Poverty and Social Impact Assessment (PSIA)—Demonstrations
Water Sector Reform in Armenia

1 INTRODUCTION

Poverty and Social Impact Analysis

Poverty and Social Impact Analysis (PSIA) is an important feature of the new approach to supporting poverty reduction in developing countries, characterised by the development of Poverty Reduction Strategies (PRS). PSIA is defined as the analysis of intended and unintended consequences of policy interventions on the well-being or welfare of different groups, with a special focus on the vulnerable and poor. Well-being or welfare includes the income and non-income dimensions of poverty.

The overarching objective of PSIA is to promote evidence-based policy choices, by explicitly including poverty and social impacts in the analysis of policy reforms, and to build country ownership of policies by informing a public debate on the trade-offs between policy choices.

Analysing poverty and social impacts is not new, but it has yet to be routinely applied to macroeconomic and structural policy measures. In August 2000, the IMF and World Bank agreed to consider the poverty and social impact of major reforms in their lending programmes to poor countries. In 2001, DFID in collaboration with the World Bank undertook to support demonstration studies in six countries where governments and other national stakeholders expressed clear demand for PSIA (including Indonesia, Honduras, Armenia, Uganda, Rwanda, and Mozambique). In October 2002, findings from the DFID- and World Bank-supported pilot studies were brought together at a workshop in Washington DC. Key findings of the workshop include that it is feasible to undertake PSIA using existing data and knowledge in country, and that for PSIA to be effective in informing policy decisions, it needs to be country-owned and embedded in the national PRS process.

The Origins of the Armenia PSIA

Interest within Armenia. The topic was selected from a longer list of candidate topics jointly by the research team and the GoA officials responsible for the PRSP process.

Poverty Reduction Strategy. Given the post-independence economic experience, the policy response to poverty stresses a stable macroeconomic situation and market reforms. However, it also stresses that social support must be made more efficient. Also, there is some concern that the benefits of economic growth are not felt by enough people and that there should be more analysis of the poverty impact of reforms, leading to more explicit pro-poor policies and expenditure.

Choice of Topic. Water sector reform is an important part of the overall reform agenda in Armenia. Water has significant poverty and social consequences related both to the costs of paying for supplies (ie. charges and collection rates) as well as the benefits from using a reliable supply, notably for small farmers and water-borne disease. Water sector reform also has a major macroeconomic impact, because of the current level of subsidies (about 2% of GDP in recent years) and the effect on agricultural

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2 The World Bank undertook to pilot PSIA in an additional six countries.
sector growth and the investment needed to improve supply.

From a methodological perspective, it was felt that there was considerable existing data available, which was important, given the time constraints. Also, the local research team had good experience in the water sector and could therefore start work efficiently.

Water sector reform in Armenia started in 1999 with the Integrated Water Resources Management Planning (IWRMP) Study, which aimed to define a comprehensive policy framework, taking into account economic, financial, environmental, social and institutional considerations. Reforms were designed to attain financial sustainability and commercial operations for all water supply companies by 2008. This will require major capital investments using loans on favourable terms and increased receipts from billing collections. Estimated investments needed for the first five years are $200 million. To achieve the above it will be necessary to modernise the existing legal and regulatory arrangements governing water resource management, and to implement tariff, institutional and administrative reforms. Although there was some commitment to these reforms, the nature of the reforms was still under discussion, and it was felt that the PSIA could have some influence on the implementation of reforms.

2 POVERTY IN ARMENIA

After independence, there was a major decline in the large Soviet industries. Combined with the effects of a major earthquake, GDP fell by 50% and the budget deficit exploded to 48% of GDP, with inflation running at 5000% per annum. As a result there was a huge decline in livelihoods.

Reforms in 1994 reduced inflation to about 10% by 1996 and GDP growth was re-established and has been at about 5% since then. The budget deficit has been reduced to 3–7% of GDP and the external balance has been stabilised, largely through increased grants. However, growth has been narrowly based and has created few jobs, leaving 30% of workers are inactive.

As a result, poverty indicators remain very bad: around 50% of the population live below the poverty line and the Gini coefficient (0.57) suggests that inequality is amongst the highest of CIS countries.

3 A PSIA ON WATER SECTOR REFORM

Methodology

The PSIA allowed for one month of research, and covered both municipal and irrigation water. To make the best use of these limited resources, the analysis made extensive use of existing previous research. In addition, the study analysed the available household survey data from 1998/99 and 2001 surveys. For municipal water, quantitative work was limited to the analysis of existing information on farm costs and revenues.

For both municipal and irrigation water reforms, qualitative assessments were made, based on discussions with key informants and on stakeholder analysis using focus groups.

The existing research provided clear conclusions on the possible impact of water sector reform. The PSIA aimed to identify any consequences which might have been overlooked and to define additional work which might be needed to address these areas. It also put a major emphasis on defining mitigating measures associated with the reform options.

Findings

Municipal Water. Reforms in the municipal water sector are needed, since maintaining the status quo will lead to further deterioration of supply. In particular, it is essential to reduce losses, improve collection rates, reduce energy costs and increase salaries and other expenditure to ensure an efficient service.

There are a number of concerns about the effect of these policies on the poor:

- non-compliance is widespread and is not a consequence of poverty; however,
increasing collection would affect the poor, along with other groups. Full payment compliance of existing tariffs would increase the numbers of the very poor by nearly 18% (from 15.9% of the population to 18.7%) and the poor by 4.6% (from 35.0 to 36.6%);

- an analysis of tariffs and compliance suggests that the tariff that maximises revenue to the Water Utilities is 5 AMD per 10 litres. This is associated with compliance rates of 40% (rural) and 65% (urban). At higher prices both revenue and the degree of usage of the system decline;
- collection of arrears would also have a major impact on poverty, since the average level of arrears is $9 per month, which is a significant proportion of the minimal monthly consumption basket;
- the full cost of meter installation ($30) would be a very high burden on poorer families.

The qualitative assessment concluded that the reforms are taking place in a rather difficult environment. Concerns included the following:

- the policy balance between treating water as an economic good (private or public) versus a basic human need is particularly difficult and potentially very contentious in Armenia, where social consensus has broken down;
- resistance to reform is also due to tensions between vested interests, some of which is poorly understood;
- getting people to pay for their actual water consumption is probably the most complicated part of the reform and is fraught with difficulties.

To mitigate these negative poverty and social impacts, and to ease the task of making the reforms politically deliverable the PSIA proposes the following measures.

- proceed with the mass installation of individual water meter, with subsidised installation for the poor;
- run a well designed public awareness campaign to underline the importance of reforms for sustainability, fairness and transparency to explain reforms;
- assist poor households with arrears forgiveness and a programme of additional allowances;
- consider a block tariff, or a lifeline tariff, to reduce costs to households at various levels of poverty, and to give more conservation incentives for the rich;
- consider various solutions for water supplies to condominiums, including the model in Armatir (‘Nor Akunq’).

A Water Supply and Wastewater Services Project provides a framework for water reform. This will include a Social Assessment, which will include qualitative and quantitative analysis to ensure the poor benefit from the reforms. Further research is required in the following:

- regular monitoring and evaluation of household water consumption behaviour and preferences, and careful analysis to design an optimal water tariff (eg using stated and revealed preference data);
- analysing ability and willingness to pay, in relation to housing fees;
- a survey to reveal the most appropriate mechanisms of social assistance.

Irrigation Water. Agricultural growth is critical to poverty reduction in Armenia and is dependent of effective irrigation. Yield differences between irrigated and rain-fed agriculture are large. However, there are major problems:

- the irrigated area has declined since 1991 from about 80% to 70%;
- tariffs cover only 30–60% of costs;
- Soviet delivery systems designed for large collective farms are inappropriate for today’s smaller farms;
- the availability and supply costs of irrigation vary greatly by region as do yields of main crops (mountainous regions having higher costs and lower yields).
These problems suggest that an increase in irrigation tariffs is needed. The status quo is wasteful and undermines the sustainable development of the sectors due to deteriorating infrastructure, losses and environmental damage. But the pace, shape, preconditions and risks associated with these reforms have to be considered carefully.

The impact of higher tariffs and improved collection will cause a major problem for the 25% of rural households who have no cash income. For those households which do sell part of their crop, the yields and surplus generated are highly variable:

- in Shirak, Armavir and Ararat there is little cropping and the impact of irrigation is felt through the cost of fodder crops and the profitability of livestock;
- some of the most serious deterioration in water systems is concentrated in Aragatsotn, Kotaik, and Sunik;
- the already poor farming situation in Tavush and Lori will deteriorate further.

The qualitative analysis suggests that the concept of an average farm can hide major differences, especially between households which sell some production and households which rely on subsistence. In difficult areas, focus groups expect a 30–40% quit rate from farming in the next few years and higher water tariffs are an important factor affecting this decision. There are also major differences in the way Water Users Groups operate. Corruption is perceived as the root cause of the high incidence of non-payment and reform objectives will fail unless this problem is addressed.

There are some important risks associated with irrigation reforms. They are likely to increase poverty levels, as a result of actual farm closures or weaker finances which in turn could exacerbate emerging polarisation and social tensions in rural areas. There will be accelerated population movement from rural to urban areas, adding to social tensions in the latter and intensifying already uneven economic development. This may lead to some security risks with depopulation of some border areas as well as accelerating the already high levels of out-migration from Armenia. There may also be some environmental problems arising from greater use of drainage water. Finally, the increased costs of agriculture are likely to lead to increased food prices, which will hit the urban poor hardest.

The following measures should be considered for mitigating the poverty impact of price increases:

- providing community level assistance aimed at developing infrastructure and development of non-farm sector in rural areas, and especially in the most badly affected areas;
- developing mechanisms for assisting poor rural households (eg. using the pilot programme irrigation voucher scheme);
- fostering the development of co-operative mechanisms in agriculture and Water User Groups;
- implementing pilot projects in several water resources management areas with serious problems (eg. scarcity, drainage, pollution) to develop local programmes to mitigate irrigation charges;
- conduct various surveys and studies to monitor reforms and integrate the results of pilot activities.

This and other studies in Armenia have predicted that through the careful design of reforms and strategic investments in infrastructure, cost-recovery efforts can be maintained, and the impact of these on the poor minimised.

**Methodological Lessons Learnt**

In a country where there are big gaps in basic data, it is unrealistic to expect a rapid PSIA to correct this fact. Rather, a rapid PSIA will need to rely heavily on existing research results and secondary materials that may be imperfectly attuned to the needs of the study.

However, some limited gap-filling on data and on primary research of a non-quantitative nature is feasible. Simple and rapid household surveys could also inform certain aspects of utility pricing decisions.
Qualitative discussions are needed to define implementation modalities. This information gathering work must be planned at a very early stage of the analysis. Substantive econometric and other modelling approaches are unlikely to be feasible in a rapid PSIA. However, if the data is available, econometric analysis can be used to give better insights into key parameters such as demand elasticities.

It will always be difficult to connect quantitative and qualitative analysis to give a holistic picture of who is likely to benefit. The dynamics of rural change are far too complex to be captured by the simple methods used in the PSIA.

It is highly desirable to include senior decision-makers in the research process from the earliest possible stage in order to gain their ownership of the process and the eventual results, as well as their support for gaining access to materials and people.

4 INSTITUTIONAL IMPLICATIONS

Most PSIA will require a well connected local research group and leader. The local team should include members who already have some substantive familiarity with the PSIA topic, although a complete matching of skills with the substantive sub-topics for research is unlikely to be possible.

The pilot PSIA demonstrated the holistic strands of a topic such as water pricing. The Armenian government system tends to be disjointed and is poorly attuned to assessing the multiplicity of strands. To achieve this, it will be necessary to have a wide involvement from government.

The pilot depended on the support of the key policy and sectoral ministers. It will be important for the Presidential Administration to provide a stronger lead to the PRSP and PSIA processes if they are to acquire real influence.

Non-state stakeholders made important contributions to the PSIA. Much of the understanding of what is happening at the community level is outside government. But the lack of capacity in government itself is a key issue for future PSIA and PRSP activity.

The pilot addresses quite difficult technical issues and so is not immediately accessible to non-specialists. This complicates the task of overcoming the serious lack of public trust as government agencies seek to address and solve problems such as those of the water sector.

The International Finance Institutions should:
- recognise the local capacity problems more explicitly;
- take a more holistic approach themselves to structural reforms to ensure a more sustained focus on poverty objectives;
- recognise that domestic resources will remain limited and so commit to more coordinated approaches to commissioning PSIA.

Good PSIA calls for monitoring and evaluation both to validate the ex ante analyses and to influence the reformulation of policy. A unit needs to be set up which will conduct more comprehensive PSIA for water sector reform, possibly integration municipal and irrigation water, and also conduct monitoring and evaluation for the reforms.