

Poverty and Social/ Gender Analyses for the Project

A. Determining Poverty Incidence and Estimating Project Beneficiaries

Timor-Leste is one of the poorest countries in the world. According to the latest available published data source at the time of this study, the *Timor-Leste Living Standard Measurement Survey 2001*,¹⁶ 40% of Timor-Leste's total population lives below the national poverty line of \$15.44 per capita income per month or just over \$0.50 a day. In general, the incidence of poverty is higher in the western than in the eastern region, and higher in rural than in urban areas.

Considering that the official data on poverty is outdated, the feasibility study team worked on estimating the project-specific incidence of poverty based on the primary data collection efforts undertaken, and newly acquired secondary data (Chapter II, Sections B and E, respectively). Astonished by the severe degree of poverty and food insecurity observed during the fieldwork, and as a standard practice for the social analysis and

¹⁶ Conducted by the Poverty Assessment Project, a partnership between the Government of Timor-Leste and a number of international agencies. Unfortunately, no reliable published poverty data were available for the period either prior to or after the 2001 *Timor-Leste Living Standard Measurement Survey* for the purpose of making any comparisons over time and/or tracking trends. Even if any data existed prior to 2001, the data would hardly be comparable because of the large fluctuations in the overall population due to the long period of conflict. At the time this study was conducted, the 2004 census data were still being processed, but the preliminary results of the 2004 Census demonstrate an increase of over 17% in the national population compared to the 2001 data, and the population change has been as large as almost 40% depending on the district.



DPA, the team established an estimate of the incidence of extreme poverty, “very poor” as a subgroup of the “poor” (definitions of poor and very poor, and other details of the method of determining poverty incidence are in Appendix 3).

The results of the field data collection revealed that the “official” poverty incidence of 40% was too low. Based on the primary data collected during the study, the team concluded that the estimate should be revised upward to account for at least 90% of Timor-Leste’s population as being “poor”, and 50% as being “very poor”. The team’s higher estimates are still conservative, probably understating the true incidence of poverty in the country. It is important to note that in an ADB-sponsored workshop held at the end of the project in October 2005, no one in the Government of Timor-Leste (GOTL), international aid agencies, local or international NGOs, or other resident expatriate experts challenged the new estimates of poverty and extreme poverty. Indeed, participants at the workshop endorsed the team’s new estimates of the incidence of poverty and extreme poverty in Timor-Leste.

Based on the estimated poverty incidence, out of the total beneficiaries (those who are expected to be affected by the project both positively and negatively) of about 62,000 in the project’s corridor of influence (COI), the poor will be about 55,000 and the very poor 28,000. The national road rehabilitation project component during the first year alone is estimated to benefit about 51,000 people, including 46,000 poor and 24,000 extremely poor people (Section C.2).

Since women account for nearly half of the national population, it can be estimated that about half of the estimated beneficiaries will be women. These numbers were estimated by applying the population density of districts where the project roads are located to the size of each project road’s COI.¹⁷

¹⁷ Population density is based on the preliminary results of the 2004 Census, which comprised the latest available population data as of May 2005. A project road’s corridor of influence (COI) is defined as a 5-kilometer-wide area on both sides of the road plus half circle with a 5-kilometer radius on both ends of the road. Although for many other projects, the COI of a road project is defined as a 15-kilometer area on both sides of the road, due to Timor-Leste’s mountainous topography, the size of the COI was adjusted to yield a more realistic estimate of the number of project beneficiaries.

B. Social/Gender Analysis

The social analysis establishes the proposed project's (i) likely effects on different groups, with a focus on the poor, minorities, and other vulnerable groups; (ii) determines resettlement needs (if any), and develops resettlement plans if necessary; and (iii) identifies constraints to passing the project benefits to targeted groups. As for results that affect project design and implementation, the social analysis develops targeting mechanisms for the protection of adversely affected vulnerable groups, arrangements for participatory development strategies to improve the targeting and efficiency of the project, service delivery mechanisms that match the estimated absorptive capacity, and inputs into the project's overall monitoring and evaluation program.

The social analysis undertaken within the project consisted of six components:

- poverty profile of area around the roads to be improved and the surrounding regional economy;
- identification of project affected subgroups, such as passengers, drivers, and vehicle owners;
- needs and demands assessment of potential beneficiaries and the local population;
- assessment of the people's absorptive capacity;
- gender analysis; and
- possible impacts on vulnerable groups, such as ethnic minorities.

The most important input to the social analysis comes from the stakeholder consultations (Chapter II), especially the qualitative information and anecdotal stories from the direct and extensive discussions with villagers. The following sections present the findings of the social analysis conducted in Timor-Leste.

1. Poverty Profile of Project Area and Villager's Perspectives

Poverty Profile of Project Area. The villages along the potential roads to be improved are generally poor, consisting mostly subsistence and near-subsistence farmers with a marginal or small piece of land for cultivation. Farmers have no access to fertilizers or farming machines, the dominant purpose of agricultural production being for household consumption.



People washing clothing, in one of the villages the team visited

Sales of farm produce, while the major source of income for majority of the village population, are sporadic and provide a minor share of households' sustenance.¹⁸ The cash income earned is mainly spent on food, cooking oil, kerosene, and children's education. The typical household size is 6–8 members, and a large

proportion of the total village population has little or no education. The modes of transportation most commonly available to many of the villages are small trucks and minibuses.

A primary school is usually located in each village, which provides children with relatively easy access. However, access to secondary and higher education is difficult because of the limited number of, and the long distance to, these schools. The supply of electricity and drinking water in the villages is either not available, or, if available, only for several hours per day. The lack of water supply is a serious concern. Affected villages rely on nearby rivers for water.

Access to health services and other social facilities is also limited. Residents of many of the villages must go several kilometers by foot or public transport to reach the nearest health care facilities. Public transport is available only during the day, and expensive (\$0.50 to \$1.00 per one-way trip to the nearest clinic/hospital) for most villagers. Daily markets only exist in main cities such as district capitals, and weekly markets in subdistrict capitals. Most villages do not hold weekly markets.

Many villages have some organized village-level activities, such as village meetings and volunteer activities (e.g., cleaning public drains and repairing public facilities) that serve the common good of the community.

¹⁸ A few of the villagers also raise livestock, such as cows, buffalos, pigs, chickens, horses, goats, and dogs.

Villagers' Perspectives of Their Poverty.

The feasibility study team obtained the villagers' perspectives of their poverty through 11 focus group discussions (details in Appendix 4). According to the responses, food security is the top determinant of wealth or



One of the villages the feasibility study team visited

poverty from the perspective of the villagers, along with affordability to provide education beyond the primary level to their children. These are followed by material measures (e.g. houses' conditions, number of livestock and automobiles).

The attitude of individuals toward work is perceived as the number one cause of poverty, followed by low levels of education and skills. Less important considerations include (i) poor land condition and bad weather affecting farm production; (ii) household size, particularly the number of dependents including old couples; and (iii) cultural pressure to spend large sums of money for ceremonial occasions.

2. Project-Affected Subgroups

Based on the stakeholder consultations and other data (Chapter II), the following subgroups are expected to be affected by the proposed road improvement:

- local population, mainly farmers;
- passengers;
- operators of passenger and freight transport vehicles;
- vehicle owners;
- users of freight transport services; and
- entrepreneurs of small and large businesses.

The needs, demands, and absorptive capacity of each subgroup, as well as the project's expected impact on them, were analyzed. It is anticipated that

the proposed project will benefit all of the identified subgroups by lowering transportation costs, decreasing travel time, and reducing the damage to farm products during transportation, though the extent will vary by how far they must hand-carry produce to the main roads being improved.

3. Villagers' Needs and Demand Assessment

The villagers' most desired program for development was to provide education, vocational skills training, fertilizers, farming machines, and/or an irrigation system so that the villages could increase their agricultural productivity (Table 4). Many villagers feel that they could be more productive if they have better education or skills and complemented by fertilizers, farm machinery, and/or an irrigation system. Many of them say they could sell more if they could produce more, and that doing so would improve their livelihood. This is closely associated with their self-defined causes of poverty (Appendix 4, Section B).

Table 4: Desired Development Programs

Rank	Desired Development Program	Number of Focus Groups (Total 11 groups)
1	Education, vocational skills training, fertilizers, farming machines, and/or irrigation to increase farming productivity	7
2	Water supply system	4
3	Road improvement	3
	Power/electricity supply	3
4	Health clinic in the village	2
5	Tailoring machine for women	1
	Paddy washing machine	1
	Development of cooperatives	1
	Set standard for coffee prices	1
	Social assistance, such as providing food and funds for housing repair	1
	Assistance for children's education, such as scholarships	1

Putting in place an appropriate water supply system is considered one of the urgent needs by those who live without one. This is understandable, because the lack of clean water directly and severely affects the various aspects of daily living and survival, adversely affecting general health conditions and sanitation levels.

Other desired programs are for road improvement and power/electricity supply. As the largest number of focus groups cited poor road conditions as one of their major concerns, this ranking of desired programs may appear inconsistent. The ranking does not mean that roads are not important to their life, but many villagers believe that, under current conditions, they would not have anything extra to sell even if the roads were better. Thus, in their view, improving the roads to increase access, alone, would not make their livelihoods better; their agricultural productivity must be raised at the same time.

4. Assessment of Villagers' Absorptive Capacity

The responses from the villagers about the expected impact of road improvement on their life were overwhelmingly positive (Table 5). Many villagers believe that roads will make it easier and more affordable for them to travel to market places and other primary social facilities. Given appropriate complementary programs to increase agricultural productivity, they expect increased income-generating opportunities, and sales of their agricultural produce.

In all the villages, villagers were very supportive of the road improvements and expressed their desire to participate as wage laborers during the construction phase. They were also willing to provide community-level maintenance activities with-



Collapsed road

in their capacity, such as cleaning the roadsides and drains, and repairing minor damage for compensation. Some villagers would like to do more, but they feel unable to without any modern equipment. Nevertheless, these demonstrate their strong desire to have better roads and be part of the project.

Table 5: Perceived Impacts of Road Improvement

Rank	Impact	Number of Focus Groups (Total 9 groups)
1	Increase in income-generating opportunities	7
2	Better access to primary social facilities such as schools and healthcare facilities	6
	Increase in sales of agricultural produce	6
3	Increase in easy and affordable transportation services	3
	Increase in trips	3
4	Reduction in the prices of food and goods	2
5	Easier access to national and district capitals	1
	Reduction in traffic accidents	1

On the other hand, many villagers feel that improvement of the core road network alone is not enough. To them, feeder roads leading to their farms and gardens are of equal importance. They say they would be very happy to have better main roads, but that their lives will remain difficult without better feeder roads.

5. Gender Analysis and Impact on Women

Timor-Leste's households retain a traditional stereotypical division of gender roles. In general, men dominate the division of gender roles in households. Women and girls in the households usually carry water to their houses—which takes 1–3 hours a day—buy food, take care of children, cook, and wash clothes. Men and boys are responsible for taking care of livestock, wage labor, building and repairing houses, and household decision making (e.g. household spending). Both men and women do activities such as selling agricultural produce and farming.

Such gender stereotyping where men carry the overall decision-making responsibilities for important issues, suggests that project design should incorporate ways to increase women's participation in overall planning, construction and monitoring. The planning stage and benefit monitoring should have consultation meetings with women, which are

separate from those for men, to create opportunities for women to express their views freely, as done by the feasibility study team (Chapter II, Section D). During construction, quantitative requirements to employ women can be incorporated in the construction contracts. The types of work that can be conducted by women without prior construction skills include, but are not limited to:

- Clearing vegetation;
- Cleaning drainage;
- Stone masonry and gabion work; and
- Planting and bioengineering.¹⁹

Women should be encouraged to take part in these activities during construction, as well as maintenance activities. These aspects were taken into consideration in the final design of the project, which is discussed in Chapter IV, Section B.3.

6. Possible Impacts on Ethnic Minorities

As is the case in many other Pacific island countries, Timor-Leste consists of a large number of different language groups, which are associated with their ethnicities. There are 16 main languages spoken by the people of Timor-Leste, with Tetum being dominant. However, no significant differences of cultural and social identity exist among them, except for a small number of Muslims in this overwhelmingly Roman Catholic society. No ethnic minority groups, including Muslim groups, are expected to be adversely impacted by the proposed project.

C. Distribution and Poverty Analysis

The distribution and poverty analysis (DPA) looks at how a proposed project will affect different stakeholders—i.e., those groups that will benefit from the project and those that will lose in terms of the project's net economic benefits. This form of analysis is very flexible because stakeholders may be defined and examined by a number of different attributes, such as income

¹⁹ Bioengineering is the use of vegetation, terracing, and construction of efficient drainage systems to stabilize road embankments and slopes. The purpose of the vegetation is to minimize water penetration into the ground layers and to reduce the risk of erosion of the surface soils to ensure long-term sustainability of the roads. Bioengineering includes tree planting with deep-rooted species to reduce the risk of shallow slides and debris flow.

status, social characteristics (including economic, political, religious, and ethnic), gender, and geospatial characteristics. It is a particularly useful tool for policy makers because it allows them to assess (i) if the likely distribution of project net benefits corresponds with the stated objectives of the project, (ii) the success or failure of the project independent of traditional measures such as the internal rate of return, and (iii) the impacts of policy changes on the distribution of project net economic benefits.²⁰ Policy makers need to understand the sociopolitical implications of proposed projects to better assess the likelihood of their successful implementation and sustainability.²¹

To conduct the DPA for this project, the team used the method as described in ADB guidelines.²² In addition, the work took into account recent changes ADB has made in conducting poverty impact assessments for road projects, such as distributing net economic benefits, which are discounted over the 20-year life of the project. By discounting, the monetary value of the net benefits is put in terms of today's dollars.²³ DPA rests on four pillars:

- Determining poverty incidence and estimating project beneficiaries (Section A);
- Identification of stakeholder groups;
- Distribution of benefits among stakeholder groups; and
- Sensitivity analysis and complementary actions.

The feasibility study team's fieldwork, particularly the direct field observations and small-sample surveys (Chapter II, Section B), is the foundation for the project's DPA. As the beneficiary analysis has been presented, the following sections focus on the remaining three pillars of DPA.

²⁰ ADB. 1997. *Guidelines for the Economic Analysis of Projects*. Appendix 25: Distribution of Project Effects, p.174. Manila.

²¹ Jenkins, Glenn P., and Arnold C. Harberger. 1999. *Cost-Benefit Analysis of Investment Decisions*. Cambridge, MA: Harvard Institute for International Development. p. 14:2. Project sustainability is heavily affected by the expectations of stakeholders as to whether they will gain or lose over the near- and long-term. If an influential group is expected to bear almost all economic costs resulting from the project and get few of the benefits, it is likely that the group will attempt to block the project's implementation. Project implementers need to be aware of, and be prepared to tackle, the risk that the losing stakeholders will mobilize to oppose the project.

²² ADB. 2001. *Incorporating Poverty Impact Assessment into the Economic Analysis of Projects and Handbook on Poverty and Social Analysis*. Manila.

²³ For more on recent work on the DPA, see Gajewski, Gregory, and Marc Luppino. 2004. *Methods in Distribution and Poverty Impact Analysis: Practices and Clarifications*. Paper commissioned by the ADB, and presented at the Western Economic International Association 2004 Annual Meeting in Vancouver, Canada. See also papers at <http://louisberger.com/berger/macro-iqc/ocstl.html>. These methods of analysis are available on the web, and are only briefly discussed in this case study.

1. Identification of Stakeholder Groups

Critical to a “best practice” benefit distribution analysis is identifying the most important stakeholder groups that are relevant for the specific project. For a road rehabilitation project, a typical set of stakeholder groups may include passengers, freight shippers, vehicle owners, the government roads authority, any private concessionaires, labor, the GOTL, and the general economy.

Based on the extensive fieldwork, the following groups were identified as major stakeholders of the proposed project:

- passengers—poor, very poor, and nonpoor;
- passenger vehicle owners—poor, very poor, and nonpoor;
- shippers of freight—poor, very poor, and nonpoor;
- freight vehicle owners—poor and nonpoor; and
- GOTL (including local and national government entities).

2. Distribution of Benefits among Stakeholder Groups

A benefit distribution analysis among stakeholder groups shows how estimated net economic benefits (discounted by 12%, the ADB standard discount rate) are distributed among the identified key stakeholder groups. This is needed to compute the Poverty Impact Ratios (PIRs) which show the percentage of net economic benefits (discounted over the life of the project) that accrue to the poor and the very poor.²⁴

During implementation, the national road rehabilitation component (Viqueque–Uatucarbau, Aituto–Betulala, Betulala–Same, Oeleu–Lourba, and Lourba–Zumalai) is expected to generate about 170 person-years of employment; 70% or about 120 person-years, will be for the poor; and benefit about 51,000 people during the first year, including 46,000 poor and 24,000 very poor. The labor-intensive maintenance component is expected to generate 77 person-years of employment; 70% or 54 person-years, will be for the poor; and benefit 18,000 people in the road’s COI, of whom 16,000 are poor and 8,000 very poor.

In total, the Project is expected to benefit about 62,000 people, including 55,000 poor and 28,000 extremely poor (Section A). The total

²⁴ ADB actually no longer requires reporting of Poverty Impact Ratio. See explanation in Appendix 5, Box A5.

benefit to the economy is estimated to be \$18 million, about 40% of which are anticipated to accrue to the poor. In the baseline case of the proposed project, it is expected that about 20% of the total benefits (excluding the benefits to the overall economy) will be passed on to the poor, and 7% to the very poor. Details of the economic benefit distribution analysis are in Appendix 5.

Gender-specific impacts are of great interest to many, and it would certainly be interesting also to conduct benefit distribution analysis with women as a stakeholder group to see gender-specific benefit distribution. However, such analysis would be difficult to carry out, requiring more time and resources than are usually allocated for feasibility studies (Box 11).²⁵

3. Sensitivity Analysis and Complementary Actions

Through sensitivity analysis and the associated fieldwork, complementary actions are identified to increase the number of poor beneficiaries and their share of project benefits. For a road project, they can include changes in competition policies and the regulatory framework to encourage competition in the transport sector because more competition pushes down transport service prices, and thus more of the benefits are passed on to the users.

The sensitivity analysis for the project was used to address specific structural constraints that block a larger share of the project benefits from accruing to the poor and very poor. If the GOTL and aid agencies follow complementary actions to alleviate these constraints, then the share of the benefits going to the poor could increase to as high as 62% of the total benefits. However, if these constraints are not addressed by the GOTL, or have become actually worse than estimated by the team, only 14% to 18% of the project benefits are likely to accrue to the poor, compared to the baseline case where 20% of the benefits are estimated to accrue to the poor (Section C.2).

In terms of risk analysis, since the poor's share of national income is about 40%, a PIR substantially below this number indicates that a high proportion of the project's benefits accrue to the nonpoor, while the poor bear a high proportion of the costs. Thus, a PIR of 21% indicates that there

²⁵ Aside from women, the team attempted to conduct further distribution analyses with other specific subgroups of the above stakeholders, such as dissidents as stakeholder groups. However, this would require the small-sample survey data collected during the fieldwork (Chapter II, Section B.3) to be further disaggregated. Given the limited time and resources for additional fieldwork, the total sample size was not large enough for such a disaggregation. Disaggregating the survey results further would just make the sample size for each group too small to be used as input data for the analysis.

Box 11: Benefit Distribution Analysis with Women

Although conducting a distribution analysis with women as a stakeholder group was not possible, some estimates were inferred from the field observations and rapid appraisals. From what the feasibility study team observed during the fieldwork, perhaps as many as half of all passengers on passenger and freight vehicles were women. The passenger survey data indicate that about 40% of the interviewed passengers were women, but the smaller proportion of women in the randomly selected sample is likely to be due to the interview environment (see Chapter II, Section D). This implies that, though it is a very simplified and rough estimate, women could receive almost half of the passenger benefits.

Another type of benefit to women that can be estimated relatively easily is the direct labor benefits. A target amount of the direct labor benefits to be received by women can be incorporated in the project design as being “encouraged”, or even as a required quota.

What is relatively difficult to analyze is the proportion of vehicle owner benefits that might accrue to women. Traditional gender roles prevail in Timor-Leste (see Section B.5) and women are disadvantaged in many aspects, including ownership of assets and participation in making decisions on matters affecting their lives.^a This implies that women of households with vehicle(s) would receive less vehicle owner benefits than the men of the same households would. However, accurately estimating the share of such benefits to women would further require a thorough examination of various household issues, including the relative power/roles of men and women in household finance, asset ownership, and general decision making. Such an examination goes far beyond what can be done in typical road feasibility studies.

^a Government of Timor-Leste. 2002. East Timor National Development Plan. Dili. p. 25.

is a degree of political risk that the poor will object to or hinder project implementation. A PIR of 62%, which may occur if all the complementary actions are put in place, will certainly gain the support of the poor for the project, and is probably not so high as to incur opposition from the nonpoor. If, for example, the PIR were estimated to be 80% for this project, then the nonpoor would object to the project, and the risk that nonpoor groups would block the project would be high. How to gauge the riskiness of a project given the percentage of national income that accrues to the poor compared to the PIR must be based on the expert judgment of those who know the country’s social and political dynamics. In the case of Timor-Leste, having such a high proportion of poor in the population where the PIR is well below their share of national income, and instituting that project (which primarily would benefit the nonpoor, such as the project in this case study with no complementary actions) is a risky activity.

Table 6 presents the key structural constraints identified by the feasibility study team, and the recommended complementary actions.

Table 6: Constraints and Complementary Actions

Key Structural Constraint	Recommended Complementary Action
Nascent drivers' and vehicle owners' associations are a threat to market-determined fares and freight rates, and the GOTL sets bus passenger fares	Initiate pro-competitive transport services sector policies and implementation, where the GOTL prevents owner's or drivers' associations from setting fares and freight rates and abolishes any fare regulations for bus passengers and freight shippers.
Poor condition of secondary and feeder roads	Rebuild and improve critical feeder and secondary roads via a sequenced approach that is done in tandem with the 10-year development plan for the national road network developed by ADB for the GOTL.
Poor condition of secondary and feeder roads	Create a strong maintenance program to keep the national and critical feeder and secondary roads open and in good condition using state-of-the-art pavement management system.
Farmers' lack of knowledge, skills, and abilities to use modern farming techniques and inputs	Provide more agricultural extension services, which are only beginning to be instituted in some districts. More technical assistance and budget are needed so that the farmers can take advantage of an improved transportation system.
Lack of credit and other barriers to entry facing entrepreneurs who would like to enter or expand operations in the transport services markets	Create credit programs directed at entrepreneurs who would like to enter the transport services markets in rural areas or expand their existing vehicle fleets. This would increase the number of operators and passenger and freight vehicles. This program should be targeted to those entrepreneurs who operate in areas outside Dili. At present, Dili has a surplus of taxis and an adequate supply of other passenger and freight vehicles.
Large presence of luxury 4WD vehicles owned by the United Nations and other aid agencies that will eventually become the GOTL's property, or that only the rich can afford	Institute a Vehicle Fleet Transformation Program. The GOTL could start by selling surplus 4WDs, pickups, and jeeps that were donated to them by the United Nations and other aid agencies. The GOTL should then use the funds to purchase lower-cost vehicles that are better suited for use by transport service providers to move passengers and ship freight in rural areas. The vehicles should be rugged, easy to maintain and repair, and have a capacity that is greater than the jeeps and 4WDs that were sold to the rich. As poor farmers benefit from an expanding secondary and feeder road network, and improved extension service, this policy will have a large impact on poverty alleviation. ^a
Inadequate institutional structure and staffing at the PWD that could reduce the sustainability of the project	Develop a strong program to expand and train PWD staff to manage the road sector. This should include developing capacity to program routine, periodic, and emergency maintenance of the road network; and operate sophisticated road network planning tools so that staff will be able to manage and operate a Pavement Management System. Such program will also enable the staff to plan other road expansions and improvements so that the road network will grow as appropriate to support the economic and social growth of Timor-Leste.

4WD = four-wheel drive, ADB = Asian Development Bank, GOTL = Government of Timor-Leste, PWD = Public Works Department (Timor-Leste).

^a A similar policy to subsidize the sale of surplus vehicles was used in the Philippines at the end of World War II to move vehicles into markets to serve the poor. The Government of the Philippines sold surplus United States (US) military jeeps and small trucks that were donated to it by the US military to private businesses, which modified and expanded the vehicles to carry more passengers and freight. Today, the Philippines has a small industry that imports used vehicle parts and assembles new "jeepneys" which have become the predominant form of passenger and small freight transport, mostly by the poor, throughout the country.