trickle-Up or Puddle? Participatory value chains analysis for pro-poor enterprise development", discusses the potential contributions of *participatory* value chain analysis in impact assessment. Mayoux comments that *participatory* value chain analysis in its simplest form …*involves bringing together stakeholders with knowledge of different levels of the chain to construct a standard flow mapping. PVCA can be a useful tool in identifying different types of interventions that might be desirable at different levels of the chain. It provides a practical focus for stakeholders to discuss their common or conflicting perspectives and a benchmark framework against which impacts and contextual changes can be identified.*[15]

Mayoux cites the growing demands and expectations on impact assessment to ensure stakeholder participation, especially of marginalised groups, to move from "one-off policing" of projects to assessments that "capture complexity", to make "useful recommendations" as well as measuring outcomes, and contribute to 'sustainable learning between stakeholders'.[16]

Against this background, there is increasing interest in **'integrated impact assessment'** - using varying combinations of quantitative, qualitative and participatory methods. From ITDG's perspective, a distinct advantage of value chain analysis methodology is that it incorporates different approaches and works best when combining quantitative, qualitative and participatory tools to generate information from multi stakeholder perspectives. The following attributes of value chain analysis could offer value to impact assessments:

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[15]   Mayoux L., May 2003a, *Participatory Value Chains Analysis*, Enterprise Impact news, Issue 19, www.enterprise-impact.org.uk.

[16]   Mayoux, L., 2003a, p.5.

- Participatory stakeholder analysis

- Possibility to engage the most marginalised in impact assessment. Participatory mapping tools could be used to facilitate self-assessment by target groups.

- Analysis of the social and economic dimensions in impact assessment.

- Generation of qualitative and quantitative information.

- Analysis and linking of different levels and a way into complexity.

- Facilitating monitoring and assessments during projects. Value chain analysis can be applied throughout a project cycle, including providing benchmark information in the early project phases. Because of its application throughout a project cycle it becomes a relevant and potentially useful tool for project staff, for monitoring and on-going impact assessments, helping project staff to manage and communicate the grass-roots knowledge they have and involving them more closely impact assessments. The conceptual thinking in value chain analysis could also facilitate impact assessment beyond the project boundary, against goals rather than project-based outputs and help address issues of project attribution in explaining impacts.

- A conceptual framework, specifically for market-related projects operating at different levels; micro, for example, enterprise development, meso, for example, sector/cross-sector development and macro, for example, globalisation-policy-poverty linkages such as impacts of international trade regimes). From ITDG's experience, value chain analysis could certainly be an appropriate method for assessing impacts of development interventions in a given production-market chain, in sector-based projects and in interventions tackling

wider national-global-poverty linkages. There is great scope for further developing and adapting value chain concepts and tools to analyse impacts of micro enterprise development, technology interventions, and access and services projects, to name an obvious few. Value chain analysis can also help understand and communicate the results of policy lobbying and campaigns projects (eg fair trade campaigns).

5.1   Issues arising

It should be remembered that this paper shares experiences from just one application; value chain analysis methodology is a new tool outside development academia, largely untested at the grass-roots, and in practical development work. There is a lack of experiences to draw lessons from and limited tools, reference and training material for non-research applications, for example, impact assessment.

This one experience does, however, give grounds for caution. Because, from ITDG's perspective, the benefit of value chain analysis in development contexts comes from its participatory application, the method would not be as effective if done using surface techniques for information gathering. Value chain analysis needs people skilled in participation and is most effective with a high level of interaction with stakeholders. This has implications for its use as an impact assessment tool and for the resources needed. This should be considered particularly when planning external impact assessments. Participatory approaches within value chain analysis also face the same challenges as other participatory methods in development practice. There is also a danger that the multidimensional conceptual thinking and the combination of different research tools could lead to exaggerated complexity - a case of not seeing the wood for the trees.

Nevertheless, this paper has set out largely positive feedback on experiences of using value chain analysis in research and its potential

utility in impact assessment. The relevance and usefulness of value chain analysis concepts and tools need to be viewed against specific projects, issues, tasks, and, like any other approach, needs to be assessed and used alongside the existing toolbox. The next steps are to work with development practitioners, to familiarise them with concepts and tools, and discuss with them if, and how, value chain analysis can be incorporated in ways that could add value to their work. There is a need to generate interest in the approach, develop resources for training development practitioners in its application, and ensure that lessons on its application are being learned and shared.

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Online value chain resources

The **Enterprise Development Impact Assessment Information Service (EDIAIS)** is jointly managed on behalf of DFID by the Institute for Development Policy and Management at the University of Manchester and Women in Sustainable Enterprise (WISE) Development Ltd. http://www.enterprises-impact.org.uk/ informationresources/toolbox/valuechainsanalysis.shtml.

The **Global Markets Program of WIEGO (Women in Informal Employment Globalizing and Organizing)** analyses the impact of globalization and trade liberalization on women workers and producers, particularly home-based workers, to highlight where threats can be minimised and new economic opportunities seized. In order to see how to correct imbalances in power and economic returns, the Global Markets programme maps global commodity chains to see who is doing and getting what at each stage of the chain. www.wiego.org

The **Global Value Chain Initiative of the Institute of Development Studies (IDS)** aims to advance the global value chain perspective in the realm of academia and to develop more effective tools for policymakers and activists seeking to alleviate poverty through sustainable industrial upgrading and employment creation. There is a network of academic theorists and researchers and practitioners and activists to help guide the development of the GVC perspective. www.ids.ac.uk/globalvaluechains/about/ index.html

Annex 1   Value Chain Diagrams

Figure 1: Example of a post-harvest rice chain sketch from Sri Lanka, genderdisaggregated
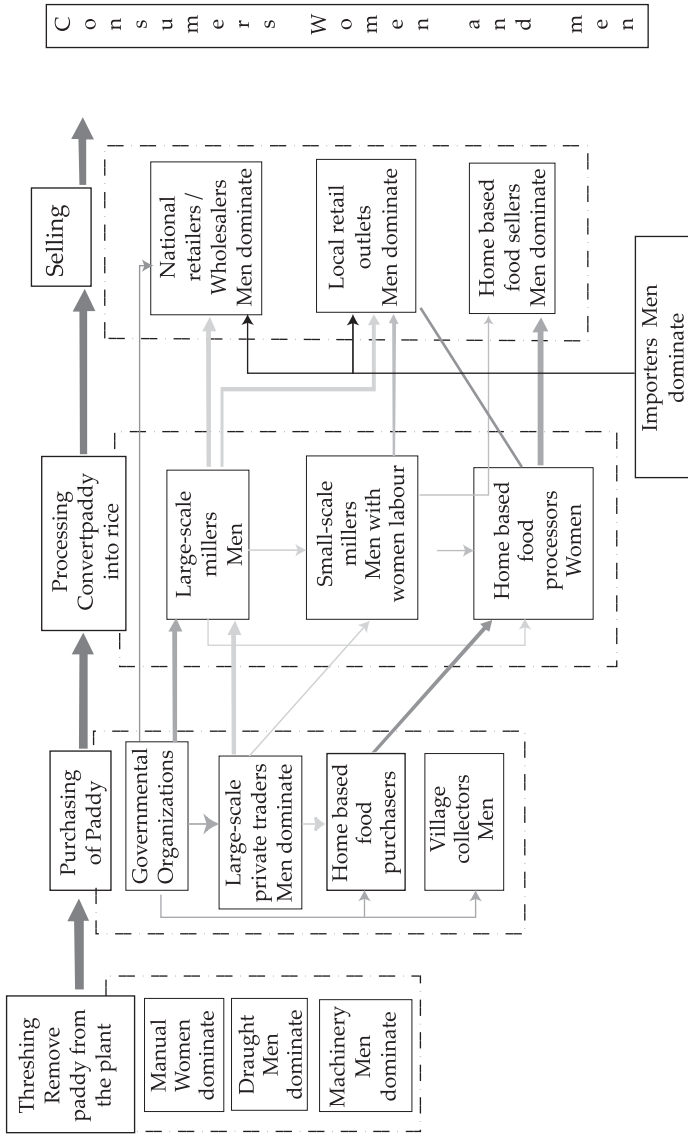
Figure 2: Example of a paddy-rice market map from Pakistan

Flow of Physical Commodities across the Chain

Figure 3: Example of an influence-relationship diagram for paddy-rice chains from Sri Lanka
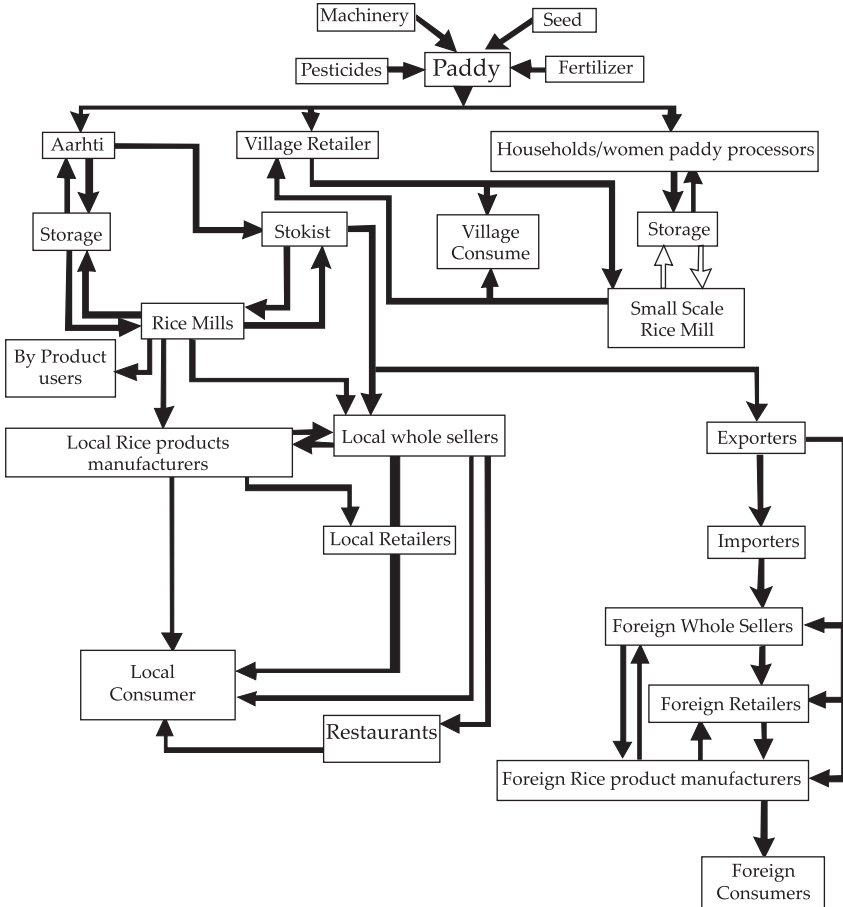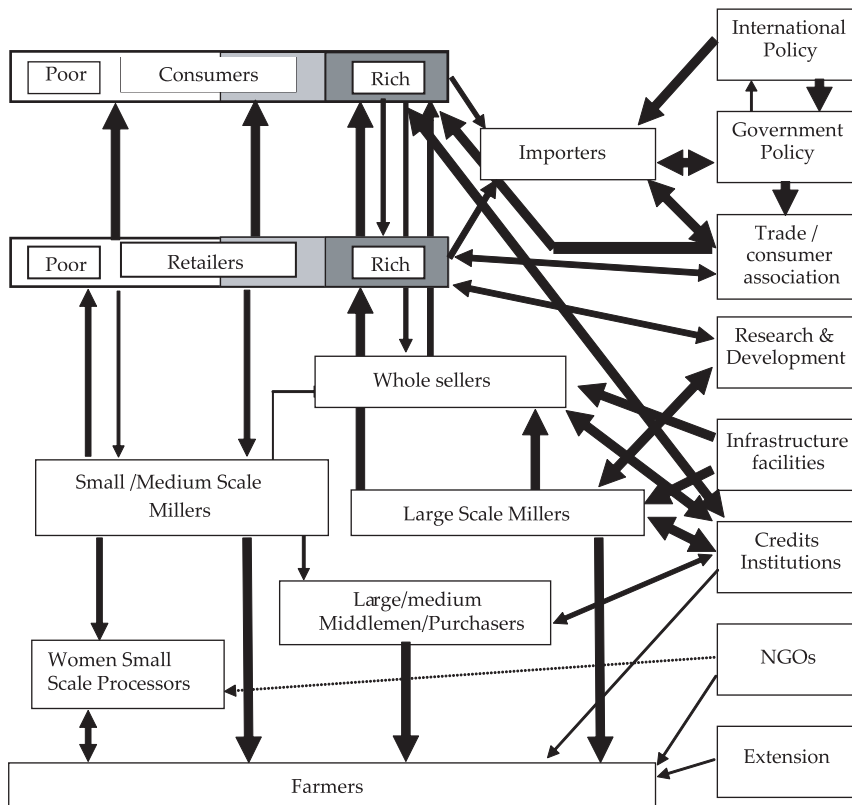

Thikness and direction of arrows indicate strength of relationship and flow of influnce

Profile of participating organisations

Verulam Associates is an international consultancy company specializing in governance, institutional development and process consultancy within the public sector. Verulam Associates works with local and national governments, public sector bodies, not-for-profit organizations, and international development agencies that want to improve their ability to respond to the needs of those they serve, improve their own performance, and increase impact. Priority is given to equal opportunity and equity in service delivery, employment and management practice, with an emphasis on gender, pro poor policies and cultural sensitivity. Since 1999 Verulam Associates main operational base has been in Bangladesh. This has enabled a network of associate consultants to be established within South Asia resulting in a strong reputation for supporting policy development and institutional change with governments, NGOs and development agencies in India, Bangladesh, Nepal, Pakistan and Vietnam.

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ITDG is an international development organization that has been working in Sri Lanka for 15 years. ITDG develops and demonstrates appropriate technology options to combat situations of poverty and marginalization. The Research Project of ITDG has a key role in investigating new issues and areas of work, doing primary research on relevant issues, providing inputs to the practical projects of ITDG, and developing the advocacy and policy work of the organization. These functions are considered essential for ensuring ITDG is up to date on

trends that affect the communities with who it works, and is innovative in seeking strategies to address these issues.

ITDG-South Asia, 5 Lionel Edirisinghe Mawatha, Colombo 5, Sri Lanka, Telephone: +94-11-2829412, Fax: +94-11-2856188, Email:general@itdg.slt.lk, Website: www.itdg.org

Rural Development Policy Institute (RDPI) is a civil initiative aimed to stimulate public dialogue on policies; inform public action; and activate social regrouping to celebrate capacities and address vulnerabilities of resource-poor rural communities in Pakistan. RDPI undertakes research, planning, training and advocacy endeavours to streamline appropriate and people-centred rural development at village, union council, tehsil and district levels.

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Acknowledgements

This paper is the collective effort of all the above research teams and Summarises and extracts from the individual country reports produced by each of these teams. [17]

[17]   Available research reports: *Women Paddy Processors in Bangladesh: An Analysis of Value Chains and Impact of Globalisation* by Muhammad Taher, Verulam Associates Ltd, Bangladesh, May 2004; *Women Paddy Processors in India: Globalisation and livelihoods* by Shyam Sundar, India, May 2004; *Globalisation, Livelihoods of the Poor and Food Security in Pakistan: A case study of paddy sector with special emphasis on women's participation* by Abdul Shakoor Sindhu et al, Islamabad, April 2004; *Value Chain Analysis of Commercialised and Subsistence Based Paddy Cultivation Systems in Sri Lanka: Women's roles and household food security*, ITDG- South Asia, Sri Lanka, May 2004; *An Investigation on the Impact of Agricultural Change on Women's Roles in Post Harvest Paddy Processing and Household Food Security Using Value Chain Analysis- Regional Summary Report*, ITDG- South Asia, Sri Lanka, September 2004.

Experiences at the Poverty Impact Monitoring (PIM) Programme at CEPA

Neranjana Gunetilleke

Abstract

The paper reflects on the lessons learned from the work of the Poverty Impact Monitoring (PIM) programme of the Centre for Poverty Analysis (CEPA) and highlights some cross-cutting issues that CEPA finds particularly challenging. The programme has attempted to adapt international experience on poverty impact monitoring to local conditions, to develop concepts relevant to the Sri Lankan context and to work with Sri Lankan projects on operational aspects and capacity building. Most of CEPA's experience has been at the micro and meso levels.

The paper unpacks some of the key terms: poverty, impact and impact monitoring and discusses how poverty impact monitoring is conceptualised. One of the major challenges that CEPA has faced is in developing an understanding of the attribution gap, the problem faced in isolating or estimating the impacts of a single programme or project against the acceptance that development is a result of a large number of intervening factors. The concept requires unpacking, especially in Sinhala and Tamil and from a practical point of view, the challenge is to make sure that the gap is neither too broad to bridge convincingly or too narrow to be considered as an impact.

The paper also seeks to examine a number of methodological challenges and how these have been dealt with by CEPA in its work with a range of clients. CEPA believes in a balance of quantitative and qualitative approaches, though its own work has used mainly qualitative methods as it lends itself to perception based multi-dimensional analysis of poverty.

A qualitative method also gives scope for greater experimentation in both understanding the issues involved as well as developing methods. The paper discusses the different micro elements of methodology: baselines, indicators and tools, keeping in mind that these are all means to an end and that it is the function of the method rather than the actual method that is of importance.

The paper recognizes that many of the challenges of PIM arise from the broad nature of impacts, which by definition occur outside the control of projects and from the multidimensional definition of poverty. The fact that poverty impact monitoring has not reached the level of maturity and general acceptance within the development field provides room for debate and adaptation. Overall, it is CEPA's view that improving the poverty impact orientation of projects and programmes is important, and that a genuine improvement will be reflected in the sensitivity of projects to the larger environment and to the context in which the project works, finally to be expressed in the decision-making process.

1.   Introduction

Most poverty impact assessment and monitoring in Sri Lanka are carried out by external – frequently international – teams of consultants. Sometimes the teams will include Sri Lankan consultants. Most of these consultants are professionals with expertise in the development sector in general, as well as with particular specialisms.

Since its inception three years ago, the Poverty Impact Monitoring (PIM) Programme of the Centre for Poverty Analysis (CEPA) has focused on the specific issue of how to understand the impacts of development interventions on poverty[1]. The combination of programme activities, which are internally generated and the provision of services to Sri Lankan and international clients has provided a space for combining conceptual based learning with practical needs of project operations. Consequently, CEPA has attempted to adapt international experience to local conditions, to develop concepts relevant to the Sri Lankan context, and to work with Sri Lankan projects on operational aspects and capacity-building. As a Sri Lankan organisation, CEPA has developed its own expertise and contributes to an increase in the capacity of other professionals and organisations working in the field of development interventions.

This has been a dynamic process, in which a group of professionals has been concurrently involved in learning, doing and teaching. On the one hand, substantial synergies have been created. On the other, there has been insufficient time to document what has been learnt and to reflect in detail upon it.

This paper seeks to overcome this shortcoming. It seeks to bridge the gap between theory and practice by:

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[1]   The GTZ Poverty Impact Monitoring Unit (PIMU) project facilitated the establishment of CEPA with the intention of further institutionalising poverty impact monitoring and poverty analysis in Sri Lanka.

- providing the CEPA team space to reflect and to consolidate the conceptual and operational issues relating to monitoring poverty impacts.

- sharing CEPA's experiences and current work with professionals who are operating in similar environments and carrying out similar tasks.

- contributing to the learning process within the development sector, especially in Sri Lanka.

CEPA's experience in PIM has been predominantly at the micro and meso level. There has been input to macro level policy formulation, for example in helping to develop concepts for the monitoring and evaluation component of the Poverty Reduction Strategy (PRS) but this has not been a main area of work and will not be the focus of this discussion. The unit of intervention, and therefore, the analysis for poverty and change has in most cases focused on:

- the micro units of the household, community, community level institutions, the micro socio-economy, and administrative units of the Grama Niladari (GN) or Divisional Secretariat (DS) administrative divisions.

- the meso level administrative and geographic units of the province and district, the sectoral focus of socio-economic infrastructure, microfinance, food security, urban settlements, the intervention units of programmes and donor portfolios.

Teams made up of CEPA professionals, sometimes together with consultants, have evaluated the impacts of development interventions on poverty in relation to ex-post and ex-ante situations and in relation to ongoing interventions. The CEPA team frequently works in very close collaboration with the internal staff of its client/partner organisations.

The learning process of CEPA professionals has been greatly influenced by the methods and concepts developed by the German Development

Cooperation (GTZ), Germany; as well as the International Fund for Agricultural Development (IFAD), Rome; and the Swiss Agency for Development and Cooperation (SDC), Switzerland.

Within this context, this paper will discuss issues relating to conceptualisation, methodology and operationalisation of PIM, in the light of CEPA's institutional experience. It will seek to highlight some crosscutting issues that CEPA has found particularly challenging. The CEPA team sees the added value of this discussion mainly in terms of examining gaps in knowledge, localisation of concepts, tools, methods and input to the growing debate.

The paper does not and cannot provide conclusive answers to all questions relating to PIM. It is neither a handbook nor a tool-kit. The discussion in this paper is targeted on those who are prepared to examine CEPA's experiences as well as looking at other sources.

Those most likely to benefit from this discussion would be professionals engaged in applied research, specialised consultants or advisors interested in understanding and assessing the impacts of development interventions on poverty. In addition, it is hoped that practitioners such as professionals of monitoring and evaluation units in meso and micro level projects and programmes would find the discussion useful.

2.   Some Working Definitions

Problems with terminology are common to all dynamic subject areas, particularly those that involve both theory and implementation. In CEPA's experience, projects that have to report back to more than one funding organisation encounter problems. One issue comes across very clearly in discussions at training workshops for project staff and in literature reviews produced by various research and operational institutions: terminology causes confusion and tensions among those

who seek to carry out poverty impact monitoring. The need to translate terms into Sinhala and Tamil, of course, aggravates the problem.

CEPA's experience has been that the most effective way to deal with this problem of terminology is to understand very clearly, at all levels of generalisation and subtle nuances, the *concept* behind the word. Carrying out poverty impact monitoring in a variety of environments calls for flexibility, reflection and adaptation. This is possible only if those involved can, with a minimum of confusion, work with a range of terms relating to similar concepts. This underlines the need for all those involved in any stage of poverty impact monitoring to be conversant with the essential concepts, rather than restricting themselves to rigid terminological definitions.

This section discusses the three fundamental concepts of poverty impact monitoring. The discussion does not seek to provide rigid definitions. It follows the orientation used by CEPA for using existing definitions and concepts as an entry point and seeking to understand the concept rather than looking for rigid terminology.

2.1   What are "impacts"?

Do the terms "impacts", "results", "utilisation of outputs" all have the same meaning? Are "outcomes" and "impacts" the same? Are there substantial or subtle differences among these concepts and terms? Did the term "impact" mean the same three years ago as what is called "results" today? Where do impacts occur?

These are "frequently asked questions" in CEPA training workshops, as well as in meetings with clients who receive CEPA's advisory services.

CEPA subscribes to the overall idea that **impacts are changes in the project environment to which the project has contributed.**

The key words in understanding the concept of impacts are:

- change: a dynamic situation based on a comparison.

- contribution: the change under consideration is brought about through a number of contributing factors. The intervention under consideration is one of many factors that has an influence over the change.

- control: the degree of control a single element has over the change is linked to the significance of that contribution. If the project has a very high degree of control over a change, it would mean that it would also contribute very significantly towards the change. Such changes are generally project activities or outputs, rather than impacts. The degree of control a project has over the change is a strong criterion for differentiating between impacts and project activities, as well as differentiating between levels of impacts.

- project environment: this is linked to the concept of impact boundary, that is, where the impacts are happening. Impacts occur in what is not usually considered to be the project's area of direct intervention, that is, in the space it has no control over, in which its activities and outputs do not occur.

- impact boundary: can be defined in terms of the objective space of the monitoring (objective of carrying out impact monitoring), the conceptual space (the cause and effect hypotheses the project works with), the geographical space, and the target group/stakeholder space.

If impacts are understood in terms of the above concepts it becomes clear that different levels of contribution and control can be linked to different levels of impacts. Some project activities make a great contribution; some make a smaller contribution and exert very little control. The terms "outputs", "utilisation of outputs" and "results" which are linked

closely to the concept of impacts can be understood as a progression of higher to lower degrees of contribution and control.

Moving on to the nature of impacts, they could be positive, negative, intended, unintended, have long and short-term prevalence, occur parallel to project interventions or post-project. They can also occur at the levels of target groups (individual and communal), at the level of counterparts, institutions and even project staff.

Looking at impacts from the point of view of monitoring, some impacts are objectively verifiable impacts that lend themselves easily to measurement. As importantly, there are the more subjective, qualitative based changes that require understanding rather than measuring. These changes are equally important, and have been the greater focus of CEPA's work in poverty impact monitoring.

2.2   What is impact monitoring?

Can impacts be monitored? Need they be monitored? How do monitoring, evaluation, and assessment differ from each other?

Confusions created by terminology follow us into 'Monitoring'. The terms "monitor", "evaluate" and "assess" have just the right mix of specificity and generality to create constant problems in usage. All three terms have an inbuilt element of observation, reporting and action. However, they differ in relation to the timing, objective and focus, the people involved and potential action arising.

Monitoring would tend to be a continuous process, frequently carried out by project M&E staff during the project's operational life, with a project steering objective. The emphasis here would be on observation and recording, often against a preset standard.

Evaluations and assessments tend to be time-bound, rather than continuous, and have a bias towards learning and decision-making with

a longer time horizon. These can be carried out prior to a project - at the design and concept stage – or post-project, or at particular milestones, for example, at the end of a phase, a change in funding sources or a critical change in environment.

CEPA's experience is that only a few projects and programmes currently carry out poverty impact monitoring. The tendency is to label a certain form of evaluation and assessment as monitoring. Monitoring in the sense of a continuous action involving detailed indicators, is frequently limited to the intention of setting it up - or in a few projects actually initiating - the process, but is rarely successful in carrying it on to the end of project steering.

This brings up the interlinked questions:

- are the monitoring systems of projects mature enough to absorb impact-monitoring? Are the basic functions of lower-level monitoring – that is, from inputs to outputs – sufficiently developed in projects to enable progression to impact monitoring?

- is a fully functioning monitoring system a prerequisite to impact monitoring?

- how complex must an impact monitoring system be in order to meet its objectives?

The need (discussed in the next section) to focus on impacts, does not give us the luxury of waiting for the ideal circumstances or the ideal methodology. The rewards of focusing on impacts can be reaped without a complex monitoring system. A few strategic indicators and some basic tools (for example, half-hour conversations with key target group people) are sufficient. These issues are discussed in greater detail in the section on methodology. The most practical way to handle the issue seems to be to have some very basic and strategic indicators

that are monitored on a fairly regular basis while backing this up with milestone-based assessments or evaluations.

2.3 Poverty

CEPA works around understanding the dimensions and the dynamics of poverty by using impact monitoring as a basis.

Dimensions of poverty: CEPA has been building on the common understanding that poverty is multidimensional and that tangible and intangible variables have to be considered in relation to its context.

A framework that CEPA has found particularly useful has been the pyramidal representation made popular through the Development Assistant Committee (DAC)/ Organisation for Economic Co-operation and Development (OECD)[2]. CEPA has adapted the pyramid into a circular format while providing advisory services and training.

Figure 1: Conceptualising poverty

Figure 1a : The Pyramid   **Figure 1b: The ripples**

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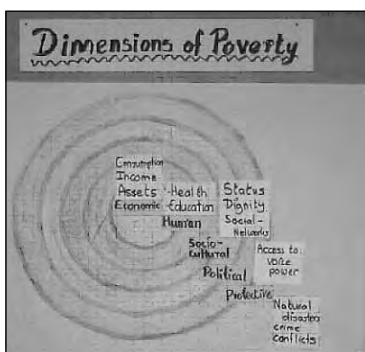
[2]   DAC/OECD Guidelines on Poverty Reduction 2001, Paris. For a discussion on the work that influenced this interpretation see Dileni Gunewardena, 2004, Poverty Measurement: Meanings, Methods and Requirements, published by CEPA.

The different dimensions of poverty can be grouped as:

- *Economic* aspects of consumption (that is, income and expenditure) and assets (for example, land and labour)

- *Human* development (education and health)

- *Sociocultural* dimensions such as dignity and networks

- *Political* dimensions which include empowerment, power and voice

- *Protective* dimensions associated with issues such as conflict, natural disasters and risk of eviction.

This framework has been particularly useful in emphasising the central role of economic dimensions while acknowledging the very high relevance of other dimensions. Hence, while the economic dimensions remain at the core, the definition is broadened to include human, sociocultural, political and protective aspects.

This conceptualisation of poverty is sensitive to the needs of poverty impact monitoring as it helps locate the project's definition of poverty in the larger picture of the complex reality. It also helps in identifying dimensions that are potential impact areas. Project interventions can have an impact on dimensions of poverty that it directly targets as well as dimensions it does not target. The circular visualisation is most sensitive to this aspect.

A second aspect this framework helps with is in understanding the relationship between the more tangible, hence measurable dimensions of poverty and the more intangible dimensions of poverty. The more dimensions you consider, the more realistic is your understanding of poverty. However, it is directly linked to greater difficulty in measuring. The trade-off between the complexities of reality and simplicity of measurement has to be acknowledged when working with this framework.

Dynamics of poverty: This brings in the core issue of change, which is central to impact monitoring. In addition to the static definition of poverty in terms of dimensions, impact orientation requires a more fluid picture of the variables that interplay to create the causes and consequences of poverty. Acknowledgement of this fluidity will help identify how impacts happen, that is, the chain of changes to which the project contributes. Focus on the dynamics of poverty allows the exploration of questions such as:

- what enables households to increase their well-being?

- what factors make households particularly vulnerable?

- which dimensions of poverty change in unison? Which dimensions change independently?

- which are the strongest factors bringing about poverty?

3. Conceptual Issues

Poverty impact monitoring requires, not only an acknowledgement of the complexity of the environment in which a project intervenes, but also an attempt to absorb at least the strategic elements of this complexity, while simultaneously developing a manageable and simplified system to monitor impacts.

This section will discuss three issues that CEPA has found to be particularly intense areas of discussion and experimentation during the conceptualisation stages of PIM. These are also areas that have benefited from the learning process in which CEPA covers both conceptual and operational spaces. The questions: "What are the reasons for carrying out PIM? and "What overall approach should be followed?" are conventionally accepted as conceptual issues. "Who should be involved?" is included in this conceptual section as it is an issue that

CEPA has, over the years, come to accept as having implications for the conceptual framework, despite the fact that it is conventionally regarded as a methodological or operational issue.

3.1 Centrality of "Why" and "What for" in PIM

Why should projects and programmes be concerned with impacts and the monitoring of impacts? What can be achieved by carrying out PIM?

The reasons for the exercise affect all aspects of conceptualisation, design, methods, personnel, implementation and dissemination. Hence, extreme clarity *and* acceptance of the reason for embarking on a PIM exercise is a vital prerequisite.

Poverty impact monitoring entered the arena of project management primarily because of the gradual acknowledgment that meeting lower-level project objectives may not necessary result in higher-level objectives and goals being met. Along with this acceptance came the need to steer projects with the final goal in view, rather than exclusively focusing on lower-level objectives.

On the basis of this rationale, the focus on impacts is justified in terms of two objectives:

- To prove: are the results what were expected? Has the project moved towards its higher-level objectives? To what extent has the project contributed towards the desired changes – what contribution has it made to a reduction of poverty in the target space? Hence, the proving objective is heavily focused on purpose-related impacts and on identifying plausible links between the intended goal and the project interventions.

- To improve: this is in line with the learning and reacting function of project steering. In the case of impact monitoring, project steering is not only related to the set plan or standard

but, more importantly, is related to the broader environment. The project activities and its results have intended as well as unintended impacts on the environment within which it operates. In addition to the project's effect on its environment, the environment in turn can affect the project operations. In relation to project steering, impact monitoring deals with the question: "How are we interacting with our environment?"

Both objectives are based on learning. The difference is in the application of the learning: to justify the project's existence, to increase the general knowledge base about development interventions, to develop other projects, or to better manage the existing project.

These, however, are the theoretical objectives for monitoring impacts. In real-life project situations, PIM exercises are frequently started on the basis of a much more pragmatic rationale, which is to meet reporting requirements in order to satisfy the needs of head office or a donor.

In most of the projects on which CEPA has worked, the reporting requirement has been the starting point of the PIM exercise. The learning objective may or may not accompany the reporting objective.

In CEPA's experience, the learning objective has the greatest potential to enter into the rationale provided that the project teams, the ground-level operators and decision-makers are given space to design the PIM system in a way that is most useful for them. This could be either in terms of proving or improving or a combination of both.

The most critical element in the PIM process is being honest about the reason for carrying out the exercise and being realistic about its potential. The importance of this cannot be overestimated as it has effects on all conceptual and operational aspects of PIM.

The poverty impact monitoring exercise the Colombo Municipal Council (CMC) carried out gave a good illustration of the level of intense

discussion needed to identify the specific objective of an exercise. After they were involved in an exploratory study on poverty impacts initiated by the German Technical Co-operation (GTZ)/ Participatory Improvement of Underserved Settlements in Colombo (PRIMUSS) project, five departments in the CMC expressed interest in PIM. While the PRIMUSS project was the only one with a reporting obligation, others decided to initiate action with no pressure from a controlling agent. All groups, including GTZ/PRIMUSS went through a very intense process of discussion to arrive at specific objectives, which in the end differed greatly, despite having the common general objective of assessing the impact on poverty.

In terms of conceptualising the system, the reason for focusing on impacts will have a direct link to setting the impact boundaries as well as deciding on the approach taken in the conceptualisation.

3.2   Approaches to poverty impact monitoring

Building on the existing knowledge base of PIM, CEPA approached poverty impact monitoring from two basic angles:

- changes as the entry point
- intervention as the entry point

One approach to impact monitoring is to take the changes seen at the higher levels as the point of departure, and then attempt to trace them back to identify how the project contributed. This is commonly known as the project-transcending approach and is frequently used in looking at impacts of integrated programmes and sector-based programmes.

The most popular form of impact monitoring uses the project intervention as the entry point and looks at purpose-related impacts. This follows the goal-orientated logic of working through the pre-drawn

impact hypothesis. The impacts observed are frequently those that occur once the project outputs are achieved.

Within the approach that takes intervention as the point of entry, PIMU and later CEPA[3], expanded the impact boundary to include what is termed context-related impacts. These were impacts that could occur during the project process. These impacts are not part of the goal-orientated logic of the impact hypothesis but occur in a parallel space. The context-related impacts have been strongly felt and often dealt with by the project staff but have not been adopted into the formal monitoring system. Monitoring of these impacts is done by identifying a few strategic fields of observation and carrying out a basic but continuous observation.

An important factor to remember is that these approaches are not mutually exclusive. They are complementary and, depending on the objective of the PIM exercise, can overlap.

3.3   Who should carry out poverty impact monitoring?

The question of who carries out impact monitoring is not simply an operational issue. It is a conceptual issue, as it is linked to the objective of PIM, the design of the system and its subsequent use in decision-making. The main focus of PIMU and subsequently of CEPA, has been on the balance between professionals internal and external to the project in the monitoring exercise. Other questions were 'Which of the in-house professionals should be involved?' and 'How should they be involved?'

Generally in its advisory capacity, CEPA encouraged projects to conceptualise PIM as an internal process. However, experience has shown that it is not always feasible nor is it desirable for PIM to be a predominantly internal process in all its stages. External input has

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[3]   The PIM Programme of CEPA built on the concepts and methodologies developed by the Poverty Impact Monitoring Unit (PIMU).

the advantage of specialised expertise in PIM, relative objectivity and greater capacities because PIM is their main function.

These experiences lead us to discuss the following:

- what is the link between the PIM objective, project context and the degree of internal / external input?

- to what extent does a project need to internalise PIM? At what level do project staff need to be made aware – should it be all staff, field staff, M&E operational staff, or decision-making managerial staff?

There is no definitive answer to these questions. However, a number of factors, such as brainstorming to arrive at an optimum balance on the basis of the specific project context, can help in the process.

Within a learning orientation, an improving or project-steering rationale benefits greatly from considerable internal involvement. "If you want to learn from it, do it yourself". This is particularly relevant when deciding the specific areas of learning that would benefit the project and setting the impact boundaries and scope of information to be generated.

Objectivity and personal/professional distance from the project becomes important, when the objective is orientated towards proving, thus leading to an external bias. The external bias is also most justified in the case of ex-post impact assessments or assessments based on milestones.

CEPA's experience suggests that the involvement of internal professionals is most important and possibly essential at the stage of deciding why PIM should be carried out and when setting the impact and monitoring boundaries. PIM that is pre-determined - either by the project conceptualisation or external consultants – is inevitably reduced to a reporting exercise, completely removed from the on-site project staff and operations.

In the extreme case of PIM being carried out purely for the pragmatic reason of meeting reporting requirements, internal involvement can – and frequently is – limited to data collection. The initial stages of setting impact boundaries, identifying indicators, as well as later steps of analysis and reporting can be carried out by external professionals. Frequently, a few internal professionals who consider it an administrative function rather than an integral management function carry out the later steps.

A further consideration is the timing of the PIM exercise. Continuous steering, which is linked to the improving objective, is generated by a monitoring process rather than an assessment and evaluation process. Internal involvement would be essential at all stages of the PIM design and implementation. This, however, does not mean a complex system. The existing M&E Staff can monitor a few critical impacts and corresponding indicators with the assistance of the operational staff

Time-based or milestone-based external studies are by nature carried out periodically and lend themselves well to external input.

Addressing the question of who within a project should ideally be involved in the PIM process, CEPA has moved towards the position that all staff need to be aware but only some staff will have direct functions. The conventional method is to involve local staff or field-level staff in the data collection stage and monitoring staff in data-entry and analysis. However, these are operational tasks. In CEPA's experience, what has become apparent is that impact monitoring is less about information than it is about systems. Very often, we see that the results of IM exercises do not surprise project staff – through their constant interactions with the project beneficiaries and partners, they often know what to expect. The challenge is to provide space to systemise this information in a manner that feeds into project planning; to absorb the existing informal knowledge into a formal management and monitoring system. This, at

times, could be as simple as formalising communication between teams, departments and persons.

In summary, the advantages of internal involvement are linked to greater ground-relevance arising from greater knowledge of context, greater learning and openness to new ideas, which will lead to higher levels of absorption in project steering. Constraints on internal involvement are linked mainly to objective judgment, and capacity. Internal capacities are constrained in terms of time, resources as well as skills and knowledge of PIM.

An interesting experience CEPA has had with projects that were in a process of deciding on the internal or external orientation was that much more careful thought goes into the objective of the exercise when project staff are closely involved in all the steps. The relevance of the end product of PIM to the project and the feasibility of what is proposed is examined in much greater detail and with greater interest when there is a high degree of internal involvement. In such circumstances, the PIM would go through with a greater level of conviction of its benefit to the project and commitment by the project staff.

3.4 Bridging the attribution gap

The final concept to be discussed here is "attribution". This could be considered to be the most fundamental concept in impact monitoring. There is general agreement about what is meant by attribution and the related problem of the attribution gap. Nevertheless, a commonly acceptable method of dealing with attribution gap has yet to be found.

CEPA has been working with the conventional definition of attribution. Attribution is conventionally defined as the extent to which changes can be linked to a specific intervention while taking into account other interventions, confounding factors and external shocks.

The attribution gap is widely understood to be the problem faced in isolating or estimating the impacts of a single programme or project against the acceptance that development is a result of a large number of intervening factors.

As can be expected, dealing with the attribution gap is one of the main challenges of the PIM programme at CEPA. In training workshops the concept is unfailingly brought up in the time slots left for clarifications. Translation of the word "attribution" into Sinhala or Tamil often aggravates the problem. Experience has been that moving the focus from the word "attribution" and unpacking the concept that lies behind it– particularly with the use of examples – is the most successful path.

In practice exercises as well as in real-life situations where CEPA is providing advice to projects, the greatest challenge is to identify impacts which find the balance between an attribution gap that is too broad to bridge convincingly, or is too narrow for the change to be considered an impact. Interestingly, individuals who are quickest at absorbing the concept of the attribution gap are those with experience of a cross-section of interventions of different intensity, such as senior government officers who are seconded to projects. Those whose experience is limited to small or medium-size projects find it much harder to accept that the contribution to the overall problem may not be that significant, despite achieving activity targets.

CEPA's work in bridging the attribution gap has been geared at attempts to establish plausibility by focusing on significance of the contribution, the direction of the contribution both in relation to the general direction of change and the specific areas of project interest.

A very specific study undertaken by CEPA in relation to developing a methodology to facilitate the bridging of the attribution gap has been the study titled 'Understanding development trends in the Central province

of Sri Lanka: A project transcending model of impact monitoring'.[4] This study developed concepts with the specific intention of experimenting with the project-transcending approach. It is discussed further in the methodology section of this paper.

The orientation tested out in the JIMOD study has been used extensively by CEPA in combination with the more conventional project-based approach when advising development projects and impact assessment studies. CEPA approached the issue from two angles, simultaneously:

- from within the projects following a purpose-related and context-related approach

- from a level broader than the project, by looking at the changes that have occurred in the macro environment, that is, the project-transcending approach.

One method frequently followed when operationalising such a multiple approach is to conceptualise the impact studies by taking the project as the point of entry where the impact boundaries are determined by the project spaces. Data collection within the impact boundaries (household, community, other stakeholders or sector) takes changes in the environment as its point of entry, that is, the project-transcending approach. The macro level is considered to be the space closest to the impact boundary.

Approaching attribution in this manner allows conclusions to be reached about the plausibility and significance of the project's contribution to the observed change. However, it does not allow for definite information on the magnitude of the contribution. It does, however, allow for understanding of other factors that contributed to the change.

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[8]   This study is commonly referred to as the JIMOD study

4. Methodological Issues

CEPA's general methodological approach tends to be qualitative using primary data collection as a basis. Emphasis is given to building on existing methods through experimentation and adaptation.

However, despite the fundamental qualitative orientation, CEPA strongly subscribes to the idea that quantitative and qualitative methods are not mutually exclusive and should be combined in a way that best addresses the needs of the PIM exercise. Monitoring and evaluation have been traditionally supported by quantitative methodology. Over the years, qualitative methods have gained acceptance, especially in areas such as participatory monitoring and monitoring of soft interventions, such as social mobilisation and empowerment. As in other forms of monitoring, impacts have mainly been monitored by quantitative methods. For example, the impact of roads has been looked at in terms of travel hours and vehicle increase, while the impacts of agricultural interventions have been looked at in terms of increase in yields and farm-gate prices. However, as the understanding of impacts moved beyond measurable and objective changes into the area of broader changes, and the definition of poverty moved beyond consumption and income to include socio-cultural, political, protective variables, the use of qualitative methods gained prominence.

CEPA chose qualitative methodologies because they are more sensitive to the multidimensional definition of poverty and to the broader definition of impacts to encompass changes of varying types. It was also felt that it was an area that gave scope for greater experimentation in both understanding the issues involved as well as developing methods. However, CEPA does incorporate quantitative methods in its methodology. Examples are the use of secondary data to set the context of the impact area, use of frequencies, percentages and trends to provide the micro context to the findings and prevent the over-

emphasis of outlier case studies. The main orientation, however, remains qualitative.

CEPA's attempts at adapting conventional methodology can be seen at two levels:

1   the overall methodological approach followed by the PIM exercise and

2   at the level of the more specific methods such as dealing with baselines, indicators and other tools.

4.1   Methodological approaches to PIM

4.1.1 Change-orientated approach

One of the stated objectives of the JIMOD study was to develop an impact monitoring model which would attempt to overcome the programme/ project bias by approaching the issue from wider development trends in the socio-economy. The aggregated developmental trends of a region are monitored and projects and programmes explore the extent of their own contribution to this process of change.

The methodology developed for this was made up of two inter-linked processes. On the one hand, a multidisciplinary team of researchers worked on the comprehensive study of the development trends in the Central province. On the other, a second team worked with the projects/ programmes to obtain an overall picture of project interventions in the province and to facilitate self-assessment of possible contributions of development trends in the province. These two elements were brought together in a dialogue workshop, which discussed the potential links of the projects to the overall development trends. This approach sought to bridge the attribution gap by approaching it from the two sides of aggregated change and self-assessments of project contributions.

In line with the exploratory nature of the methodology, the study used a package of multiple methods – household survey, participatory assessment and regional socio-economic analysis self-assessments - with the objective of looking at change from different angles. The multiple methods approach continued with the combination of primary (household survey) and secondary (regional socio-economic analysis) sources being used for data and the use of quantitative methods (household survey, regional socio-economic analysis) and qualitative methods (household survey, participatory assessment, self assessments).

CEPA learnt a great deal about methodology from this study. The full methodology was felt to be too complex and highly challenging in terms of coordination and maintenance of quality of output. The level of success achieved in bridging the attribution gap was felt to be questionable. Nevertheless, adjusted versions of this methodology were used by CEPA in other poverty impact assessments such as the ex-post evaluation of the Kandy Integrated Rural Development Project. The basic conceptualisation of the methodology contributed substantially to enabling impact monitoring to be approached from the angle of change.

4.1.2 Project-orientated approach

The methodology of the project-orientated approach is probably the best worked-out in poverty impact monitoring. CEPA has generally followed the conventional methodology of gearing the monitoring towards the project purpose and goal. CEPA has tried to develop the methodology further in monitoring context-related impacts, that is, impacts that occur while the project is on-going but away from the project purpose/goal. In its advisory role, as well as through training workshops, CEPA has constantly advocated the idea of identifying fields of observation, which will enable the on-going monitoring of potential context-related impacts. This does not need complex design or tools. However, it does need a systemisation of observation and information flow. Local-level, particularly field-level, staff are often very well-informed about context-

related impacts. The focused impact study carried out as part of the Integrated Food Security Project (IFSP) end-of-project review showed that field officers who carry out social mobilisation, and development of community-based organisations have a very high degree of knowledge about changes in the context in which they work. Very few projects have space to inject this knowledge into the monitoring and project steering system. Project monitoring rarely conceptualises them as variables to be monitored.

Experience has shown that it is not the tools used that are important, it is the need to accept the importance of context-related impacts and to build them into the monitoring system.

4.1.3 Combining the two approaches

The methodology developed for the PIM exercise carried out for PRIMUSS combined the two approaches discussed above. Starting from a project base (the impact monitoring requirements of the project), it broadened out to a change-orientated approach that explored the changes within a very large impact boundary (poverty in Colombo settlements). At this stage, the changes in different dimensions of poverty in the urban settlements were explored along with the causes and consequences of these changes. Within the context of what was learnt, the second phase of the study then reverted to a project-orientated approach when the specific monitoring exercise was designed.

The methodology used was heavily slanted towards the qualitative approach. Change was explored using tools such as trends and attributions at the community level, and life histories at the household level. One approach that was tried was to balance internal (project and counterpart staff) and external (CEPA staff) actors in the study team. This phase, which focused on change within the larger impact area, was biased towards CEPA input as external specialist. However, the design of the methodology included a very high level of participation from the project and counterpart staff. A working group was set up, as in the case

of studies such as JIMOD, to provide input from the conceptual stage to the dissemination of findings. In addition to the working group, a much larger group of predominantly counterpart staff was included in every step of the study. This was primarily through a series of workshops, at which most of the critical decisions about the study were made; deciding on objectives and the scope of the exercise, areas of enquiry, target audience of the exercise, and sample site selection. The participation of a range of counterpart staff – from the level of senior management to field staff – was emphasised.

The second phase, which moved to develop a poverty impact monitoring system from the project-orientated approach, had a strong bias towards project and counterpart input. CEPA provided specialist input on an external advisory basis. As the project was ongoing at the time, the project-orientated approach looked at purpose-related impacts as well as context-related impacts.

An important learning point about developing methodology has been the need to move between approaches, depending on the particular context of the exercise; the approach that is most sensitive to the objective should be used and it does not need to be used in isolation.

Another learning point was that there was a great benefit in achieving a good mix of external and internal contributions at different stages of the exercise. The high level of follow-up from the counterpart can be linked directly to the participation in the exercise.

4.2   Baselines, indicators and tools

The discussion will move from the methodologies used in the design of PIM studies, to the micro elements of methodology. Baselines, indicators and tools for PIM always arise in initial discussions with clients who are considering carrying out PIM. They are also the issues that are most often addressed in PIM training workshops.

While acknowledging that these are critical elements of PIM, CEPA strongly feels that pre-occupation with baselines, indicators and tools, frequently overshadows more important aspects, such as why PIM is being considered and the productive use of information generated. Experience has shown that too often PIM systems are reduced to baselines and indicators, accompanied by an emphasis on data collection. This can lead to an information overload which is neither cost-effective nor necessary.

An important aspect to keep in mind is that baselines, indicators and tools are all means to an end. The focus should be on the function of the method rather than the actual method.

4.2.1 Baselines

Two issues are dealt with in this section:

- is a baseline a prerequisite?
- can impacts be examined if no baseline data exists?

The fundamental base of impacts is change. Knowledge of the situation before the intervention and after the intervention or between the situation with intervention and without intervention is an unavoidable prerequisite. However, whether the lack of baseline data prevents impact monitoring / assessment is questionable.

An analysis describing the situation prior to a development intervention is generally accepted as baseline data. Ideally, such data would include quantitative data on variables specific to the intervention focus. Such baseline data, however, is most frequently available only in relation to project activities and outputs and very rarely in relation to impacts. The very nature of impacts can be an inhibiting factor in collecting accurate baseline data. Impacts which are outside the project boundaries, the interest in unexpected and unintended impacts and the low level of orientation towards impacts at the project design and preparatory work

stage leads to a paucity of impact orientated baseline data.

This, however, need not be an insurmountable obstacle. The need for baseline data arises from the need to understand change – primarily its direction and magnitude, and, if possible, stakeholders and contributors to the change. The type of information needed for such an understanding would depend on the type of impacts under consideration and the level at which they occur.

Impacts that are linked to measurable, objectively verifiable indicators, for example, nutrition indicators and prices, with commonly accepted definitions would necessitate baseline data. Such impacts would also most often be monitored using quantitative methodology. However, when the focus is on household and community-level poverty in multidimensional terms, such indicators become less accessible and less accurate in reflecting reality.

Two broad categories of information relating to project focus and the project environment are needed to understand the before scenario as relevant to impacts.

- information relating to the project focus: a precondition of impact monitoring is project monitoring / knowledge on project activities and outputs, that is, the subject which will contribute towards the impact needs to be known.

- the environment within which the project operates and to which it contributes: in terms of the environment to which the project contributes, the existence of baseline data/information is an advantage. However, it is not an essential precondition

- information regarding project activities are generally available with the monitoring units of the project or can be reconstructed with fair accuracy.

Three approaches can be followed in relation to changes in the

environment in which the project operates (the impact area in terms of household, community or sector/region):

- reconstruct baseline data (before data) and compare with current data (after data). The baseline can be reconstructed using secondary sources such as baselines of similar projects, formal sources such as local administrative data (available, with some gaps, up to the GN level of disaggregation), functional authorities linked to line ministries

- looking directly at change using qualitative methods such as life histories or trend analysis. Care must be taken always to triangulate with households, focus groups and key persons when these methods are used.

- use of comparative groups which are identified as comparable to the before situation of the group under review.

In the work carried out by CEPA it is the last two approaches that have been used most often, with particular emphasis on the second approach.

4.2.2 Indicators for PIM

The function of an indicator in impact monitoring is to provide reliable means to observe change by acting as a proxy to varying elements that make up a total change.

While indicators are the backbone of monitoring systems, the nature of impacts, as defined earlier in this paper, creates the need to focus on certain issues, in contrast to indicators that are used in other forms of project monitoring. Discussed below are some issues that have come up frequently, particularly when CEPA provides advisory services to development projects:

1. *How specific can or should impact indicators be?*

Developing an indicator according conventional project management is based on the SMART criteria[5]. The integral difference in the subject to be monitored, however, creates a difference between impact and project (activity, output) indicators. CEPA's experience has been that poverty impact indicators which are very strictly defined in terms of time and measurement unit at the project design stage tend to become unrealistic and self–defeating within the poverty impact monitoring rationale. This is mainly because:

- Many of the variables that make up the different dimensions of poverty do not lend themselves easily to accurate detailed measurement.

- The high degree of effort needed to reach a very basic level of reliability, makes the use of conventional indicators inefficient.

- Very specific indicators provide an illusion of accuracy in identifying contributions, which is not always realistic considering difficulties of attribution.

2. *Setting few strategic indicators and fields of observation to be monitored on an ongoing basis.*
   Impacts to which a project would be contributing to are extremely varied. It is neither possible to monitor all these impacts nor to develop indicators for all aspects of impacts. When the conceptualisation of impacts includes context-related impacts, it would not be known at the outset of a project what impacts would occur.

   Hence, CEPA has promoted the concept of working with a few strategic indicators when looking at purpose-related impacts. These indicators can be worked out at the project design stage.

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[5]   SMART: Specific, measurable, attainable, relevant and time-bound.

For context-related impacts, indicators cannot be developed at the project design stage. Instead, fields of observation are identified on the basis of the impact boundaries identified by the projects. What specific aspects within these fields will change is uncertain and will have to be continuously monitored.

Methods such as analysis of impact chains and network analysis have been particularly helpful in identifying a few strategic indicators. CEPA encourages brainstorming and confirmation of the feasibility and value of each indicator by going through the following questions:

- what does it tell us and how important is this particular knowledge to the particular impact area?

- what is the value added, i.e. how much more does this indicator tell us in relation to what other indicators we are working with?

- what data is used for validation, how feasible is its collection?

- who is responsible for monitoring the indicator?

Figure 2: Features of a poverty impact indicator

Subject	A specific dimension of poverty occurring within the 'impact area'
Measure	Direction of change, significance (rather than magnitude) of change
Time frame	Set in relation to change

4.2.3 Tools

Tools, along with indicators and baselines, are one of the items most sought-after by the clients CEPA has worked with in developing or carrying out poverty impact monitoring.

An important aspect of CEPA advisory services, as well as training, has been the attempt to demystify tools for impact monitoring. The main point is that the tool should be suitable for the job. Some basic ideas followed by CEPA are:

- tools are a means and not an end

- tools should be sensitive to the specific need

- if the correct tool does not exist, adapt existing tools or create new tools

- tools, like methods, can be used in combination. Conventional and new tools, quantitative and qualitative tools, can be combined.

When using unconventional combinations and adaptations, the following need to be highlighted to ensure the rigour of the final results:

- new or adapted tools have less acceptance than conventional tools

- ensure that the process and rationale of the tool is clear and the results can be justified.

CEPA works with a combination of household interviews, focus group discussions and key person interviews. A large and varied portfolio of tools upon which to draw is an important prerequisite for research. Below is a brief discussion of a few tools that CEPA has found particularly useful when working within the micro (household / community) space. The tools have been selected to represent the diversity of conventional,

adapted and innovative tools that can be used in different environments and as tools that are sensitive to focal issues of change that enable the identification of attribution/contribution.[6]

- *Trends and attribution*:

This tool directly addresses the issues of change together with who/what contributed to the change, thus enabling an analysis of the project's contribution. In addition, it provides a focus on change despite the lack of baseline data. As it is mainly used in focus group discussions, it facilitates discussion and agreement on community level issues.

This tool facilitates entering the discussion on change by a project-transcending approach. It starts with the question of what has changed in the impact area in terms of relevance to the respondent. Working with the larger dimensions (broad areas) of change, as well as the specific aspects of change within these dimensions allows the respondent/s to articulate what are seen as the main changes, irrespective of the project perspective. Next, the causes and contributors to the specific changes

Figure 3. Example of the Trends & Attribution tool

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[6]   The discussion is not meant to provide sufficient information to use the tools.

are discussed along with the significance of each contribution. The link to poverty is made next with the discussion moving on to consider who wins and who loses as a result of the change, and its significance and priority in terms of specific aspects of poverty.

Project interventions may or may not be identified as contributory factors. If the project influence is not identified, the facilitator will bring it up once the discussion has reached its natural end. At this point the focus shifts to the project and the assumed impact chains are tested.

Trends and Attribution has been used extensively by CEPA in its advisory services with projects as well as in impact evaluation studies. It has proved a reliable source of information, with the particular strength of providing a holistic view of changes within the impact boundaries. The reaction of the respondents to each line item differs greatly depending on their context. For example, when the tool was used in a traditional agricultural village in Nikawaretiya, Kurunegala District, none of the causes and contributors to change identified were linked to any project intervention. In contrast, when the tool was used in a village in Morawawe, Trincomalee district, the main contributors to change were identified by a long list of external institutions.

Experience in using the same tool in different situations gives users a particular sensitivity to the underlying context of contributors to change.

- *Life histories***:**
This conventional tool with an anthropological narrative bias has been adapted for use in household interviews. Once again, the lack of a relevant baseline can be overcome through the information generated through the use of this tool. If used in conjunction with trends and attribution and the community level, high quality triangulation is possible.

This tool too, allows entry to the topic of change by the project-transcending approach, while leaving room for testing the project-based impact chain hypotheses.

• *Trend line analysis and network analysis*:
Both of these are conventional tools which adapt very well to impact monitoring needs. The trend line analysis can be used as a forerunner to the trends and attribution tool or in place of it in circumstances where impact boundaries are limited and thus the contributing variables are less complex.

An adapted version of network analysis forms the basis for impact chain identification. It is most successfully used in relation to other impacts, order of occurrence, and relationship to stakeholders. The methodology itself uses a simple network analysis where relationships are linked according to their importance and multiple links are examined.

Figure 4. Example network analysis

• *Animal analogy:*
This is a particularly unconventional tool, which can be used very successfully to identify ideas not easily shared. However, the tool can be used only if both the facilitator and the respondent/s feel comfortable

with its use in the specific context. In addition, the skill of the facilitator and the ability of the respondent to think creatively are important if the tool is to generate productive and interesting information.

The respondent is asked to compare the project /intervention to any animal that comes to mind. From this point, the facilitator leads the discussion through few basic questions, which leads the respondent towards the issue under discussion. The reasons given for the comparison frequently contain the core of the analysis. A series of such analogies, with different respondents, brings out critical issues that are shared, as well as outlier ideas. Most importantly, the tool allows for the discussion of sensitive issues under the guise of abstraction and humour. This tool is particularly sensitive to the sociocultural setting in Sri Lanka, where humour is frequently used to mask serious and sensitive issues. The tool is deceptively simple and as seen in the example below, the comparison of analogies given by groups of respondents (for example, villagers, project staff, advisers, counterparts) can give in depth analysis of impacts created.

Figure 5. Selected responses elicited through the use of animal analogy tool:

> *The project is like a….*
>
> *A cow:*   *gives a lot of benefits* (villager)
>
> *A Lion:*   *it is the lord of the jungle, more powerful than the others, and controlling all others as well.* (Implementer)
>
> *A dog:*   *medium size, faithful, useful, able to guide you; sometimes barking loudly and even biting.* (resource person)
>
> *A bear:*   *moves slowly, that is how it survives.* (advisor)

5.   Challenges Ahead

This paper does not attempt to draw any conclusions, instead it highlights some issues that were particularly challenging, some of which remain open issues.

Many of the challenges arise from the broad nature of impacts, which by definition occur outside our control and the multidimensional definition of poverty we subscribe to. In addition, the fact that poverty impact monitoring has not reached the level of maturity and general acceptance within the development field provides room for debate and adaptation. Even definitions of what constitute impacts differ significantly between economic-orientated schools and cross-disciplinary development schools.

In CEPA's experience this has provided two challenges: the need to have a good understanding of the concepts so as to not get too confused by changing terminology, and the need to be able to adapt and achieve a balance between contrasting issues.

The need to balance between manageable levels of operational simplicity without compromising too much the complexities of the real situation is echoed in many aspects of conceptual as well as methodological issues in PIM. CEPA has often needed to achieve a balance between an impact boundary that is too narrow or too broad, between qualitative and quantitative methods, external and internal elements of the team, between the ideal system and the feasible in terms of resources available. Impact monitoring needs to be recognised as a separate type of monitoring, but one must not think of it as a very complex and specialised activity. An optimum number of indicators or fields of observation needs to be strategically picked to find the balance between being constantly occupied with impact monitoring and doing it too rarely to enable project steering.

CEPA has felt the challenge of needing a higher level of integration of qualitative and quantitative conceptualisation and methods. A more pluralistic approach needs to be developed; an approach that combines the strength of measurement with the strength of understanding. Within the development research sector, this is very well acknowledged but rarely practised to its full potential. CEPA too has failed to reach the level of integration it would see as ideal.

Overall, it can be said that CEPA's experience has led it to accept that, given the current level of knowledge and engagement in poverty impact monitoring, increasing the poverty impact orientation of projects and programmes is important. If impact orientation is genuinely improving, it will start reflecting initially in the sensitivity of the project to the larger environment and the context in which it works. As orientation gets stronger it will be reflected in the decision-making process in a pro-active as well as a reactive form.

Annex

Comparison of different appriaches to PIM

	Project as point of entry		Changes as point of entry
	Purpose-related	Context-related	Project-transcending
Basic Rationale	Follows cause and effect relationship of the pre-conceived development hypothesis	Based on the rationale that the project interventions and the environment are strongly linked, focuses on impacts occurring parallel to implementation.	Focuses on important changes at the macro level and interventions that caused it.
Why you would do it?	To prove that the project is meeting / has met its poverty goals, to improve the potential for the project to meet its poverty goals.	Primarily to improve project steering, by being sensitive to changes beyond the immediate project boundary.	To understand the plausible contribution of project interventions to macro level changes.
Basic practical steps	Determining impact area and potential impacts based on project rationale / proposal	Determining impact areas based on project rationale / proposal	Identification of relevant parameters / main changes, trends for research
	Selection of critical impacts to be monitored and development of indicators and methodology for monitoring.	Identification of critical areas of observation (fields of observation) and develop simple observation schedule and feedback to project steering.	Independent analysis
			Identify project contributions to areas of change
	Implementing the monitoring cycle	Regular revisiting and adjustment of impact areas and fields of observation.	Identification of direction and significance of project contribution to macro changes

Comparison of different appriaches to PIM Contd.

	Project as point of entry		Changes as point of entry
	Purpose-related	**Context-related**	**Project-transcending**
Decision information generated	The potential for reaching intended impacts What impacts have occurred	Changes in the project environment: - Which are caused by the project - Which will effect the project	- Project contribution with the trend or against the trend - Relative significance of the project contribution
Important requirements	Analytical skills, logical thinking, systematic practise	Context sensitivity, understanding systems, lateral thinking	Analytical skills, preparedness for dialogue, realistic judgement.
Who should be involved?	Project planners, project teams, M&E specialists, External evaluators.	Project teams, external facilitators	Independent study team, facilitators.
Limitations / weaknesses	o Impacts are narrowly defined in terms of project purpose / goals. Is less sensitive to overall changes. o Tendency to postpone to the future – finally carried out as part of the end of project evaluation.	o Choosing the critical areas for observation needs a high degree of contextual knowledge. o Attribution problems occur due to multiple influences rather than the length of the impact chain. o The attribution can be very weak due to the length of the impact chain.	o Methodology is complex and necessitates large teams. o Real dialogue between research, practice and policy is difficult hence use is limited.

4. Facilitating Future Poverty Research in Sri Lanka - Student Presentations

Fiscal Impact of Civil Strife on Poverty and Income Distribution in Sri Lanka

DV Pahan Prasada [1]

Abstract

This paper looks at the distributive effects of fiscal interventions. The fiscal intervention examined in the paper is the National Security Levy (NSL) that was in operation from 1995-2001. Studying the NSL serves an additional purpose as it allows us to capture some of the impact of the North East conflict on the rest of Sri Lanka. NSL was a flat-rate tax levied in a broad-based manner. The tax affected many imported or manufactured commodities. This kind of tax can have distributive implications; did it have a progressive or regressive effect on income distribution; did it fulfil the requirements of horizontal and vertical equity?

A number of methodological approaches that could be used to evaluate the impact of taxes are discussed. The theory of welfare dominance as represented in Lorenz and Tax Concentration curves is utilised for making inferences.

The food and non-food expenditure data from the Sri Lanka Integrated Survey (1999/2000) are used for the analysis. Expenditure is considered as a proxy for income in attempting to select a representative variable of household welfare. Partial equilibrium assumptions form the foundation of the incidence framework. The concentration curves become the inferential tool to determine how progressive the intervention was. The empirical analysis concentrates on ten commonly consumed commodities.

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[1]   University of Peradeniya.

The results obtained reveal certain striking flaws in the design of tax instruments, whatever their purpose. Out of the ten commodities considered, eight items show clearly that taxes on them were regressive in effect. Only in the case of one commodity did the tax appear to be progressive. Even though this study is retrospective, valid pragmatic inferences can be made in relation to future policy: poorly targeted indirect tax instruments with wide coverage could lead to worsening of already significant inequality.

1.   Introduction

It is often said that poverty is a multifaceted phenomenon; so is the idea of poverty diagnosis. Multifarious approaches have been developed over the years to capture that elusive 'true' picture of poverty and inequality in its entirety. However, because poverty is a relative concept, the search for tools and methodologies for measuring it and its related aspects has not been exhaustive.

The methods used for looking at poverty fall into several categories: microsimulations, macroeconomic analysis and fiscal analyses, which can be used in combination to assess conceptual and pragmatic implications.

This study considers the poverty and inequality theme in connection with fiscal aspects, in other words, how taxation affects the income of the general public. The specific case considered is the National Security Levy (NSL). The choice of this tax serves another purpose since it helps to illustrate how taxation spread the financial burden of the conflict in the north and over the whole country. From a slightly different point of view, the study examines how government budgetary policy affects the public in general and the poor in particular.

The subject of income distribution is inextricably linked to that of taxation, because virtually every tax system changes or attempts to change the proportion of income enjoyed by different groups in society.

Fiscal interventions in the form of taxation are usually examined quite critically in developed countries. Tax structure and tax reform in developing countries in general have received much less attention. Nevertheless, tax impacts on poverty and income distribution are of enduring relevance in the context of social welfare. Taxation is a theme that needs to be considered seriously since governments of developing countries always need to balance the need to raise revenue against the

social burden of taxes on the poor. This balance is bound to be politically sensitive.

It is common knowledge that when the demand for items subject to indirect tax is inelastic, retail prices tend to include the ultimate tax burden, which is passed on to the consumer. For essential goods and services, such price increases will be imposed on all consumers whatever their income, an apparent violation of the vertical equity principle in tax design.

1.1   North and East Conflict

The conflict in the North and East began in 1983 and has been having devastating social and economic impacts on Sri Lanka ever since. The strife has developed significantly over the years, creating a potential threat to national integrity. The causes are largely sociopolitical but the conflict has given birth to a host of socioeconomic consequences; loss of human life, a huge financial burden on the government budget, destruction of public property, poverty and inequality impacts both in the areas directly affected by the fighting and in the rest of the country. Many national and international initiatives have been tried to bring lasting solutions to the on-going conflict albeit with little tangible success.

A broader perspective of this study is on an economic implication of the war, that is, the distributional impacts of financing the war through public revenue. The rationale is that, to fund the war, the government needs to raise funds additional to the general public safety budget. Many tax options were implemented, one of which was the National Security Levy (NSL). NSL was implemented in 1995 and was in force till 2001. This period, during which the armed combat was at its worst, stands out from the remainder of the unrest.

The NSL was the single largest revenue provider for military expenses (contributing up to 55% on average), during the years of its implementation. Military expenditure was approximately 5.6% of the national GDP. (Central Bank Reports: 1991-2001)

Diagram 1(see table 1 for details)[2]
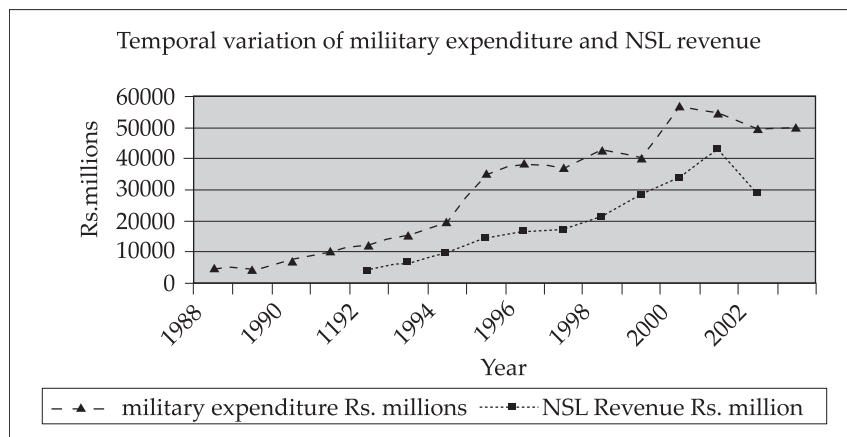
1.2   NSL and its implications

The rates at which NSL was levied were as follows: (Sri Lanka Tax Guide and Inland Revenue Department reports, 1999/2000)

- 2% of the value of all imported capital goods. (Exemptions were granted for imports used in the manufacture of exports; items imported for temporary use and repairs; goods imported for sale at duty-free shops).

- 4.5% of the value all other items imported and manufactured within the country.

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[2] Annex 1

The above rates of taxation were operational for all economic activities in the period of study. Almost all the items that came under NSL regulation produced price increases. The exceptions were some domestic products, where the burden of the tax was fully borne by the producer, since a price increase would render their items uncompetitive in the open market.

This study examines the effects of taxes on ten commodities consumed by the surveyed population. Based on the respective incidence assumptions, the tax burden falls either on consumers or on producers with or without a dead-weight loss.

2.   Conceptual Background of Tax Incidence Studies

The distributional impacts of a tax can be analysed in several ways; taking the household as the unit of analysis (considering the impacts on income and expenditure) or else considering individuals or entities (corporate/ non-corporate) as the unit of analysis

The effects can be analysed in a temporal sense as pre-tax and post-tax on any given unit of analysis. Spatial impacts also matter in terms of empirical validity, since such analysis can provide useful evidence for regional policy planning. The spatial element has additional value when one clearly perceives geographical variations in the consumer response to fiscal interventions which affect commodity prices. Considering the dynamic / static nature of tax impacts would add another dimension to analysis of the effects of a tax.

The above discussion suggests that, depending on the context of the analysis, any tax study could be very complex. Nevertheless, it is useful

to remember that even at its simplest, that is, static effects at one point of time, a tax analysis is capable of providing valuable input to policy formation.

Most analyses of indirect tax incidence are concerned with the share of taxes paid by different groups. The only data necessary are (1) a variable that defines the groups, and (2) an estimate of the taxes paid by each group, where one considers "taxes paid" to be the loss in real income. The most common source of these data is a nationally representative household survey, or a household income and expenditure survey, as published by national statistical agencies. Usually, the groups are defined by welfare levels – poor versus non-poor, or each quintile of the welfare distribution – so one needs a variable that ranks people by welfare. Most studies choose to rank by household expenditures.

Estimates of the taxes paid by each group are more difficult, and it is helpful to explain first what to do once such an estimate is obtained. The simplest sort of comparison notes that group 1 pays so much of tax 't', group 2 so much, etc. Most commonly, where one wants to group people by welfare status, the groups might be poor and non-poor, or people in each decile of the welfare distribution. It is easy to make a much more useful comparison based on the theory of welfare dominance, which also offers the advantage of involving individual agents rather than groups of agents.

The theory of welfare dominance provides general criteria that allow us to conclude that one distribution of welfare is better than another for broad classes of social welfare functions (Saposnik, 1981; Shorrocks, 1983; Foster and Shorrocks, 1988; Yitzhaki and Slemrod, 1991; Lambert, 1993). One particular application of this theory is particularly useful for tax incidence analysis. Shorrocks (1983) shows that if the generalised Lorenz curve for one distribution of welfare is everywhere above the generalised Lorenz curve for another, then the first distribution is preferable to the second under any social welfare function that is (1)

increasing in the welfare variable, (2) anonymous[3], and (3) equality-preferring.

Since the Lorenz curves tend to be quite close together, even for major tax changes, concentration curves are easier to see and work with (*the definitions of the tools mentioned here appear at the end of the document*).

Another key concept in tax incidence terminology is tax progressivity. This concept can be clearly defined, but measurement can be complicated. A tax is considered progressive if the average tax rate rises with increasing income (that is, if the marginal tax rate is above the average tax rate); proportional when the average tax rate is constant; regressive when the average tax rate falls with increasing income (that is, if the marginal tax rate is below the average tax rate)

To understand the context the following issues warrant attention:

- Tax analysis often employs choice of expenditure as a proxy for income. Income data is rarely available in general household surveys; whenever they are available the reliability is questionable. Use of expenditure data has certain theoretical advantages since expenditure values are better indicators of lifetime/permanent income. Existing theories of household consumption behaviour – life cycle hypothesis and permanent income hypothesis - argue that expenditure better represents permanent income, thus acts as a better proxy for long-term welfare.

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[3]   **Anonymity** means that the welfare function does not take account of where each person in the ordering is, or whether a person changes position from one ordering to another. **Equality preference** means that if we generate a distribution by taking an existing distribution and transferring a small amount of welfare from a better-off individual and transfer it to a worse-off one, the new distribution is preferred to the old. The potential of this comparison to be applied generally makes it quite attractive. To use it, we need only construct two generalised Lorenz curves, one pre-tax and one post-tax, and check to see if one is clearly above another.

- Unit of Analysis concerns the choice between individual and household as the basic observational unit. Since expenditure is assessed for different households, the household becomes the unit of analysis. Per adult equivalent is another unit of analysis, which is preferred over the individual because of its ability to capture household size. (Demeri, 2000)

- Average and marginal measures, as two parameters, have their own advantages but marginal measures (as structural tools of analysis) are more useful for forecasting purposes.

- Even under highly progressive tax regimes, it is likely that poor people would be faced with high implicit tax rates on their wages. This is another important behavioural consideration in tax incidence studies.

3.   Methodology

Data

The sample frame was based on secondary data from the Sri Lanka Integrated Survey carried out in 1999/ 2000. The income and expenditure data were collected from 7,500 households from all the provinces in the country covering 30,581 individuals. Section 6 of the SLIS questionnaire collected expenditure (money value of purchases, home production and in-kind receipts) information on 62 items, and quantity information on 57 items of food.

The data were classified on a spatial basis and the survey was formulated as a two-stage stratified design, with district and sector classification. The primary sampling unit was the Grama Nildharai (GN) division and the secondary sampling unit was the household.

The analysis was based on taxed consumption of different commodities by the sampled population. The aim was to assess the burden of a tax on a given commodity on the different income classes of the sample population as shown by the concentration curves.

3.1 Selection of commodities

Ten commodities from the formally taxed items were used to evaluate the progressivity of the National Security Levy. For each commodity the Gini coefficient and the Atkinson's index were calculated in order to determine the consumption pattern of the respective commodities. The selection of items was based on the expenditure on food and non-food items in the household section.

Several criteria were used to select ten items. The fundamental consideration was that the item selected fell into the formally taxed sector, since many items traded domestically can evade the impact of a given tax depending on the nature of the market. Therefore, items which were imported for purposes of routine consumption were chosen to avoid inconsistency, for example, 80% of the consumption requirements are imported and as a result taxed. A commodity where a significant proportion of the national consumption was domestically produced and traded in informal markets will not come under statutory taxation regulations.

The other aim was to select items, which constituted the daily consumption of the average consumer, representing different categories of commodities, i.e. food, non-food and service related items, e.g. transport fees. Wheat flour, mysoor-dhal, milk powder, sugar, cigarettes and kerosene come from the short list of 37 items which added up to a budget share of 93.25% of the total budget of the reference population. This percentage suggests that these commodities were critical expenditure items in routine consumption.

Tinned cereals and LP gas are mainly consumed by higher income groups. Soap was identified as a widely purchased non-food commodity. The frequency of consumption of the item by the sampled population was assessed for the whole list of items covered by the Sri Lanka Integrated Survey questionnaire.

3.2 Analytical framework

The total survey sample frame of 7,500 households was used for the plotting of concentration curves and Lorenz curves and cardinal measures of inequality were made for the total data set. The distributive analysis has been conducted using 'DAD' software for evaluating the coefficients of concentration and plotting respective curves of concentration for different commodities. The Lorenz curve was used for total household expenditure, providing a foundation for inferences on the concentration curves.

The cardinal measures of inequality (Atkinson's Index and Gini coefficient) were estimated in order to reveal the inequity in the consumption pattern of the selected commodities from a static point of view. The distributional burden was assumed to fall completely on the retail buyer. The calculation of taxed consumption for each item was straightforward and considered as included in the expenditure figures as revealed in the data collected. The Lorenz curve showing the total expenditure by household serves was the benchmark for drawing inferences from graphical outputs of concentration curves.

3.3 Limitations

Welfare dominance based on the partial equilibrium framework provides only partial answers to the problem of estimating the burden of taxes and the imposition of such a burden on different welfare groups.

Some of the conspicuous inadequacies in the approach can be listed as follows:

- The inability to account for behavioural responses to tax implementations over a long period. This is critical from a practical point of view. It is in the nature of the average consumer to shift to viable available substitutes away from commodities whose prices have increased because of taxes. These issues can only be incorporated if time series data on consumer expenditure patterns are available as panel data sets.

- The second issue is the case of intermediate goods, when certain items could be used as inputs for other final outputs. The best example is gasoline, which could be taxed both as a final good and an intermediate input for public transport, another significant expenditure item in the daily budget of the lower income classes.

- The third limitation is the restrictions implicitly imposed by existing market conditions, since the assumptions of perfectly competitive conditions are rarely fulfilled in actuality. In non-competitive market environments taxes imposed on commodities do not abide by the simple shifting assumptions made in the partial equilibrium framework.

The study suffers from its dependence on partial equilibrium assumptions. These provide realistic foundations for import-based items. They are not adequate when a certain item has domestic origins with significant local value addition. In such a situation a price increase to incorporate a tax burden will make the item uncompetitive compared to imported substitutes.

The choice of the appropriate time duration, during which the income or the consumption should be gauged in order to estimate the incidence of tax burden poses an additional challenge to the tax analyst. In other words, it is about whether one should rank the households on the basis of their annual income or on the basis of their lifetime income. The lifetime income will obviously show less variability compared to that of the annual or monthly income (or expenditure). This has an important implication given the fact that the annual household consumption is more related to the lifetime income than the income in a particular year. Furthermore, lifetime income incorporates two considerations which the annual income concept overlooks; the inclusion of common patterns of cash inflow, asset accumulation and consumption and the reduction of variability in income due to unemployment or changes in family status. This fact also reinforces the propriety of selecting expenditure as a proxy for income in tax analysis. Interestingly, it has been observed that a broad-based VAT could appear regressive when considered on the basis of some measure of current income while the same tax will appear proportional when viewed relative to some measure of consumption based on comparative studies (OECD, 1988 and Davies et al., 1988).

4.   Results and Interpretations

The following figure provides a guideline for interpretation of the graphical results of the concentration curve analysis. The 45 degree line is the line of perfect equity, i.e. if every household had identical income or expenditure this line would represent the distribution of the variable across the population. Any disparity in the distribution of income/expenditure would result in the cumulative income/distribution curve caving downwards from the 45 degree line. The curve titled "cumulative expenditures" represents the cumulative expenditure curve as is the case in this particular study for the 7,500 households in the Sri Lanka Integrated Survey 1999/2000. This serves as the benchmark for

comparing different concentration curves and determining the level of regressivity or progressivity of the tax. The cumulative expenditures curve is represented by the Lorenz curve for the total expenditures in this study.

Figure 4.1- Progressivity and Regressivity Compared with the Lorenz Curve

Cumulative share of households, from poorest to richest

Cumulative share of taxed consumption
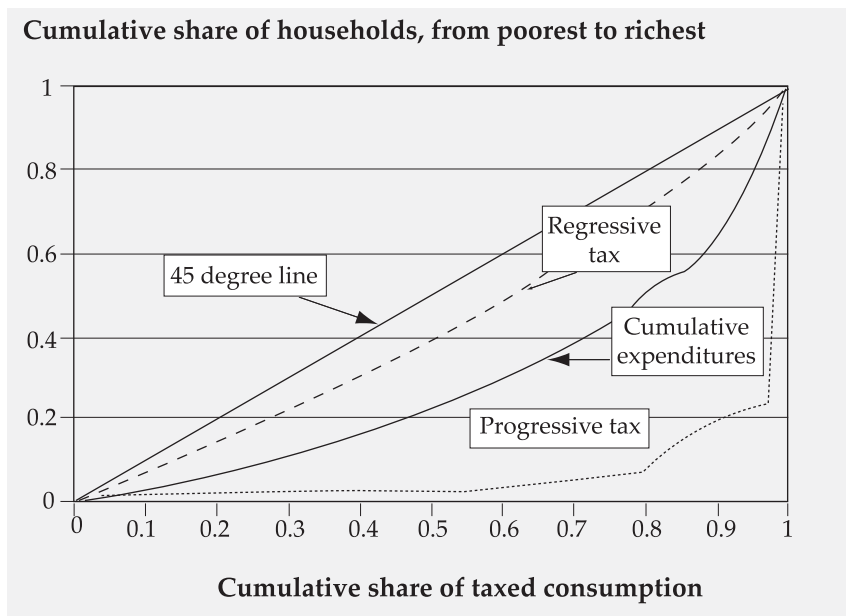
If the concentration curve is above the Lorenz curve and below the 45 degree curve, the tax instrument is classified as regressive, i.e. the impact of taxed consumption of the particular item concerned is concentrated more on the lower income classes. Alternatively, if the concentration curve for the commodity falls below the Lorenz Curve, this indicates that a larger component of the taxed consumption falls on the higher income classes.

The following table summarises both the individual parameters and the inferences.[4]

Commodity / service	Gini coefficient	Atkinson's index	Coefficient of concentration	Distributive impact related inference
Milk powder	0.59	0.52	0.26	Slightly regressive
Wheat flour	0.72	0.58	0.16	Moderately regressive
Tinned cereals	0.96	0.95	0.39	(Inconclusive)
Sugar	0.39	0.15	0.15	Moderately regressive
Mysoor dhal	0.49	0.31	0.15	Moderately regressive
Cigarettes	0.89	0.84	0.28	Slightly regressive
Soap	0.39	0.16	0.10	Highly regressive
Kerosene	0.64	0.43	0.10	Highly regressive
LP gas	0.88	0.86	0.48	Progressive
Transport fees	0.67	0.48	0.29	Slightly regressive
Total household expenditure	0.38	0.12	0.38	

The numeric values for the cardinal measures indicate the degree of inequality in the taxed consumption for different commodities and services. The higher the value of the index or coefficient, the higher the disparity in consumption across the reference population. A low value for any parameter would mean that all the income classes are being taxed, more or less equally, on the given commodity.

The above table, especially the final column, serves as a basis for a comparative explanation of the findings. The inferences in the final column can be explained using both the graphical outputs and the numeric outputs i.e. the coefficient of concentration. The curves that are given below are the curves obtained using the data on taxed consumption of each of the items selected for the analysis. The graphical outputs serve an additional purpose since they show how taxed

consumption of a particular item affects different income classes in the income distribution, as against a single numerical measure for a single commodity.

The selection of items above is not supposed to cover the total commodity consumption basket of the average consumer, but rather to assess distributional aspects consequent upon the implementation of the national security levy. There is no attempt to generalise from selected items to other items. The research focus is on the need for proper selection of items to be covered in the enforcement of an indirect tax instrument.

Concentration (Curve)
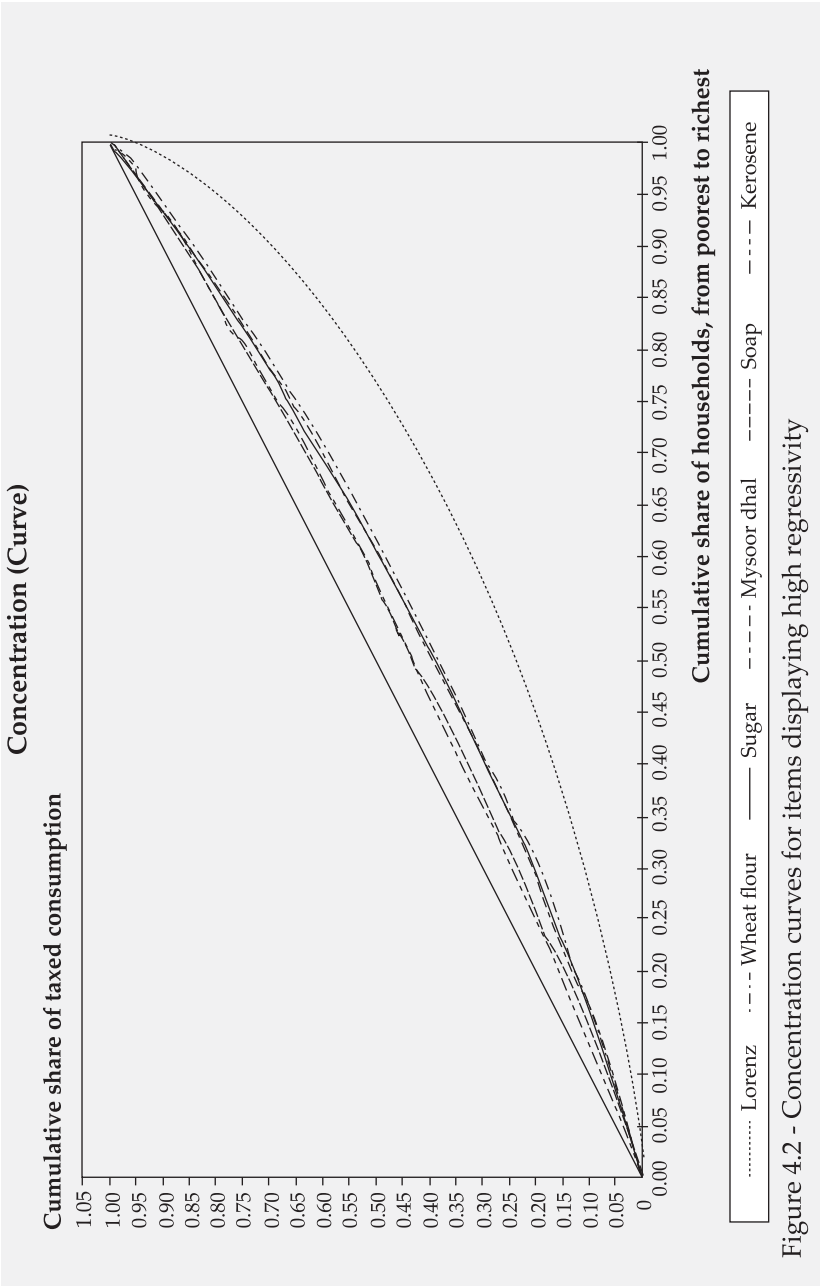
Figure 4.2 - Concentration curves for items displaying high regressivity

Figure 4.2 displays the concentration curves for soap, mysoor-dhal, kerosene, wheat flour and sugar along with the Lorenz curve for total household expenditure. The fact that the concentration curves for this group of items appear above the Lorenz curve leads to the inference that the impact of the tax instrument has been regressive to a greater degree.

Concentration (Curve)

Cumulative share of taxed consumption

Cumulative share of households, from poorest to richest

------ Lorenz ——— Cigarettes ········· Milk powder – · – · – ––– Transport fees
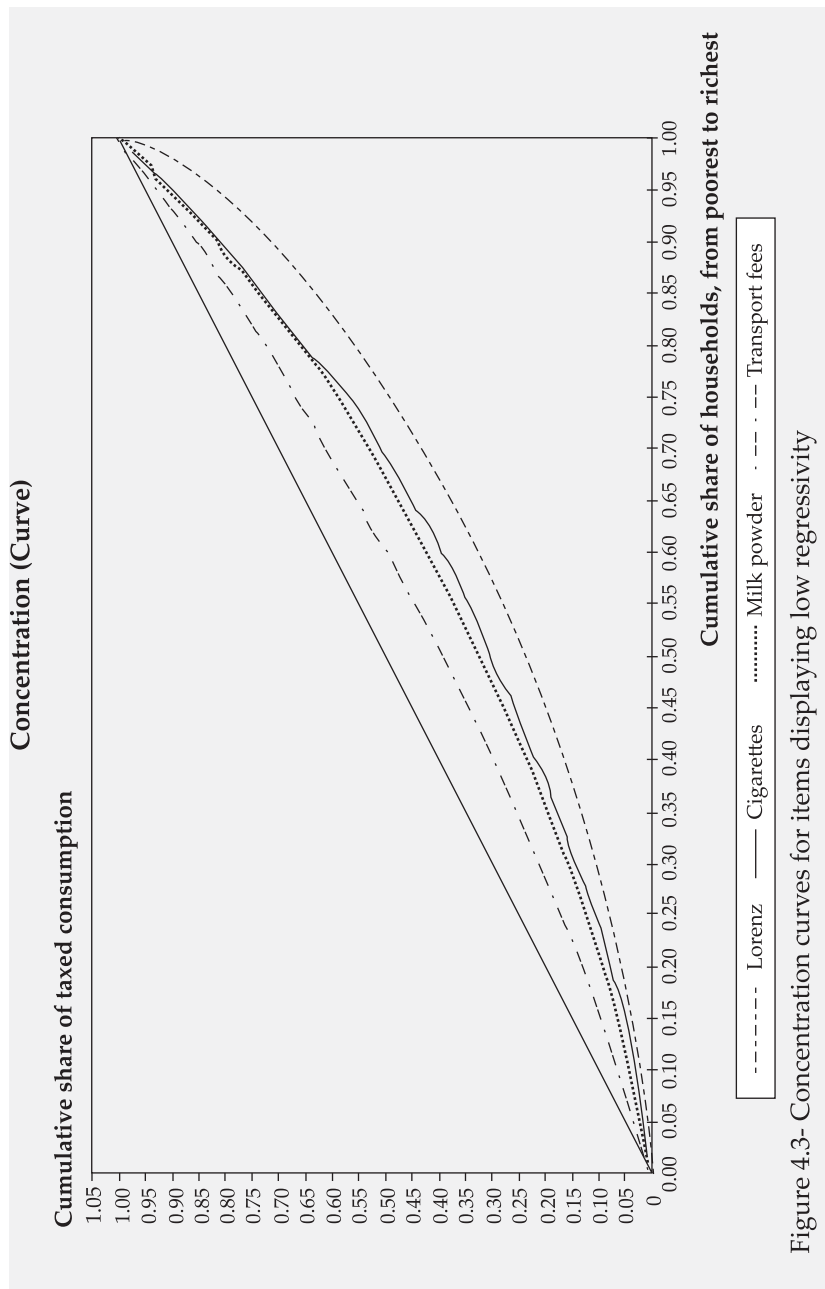
Figure 4.3- Concentration curves for items displaying low regressivity

Figure 4.3 shows the concentration curves for transport costs, milk powder and cigarettes; the regressivity decreasing in that order. As the concentration curve gets closer to the Lorenz curve it means that the tax impact is distributed across the population in a way that is identical to the overall welfare distribution (measured by the total expenditure in this case).

The behaviour of the concentration curves in the case of LP gas and tinned cereals is documented in Figure 4.4 below where tax impact on LP gas shows clear progressivity across all income classes while tax concentration for tinned cereals appears regressive for lower income classes only.
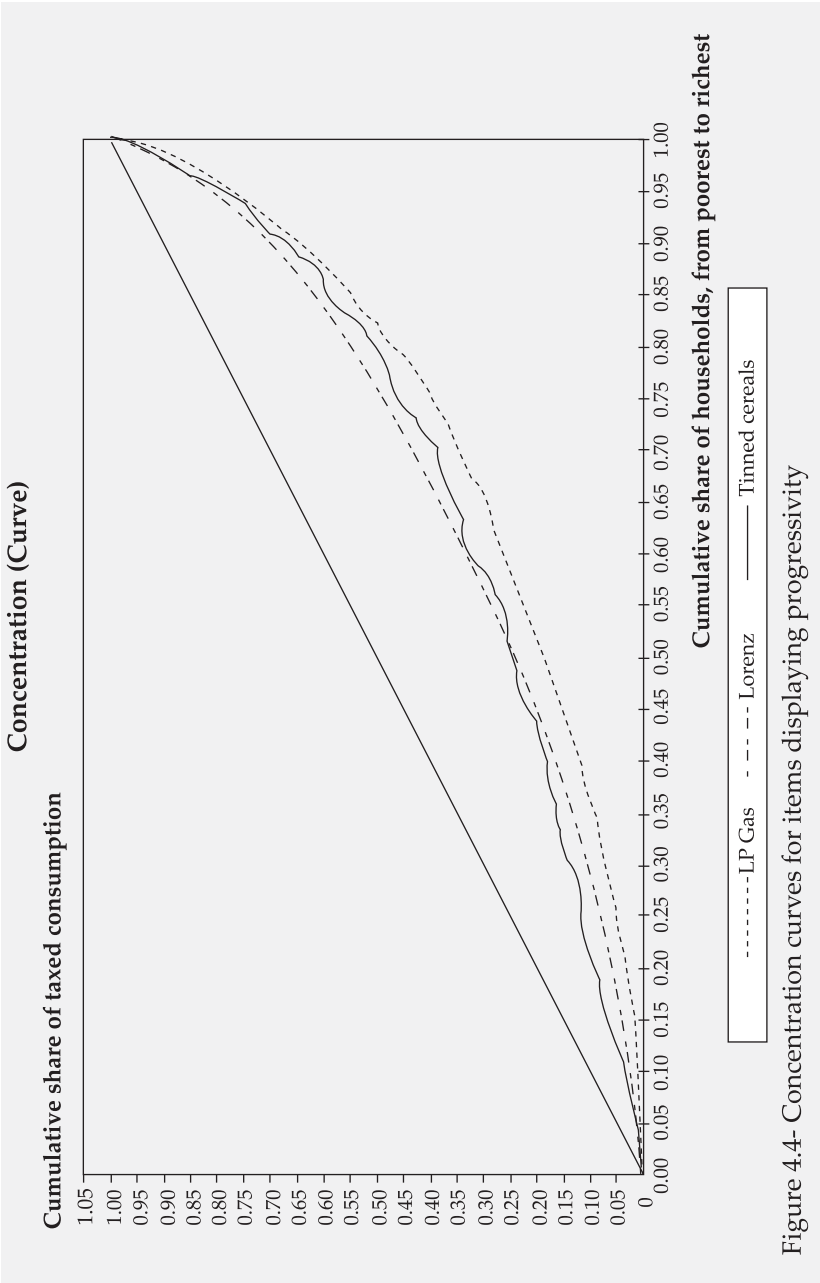
Figure 4.4- Concentration curves for items displaying progressivity

The progressivity of a tax is not all that matters when one is attempting to evaluate the impact of it. Economic efficiency, administrative convenience, and the potential for raising a reasonable amount of revenue are important considerations. Progressivity is an issue that will remain uppermost in the minds of policymakers because of its sociopolitical ramifications.

5.   Study Findings

The study produces some clear findings;

- Out of the ten commodities considered for analysis, only taxation on LP Gas showed clear progressivity. Taxation on eight items showed regressivity in distributional impact.

- The commodities on which taxation showed the highest regressivity have been consumed with a high frequency, in terms of the number of households.

- The tax was imposed to raise funding for the military. The commodity analysis shows that it was poorly designed and as a result the lower income classes bore a greater burden of funding the war. This was an explicit violation of the vertical equity concept.

- Another fact that emerges from the results of the study is the unfairness of imposing a flat rate on all commodities. A higher rate imposed on items consumed by the upper income classes would have been more effective in raising the needed revenue, and would have been progressive rather than regressive.

An interesting feature associated with individual commodity analysis as against the overall incidence analysis is that such results help to determine the probable incidence of a particular good or service that could be brought under taxation in future reforms, and alternatively to

distinguish items which should be exempted from taxation on equity grounds.

Such disaggregated analysis would be especially useful when commodity consumption patterns are dependent on socioeconomic and other demographic variables that cannot be incorporated in a broad-based nationwide analytical framework. For example, if a hypothetical commodity A is being consumed by several communities in the estate sector, incorporation of the tax incidence on this commodity would not create any additional information for a national perspective. The incidence data on this particular commodity as a single item would inform policy advice on commodity taxation.

Policy makers can develop a more vivid picture of consumption patterns by comparing the equity implications of various tax instruments on different commodities rather than from the information they get from structural indices of tax effects, i.e. average and marginal tax rates on different welfare classes.

6.   Concluding Remarks

6.1   Policy implications

Tax revenue plays a vital role in the budgets of most countries where it is the dominant source of revenue for financing public expenditure. This is a fact that needs no elaboration since the developing world is grappling continuously with the challenge of meeting increasing expenditure burdens, with budget deficits escalating each year and facing the grim picture of comparatively low Tax Revenue / GDP ratios. On average, the ratio is 0.18 for most developing countries while it is as high as 0.30 in the developed world (Morrissey and Gemmell, 2003). Indirect commodity taxation, without detailed reference to the consumption patterns and profiles of the respective income classes, is widely used

to address this issue. Such tax instruments could prove detrimental in terms of equity considerations because inappropriate commodities and services are selected as potential sources of tax revenue.

A possible argument against indirect tax is that it contradicts the state's own welfare aims. Governments of developing countries in general have numerous, elaborate, pro-poor transfer payment schemes which constitute a significant proportion of annual budgetary allocations, aiming to strengthen the livelihoods of the poor masses. Indirect tax covering items consumed by all income classes bear disproportionately on people with low income. . In such an instance, the effect of indirect taxes offsets the purchasing power offered through the transfer payments. This contradiction of its own interest by the state would, in fact, lead to a wastage of public money (by way of an unnecessary transaction cost) spent on implementing the transfer payments as well as tax collection.

Historically, policy makers have not given their attention to the concept of redistribution when designing taxes. This may be because there are numerous subsidies and direct transfer payments which are conventionally identified as pro-poor instruments. Another issue that should be addressed is the prevalence of "implicit" forms of taxation in most developing countries. Price controls, punitive exchange rates and other consequences of economic liberalisation discriminate against the agricultural sector, (still the main source of employment for the rural poor) and tend to act as implicit forms of taxation, adding to the burden of indirect commodity taxes targeting daily consumption, irrespective of income class.

6.2   Possibilities for further research

In any empirical study the sample frame itself is an important factor. In the Sri Lanka integrated survey, the sample was meticulously designed to represent the total population of the country. Therefore, the inferences,

statistical or otherwise, would be descriptive of the total population. Fiscal implications (like tax incidence) need not always be carried out at national level. Identification of different populations based on different objectives e.g. communities, ethnicities, geographical areas could be quite revealing, especially when the rest of the country (areas other than the north east) is not uniform in its socioeconomic parameters.

Another area for potential research is spending incidence analysis, a separate discipline by itself, where one could look at who will ultimately benefit economically from military expenditure on account of civil war. Going a little further, the two fiscal aspects, that of tax incidence and that of spending incidence could be integrated to provide what is referred to as budgetary incidence analysis, where all stakeholders involved in the issue are captured in an economic perspective.

Expenditure incidence could follow the same line of methodology as that adopted here. There are studies of this nature available in the tax incidence literature. Concentration curves could be used as a tool to produce the graphical outputs, helping to compare different expenditure instruments. Another potential addition to this kind of welfare dominance studies is the statistical tests conducted to validate the inferences obtained by concentration curves. This is especially important when the graphical outputs are inconclusive.

Results based on the welfare dominance approach utilised in this study are by no means conclusive. Such results could be qualified further and their reliability could be augmented by the judicious use of alternative methodologies. There are other ways of pursuing empirical and theoretical evaluation of tax reforms, with reference to the differential tax incidence; the situation when one tax instrument is substituted with another so as to maintain the revenue at its original.

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Table1- Temporal variation of military expenditure, NSL revenue and the ratio between the two variables

Year	Military Expendi- ture Rs Millions	NSL Revenue Rs Millions	NSL/Military Ex- penditure Ratio
1988	4732		
1989	4073		
1990	6736		
1991	10317		
1992	12136	3744	0.31
1993	15413	6589	0.43
1994	19415	9693	0.50
1995	35186	14408	0.41
1996	38177	16441	0.43
1997	37062	17274	0.47
1998	42496	21079	0.50
1999	40071	28127	0.70
2000	56915	33539	0.59
2001	54242	43065	0.79
2002	49163	28695	0.58
2003	49721		

Definitions

Concentration Curve

The concentration curve is an important normative and descriptive tool, used in evaluating the impact of tax and transfer policies. It can capture the horizontal and vertical equity concepts related to tax impacts on social welfare.

The concentration curve is defined as,

$$C_{T(p)} = \int_{0}^{p} \frac{\overline{T}\,(q)\;d\,(q)}{\mu_{T}} \qquad\text{------------------------------- (01)}$$

Where $\mu_{T} = \int_{0}^{1} Qt\,(p)\,d\,(q) = \mu_{x} - \mu_{n}$ is average taxes across the population, Since population size is normalized to 1. $C_{T(p)}$ shows the proportion of total taxes paid by the p bottom proportion of the population, and X and N signify the gross and net incomes respectively.

In general use, concentration curves are usually estimated by ordering a finite number n of sample observations ($X1;\ N1$)…. ($Xn;\ Nn$) in increasing values of gross incomes, such that

$X1 \leq X2$ ………$\leq Xn$, with percentiles $pi = I / n$; where $i =1…..n.$

Lorenz Curve

The Lorenz curve is one of the most popular graphical tools for illustrating and comparing income inequality. It provides complete information on the whole distribution of income relative to the mean, and therefore gives a more comprehensive description of the relative standards of living than any one of the traditional summary statistics of dispersion pertaining to income distribution. The Lorenz curve has the advantage of being able to establish orderings of distributions in terms of inequality.

$$L(p) = \int_0^P Q(q)dq / \int_0^1 Q(q)dq \hspace{2cm} (02)$$

$$= 1/\mu \int_0^P Q(q)\,dp$$

The numerator $\int_0^P Q(q)dq$ sums the incomes of the bottom

p: proportion (the poorest $100p\%$) of the population. The denominator *sums* the incomes of all. Since population size is normalized to 1, the denominator gives average income μ. $L(p)$ thus indicates the cumulative percentage of total income held by a cumulative proportion p of the population, when individuals are ordered in increasing values of their income. For instance, if $L(0.5) = 0.3$, then we know that the 50% poorest individuals hold 30% of the total income in a population.

Atkinson's index of inequality

The Atkinson class of measures has the general formula:

$$A_8 = 1 - \left[\frac{1}{n} \sum_{i-1} \left[\frac{y_i}{\overline{\overline{y}}} \right]^{1-8} \right]^{\frac{1}{(1-8)}} \hspace{2cm} (03)$$

Where ε is an inequality aversion parameter, $0 < \varepsilon < 1$: the higher the value of ε the more society is concerned about inequality (Atkinson, 1970). The Atkinson class of measures range from 0 to 1, with zero representing no inequality. n is the number of observations in the population while y is the income variable.

Gini coefficient

It is defined as follows (Gini, 1912):

$$\text{Gini} = \frac{1}{2\,n^2 y} \sum_{i=1}^{x} \sum_{j=1}^{x} \left| y_i - y_j \right| \qquad \text{------------------} \quad (04)$$

The Gini coefficient takes on values between 0 and 1 with zero interpreted as no inequality.

y represents the income observation for i and j , both I and j ranging from I to n where n is the total number of observations.   y is the mean income for the reference population.

International Female Migration From Sri Lanka: A Gender Economics Perspective

Jayanthi Tennakoon[1]

Abstract

International female migration plays a dominant role in the Sri Lankan economy and continues to have wide-ranging consequences. These have attracted considerable attention in academic research, which either places exclusive emphasis on the negative impact of female migration or tends to neglect the gender aspects of the migration process. Studies carried out in Sri Lanka on international female migration do not explain the reasons for migration within a gender framework but focus on the contribution of female migration only in terms of foreign exchange.

The present study uses a micro-level primary sample survey and comparisons with results from previous studies to assess the gender-biased reasons for migration and welfare improvements that result from female migration. It shows that the causes of female migration differ from the causes of male migration within a context of Sri Lankan patriarchal culture. Female migrants are directly or indirectly influenced by social as well as economic factors. This study also shows that female migration improves household living standards, since remittances increase investments in housing, infrastructure, sanitation, food consumption and children's education. It shows that improvements which result from female migration are greater than those arising from male migration. This study explains why the volume of female migration from Sri Lanka is significantly increasing, despite the negative effects highlighted in both the academic and popular literature.

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1. Introduction

Migration of Sri Lankans to look for work abroad is a relatively recent phenomenon. Apart from early twentieth century flows of migration such as that of Sri Lankan Tamils to Malaysia and the larger phase of voluntary migration in the 1960s of Sri Lankan professionals migrating to western European countries, the major phase of migration was that to the Middle East, which began in the early 1980s. These migrants were mainly young, married and unskilled workers. The most significant feature of these recent labour migration flows is that the migrants are predominantly women. Sri Lanka is the only Asian country from which there are far greater numbers of women migrants than men. (Weerakoon 2000). Most female migrants go to work as housemaids in the Middle East (SLBFE 2002). In recent times the highest total remittances recorded have been those of female domestic workers. (SLBFE 2002).

Most of the women working as housemaids abroad had not been actively seeking work in Sri Lanka. (Gunathilake 1991). Lower levels of education, few employment opportunities and lower wages in the home country prevented them from entering the domestic labour market. Yet, many studies of migration show a tendency to generalise the reasons for migration of both males and females at micro and macroeconomic levels. These studies neglect to consider how gender-biased sociocultural factors influence females to migrate[2]. Such factors may include improving ownership of capital by women or their bargaining position in the family, lower wages in Sri Lanka for females, self-improvement and escaping a repressive family environment. These gender-biased or gender-specific reasons for migration affect the more general reasons for migration such as building a house, promoting children's education and insufficient household income.

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[2]   Gender bias is a term used to convey the notion that social institutions do not treat men and women in a neutral way.

Many studies have focused on the importance of remittances from female domestic workers as an important source of foreign exchange. However, earnings from remittances not only increase the country's level of foreign reserves but also increase household income. In turn, potential for spending on housing, household durables, children's education and day-to-day consumption are increased. Yet, many studies deplore the fact that migrants spend a larger share of their income on non-productive consumption (for e.g. Rathnayake 1997). However, Taylor (1999) has argued that investments in housing and education increase productivity in the long run and result in higher living standards and improvements in family nutrition.

Female bargaining power increases with migration because many women become income earning members of households. (Kottegoda 2004). Increased female migration brings qualitative changes to women's lives. Although migration results in improvements for migrants' families, many studies mainly focus on the social cost of migration and the negative effects of female migration on families. According to Taylor (1999), migration can lead to greater autonomy and help women to escape from the repression they endure within the family. This study explains why numbers of migrant females are increasing steadily and women are continually seeking employment abroad. It provides a useful contrast to previous studies in that it focuses on whether female migration has brought benefits to migrants and their households.

The contribution of the present study is two-fold: it provides a gender-economic analysis of migration and it uses a broad-based definition to evaluate the impacts of female remittances on households; it covers consumption as well as investment in housing, schooling, infrastructure and new economic activities. The study provides a platform from which to address the criticism that the larger share of migrant remittances is used for non-productive consumption.

The paper consists of six sections. The second section explains the theoretical perspective on international migration, while the third section provides an overview of the empirical literature on international migration from Sri Lanka. This section further describes the theoretical framework of this study. The fourth section provides a description of the methodology that was used. The fifth section presents the main findings of the study. It analyses in detail the characteristics of female migration; how the migration decision is influenced by gender; improvements in welfare brought about through remittances; comparisons between male and female migrants are provided using secondary data. Non-migrant female behaviour also constitutes a part of this analysis. Finally, a general summary of the study, its limitations and main findings are presented in the concluding section where some policy implications have also been addressed.

2.   Economic Theories of Labour Migration

Several economic theories have been developed which try to understand why people move and what factors are most important in their decision to migrate. The impact of migration and remittances has been bracketed by two extremes, the "'Dutch disease" extreme, which is negative, and the "developmentalist extreme", which is positive. According to the study by Massey et al. (cited in Taylor 1999), the first extreme argues that migration drains the labour and capital of the home region, crowding out local positive effects and carrying serious negative impacts on the families and children left behind. The second extreme, best depicted in the New Economics of Labour Migration (NELM) argues that the migration decision is a family strategy to raise income and obtain funds to invest in new economic activities. It is also a development dynamic because it loosens production and investment constraints (Taylor 1999).

Why do people migrate? The first migration model identified in the literature is the Todaro model (1969) and the equilibrium form as the

Haris-Todaro model (1970). The main feature in the model is that the decision to migrate is a response to a difference between expected earnings in the home country and in the foreign country. The expected differential is determined by the interaction of two variables: the actual wage and the probability of successfully obtaining employment in another country; when deciding whether to migrate, the individual balances the probability of obtaining employment against risks involved in migration. Migrants move from countries with low expected earnings to those where expected earnings are high. The only concern Todaro emphasises is the (expected) wage differential factor, assuming migration is primarily an economic phenomenon.

The migration theory of the NELM expanded the Todaro model with other determinants of migration including worker's remittance rather than only the wage differential factor. Until then economics research focused on migrants as individual decision makers and on the individual effects of emigration on the labour market rather than on migration, remittances and their impacts within the context of the families and communities from which migrants come. (Taylor 1999).

Migration and remittances may reshape the economies from which migrants come, through indirect channels that are missed by traditional research approaches. For example, increased consumption demand by the remittance-receiving households may trigger investment and production of other households or firms. While migration is viewed as a development dynamic in the literature of the NELM, the development potential of remittances is assessed by Taylor including income growth, inequality reduction and poverty alleviation. Migrants' remittances directly contribute to increased income in migrant-sending areas. Income-growth in migrant-sending areas is associated with less income inequality. If a high proportion of migrants are poor, increase in income to which they contribute directly leads to poverty alleviation. As expenditure linkages transmit the impacts of remittances from the remittance-receiving households to other households and production

firms in the economy, the positive effects of remittances have multiplier effects on income, employment and production in migrant-sending economies.

Taylor (1999) points out that another reason for migration is to overcome constraints on local production caused by lack of adequate capital, and income risk faced by households. Most people migrate with the idea of obtaining funds to invest later in new economic activities. One way to invest in a new economic activity is to invest in a three-wheeler, van or truck. Migrants purchase vehicles, which they use for the transport of passengers or goods. Some people migrate to resolve income risk arising from crop failure, death or permanent disability of the primary income earner of the family and so on. According to Taylor, migration is partly a family response to income risk and migrants' remittances provide income insurance[3] to other members of the household (Taylor1999). This has a strong influence on the decision to migrate and remitting.

3.   International Migration Trends in Sri Lanka

Table 1. Recent migration outflows in Sri Lanka

Year	Male	Female	Total
1998	53867	105949	159816
1999	63720	116015	179735
2000	59793	122395	182188
2001	59807	124200	184007
2002	70726	132984	203710

Primary source: Information Technology Division SLBFE.
Secondary source: Statistical Hand Book 2002-SLBFE

The large-scale migration of Sri Lankans began in the early 1980s. As Table 1 illustrates, these outflows have steadily increased. The table also

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[3]   "Income insurance" means that the benefits of one family member's earnings accrue to the household as whole.

shows the high proportion of females among these workers. In the year 2002, females comprise 65.28% of the total outflow of migrant workers

It is also significant that domestic female workers form a high proportion of total migrants. In 2002, these migrant housemaids amounted to 53% (108,514) of the total as opposed to the total number of male migrant workers of 35% (70,726) thereby outnumbering them by a significant margin. as shown by figure 1.

Figure 1. Comparison of Male/Female Migrant Workers & Housemaids
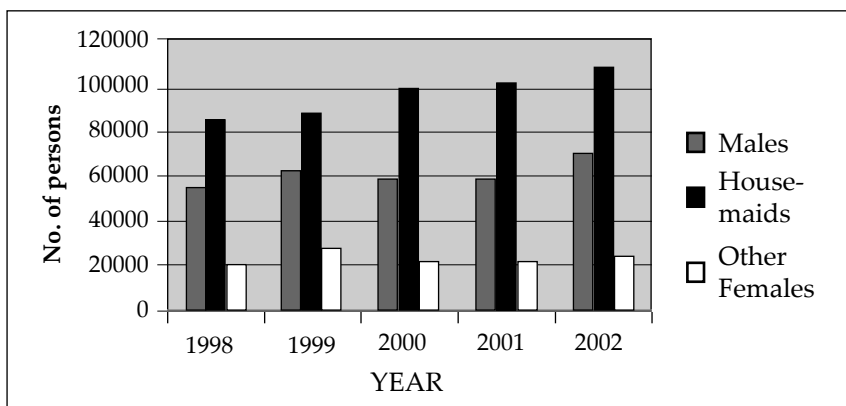
Source: Statistical Hand Book 2002-SLBFE

In the context of Sri Lankan culture, migration had wide-ranging consequences on individuals, family and the community. Thus, impacts related to the family of the migrants became important. It led to considerable interest being shown in the study and documentation of international migration.

An important study of international migration was done by the Marga Institute (1986), which was based on case histories of 50 migrants who were selected from a large sample of 510 in a survey. It was done mainly to identify the key decision-making processes and adjustments made by migrants and households, which could contribute to the success

or failure of the migration experience (Marga 1986). In this study, the impact of any household or individual characteristics, especially the gender aspect, was not discussed[4]. However, in analysing the housemaid category, the study considers females. It reveals that although female migration results in increases in family income, most failures have come from the housemaid category. These females were also dissatisfied with their earnings. Most of those migrant women expected to return to their position as housewives. The important questions that were not addressed by this study are the key factors, which forced females to sell their unskilled labour abroad and whether these factors are confined to only women. The study does not explain why Sri Lankan women continue to look for work as housemaids when there are more failures than successes in this category.

Two other studies conducted by Gunathilake (1984, 1994) consider the role of the family in the migration process. They found that migration is successful if it is planned by the migrant together with the family. When the decision is shared, it motivates family members to take additional responsibility and has a positive impact on gender relations within the family. A similar factor, which is not mentioned by Gunathilake, would be the level of commitment within the family. For example, if the husband is an alcoholic or a person with whom it is difficult to share the decision: his behaviour pattern directly affects the failure.

According to Gunathilake (1994), most studies conclude that the migrants who belonged to the low-income category have not succeeded in improving their quality of life. Most migrants who were employed in low-level occupations are not able to achieve any substantial economic improvement. Finally, they return to income levels which are not significantly higher than they had before leaving (Gunathilake 1994). However, he does not take into account non-income economic improvements, such as housing and education investments, nor is there

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[4]   Gender is a concept that refers to the social differences between women and men are changeable over time and have wide variations both within and across cultures.

an indication that consumption improvements such as nutrition were taken into account.

Five studies that focus on female migration and the decision-making process are those of Kanthiyapa (1995), Rathnayake (1997) Weerakoon (2000), Gamburd (2000) and Kottegoda (2004). Kanthiyapa (1995) has studied the nature of the decision making process of Sri Lankan migrant households using a sample of 100 families and secondary data. According to Kanthiyapa (1995), migration is definitely not a mere survival strategy; it is more a strategy for achieving savings and investments. In most cases in the sample, the migration decision was made by the migrant herself and none of the women had decided to migrate solely because they were compelled or influenced. Even though in some cases some one other than the female migrant made the migration decision, Kanthiyapa (1995) has analysed it as a favourable factor encouraging the migrant, rather than an unfavourable factor influencing the migrant. She concludes that migration is a rational decision of an individual with a strong personality. However, Kanthiyapa's (1995) view is limited, because the decision to migrate may not be a free choice, and this is particularly true for women. Although the migrant herself makes the decision, it may be influenced by background factors that are economic as well as sociocultural. For instance, one can migrate to earn more money or to improve the living standards of the family, or one may migrate in order to gain a better bargaining position in the family. Some women are forced to migrate for the sake of the family, even though Kanthiyapa's study (1995) does not provide any evidence for this. It is apparent that the decision-making process of female migrants should be further analysed taking into account the gender-biased sociocultural factors.

The factors that persuade women to migrate are many and various, but most migrate with the main intention of improving the quality of their lives. Weerakoon in her study (2000) cites several reasons: high unemployment rates at home, especially for women; rising prices and

lower wages in the home country; the expectation of receiving higher wages abroad. Many poor women have had no choice other than to seek employment overseas in order to support their families. In addition, she provides the macroeconomic framework for migration, highlighting the wealth disparities and the different economic needs of the sending country, Sri Lanka, and receiving countries. However, the study (Weerakoon 2000) only considers the wage differential factor. It lacks any explanation of migration in terms of increasing the ownership of capital by women or altering gender-biased bargaining positions within the family. The methodological approach on which the study is based is not explained, although recommendations are suggested.

Rathnayake (1997) also focuses on economic reasons for the decision to migrate. The study is a micro level study with a sample of 104 families including returned migrants. According to this study, the severe economic hardships faced by the family at the time of migration and the compelling desire for a better standard of living were the only reasons which determined the migration (Rathnayake 1997). The study concludes with little corroborative evidence, that female migration has serious negative impacts such as disruption of the family and that returnees spend too much on non- productive consumption.

Kottegoda (2004) specifically provides a gender-based explanation for migration and asserts that there are significant differences in the pattern of migration and of remittance utilisation behaviour between women and men. According to this study, male migrants are expected to act as providers, sending money home, whereas women migrants are additionally expected to take full responsibility for care of those left behind (Kottegoda 2004). She concludes that women's earnings as domestic workers abroad are considered as the main source of survival in most low-income households and it is considered as the way out of poverty in some households. The most common pattern found in this research is that the principle male, income-earner in the households often reduced their income earning activities when their wives migrated;

women often became the main income-contributor to the household. However, even though the study analyses the profile of migrants using a sample of 25 migrants, it limits its analysis of migration as a survival strategy for low-income households to only to five case studies.

Gamburd's study (2000) offers another example of a gender based analysis of female migration. According to her study, many men, when their wives migrate, come to rely on female remittances to finance their own daily household needs; female migration has brought about many changes in local gender roles and household duties. Women have taken the upper hand in controlling money, redefining what is meant by women's work, the nature of motherhood and the attributes of respectable masculinity. The study asserts that although the media have presented negative effects of migration, female returnees greatly valued their work opportunities abroad, since new financial independence gained through working abroad offered them a way out of untenable home situations (Gamburd 2000). Although the study analyses the role of female migrant in depth, it does not examine possible improvements in household welfare brought by migration.

The theoretical framework of the present study is dominated by explanations of the NELM. The NELM perspective suggests that the findings of the above studies cannot be considered conclusive. Two key factors remain to be considered. First, most surveys of remittance use define the productive investment in a narrow way. Second, none of the studies examined the gender-specific nature of the migration, even though causes and consequences of female migration are different from those of male migration in a patriarchal society where women play different social and economic roles in households and in society.

In addition to the wage differential factor (analysed here mainly in terms of the reservation wage[5] concept, because most of the women who migrate are not in the labour force prior to their departure), the present study uses a broad definition of family welfare. Many studies do not consider expenditure on schooling, housing, infrastructure, consumer durables and nutrition as productive investments because they do not create direct immediate effects on the investor. However, they can be considered "capital" in an economic context. Education leads to a healthy life and higher income level. Private benefits of education are greater than social benefits at all the educational levels. On the other hand, a well-built house makes for a better living environment. Electricity and clean water facilities lead to better sanitation and health and increased productivity in the long run, with economic benefits. Therefore, the definition of family investment in the present study includes investing in housing, infrastructure, food, schooling, new economic activity, and consumer durables.

4. Data and Methodology

This study was based mainly on a micro level field survey, since the available secondary data was not suitable to fill the gaps in existing literature. The methodology of the present study was limited to a descriptive analysis of the sample, focusing on

- general characteristics of female migrants

- main reasons for migration

- migration and changes in consumption pattern, investment expenditure and bargaining position

- current economic status of female returnees and their relationships within the family.

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[5] Reservation wage is the lowest wage a person accepts to enter into the labour force.

Using the data collected, the impacts of remittances on family welfare were analysed in terms of consumption expenditure and investment expenditure. It was based on food-related data, health-related data, dwelling-related data, data on children's educational expenditure, family savings and investment data on new economic activities. The analysis was focused to find what extent the families improve their welfare using remittances. These findings were then compared with information on male migrants regarding general characteristics, reasons for migration and remittance utilisation behaviour in order to find whether there is a difference in migrant's behaviour based on gender. For this purpose, the secondary data sources on male migrants that were used are shown in Table 2.

Table 2. Secondary data sources on male migrants

Source		Sample/population
01. Malsiri Dias (1986)	-	Three communities Paragahatota, Karandawa South, Nagoda each sample consists of 30 males
02. United Nations(1990)	- -	All migrants registered (through embarkation cards and licensed foreign employment agencies)
03. Godfry Gunathilake(1991)	-	Total sample=510 ,40 % are males
04. Amala De Silva, W.D. Lakshman, M.D.A.L. Ranasinghe(1995)	- -	Three samples sample 1- 50 % males sample 2- 80 % males sample 3- 60 % males
05. Sri Lanka Bureau of Foreign Employment (2002)	-	male migrants in Kandy district registered at the SLBFE

In addition, an indicative comparative sample was used to analyse non-migrant female behaviour. The data collected on non-migrants in the same sample was analysed in order to provide an additional insight as

to why one female migrated while the other did not in a given economic and social environment.

Time and financial constraints meant that the survey was limited to one Grama Nildharai (GN) division in Kandy district, and the sample was limited to 35 households containing female migrants. For the same reason, comparison with male migrants was based on secondary data. The comparison between female migrants and non-migrants was confined to six households which contained both female migrants and female non-migrants of roughly the same age and status.

The sample of returnees was drawn from Kandy district based on the fact that this district has the fourth highest number of female migrants (SLBFE 2002). Gangawata Korale Provincial Secretariat division was chosen because it had the highest number of female migrant workers among the Divisional Secretariat divisions in Kandy district (SLBFE 2002). Among its GN divisions, Poornawattha--West called Mahaiyawa, which recorded the highest number of migrants was selected. In order to obtain a sample, all families of returned female migrants who had migrated within the period from 1990 to 2001 were identified from a list provided by the GN. A returnee was defined for this study as one who spent at least one year working in the Middle East. The list was made up of 91 families in Poornawattha-West GN division. A random sampling technique (similar to a lottery system without replacement) was adopted to select 35 households, so that each name in the list had an equal chance of being selected.

The main data collection tool was the questionnaire. The design of the welfare module was based on two existing questionnaires: (1) a questionnaire developed by the International Food Policy Research Institute (IFPRI) as an operational tool for monitoring the poverty impact of development projects (Zeller, et. al.) and (2) the questionnaire of the Samurdhi beneficiaries' survey in Sri Lanka. These questionnaires collect household level information assessing standard of living and

access, utilisation and satisfaction with human resources, dwelling, food security and assets. The questionnaire of the present study consisted of four sections[6]. The first section was about general characteristics of the migrant. Questions about the pre-migration situation were included in the second section. It consisted of questions about family details, educational level and vocational training, employment status and income, asset ownership and the decision-making process. Section 3 included questions about remittance and remittance utilisation. Food-related, health-related, dwelling-related questions, occupational characteristics and income and investment -related questions were included in this section. Section 4 consisted of questions related to current economic status of female returnees and their relationships within the family. The same questionnaire was used to collect data on non-migrant females in the same household, using the relevant sections of the main questionnaire.

The interview method was used to fill the questionnaires, which included both open-ended and closed-ended questions. As the majority of the respondents in the sample were Tamil-speaking, a translator was used. Open-ended questions were asked to find reasons for migration while closed-ended questions were used to rank them according to their importance. A similar procedure was used for the questions related to remittance utilisation behaviour. The rest of the questionnaire was filled by asking closed-ended questions. Information on visible assets such as housing condition and infrastructure was obtained by observation.

5.   Female Middle East Returnees in Poornawattha West

The survey area, Poornawattha-West GN division, which covers 7.5 acres, is close to Kandy city centre. The community in this area consists of low-income families with low living standards and the majority were

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[6]   Full details of the questionnaire and response codes can be obtained from the author upon request.

living in slums and shanties. It is highly populated in relation to the land area. The population is about 6,000 with 245 registered houses and 850 unregistered houses. The ethnic division shows the presence of all four communities- Sinhalese, Tamil, Muslim and Burgher but the majority are Tamil. In addition, there are other mixed categories of people. According to the statistics provided by the GN, there are 270 Sinhala households, 470 Muslim households and 650 Tamil households.

A considerable number of the community works as city cleaners of the Municipal Council. A number of people, who sell vegetables, fruits and sweet meats at the Kandy public market and outside, also live here. Others have small retail stores within the community itself.

The Municipal Council owns the property rights of many houses in this area, and most of the land is occupied by leaseholders. Many houses, which are similar to shanties, have been passed from one generation to the next. In addition, population increases have caused land congestion. Many houses are occupied by extended families because they do not have the space to build separate houses. Most of these households use shared latrines and piped public water, which have been built by the Municipal Council.

The respondents in the sample fell into the age range 27-53 years at the time of interviewing and the average age of the sample was 30 years at the time of migration. 62% of the sample was married at the time of migration while nearly 76% of returnees were married at the time of the interview. In samples used in studies by the Marga Institute (1986) and the United Nations (1990), the majority of males were between 30 and 45 while most of female applicants in the same samples were between 18 and 35. For marital status, males showed a similar pattern to females in the same samples and to females in the present study.

The distribution of the sample according to the religion and ethnicity is given in Figure 2. It is apparent that the percentage of Tamils in the

sample is much higher than other ethnicities as is their share in the total population in the GN division.

Figure 2. Distribution of the sample by ethnicity and religion
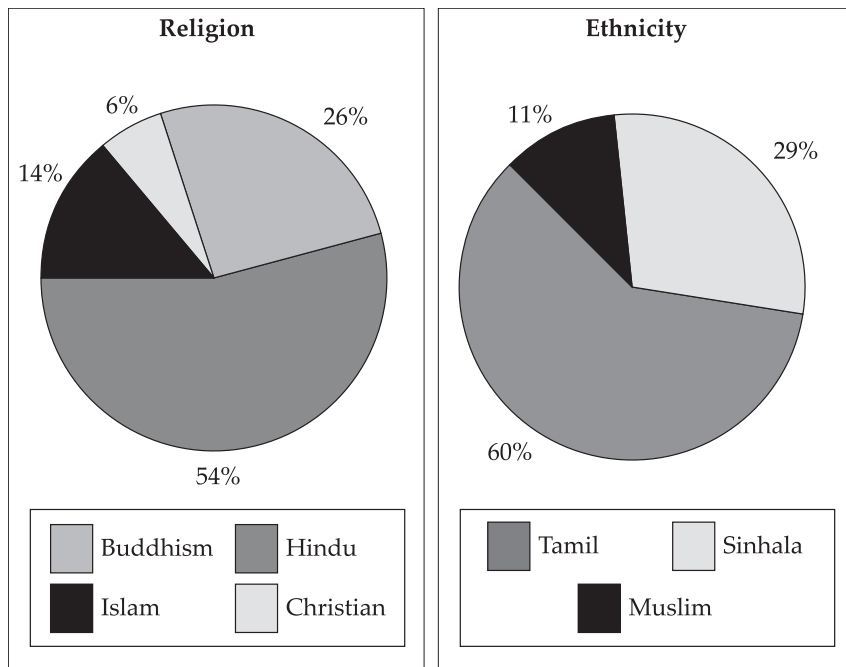
The average household size of returnees was six, while the average number of dependents in was 3.25. Therefore migrants were from families larger than the national average household size of 4.2.

The educational attainment of migrants was, on average, below GCE Ordinary Level. Nearly 6% of the sample had no schooling whatsoever, and none of the migrants records a GCE (A/L) attainment. Moreover, they lacked vocational or technical experience which was required for employment in the domestic labour market. The results are consistent with the results of the studies conducted by De Silva et al. (1995), the Marga Institute (1986) and the United Nations (1990) with regard to the female migrants. However, in these studies, males had acquired a higher

level of formal education combined with some form of professional, technical, vocational or apprenticeship training.

The employment status of the applicants indicated that nearly half of the respondents had not been in the labour force prior to their departure; as they were married, they may have stayed at home because of small children. Prior to migration 5.71% was unemployed, the same proportion was employed full-time and 14.28% was employed part-time. Nine migrants who constituted 25.71% of the sample had worked abroad at least once and all of them had worked as housemaids. The employment status of the male applicants as shown in the study by Marga institute (1986) and Gunethilake (1991) indicate that nearly 50% were employed in skilled occupations including middle and high-level jobs. The United Nations Study (1990) indicates that a significant proportion of males was skilled and mostly had a vocational training ensuring them employment as sub-professionals or skilled workers.

The monthly wage distribution of the employed females before migration indicated that of the 15 respondents who were employed, all except one had worked for a monthly salary less than Sri Lankan Rupees LKR 6,000. This is comparable to the Marga Institute (1988) study, where wage-earning females in the sample were predominantly low-income earners. In comparison, the majority of employed males in that study earned medium or high incomes. Over half the migrants (53%) in the present study came from households with income levels below 4000 LKR, and only six of them came from households with an income of over 6000 LKR. This is consistent with the finding of the NELM, which argued that migration decisions are part of the family strategy to raise income and insure against income risk. Their lower educational level and lack of vocational training led these females to seek employment in unskilled housemaid category abroad, while presumably sociocultural factors discourage them from seeking similar jobs in Sri Lanka. It is interesting to speculate how women's lack of access to property rights might have played a part in determining migration. Sample results

indicated that apart from 18% of the area of the dwellings owned by the municipal council and another 8% where ownership was unclear, the greater majority of the right to land was owned by migrants' parents (48%) or spouses (23%). Only 3% of females enjoyed formal property rights to land. Yet many of these female migrants used their earnings to build houses on the land. Thus migration could be viewed as having enabled these women to improve their bargaining power through the ownership of capital, to which they had no access before.[7]

Table 3. Decision making process of migration by ethnicity

Ethnicity	Decision maker				Total
	Herself *	Spouse	Children	Parents	
Sinhalese	8	2	0	0	10
Tamil	8	10	2	1	21
Muslim	3	0	0	1	4
Total	19	12	2	2	35

Analysis of the decision-making process indicated that spouses, parents or children had influenced nearly half of the sample to migrate. It is noteworthy that the freedom of decision-making varied with ethnicity and this may be because of cultural reasons. Decision-making power was greater for Sinhalese female migrants than for Tamils. It reflects the unequal distribution of power within the household, although the household is considered a collective decision-making unit.

No study of male migrant workers analyses the decision-making process. The decision by male migrants to migrate is assumed to be

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[7]   Note that since the houses are built on existing land belonging to the parents or spouse, the right to ownership is not always legally enforceable, but has the tacit acceptance of others.

primarily made by themselves.

Although the female migrant herself makes the decision, it may have been influenced by background factors. Therefore, motivation for migration needs to be discussed with both "push" and "pull" factors taking into account a gender explanation. Findings of the study revealed that the factors that influenced migration were different for males and females.

All migrants in the sample gave more than one reason for their decision. In most cases, migrants had been motivated purely by altruism.[8] All migrants considered insufficient household income as one of the major reasons for migration and most of them considered it as the primary reason. In addition, 71.42% of migrants had migrated partly because of higher wages abroad. As foreign wages are higher than their reservation wage, unlike domestic wages, many women make their first entry to the labour force by accepting a job overseas. 71.42% of respondents showed greater concern for providing better educational facilities for their children and 62% were concerned about savings for their children's future needs. Children's needs were among the most important three reasons for 51% of the sample. Among the other reasons for migration, 80% of the sample stated building a better house and infrastructure which reflects a better standard of living and a better economic status. Responses of 62.85% focused on it as one of their first three determinants of migration. For this reason, the present study also offers empirical evidence in support of the NELM.

Only six women had migrated with a view to investing in a new economic activity using remittances. In addition to the above reasons, 31.42% and 34.28 % mentioned that economic independence and personal improvement were important reasons for migration. Unmarried women had hoped to accumulate enough money to facilitate their marriages. Married women had migrated with an intention of being economically

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[8]   Pure altruism means that immigrants care for those left behind.

independent. About 11% of the total had migrated because of the death or disability of the main breadwinner.

A further 6% of the sample cited family influence, i.e. that they had been forced to migrate by parents and spouses for the sake of the family. 3% hoped to escape from a repressive family environment. This is some evidence against treating the migration decision as purely a free, rational decision of an independent individual.

Table 4 shows that, some reasons given by female migrants, such as self-improvement and the idea of economic independence, depended on their socioeconomic background, their educational level and the income level of their households. The higher the educational level of the migrant and higher the income level of the household from which the female migrant came, the greater the likelihood to migrate with an intention of personal improvement. However, reasons such as housing and children's education did not depend on the educational level of female migrant.

Table 4. Motivation for female migration by educational level and income level

Reasons for Migration	Total No*	Educational Level (years passed)					Income Level (SLR)					
		No sch.	1-5	6-10	(O/L)	12	>2000	2000-4000	4001-6000	6001-8000	>8000	No Idea
Higher wages abroad	25	1	5	12	6	1	5	9	8	1	2	0
Children's education facilities	25	2	8	13	2	0	5	8	9	2	0	1
Housing and infrastructure	28	2	6	14	6	0	5	9	10	2	1	1
Invest in new Economic activity	6	0	2	3	1	0	0	2	3	1	0	0
To live independently	12	1	2	3	6	0	0	1	6	2	3	0
Self improvement	16	1	4	4	6	1	0	6	6	2	2	0
Family influence	3	0	2	1	0	0	2	1	0	0	0	0

*Total number of females who agreed with a specific reason

The reasons cited are similar to the factors motivating the females considered in the study by Gunathilake (1991) even though the percentages showed differences. However, male migrants showed different motives. According to the study by Gunathilake (1991) 90% of the females emphasised their poor income and unsatisfactory living conditions prior to migration, compared to 55.44% of males; females showed a distinctly greater concern for the education of their children, approximately 30% compared to only 8% for males. A higher proportion of males (8.8%) compared to females (3.4%) had migrated to travel abroad (Gunathilake 1991). As revealed by the study by Dias (1986) the motive for male migration was apparent and unlike females in the present study, nearly 50% of the sample showed greater concern for the reasons related to employment opportunities such as loss of jobs (8.8% of the sample), inability to find a permanent job (5.5%), lack of satisfying regular job in Sri Lanka (11.1%), and for better prospects (22.2%). A similar pattern could be seen in the study by Marga Institute (1986).

Occupational characteristics of female migrants revealed that most were housemaids and earned lower wages than unskilled male workers, although foreign female wages are higher than local female wages. Only 5% of the sample was employed in a skilled category. Overseas monthly earnings of unskilled male labourers were nearly as twice as those of housemaids. (United Nations 1990)

Recent statistics (SLBFE 2002) show that the proportion of male migrants in high level, middle level and skilled level occupations is considerably higher than that of females in Kandy district. Only the unskilled category including housemaids consists of a higher number of female migrants, similar to the present survey (SLBFE 2002).

The present study showed net average accumulated savings of female migrant workers were 23,243 LKR (at the time of interview); much of the savings accumulated during the period abroad were used to achieve special purposes.

Table 5 presents information on remittance utilisation behaviour[9] of females, indicating that most of them were able to achieve pre-migration targets to some extent except those who had migrated with an idea of investing in a new business. However, the survey was not able to assess to what extent they achieved them.

Table 5. Remittance utilization behaviour of female migrants

Item	No of migrants*	% of the sample
House construction	12	51
For children's education	21	60
Purchase of consumer durables	24	68
Investments in infrastructure	7	20
On day-to-day expenditure	34	97
Funerals and weddings	13	37

*   Total number of migrants who agreed with a specific reason

According to Dias (1986), a similar pattern can be seen with male returnees who were employed in the skilled category. However, as shown in the study by Gunathilake (1991), male returnees, who were unemployed and previously employed as unskilled workers abroad, showed different results: repayment of debts (30%), gift donations and assistance to elders (35%), businesses (12.5%), consumer durables (29%), purchase of machinery, equipment and vehicles (20%), education of children (16%), and house construction (37%).

As shown by the NELM, the impact of migration and remittances should be assessed relative to what households would have looked like without migration. The most significant improvement resulting from international female migration was in the quality of life of migrants' households. This included housing, food, education, medical care, household durables and entertainment.

The survey revealed that more than half the sample invested in housing. Table 6 (See Annex) shows the detailed results. Since changes in housing conditions improve the whole family's living conditions, migration was perceived primarily as a process that could improve the quality of life of the entire household.

These savings have resulted in investments in higher quality permanent roofs, walls, floors and increases in numbers of rooms. Apart from these major improvements, there have also been improvements in housing infrastructure such as electricity, their own water supply and latrines instead of shared piped water and latrines.

The housing improvements were greater for females than for males when compared with secondary data sources. The survey by Gunathilake (1991) shows that remittances of male migrants have resulted in improvements to existing houses with cementing of floors (10.13%), laying roofing tiles (1.96%), bricking walls (3.26%) and improvements in sanitation (3.97%). The study (Gunathilake, 1991) further states that housing improvements resulting from female migration were greater than those resulting from male migration, even though those improvements are smaller than those shown in the present study.

The next important improvement was in food consumption in terms of number of meals, quality of food, basket of consumption goods with fish, meat and eggs, and milk provision for children. Nearly 11% in the sample were able to increase the number of meals taken a day while nearly 28% were able to consume better food as a result of migration. The results showed an increase in consumption of fish, meat and eggs in some households amounting to 20%, 25% and 17% respectively. In most cases where consumption did not change in terms of number of meals, they increased their consumption of fish or meat. Therefore, changes in consumption in some households would obviously be related to the quality of three meals rather than the number of meals. In the case of milk consumption, about 19% stated that they were providing more milk

for their children than before while 14.28% decreased their provision of milk. This was because many migrants believed that children above 12 years of age did not need to be nourished by providing milk. Although a larger share of remittances was spent on short-term consumption, this cannot be considered as a non-productive investment since it had raised their level of consumption and the nutritional status of the household.

Expenditure on children's education showed a greater improvement. All of those who had children had spent more on their education facilities and opportunities, not only on stationery and school fees, but also on providing better schools for new entrants. These female migrants viewed education as a long-term investment, which could lead to a better social status in future.

About 85 % of migrants reported that they received treatment from government hospitals before migration; 71% received it after migration. Increased income enabled them to consult private doctors and specialists.

Approximately 68% of the sample invested in consumer durables. After migration, females were able to afford these, which they could not afford before. The number of migrants who owned gas or electric cookers and refrigerators doubled. Four out of the 35 migrants in the sample had washing machines after migration. These items save labour at home and improve the labour productivity of non-market activities. The largest investment made by migrants was on televisions, videos, stereos and transistor radios, opening them to the new entertainment horizons and leading to fewer visits to the cinema.

Only two households could afford three-wheelers as an income earning activity using remittances.

In evaluating their form of entertainment and information, the survey's results showed an increased tendency to buy newspapers, after migration among a small proportion, (22%) of returnees. These

findings contrast with Gunathilake (1991), who found no significant improvement in regard to major items of consumption resulting from migration (irrespective of gender) such as food, clothing, education, health and entertainment.

Most of the migrants had gained neither a high-level nor middle-level skill; but they did acquire skills such as the ability to use electric home appliances and to speak Arabic. These might enable them to ask for higher wages in a similar employment.

However, a higher proportion (74%) of returnees was engaged in non-market activities than the proportion (48.57%) in the pre-migration situation, ie 11 migrants who were previously employed in market activities were now engaged in non-market work. Increased income had caused them to reduce the labour supply for market work. The number of migrants who stated that they were experiencing unemployment had increased from two before migration to four with migration. Dias (1986) in her study argued that the occupational status of 50% of male returnees had deteriorated even though they were still employed. This is different from the experience of the majority of female returnees in the present study.

The principal means of support of nearly 69% of the female returnees was husbands' salary since the husband was the primary income earner of the family. It was similar to the finding of the study by the Marga institute (1986). Therefore, female remittances can be considered as a transitory income increase, which is used for achieving special purposes such as housing, children's education and household durables.

Reasons for returning and the intention to migrate again provide another view of the costs of migration. According to the present study, nearly 77% of returnees had returned because of the expiry of their contract and the need to be with the family, rather than due to ill-treatment and excessive workloads. Physical ill treatment accounted for

17.14 % to return home while 5.71 % of the total migrants had returned due to excessive work load and under payment of wages[10]. More than one-third of women want to work abroad again, supporting a positive view of migration. None of them thought that migration had a negative impact on personal and family relationships.

Female migration has brought about many changes in the household. This study examined attitudes of household members towards female returnees. Migrants were asked to respond to five questions: (1) did family members have a greater regard for the returnee (2) were they ready to ask for the returnee's help in family matters (3) were household members ready to give her leadership in making family decisions (4) were household members envious of the migrant's success and (5) were they strongly critical of changes in the female returnee's life. Only 5.71% of the returnees gave positive answers to the first three questions. None of the returnees gave positive answers to the last two questions and therefore had not perceived negative attitudes of household members towards them. This was similar to survey results of Dias and Sanmugam (cited in De Silva et al.1995): migrant women in general did not perceive a conflict in their household, while they had great satisfaction at being able to provide a better life for the family. These women perceived that the positive consequences of migration were greater than the negative consequences.

Studies by Bruijn (cited in De Silva et al. 1995) and Hettige (1992) identified socially undesirable developments such as increasing divorce rates, disruptions of family life, lasting repercussions on children's personality development, increased alcoholism and gambling following migration The present study is likely to have overlooked the very real dangers of working in the Middle East, such as suicides, fatal accidents, rape and disintegration of marriages, since females in the sample did not experience these. This study did not address the negative consequences of parental migration on children left behind for extended periods. The

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10   However no information was found on suicides and rape cases abroad.

present study aimed to provide a gender-economic analysis of migration. To assess psychological and behavioural problems of children would be time-consuming and costly, and therefore, discussion of these aspects did not fall within its remit.

There were six non-migrant females in the sample. These women were either the sisters or older daughters or other relatives of female migrants and lived in the same household with the returned migrant. This provided an opportunity to compare two individuals in the same household with similar socioeconomic, sociocultural and family backgrounds, who had nevertheless made different choices. The principal distinguishing feature of these non-migrant females was that they had a higher level of education. All of them, except one widow, were unmarried at the time the migrant left the household. Migrants in these households were either the primary income earner, or the *de facto* head of household. However, even after these non-migrant members were married, they did not consider migration, possibly because the benefits of the migration of the other household member accrued to the entire household.

6.   Conclusions and Recommendations

Most migration research in Sri Lanka was gender-neutral in its analysis of the causes and consequences of migration. The present study attempted to fill this gap by investigating 1) gender based reasons for migration and 2) analysing the impact of remittances on a broad definition of family welfare. Both primary data and secondary data were used. Poornawattha-West (Mahaiyawa) GN division was selected for the micro level sample survey and the sample consisted of 35 female returnees. Secondary data on male migrants was used to make comparisons with female migrants. An indicative comparable sample was also used to analyse non-migrant female behaviour. The study analysed how far economic, sociocultural factors influenced these

females to migrate and what extent these households have improved their quality of life using migrant remittances in terms of housing, infrastructure, children's education, family consumption of food, clothing and durables, entertainment and medical care. This section provides a very brief general summary of these findings.

The gender breakdown of the general characteristics of female migrants showed important factors that influenced females to seek work as housemaids abroad. The majority of female migrants were married and in their reproductive years. Most female migrants were less educated than the males and lacked vocational or technical experience. The majority of women had not been in the labour force prior to departure, because of marriage and children, and lower wages in the labour market. Another significant factor was that even though some females were in the labour force before migration, they would have earned a lower income than males. In addition to the above features, females' lack of access to property rights to land had also played a part in determining migration. The decision-making process, which varied with ethnicity, indicated that other family members had influenced nearly half of the sample. The above factors caused 95% of the sample to be employed in unskilled housemaid category while most of male migrants in Kandy district were employed in skilled level occupations (SLBFE 2002). It is reasonable to conclude that the general characteristics of female migrants mentioned above have been indirectly influential in their decision to migrate. The reasons specifically expressed, such as higher wages abroad, the chance to provide better educational facilities for their children, house building, were not the only reasons for the decision. These general characteristics reflect the gender-biased nature of social and economic factors.

The study revealed that the factors that influenced migration were often different for females from those reported in the literature for males. In most cases, female migrants cared more for those left behind in making the migration decision. They showed great concern for providing better educational facilities for children, and house-building as their

determinants of migration as well as household income. Some responses showed gender-based reasons for migration such as lower wages in the home country, escape from a repressive family environment, self-improvement, economic independence and family influence. The decision to migrate also depended on household income and migrants' educational level. Female migrants with a higher level of education and females who came from households with a higher level of income (compared to other migrants in the sample) showed a higher tendency to migrate for reasons of personal improvement. However, other reasons for migration did not depend on these factors.

Remittance utilisation behaviour of female migrants showed that most female migrants were able to achieve the targets they set themselves before departure. They spent more on day-to-day consumption, house-building, children's education, consumer durables and family ceremonies. Male remittance utilizing behaviour was different. The results showed that females were more concerned about household members' quality of life in terms of education, food, clothing and durables.

The data obtained in the survey and the secondary data showed that on the whole migrant households have derived benefits from migration and improved quality of life. There have been significant improvements in housing, infrastructure and sanitation. Availability of electricity, water and improved latrine facilities affect other quality of life factors, such as children's education, and household productivity. These improvements were central to poorer households who faced the most severe capital constraints on investments in these items. Migration has also increased income- earning capacity, number of household durables, food consumption and nutritional status, medical care, entertainment opportunities and the children's education in terms of both quality and quantity. All the investments mentioned constitute "enabling conditions" for production in future, even though many studies do not consider them as investment categories. Female migrants in lower income

households, particularly, viewed children's education as a long-term investment that can improve income and social status in the future. It was obvious that higher income had enabled recipient families to extend their food consumption beyond a basket of basic goods and improve the productivity of household works using more durables. It is reasonable to conclude that remittances enable low income people to improve their quality of life to an extent impossible without migration. Female migration resulted in greater improvements than male migration.

One-third of female returnees and three-quarters of males in the sample hoped to work abroad again. They had returned, not because of ill-treatment or bad experiences but because of their contracts had expired or they needed to be with the family. This shows that migration is not necessarily negative but can be beneficial. Although migration results in improvements for migrants' families, many studies mainly focus on the social cost of migration and negative consequences of female migration on family and children. This study provides a rational explanation why Sri Lankan women persist in seeking employment abroad. It also shows that other studies might be exaggerating, possibly for patriarchal reasons, the social costs of female migration.

This study is limited by its scope and size: the survey was limited to one GN division, assuming that the reasons and consequences of female migration are common for all the migrant families that are in a similar context in Sri Lanka. The sample consisted of only 35 female returnees and comparisons with male migrants were limited to the results of previous studies and surveys. The number of non-migrant females was also limited because of the limited sample size. Therefore, the data collection and analysis should be further improved through conducting a wider survey using a more representative sample. It would have been better to have a large sample that included both females and males in the same area in order to provide better gender-based analysis. This would also have enabled a more rigorous econometric analysis, with broader applicability of results.

The findings of the present study support and further encourage female migration. International female migration could be considered as one option for resolving many problems in a less developed country, at the micro level as well as the macro level. However, since most of these females belonged to the low-income category, there is an urgent need for financial arrangements to cover initial costs of female migration, through low-interest loans without collateral, using existing credit networks for the poor. In addition, information kits and training programmes for female migrants should be further developed to raise awareness of the possibility of ill-treatment or harsh working conditions. Since negative consequences of migration may result in reduce the expected benefits, government should ensure collective arrangements in order to minimise female right violations. This study showed that motives for females and males differ and that motives are likely to shape the outcomes of migration. Therefore, necessary arrangements should be carried out to promote the accumulation of savings and capital. In addition, information and support could be provided for returnees to use their experience to go to other countries with higher wages and better working conditions such as Italy, Cyprus and Greece.

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Table 6: Housing Improvement

Item	Pre-migration Situation		Post migration situation	
	No	**%**	**No**	**%**
No of rooms				
0-1	1	2.85	0	0
1-2	21	60.00	13	37.14
3-4	10	28.57	15	42.85
5-6	3	8.57	6	17.14
More than 6	0	0	1	2.85
Total	**35**	**100.00**	**35**	**100.00**
Roofing material				
Zinc sheets	14	40.00	5	14.28
Asbestos	7	20.00	15	42.85
Zinc sheets and asbestos	2	5.71	5	14.28
Tile and Asbestos	1	2.85	1	2.85
Tile	8	22.85	6	17.14
Concrete	3	8.57	3	8.57
Total	**35**	**100.00**	**35**	**100.00**
Toilet facilities				
Shared ventilated improved latrine	29	82.85	25	71.42
Own improved latrine	6	17.14	8	22.85
Flush toilet	0	0	2	5.71
Total	**35**	**100.00**	**35**	**100.00**
Electricity				
No facility	9	25.71	2	5.71
Water facilities				
Pond or lake	1	2.85	1	2.85
Piped public water -open	26	74.28	16	45.7
Piped public water-shared	8	22.850	17	48.57
Well in residence	0	0	1	2.85
Total	**35**	**100.00**	**35**	**100.00**

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Intermediate Technology Development Group-South Asia (ITDG-South Asia) is a development organisation that has been working in Sri Lanka for 15 years to develop and demonstrate appropriate technology options to combat situations of poverty and marginalisation. ITDG is also engaged in researching new issues, areas of work, and developing methodologies to improve impacts of their practical projects. ITDG works in partnerships in Sri Lanka and across the South Asian region and this paper is based on collaborative research conducted with partners in Bangladesh (Verulam Associates), Pakistan (Rural Development Policy Institute (RDPI) and India (Mr. S. Sundar, Consultant).

Pahan Prasada D.V. is This paper is produced based on the research carried out as partial fulfilment of the programmme of study. Reading for B.Sc. degree (majoring in Agricultural Economics and Business Management) at the Faculty of Agriculture.

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