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Poverty and Development in Timor-Leste

Foreword

This study on Timor-Leste is part of a series of annual studies, undertaken by various Swedish universities and academic research institutes in collaboration with Sida. The main purpose of these studies is to enhance our knowledge and understanding of current economic development processes and challenges in Sweden's main partner countries for development co-operation. It is also hoped that they will have a broader academic interest and that the collaboration will serve to strengthen the Swedish academic resource base in the field of development economics.

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Content

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Poverty and Development in Timor-Leste

Timor-Leste is the youngest nation in the world. The birth of the country was both protracted and difficult. After twenty-five years of Indonesian occupation, the referendum held in 1999, which indicated that an overwhelming majority of the Timorese were in favor of independence, ended in widespread human and material destruction. Timor-Leste, already one of the poorest countries on earth, lost at least one-fourth of its GDP and the production apparatus was in shambles. The country has recovered comparatively well after 1999, with the support of foreign donors and direct administration by the United Nations, but it remains very poor. As many as 40 percent of all its inhabitants live in poverty (spending less than USD 0.55 per day). Consequently the development strategy of Timor-Leste places great stress on poverty reduction. Education, health, agriculture and transport and communications are the priority sectors, and expenditures related to poverty reduction account for almost 70 percent of the total budget expenditures.

Fortunately, it seems that recent sharp revenue increases could help Timor-Leste achieve its development goals in the longer run. The domestic tax base is very small and until late 2004 Timor-Leste stood out as a country that was heavily dependent on donor funds for bridging the gap between budget expenditures and revenues. Presently, however, the country is benefiting from vastly increased oil revenues from the Bayu Undan field in the Timor Sea, and a petroleum fund modeled on the Norwegian precedent is being created. This will in the longer run guarantee a perpetual income stream that can be spent every year, but the lack of sufficiently trained personnel on all levels of the administration has made actual expenditure fall short of the budgeted levels.

Background

The existence of Timor-Leste as a sovereign state goes back no further than to 20 May 2002. During the Portuguese colonial period virtually nothing was done to develop the economy. Production was concentrated on coffee exports to Portugal on the one hand and subsistence agriculture on the other. The situation improved during the Indonesian occupation of the country 1975–99. Between 1983 and 1997 the gross regional product (GRP) grew with 5.6 percent per annum on average (Hill and Saldanha, 2001, p. 7). The growth was driven mainly by a strong expansion of the public sector, a sector which in 1997 accounted for 20 percent of GRP – more than in any other Indonesian province – and almost half of East Timor's GRP during the period is estimated to have been related to public sector activities. The budget deficit of the province amounted to two-thirds of its GRP. East Timor was subsidized heavily from Jakarta. No private modern sector was ever developed – a serious drawback for the independent nation (see e.g. Hill and Saldanha, 2001).

Despite a reasonable economic growth during the Indonesian occupation, East Timor remained one of the poorest provinces of Indonesia, with a GRP per capita that was no more than one-third of the average figure for the entire country. Poverty was more widespread in East Timor than anywhere else in Indonesia and the illiteracy rate was the highest in the country.

After the referendum in 1999, which resulted in strong support for independence, pro-Indonesian militias backed by the Indonesian army destroyed the economy thoroughly. The GRP of East Timor (as it was then known) fell with about 25–30 percent. This is a reduction of the same magnitude as the one experienced by Mongolia in the four years after the fall of communism after 1990 and by Haiti during 1991–94 as a result of the international sanctions against the country after the military coup in 1991. Another way of putting the figure into a proper perspective is to conclude that the reduction is comparable to the one experienced by the industrial countries during the depression of the 1930s (Lundahl, 2004).

Between 1,000 and 2,000 people were killed in 1999 and more than half the population had to leave their homes temporarily. Of these, 300,000 were displaced within East Timor and 200,000 were moved to West Timor. It is estimated that agricultural output fell with 40 percent and that the animal stock was reduced: 58 percent of all goats died, 48 percent of the cattle and 47 percent of the pigs. Around 70 percent of all dwellings were either destroyed or hurt. Approximately three-fourths of all health care facilities disappeared and most doctors (who were Indonesians) left the country. No less than 95 percent of all schools were destroyed. With the exception of the road network, the infrastructure was badly hurt: 85 percent of the telecommunications structure was destroyed, the mail delivery collapsed, the airfields were destroyed and public land transportation was almost wiped out. In Dili one-third of the electricity production was lost and in the district capitals between 50 and 90 percent. The banking system was plundered and ceased to function. All transactions had to be carried out on a cash basis and trade all but ceased. East Timorese society was literally in shambles (UNDP, 2002, p. 57).

By the time Timor-Leste became independent the country was at square one. The economy in principle consisted of a single sector: subsistence agriculture. The modern sector – the state bureaucracy – had been completely wiped out.

The present report focuses on the number one problem of Timor-Leste: poverty. We will begin by a brief presentation of the government poverty reduction strategy before examining the available information on poverty in the country, as it emerges out of three different surveys carried out in 2001. Next the situation with respect to education and health sectors is singled out for special treatment, since this has been made the center of attention of the government in its efforts to combat poverty. The final sections will briefly sketch the economic situation of Timor-Leste and the recent effort to set up a financial framework that can be used in fight against poverty. Hence, the report provides a detailed account of poverty, education, and health in Timor-Leste at the time around independence in 2002. As such the report will also be useful as a benchmark to evaluate later development once new data becomes available.

The Poverty Reduction Strategy in Timor-Leste

Poverty reduction has high priority on the policy agenda of Timor-Leste. In the National Development Plan from 2002 (Planning Commission, 2002), a development strategy was formulated with two overriding goals:

1. To reduce poverty in all sectors and regions of the nation.
2. To promote economic growth that is equitable and sustainable, improving the health, education and well-being of everyone.

The strategy includes a host of policies to achieve these goals, ranging from increased participation of the poor in the political decision making process and in the modern economy, to provision of basic social services. The government has produced a very detailed plan for budget expenditures in order to meet the poverty reduction goals. An explicit ranking has been made of the various sectors that appear in the budget. The most important one is education. Second in importance is the health sector. Third is agriculture and related activities and in fourth place we find transport and communications. As revealed by Table 1 the sectors related to poverty reduction account for approximately two-thirds of the total budget expenditures.

Table 1: Budget Expenditures by Sectors 2004–05 (predicted, % of total expenditures)

Human Development	27
Agriculture	9
Infrastructure	28
Poverty Reduction	4
Natural Resources	0.2
Trade and Industry	3
Economic Management and Public Finance	8
Security	21

Source: Ministry of Planning and Finance (2004e).

In education priority is given to the primary schools (the first six years). Second in importance is junior secondary education (years 7–9) and third is technical and vocational education.

In the health sector the emphasis is on mother and child care, contagious diseases, diseases related to insufficient nutrition, especially preventive treatment, and on HIV/AIDS. (This is not yet a problem, but the idea is to raise the awareness among the population.) Finally illnesses related to the environment also constitute a priority area. Overall basic, preventive measures and information are preferred to curative treatment and an attempt is made to avoid relying on scarce qualified personnel. The system builds on nurses, mobile health teams and health centrals rather than on doctors and hospital care. A basic package of measures has been defined and an effort is made to supply this in all districts. The

Ministry of Health also collaborates e.g. with the Church and various local community groups. An endeavour is made to delegate more and more decisions to the district level.

There is no doubt about the fact that the Timorese government considers poverty to be the country's number one problem. The entire development strategy rests on the explicit premise that poverty reduction is the primary task for the economic and social policy. The development plan specifies a number of sub-goals and development indicators that are to serve as measures of what has been achieved. The degree of concretion in the goals and their operationality, however, varies strongly. In some cases it will be easy to see what has been achieved. In other cases it may be very difficult to produce the necessary information.

During 2004 Sector Investment Programs (SIPs) have been developed as a means for implementing the National Development Plan. The SIPs formulate detailed and comprehensive investment programs in 15 different sectors: health, education, agriculture, civil society, etc. These programs define where and when different investments are needed. The SIPs help the government to identify investment opportunities and to prioritize between investments within and between sectors. The SIP process has been highly consultative and the government is committed to monitoring the implementation of the programs.

Hand in hand with the National Development Plan goes the decision to adopt the United Nations Millennium Development Goals (MDGs). The MDGs are quantitative development targets to be reached by 2015 in a number of areas including poverty, education, infant mortality, maternal mortality, primacy health care, infectious disease and gender disparities. The UNDP (2002, p. 27) predicts that some goals (e.g. literacy rates) will be more difficult to achieve before 2015 than others (e.g child mortality rates). The crucial factors include high economic growth, agricultural development, reduced dependency ratios and lower household sizes (UNDP, 2003, p.117).

Poverty in Timor-Leste

Without an adequate knowledge of the particular features of the poverty problem of Timor-Leste it is hardly possible to provide any meaningful discussion of how poverty can be eradicated or at least mitigated in this specific case. The following sections are therefore intended as a bird's eye view of the poverty situation in Timor-Leste as it appeared more or less at the time of independence in May 2002. We will provide a survey of the main findings of the various attempts that were made after the Indonesian departure to map the extent of poverty in its various dimensions as well as the perceptions of poverty held by the Timorese population itself.

Timor-Leste was poor already during the Indonesian occupation of the country. East Nusa Tengara, the part of Indonesia East Timor belonged to, was always one of the very poorest parts of the country. The region remained poor despite 30 years of very high economic growth in Indonesia and despite large transfers of funds from the central authority in Jakarta through the *Inpres* program.[1] For instance, between 31 and 42 percent of the East Timor population had incomes below the poverty line in 1996, compared to an average of between 11 and 18 percent in Indonesia (Booth, 2004a).[2] The poverty of East Timor corresponded to low levels of education, high illiteracy and mortality rates, and poor

1 Inpres – Instruksi Presiden (Presidential Instruction) – an extensive redistribution program that aimed at achieving even spatial development in Indonesia to avoid social and regional tensions (Sjöholm, 2002; Booth, 2003).

2 The different figures refer to different measurements of poverty.

access to health care and other social services. Timor-Leste differs from most other poor parts of Asia where poverty is typically related to a too high population pressure on land and high rates of landlessness. Poverty in Timor-Leste is rather caused by poor land quality and lack of access to domestic and international markets (Booth, 2004b).

The Asian crisis made the situation worse for East Timor. As a consequence of the cutbacks in the support from the central government in Jakarta, poverty increased dramatically in 1997 and 1998. For instance, according to the Asian Development Bank (2004a, p. vii), poverty increased to over 50 percent of the population in 1997–98, more than twice as high as Indonesia's average. Poverty increased further during the 1999 conflict, and large parts of the population faced imminent risks of starvation.

The situation facing Timor-Leste is, hence, difficult. The country has the fourth lowest GDP per capita in East Asia, only slightly above Papua New Guinea, Laos and Cambodia (UNDP, 2003, p. xiii). It comes as no surprise that Timor-Leste is considered to be one of the least developed countries in the world. For instance, it is ranked number 158 out of 177 countries according to the Human Development Index for 2002, making it the lowest-ranked country outside of Sub-Saharan Africa (UNDP, 2004, p. 142).

In September 2000 the Asian Development Bank released a short document with an 'initial' poverty assessment for East Timor (Asian Development Bank et al., 2000). The idea was to obtain a quick identification of the key issues and areas of need that could serve as a preliminary step in the process of sketching a country assistance strategy. It is, however, close to impossible to give the findings any meaningful interpretation since three important biases were present. First and foremost, the value of the households' own food production was not included – a very severe limitation in an economy that is heavily subsistence-oriented. Second, the survey took place before the harvests of rice and maize had been completed and the coffee harvest was only in the early sages. Finally, the sample outside Dili was small.

A more substantial effort to map poverty in Timor-Leste was launched in 1999, as a joint effort between the Timorese government, the World Bank, the Asian Development Bank (ADB), Japan International Cooperation Agency (JICA), the UNDP, UNICEF and the United Nations Mission of Support in East Timor (UNMISET). The immediate reason behind the project was the extreme destruction of the economy and the physical and social infrastructure that took place in September 1999, in the wake of the referendum. The effort was divided into three separate components: a Suco Survey, a Household Survey and a Participatory Potential Assessment. The Suco Survey was completed between February and April 2001, and the final results were published in October 2001 (ETTA et al., 2001). The Household Survey was carried out between the end of August and November in 2001 and the results were made available in 2003 (Democratic Republic of Timor-Leste et al., 2003, World Bank, 2003) Field work for the Participatory Potential Assessment, finally, took place between November 2001 and January 2002, and the final report was issued in May 2002 (UNDP et al., 2002).

The Suco Survey

The Suco survey was carried out in all 498 sucos. Altogether 1,465 respondents were interviewed: 434 Suco Chiefs, 609 teachers, 77 health providers, 139 community leaders and 59 Aldeia Chiefs, i.e. people supposed to be knowledgeable about local conditions.

Table 2: Livestock Numbers in 1999 and 2001

	Buffaloes	Cattle	Horses	Goats	Pigs
1999	112,613	190,208	52,773	189,013	353,934
2001	72,213	98,654	34,625	70,706	198,453

Source: ETTA et al. (2001), p. 52.

One factor that makes a visible difference in terms of poverty is the number of livestock owned. In all cases (buffaloes, cattle, horses, horses, goats and pigs) the numbers reported for 2001 were lower than for 1999 before the violence. Table 2 provides the individual figures for each category.

The availability of food varied substantially across the year due to the pattern of harvesting. No less than 78 percent of all sucos reported that families did not have enough food in January. For December the figure was only slightly lower: 70, and both February (44 percent) and November (43 percent) were also months of considerable stress. Maize is normally harvested between February and April and rice from April to October, so the critical period is between the end of the rice harvest and the beginning of the maize harvest. No less than 87 percent of the sucos reported that the rice harvest was used maily for subsistence purposes and for maize and cassava the corresponding figure was about 80 percent.

Out of 5,162 classrooms that were operative before the violence in 1999 almost had disappeared after the Indonesian withdrawal. In 2001, 4,449 were reported as usable, many of which, however, were of lower quality than before. Of all schools 29 had to be run in two shifts per day. 78 percent of the sucos reported that all or almost all children aged 6 to 10 were in school. Student-teacher ratios were, however, appalling, 52 on average with 56 in state-run schools (78 percent of all schools). In 25 percent of the schools the figure was 66 or higher, and three-fourths of all schools had more than 30 students per teacher.

Most of the health care was provided in community health centers and hospitals. Health facilities were operating between 29 (hospitals) and 3 (mobile clinics) days per month, with only a few hours per day for the latter, but virtually around the clock for the former. The most common facilities, community health centers without beds, worked for 17 days per month and 17 hours per day on average. On average a Timorese could count on 8 hours of health staff care per year, but access to the services varied geographically, with 38 percent of all sucos reporting that the closest health center was in the posto (sub-district) capital, an average of 90 minutes away – on foot.

The availability of basic infrastructure displayed severe deficiencies. Only 20 percent of all aldeias were electrified, as compared to 29 percent before the destructions, not a terribly high figure either. Electricity was available for an average of 6 days per week and 13 hours per day. Water in most cases (over 60 percent) had to be taken from rivers, streams or wells, and only 7 percent of the sucos reported that the main source of drinking water was a pipe to the house. Transportation also proved a problem. 80 percent of all posto capitals were mainly reached on foot from the suco capitals. Buses or mini buses were used in 64 percent of the cases when it came to going from the suco centers to the district capitals.

The Suco Survey developed a Suco Development Index for purposes of comparison. The overall index was an unweighted average of a wealth index, a social services index and an access index. The base for the computation of the wealth index was the number of months that a family did not have enough food and the average number of livestock per family. The social services index, in turn, was based on the availability of education and health services: the average student-teacher ratio in primary schools and the average number of females of child-bearing age per midwife or traditional birth attendant. The access index, finally, was based on the time taken for most people to travel to a primary school, the time taken to travel to a vehicle passable road, and the time needed to reach the sub-district capital, all during the wet season.

The scores varied considerably between geographical areas. The worst performer was the Liquica district on the north coast, west of Dili, where nine of the fifty least developed sucos were found. Ermera and Bobonaro, just south of Liquica, as well as Dili and the large Manatuto district in the center of the country also turned out to rank relatively low on the Suco Development Index. The reasons for this differed. In Dili the problem was a shortage of food and lack of livestock, which produced a low wealth index. Bobonaro and Mamantuto, on the other had, scored low on the social services index. The 'high performers' were Manufahi and Cova Lima, mainly as a result of a high rank on the wealth index, and Ainaro, with a somewhat lower wealth index but a comparatively high access score. All three districts are located on the south coast.

Both the western and the eastern districts in general were better off than the districts located in the central part of the country and the lowland districts outperformed the highland ones. The difference between rural and urban areas was found to be small. The former ranked higher on the wealth index while the latter were more privileged in terms of access. Rice growing areas tended to be better off than other districts.

The Participatory Potential Assessment

The idea behind the Participatory Potential Assessment was to complement the more traditional poverty surveys with an assessment of the qualitative dimensions of poverty, the causes and consequences of it and the potential means of poverty alleviation as seen by the inhabitants of the aldeias themselves as well as the public sector servants in aldeias, sucos and districts. The 24 representative sucos included were chosen from the 100 included in the Household Survey, and in each suco 2 aldeias (the richest and the poorest) of the 3 included in the Household Survey were chosen, leaving a total of 48 aldeias. In each aldeia 12 participants were picked, 6 men and 6 women, in order to arrive at a *composite*, not individual, community assessment based on consensus. In practice, about 800 people were involved in the process.

Table 3 presents the rankings of the aldeias in terms of ten quality of life indicators. Each indicator may be thought of as ranging from 0 to 100 percent, with 0 as the lower end and 100 as the (subjective) maximum possible. In practice, only four categories were used: good (above 75 percent), satisfactory (50–75 percent), average (25–50 percent) and poor (below 25 percent). These categories are of course very vaguely defined, but they serve to provide an indication of how the communities perceived their situation.

Table 3: Rankings of Aldeias on Quality of Life Indicators

Quality of life indicator	Good	Satisfactory	Average	Poor	Total
Food		1	36	11	48
Shelter			20	28	48
Livelihood			19	29	48
Income			11	37	48
Health conditions and facilities			10	38	48
Education			8	40	48
Transportation and communication			1	47	48
Clothing		1	41	6	48
Entertainment			21	27	48
Religion			27	21	48

Source: UNDP et al. (2002), p. 16.

It is clear from the table that the vast majority of the aldeias thought of themselves as poor. The Good category was never employed and the Satisfactory category only in two isolated instances and even the Average was used more frequently than the Poor classification in only three instances out of ten.

An interesting observation is that transportation and communication was seen as the key factor (UNDP et al., 2002, p. 16):

> The majority view is that good transportation and communication is vital to reducing poverty. It has a direct link with all other actors. If transportation and communication improves, it will improve access to markets that in turn will help improve the livelihood opportunities. This will help improve incomes. Also, with better transportation and communication, access to healthcare, access to education and the interaction with the communities will improve.

Poverty was seen as virtually synonymous with the absence of infrastructure, like roads, schools, health facilities and water supply, because this absence made it much more difficult for people to cope with their survival needs. It turned out to be difficult to satisfy the basic needs because for most commodities cash was necessary and markets were distant and the bargaining power of most people was seen as correspondingly weak. Poverty, however, also had a psychological aspect, because the poor perceived that they were treated rudely by the privileged and the government officials. No support was forthcoming from the better-off strata in society. On the contrary, there was a widespread feeling of exploitation stemming from the vulnerability connected with poverty. Finally, it was felt that the government perceived of the poor as a burden and not as an asset that could be developed.

The causes of poverty were seen as related to the history of Timor-Leste. The colonial rule of Portugal was characterized mainly by neglect and virtual absence of investment in education and capacity building. Little was done to develop the economy, with the possible exception of exports. The colonial period was followed by the Indonesian occupation, and when the Indonesians finally pulled out, the exodus was accompanied by widespread destruction of the physical and social infrastructure. Finally, when the assessment was carried out the government was still in transition to Timorese rule, and it was felt that definite policies and governance structures were lacking.

These historical causes translated into lack of infrastructure, a passive waiting for assistance from the government, lack of knowledge and technology, lack of incentives to improve, weak leadership on all levels, negative influence of some local customs and traditions, like overspending on weddings and funerals, lack of clear plans and guidelines for community development, weak coordination and support of development initiatives, uncertainty with respect to the future government and high prices of essential commodities, notably manufactures.

The situation was, however, not perceived as hopeless. Timor-Leste has untapped natural resources, and a subsistence economy in place. The struggle for independence during more than twenty-five years has done a lot to unite and galvanize a people that is willing to work hard to fulfil its development aspirations. Finally the strong tradition of decentralized governance has made the Timorese people organize itself quickly at the suco and aldeia levels. Development will, however, not come about without political support. The country needs a clearly articulated development vision. Responsibilities have to be delegated to the community, and the positions as *Chefe de Suco* and *Chefe de Aldeia* have to be recognized and strengthened, and the responsibility of management of the natural resources has to be delegated to the aldeia level. Finally, support is needed when it comes to the upgrading of farming and farm management capacity.

The Household Survey

The Household Survey (The Timor-Leste Living Standard Measurement Survey) was a sample survey carried out among 9,113 people in 1,800 households in 300 aldeias (one percent of the population) in 2001. Its findings were reported in two publications in 2003 (Democratic Republic of Timor-Leste et al. 2003, World Bank, 2003).

The basic welfare indicator employed in the Household Survey was per capita total household expenditure, assuming that families allocated resources equally among their members. Three poverty measures were used: (1) the head-count index, i.e. the share of the population whose per capita consumption is below the poverty line, (2) the poverty gap, i.e. the average expenditure shortfall of the poor relative to the poverty line, (3) the severity of poverty, an index similar to the poverty gap but which gives more weight to greater distances below the poverty line. The poverty line itself was defined by using 'standard practice in East Asia' (World Bank, 2003, p. 30), taking 2,100 calories per person per day as the basic nutritional requirement and using a reference average food bundle based on the food habits of the lowest second to fifth deciles of the population in terms of consumption, scaling this bundle to ensure that it provided the 2,100 calories per day and person.

For the non-food items to be added to the minimum food consumption two different procedures were used. The first one (the 'lower' poverty line) looked at the share of non-food expenditures of people whose total expenditure was just enough to reach the food poverty line defined by the 2,100 calories. The argument was that this provides a 'minimum' necessary allowance for non-food spending, since the latter has in fact been substituted for spending on basic food needs. The second approach (the 'higher' poverty line) was based on households whose actual spending on food items did in fact reach the food poverty line and adding their actual non-food spending. This yielded an upper poverty line of USD 15.44 per capita per month and a lower poverty line of USD 14.41, with 40 percent of the population below the line in the first case and 34 percent in the second.

In terms of the upper poverty line the poverty gap amounted to 11.9 percent, which in turn meant that an income transfer of USD 1.84 per month and person, or a total of USD 18.28 million per annum, or 5 percent of GDP, would be needed to bring all the poor to an income equal to the poverty line. It should be noted that the share of the poor in the population turned out to be quite sensitive to the definition of the poverty line. A doubling of the (upper) poverty line would almost double the head-count of poor people (to 78 percent of the total population), while a halving of it would reduce the incidence of poverty from 40 to a mere 7 percent.

Poverty is not evenly spread in Timor-Leste but its incidence varies according to a number of criteria. Thus, household size matters. Among households with only one or two members less than 10 percent are poor, but in five-person households almost 40 percent are, and when a household has six members the probability that it is poor is over 50 percent. Also households with many dependent members (below 15 or above 64 years of age) relative to members of working age (15–64) tend to be poorer than those with few.

Another determinant of poverty is age. Not surprisingly, children are poorer than adults aged from 15 to 49, and those aged 50 or more are the least poor. The age of the head of the household (usually the main provider) also influences. Both for male and female heads, the incidence of poverty rises as we move successively from the 15–29 age group to that of 45–55, and then falls off marginally until the mid-60s before rising again among then elderly.

The relation between education and poverty is very clear-cut. The incidence of poverty drops markedly and monotonically with the school grade completed. Among those with no schooling or just pre-school the incidence is over 47 percent, among those with a complete primary education the figure has fallen to 36.5 percent, those with a junior secondary education fare a bit better: 32 percent and the real big drops come after senior secondary school (14 percent) and tertiary education (less than 6 percent).

Related to schooling is employment. Members of families where the head is in the labor force are less prone to be poor than when the head does not participate. Among those in the labor force individuals in households where the head worked only on the farm were considerably poorer (48 percent poor) than those whose heads were in wage employment (19 percent), household business (17 percent) or ‘other’ (27 percent). The latter group is heterogeneous, containing, among other things, people who live off accumulated wealth. It should be noted that the most common category is the farming only one. Almost 70 percent of all Timorese live in that kind of family, with no, or only small, possibilities of supplementing their farm income with other sources.

This finding points toward the importance of farm assets. When no supplementary jobs exist, income to a very large extent becomes a function of the type and amount of assets owned. It goes virtually without saying that land is the most important asset for farm households, i.e. for three-fourths of the Timorese population. Landownership is widely spread. Six out of seven people live in households with access to land and it is claimed that 95 percent of this land is owned by the households, as little as 4 percent being in dispute. Farms are on average very small, with a median area per person of only 0.22 hectares. Only 5 percent had access to more than one hectare. Virtually all the farm land (95 percent) is cultivated, only one-fifth is under irrigation and less than 40 percent of the area is flat. Urban families cultivate as well, but to a much lower extent that their rural counterparts: almost one-half does not – against 5 percent in the countryside. Among the cultivating families poverty is negatively related to farm size.

The second most important household asset in Timor-Leste is livestock. Most households in the country keep animals, nine out of ten in the countryside and seven in ten in the cities, but the value of the livestock in the latter households is only about one-half of that in the former. Livestock ownership in the cities also seems to differ from rural ownership in another sense. In the countryside livestock is a sign of wealth. People without livestock are more likely to be poor (53 percent) than those with (43 percent). In the cities the opposite applies. Among those without livestock only 12 percent are poor whereas almost 30 percent of the livestock owners are. Thus, the route out of poverty seems to be one that takes you out of both farming and livestock-raising, into wage employment or business.

Geography is an important determinant of poverty as well. The East is less poor (30 percent) than the West (47 percent) or the Center (41 percent). Lowland (up to 100 meters) households are less poor than households higher up. This, however, is not true if the comparison is limited to rural households. The rural-urban division, on the other hand is one of the most important determinants. Poverty is by and large a rural phenomenon in Timor-Leste. While less than 25 percent of all urban households are poor the corresponding figure for rural areas is over 44 percent, and no fewer than six out of seven poor live in the countryside. Among rural dwellers we also find the same marked difference between the East on the one hand and the Center and the West on the other, with the latter two regions being considerably poorer than the former. There are differences also between urban areas. The two largest cities, Dili and Baucau, are less poor in head-count terms than other urban centers.

One of the most important aspects of poverty is food security. While the Household Survey did not make any effort to directly measure the extent of malnutrition it did pose questions with respect to how people themselves perceived of their situation. The responses obtained were in line with those of the Suco Survey. The main finding was that on average the Timorese population felt that it had inadequate food during 3.6 months and more than adequate food only during 1.7 months, and that almost 90 percent were affected by food shortage during at least one month. The worst months were from November to February, from the end of the rice harvest to the beginning of the maize harvest, when more than two-thirds experienced a deficit.

Dili and Baucau were better off with only 1.8 months and the share of the inhabitants affected was lower as well: 40 percent had to face a deficit during at least one month against over 90 percent in the rest of the country. On the other hand, the period with more than adequate food supply was shorter as well, which, however, presumably only reflects the better ability of the populations in the two major centers to smooth consumption across the year because of their greater reliance on non-farm incomes.

The periodic food shortages required some special strategies to cope with them. This was the case for virtually all the affected families. Most common was to cut down on the food intake and the second response was to alter the composition of it. The group that appears to have to take the brunt of the adjustment unfortunately appears to be the children. The respondents were asked to identify up to three household members that were most affected, and the result was that children accounted for between 59 and 73 percent of the three.

Finally, the issue of poverty is strongly related to that of infrastructure provision. The pattern is very clear-cut in urban areas. The absence of drinking water, sanitation or electricity goes hand in hand with a markedly higher incidence of poverty. For rural areas there is little difference in terms of drinking water, for sanitation the pattern is the reverse, but the difference is small, and in the case of electricity the expected pattern shows up. A lack of all three points toward a significantly higher poverty incidence, even more so in urban than in rural districts. These findings should also be seen against the fact that nationwide three out of four have no electricity, three out of five no safe sanitation and one out of two no safe drinking water.

The Household Survey also produced some inequality measures. The poorest 40 percent of he population accounted for only 18 percent of the total expenditures, on average USD 15.49 per month and person, just above the poverty line, while expenditure share of the top 40 percent amounted to approximately two-thirds, or a monthly per capita figure of USD 18.22 on average. The Gini coefficient for the country as a whole was 0.37, slightly higher in urban areas and just above 0.34 in the countryside. The West was significantly less unequal than the rest, with 0.31, against 0. 39 in the Center and 0.35 in the East.

The evidence with respect to gender does not indicate any systematic differences in terms of poverty between men and women. It should, however, be kept in mind that this finding is based upon the assumption that consumption is equally distributed within the households.

The UNDP Human Development Report 2002

The UNDP (2002) *East Timor Human Development Report* also provides some information about poverty, through its various development indices, based on the findings of the 2001 surveys. The Human Development Index for Timor-Leste in 2001 was estimated to be 0.421, on a scale running from 0 to 1. This figure probably represented an improvement in comparison with the 0.395 obtained for 1999 (after the Indonesian destruction) when Timor-Leste was an Indonesian province (a figure equal to that of Rwanda, which then ranked 152 out of 162 countries for which data were available), although different sources were used for the two calculations. The lower figure for 1999 is explained mainly by the income drop that resulted after the wholesale destruction by the militias.

The Human Development Index is the simple average of three component indices.[3] Timor-Leste performed moderately well on the life expectancy (at birth) index in 1999 – 56 years (56.7 in 2001), comparable to the figure for Cambodia and Burma, less than Indonesia (65) or Vietnam (68), but a great deal better than Angola and Guinea-Bissau (both 45) or Mozambique (40). The second component is education. Here, the country showed a much lower adult literacy rate (with a weight of 2/3 in the Educational Attainment Index) (40 percent) in1999 (43 in 2001) than the ASEAN countries. Rather the adequate comparisons were the poorest Asian and African countries. The combined enrolment figure (primary, secondary and tertiary, with a weight of 1/3 in the Educational Attainment Index) was much better, 59 percent (56 in 2001), comparable

[3] The exact computation of the HDI can be obtained from the any issue of the general UNDP Human Development Report, e.g. UNDP (1990), the first issue, where the HDI was introduced.

to Laos (58 percent) and Cambodia (62). In terms of per capita income, finally, the 1999 performance was dismal with a PPP-adjusted figure of USD 337, so low as to put Timor-Leste after Sierra Leone, the country a the bottom of the world list. This dismal figure, however, was due mainly to the very special events of 1999. For 2001 the corresponding figure was USD 478.

Other indices computed by the UNDP confirm the picture. The Gender-Related Development Index,[4] which takes into account the inequality between male and female incomes was 0.347 in 2001 (i.e. lower than the HDI), basically because women's earnings are only one-eighth of those of the men. Finally, in 1999, the Human Poverty Index,[5] which combines deprivation in terms longevity (the percentage of people not expected to survive until the age of 40), education (the percentage of adults who are illiterate) and living standard (a simple average of the percentages of people without access to safe water, health services and of moderately and severely underweight children under five), was 49.0. (A lower percentage indicates a lower level of poverty.) This indicates that of all Asian countries for which the index could be calculated Timor-Leste has the highest rate of human poverty.

Changes 1999–2001

Using the data of the Household and Suco surveys, Kaspar Richter (2005) has mapped the determinants of welfare and power in Timorese society. The Husehold Survey respondents had been asked to rank themselves on a scale ranging from 1 to 9 with respect to economic status and power both for 1999 and 2001. The results pointed to changes on both dimensions.

In 1999 approximately one-third of all respondents believed they were on the lowest economic step, another third on the second level and another 30 percent no higher than the fifth level. This left less than one percent on the four highest levels. The power situation was even worse. More than 60 percent placed themselves on the lowest level, and more than 20 percent on the second lowest. Only one percent was found on the sixth highest level and none above.

In 2001 the economic situation had improved, especially for those at the bottom of the ladder. At that point 22 percent declared themselves to be at the lowest level while another 10 percent had moved to either the second or the third lowest steps. Higher up the changes were insignificant. The power situation had improved more markedly. In 2001 only 5 percent indicated that they were at the lowest level and 28 percent placed themselves on one of the five highest levels. Almost the entire population felt more powerful than two years before.

Richter found that the losers in terms of welfare were mainly those who before the 1999 violence had been comparatively better off. The returns to economic assets fell during the transition from 1999 to 2001. Also, those who had suffered specific damage during the violence (destruction of assets, displacement) turned out to be losers. The determinants of power changes were of a different kind. They mainly had to do with social resources. Having Tetum as one's mother tongue, instead of merely being able to speak it was a main determinant of power gains (although it is not completely obvious what this measures), and so was participation. Negative economic shocks, on the other hand, had a nega-

[4] This index (GDI), which is quite tricky to compute, is described in detail in UNDP (1995).

[5] For details with respect to this index (HPI-1), see UNDP (1997).

tive impact exactly as in the case of economic welfare, although a less pronounced one. Resettlement, finally, had a stronger negative impact on power than on welfare, presumably through the disruption of social networks.

To sum up, all available data unequivocally point to the fact that Timor-Leste is a very poor country, among the poorest both in East Asia and the world. Four out of ten people live below the poverty level, and the UNDP Human Development Index also gives a low figure. The availability of food varies across the year, with November-February being the most difficult period. Access to health and education is a problem for many and the physical infrastructure is deficient, especially in the countryside. The Timorese perceive themselves as being poor, basically precisely because of this: the deficient infrastructure which in different ways hinders economic development. Poverty is not equally distributed among the population. Large families are generally worse off than smaller ones. Those with little or no education fare worse than those with more schooling and rural districts tend to be worse off than urban areas. The eastern part of the country is somewhat better off than the central and western parts. The Gini coefficient of inequality is moderately high, below 0.4. Between 1999 and 2001 the economic situation improved mainly for the poor, whereas the better off saw the return to their assets fall in the wake of the physical destruction of the former year. Finally, people on averaged felt that they had more power to deal with heir situation in 2001 than in 1999.

Education

Very few East Timorese had any formal schooling as late as at the end of the Portuguese colonization. João Saldanha (1994) estimates that around 90 percent of the population were illiterate in the mid 1970s. The level of education was low in comparison with other parts of Southeast Asia, and lower than the average in the Indonesian archipelago. This situation was primarily the result of a lack of interest of the Portuguese to extend education to the local East Timor population. Portuguese economic and political interest in East Timor was relatively limited, and this in turn restricted both the institutional development of the colony and the need for a local educated population. The local administrative elite were trained in a number of *colegios*, established by the Church and using a Portuguese curriculum (World Bank, 2004b, p.1).

The Indonesian occupation made many educated East Timorese leave the country, but it also led to an inflow of educated people from other parts of Indonesia, since the Indonesians used migrants to fill the ranks of administration, a policy that was viewed unfavorably by many East Timorese. However, the occupation was the start of a substantial improvement of the educational system. The improvement to some extent can be seen as an attempt to win sympathy for the occupation, but a more important reason was the increased Indonesian oil revenues that were used for investment in physical and human capital all over Indonesia, including East Timor. More than 60,000 new schools were built nation-wide, public expenditures on education more than doubled, primary education was made compulsory; and school fees were abolished (Duflo, 2004; Sjöholm, 2005). As a result, by the 1980s, an enrolment rate close to 100 percent was achieved in Indonesia in primary education, and the secondary school enrolment increased from 35 to 48 percent for male students and from 23 to 39 percent for female students between 1980 and 1993 (Thee, 1998, p. 121).

Table 4: School Enrolment Rates and Illiteracy in East Timor and Indonesia (%)

	Primary school net enrolment rate (1995)	Junior secondary net enrolment rate (1995)	Senior secondary net enrolment rate (1995)	Percentage poor of population (1996)	Adult illiteracy rate (1996)
East Timor					
Total	72	27	18	--	--
Urban	84	40	36	5.7	17.2
Rural	71	26	16	32.8	57.9
Indonesia					
Total	92	51	33	11.1	14.7
Urban	93	67	50	5.0	7.1
Rural	91	43	21	14.8	19.2

Source: World Bank (2004b, Annex 1.4 and 1.5).

East Timor also benefited from the Indonesian effort to boost education. For instance, enrolment in primary education increased from 13,500 to 165,000 students between 1976 and 1998 (World Bank, 2004b, p.3). The Indonesian system of six years of compulsory primary education was introduced. In 1994 this was extended to the age of 15. However, there was no mechanism to enforce that students actually turned up in school, which may explain why the net enrolment rate remained relatively low. For instance, the figure for primary schools was only about 72 percent in East Timor in 1995, compared to an average of 92 percent in Indonesia as a whole (cf. Table 4). It is also interesting to notice the large difference between school attendance among urban and rural households in East Timor, a difference that was not present in primary education in other parts of Indonesia. Not surprisingly, junior secondary and senior secondary school participation rates were also comparably low in East Timor.

There may be several reasons for low school enrolment rates in East Timor and, in particular, for why it was so far from achieving the Indonesian goal of 100 percent primary school enrolment. One important factor is probably that East Timor was a poor part of Indonesia, and poor households have typically lower school attendance rates than wealthier households. About six percent of the urban households and almost one-third of the rural households were considered poor in 1995. The latter figure was substantially higher than the Indonesian average, as seen in Table 4.

The neglect of education during the Portuguese years and the remaining relatively low enrolment rates during the Indonesian occupation resulted in a high illiteracy rate. In 1996, almost 60 percent of the rural population was considered illiterate, again a much higher figure than the Indonesian average (cf. Table 4).

The transition period was characterized by severe turmoil and, not surprisingly, large difficulties for the school system. The main problem was the sudden loss of physical and human capital needed for functioning education. Around 95 percent of all schools were destroyed, often burnt to the ground. Moreover, teachers typically came from other parts of Indonesia and most of them left East Timor in 1999. It is estimated that around 20 percent of primary school teachers and 90 percent of secondary school teachers disappeared. However, massive domestic and international mobilization of resources allowed the schools to reopen already at the end of 2000. In fact, the number of students enrolled in primary school increased rapidly from around 167,000 in 1998 to around 185,000 in 2000 (World Bank, 2004b, p. 8). The Household Survey (World Bank, 2003, p. 131) argues that the increased school participation was mainly caused by a combination of increased patriotism among the poor, and reduced costs of school attendance achieved by abolition of official school fees and contributions, and requirements for uniforms.[6]

Education in Independent Timor-Leste

Hence, there are signs that school enrolment has increased after the end of the Indonesian occupation. It is also clear that education is high on the policy agenda in Timor-Leste. For instance, more than 50 percent of all civil servants are today engaged in education. However, despite the attempts to improve education, there are large remaining problems: although school participation rates are increasing, 25 percent of all children are still not attending schools, dropout rates are high, and only 50 percent of children complete primary school at the right age (Democratic Republic of Timor-Leste et al., 2003, pp. 62–75). The relatively poor state of education in Timor-Leste is also clear from a comparison with other countries in the region, as demonstrated by Table 5.

Table 5: Education in Cambodia and other South-East Asian Countries (2002)

	Adult literacy rate	Primary enrolment (net, %)	Secondary enrolment (net, %)	Tertiary enrolment (gross,%)	Pupil-teacher ratio (primary)
Timor- Leste	60	75	30	n a	62
Cambodia	69	86	21	3	28
Indonesia	88	92	n a	15	13
Laos	69	83	31	6	16
Malaysia	89	95	69	27	23
Myanmar	90	82	35	12	n a
Philippines	93	93	56	31	30
Thailand	93	86	n a	37	n a
Vietnam	90	94	65	10	21

Note: The figure for secondary school enrolment for Timor-Leste is the Junior Secondary enrolment rate. n a – not available.
Sources: Figures for Timor-Leste are from UNICEF (2003) and from World Bank (2004b) Figures for other countries are from www.unesco.org/statistics.

Firstly, the literacy rate is about 60 percent in Timor-Leste, which is lower than in other Southeast A sian countries. The low literacy rate is partly due to the historical neglect of education, and it differs substantially between age cohorts. For instance, it is less than 20 percent at age 55 and over but as high as around 85 percent in the age cohort 15–34 (UNICEF, 2003, p. viii). Hence, the literacy rate has increased in recent years, as seen from a comparison with Table 4, and it can be expected raise significantly in the future with more educated younger cohorts.

Secondly, primary school enrolment is lower in Timor-Leste than in other Southeast Asian countries. It is not only lower than in wealthier countries but also lower than in countries with similar low-income levels such as Cambodia, Laos and Burma. Secondary school enrolment is also

6 There are, however, reports that school fees continue to exist, sometimes of a more informal nature.

lower than in any other country in the region, with the exception of Cambodia. Figures on tertiary enrolment are not available for Timor-Leste but is also likely to be lower than in most other Southeast Asian countries. For instance, Gavin Jones (2001, p. 258) reports that only 0.4 percent of males and 0.2 percent of females had a tertiary education in 1995.

The low enrolment rate is accompanied by a related problem of high dropout rates. Around 10 percent of the students in primary and junior secondary school drop out each year and between 20 to 25 percent repeat grades. Only around half of the students that enter grade one will eventually complete primary education if the high dropout figure persists (World Bank, 2004b, p. xix).

The low school participation rate is worrying. Again, poverty is a partial explanation, but many other poor countries are doing better than Timor-Leste. Poverty has a negative effect on school enrolment mainly though the difficulties it creates for households when it comes to meeting the costs of education and do without the children's help in income generating activities. As we have already mentioned, the cost of schooling has gone down over the last years and is therefore likely to be less important for low enrolment rates. Moreover, child labor seems relatively limited on Timor-Leste in comparison with many other developing countries. For instance, in 2002 about 19 percent of children aged between 5 and 14 were working outside of the household, in a household enterprise, or doing more than 4 hours per day of household chores (UNICEF, 2003, p. xii). Thus, other factors intervene as well.

Maybe one of the most important reasons for the low enrolment rates is a lack of understanding of the importance of education and the concomitant low demand for it. Timor -Leste is an economy dominated by subsistence farming and it may be difficult for broad segments of the population to understand that education could be instrumental in the creation of better income-generating possibilities. For instance, the World Bank (2004b, p. xix) reports that in families with children aged 7–12, about 32 percent of the poorest families and 26 percent of the richest families had 'no interest' in sending their children to school. It is, however, likely that the demand for education will increase over time and with the gradual formation of a market-based economy.

Hence, many children do not attend school. If they do enrol in education, they will find themselves in an environment that is plagued by various problems and which does not facilitate an efficient learning.

For instance, although the number of students is relatively low in Timor-Leste the number of teachers is even lower, comparatively speaking. As a result, the pupil-teacher ratio is more than twice as high in Timor-Leste as in any other country in the region, and almost five times as high as in Indonesia (cf. Table 5). The small number of teachers is a result of the large outflows of teachers from Timor-Leste in 1999, a loss that has not yet been fully balanced by new recruitments, and by the increased number of students. Needless to say, classes of 62 students per teacher are a serious obstacle to efficient teaching. There are also other serious problems that negatively affect the quality of teaching on Timor-Leste: school material is in scarce supply and often of poor quality, the teachers are poorly trained, and the students receive few hours of instruction (World Bank, 2004b, pp. 26–31).

Given the quality problems, it is hardly surprising that the students' performance is poor. For instance, the World Bank (2004b, p. 35) reports very low scores in a mathematics test in grades 3 and grade 4. More precisely, third graders answered 28 percent of the questions correctly, which is only marginally better than what they would have achieved if they had simply guessed on all questions. Fourth graders did better but still only managed to answer about 37 percent of the questions correctly.

Hence, the picture that emerges of education in Timor-Leste is one of low school enrolment, poor quality of education, and poor performance of students. However, Timor-Leste is a rather heterogeneous country and it may be interesting to examine the situation in different parts of the country. The exact level of education in different regions in Timor-Leste is difficult to evaluate since the result differs substantially between studies as seen in Tables 6 and 7. The difference is partly due to different samples and to different geographic divisions of Timor-Leste. For instance, the UNICEF study measures education among the adult population (above 15 years) whereas the Ministry of Health (2004b) study looks at education in a sample of persons aged 5 years or above. Still, a number of conclusions can be drawn from the two surveys.

Again, the national level of education is very low: between 37 and 54 percent of the population has no education at all. As we have already mentioned, the figure differs between the age groups. The Ministry of Health (2004b) reports that more than 75 percent of the population above 50 years have no education while the figure for the cohort 20–30 years is only about 20 percent. Moreover, only about 5 percent of the population has completed primary education and the figures for secondary education are also very low.

Table 6: Percent of Adults (15 years and above) by Level of Education as Found in the UNICEF Multiple Indicator Cluster Survey 2002

	Never Enrolled in School	Some Primary School	Completed Primary School	Lower Secondary School	Upper Secondary School or More
Total	54.3	14.4	6.2	10.4	14.7
Urban	38.6	15.4	6.7	12.6	26.7
Major Urban	28.5	16.1	8.0	14.7	32.7
Rural	59.4	14.1	6.1	9.6	10.8
Eastern Region	54.3	15.7	5.6	11.2	13.2
Central Region	51.5	14.1	5.8	11.0	17.6
Western Region	61.0	13.4	8.0	7.8	9.7

Source: UNICEF (2003, Table 6.3).

The urban population is more educated than the rural population. The difference is clearly seen in the group that has no education and in the group with secondary education: far less urban citizens have no education and many more have secondary education as compared to people in the rural areas. The level of education differs not only between urban and rural areas but also between West, East and Central Timor-Leste. The West seems to have the lowest level of education. The difference between regions is also seen from the performance on the test of students in grades 3 and 4, where students in the eastern provinces of Baucau, Lautem, and Viqueque have the highest scores (World Bank, 2004b, Annex 4.2).

As discussed above, the situation of education in Timor-Leste is very problematic. This is hardly surprising given the big challenges the new nation is facing with a historical heritage of poor education, large destruction of schools prior to independence, severe poverty, and the need to build up a functioning administration of people with little experience of such tasks. It seems that the government recognizes the importance of education, as seen in the National Development Plan, and is trying its best to improve the situation, as witnessed by the large amount of resources spent on education (below). Still, there are a couple of areas with room for policy improvements. One such area is the language of instruction, and a second concern is the functioning of the Ministry of Education.

Table 7: Percent of Population above 5 years by Level of Education as Found in the Ministry of Health (2004b) Survey

	No education	Some primary	Completed primary	Some secondary or more
Total	36.9	35.2	4.6	23.4
Urban	26.1	34.6	4.6	34.7
Rural East	37.3	35.6	4.9	22.2
Rural Central	41.3	35.6	4.2	18.9
Rural West	43.2	34.7	4.7	17.4

Source: Ministry of Health (2004b), Table 3.13.

The government has decided to use Portuguese as the language of instruction in schools at all levels of education, although it is said that Tetum will be used in parallel in the transition phase. This controversial decision has met with strong opposition from younger Timorese who are educated in Bahasa Indonesia and who most of the time do not speak Portuguese.[7] One of the main reasons behind the reform is presumably to be found in the ruling elites' own education in Portuguese and their long exiles in Portuguese-speaking countries such as Mozambique and Angola (Scott, 2001). Considering that only about five percent of the population speak Portuguese, the change of language is difficult to implement and relies on extensive support by Portugal for providing teachers, teacher training, and school books.

Despite this support, many observers characterize the use of Portuguese as a disaster where children are not able to learn how to read and write because they are taught in a foreign language. The lack of teachers who speak sufficiently good Portuguese to be able to use it as language of instruction aggravates the problem. The vast majority of teachers were educated in Bahasa Indonesia and only those who graduated before 1975 can speak Portuguese. The government is now trying to train teachers in Portuguese by offering language lessons a few hours a week. Whether such programs will result in sufficient understanding of the language to use it in teaching in the immediate future is, however, doubtful. National tests have also shown that students instructed entirely in Tetum perform better than students instructed in a mixture of Portuguese and Tetum, even after controlling for background characteristics that might

[7] Portuguese is only the third or fourth language of many students (World Bank, 2004b, p. xxi).

affect performance (World Bank, 2004b, p. xxii). Hence, there are good reasons why the policy of using Portuguese in the lower grades should be abandoned and Tetum should be used instead.

As previously mentioned, Timor-Leste is spending a large share of the budget on education: around 25 percent of total budget expenditures. The focus is on primary education, which receives more than 40 percent of total expenditures on education. While the relative amount spent on education is high for a country at Timor-Leste's income level, there are signs that the resources are not being used efficiently. Part of the problem seems to be a poor functioning of the Ministry of Education. The ministry seems to have a very limited ability to execute the budget and does not realize that it has to make an expenditure plan and work ahead of time. As a result, expenditures on goods and services in March 2004 amounted to only about 41 percent of the annual budget appropriation, compared to 63 percent for the government as a whole (World Bank, 2004a, p. 5). This situation is serious considering the problems in schools that are often operating without learning materials and that are now introducing school fees to cover their costs. Moreover, teachers have been reported to leave their jobs because they fail to receive their salaries. Needless to say, this is a serious problem in a situation where the lack of teachers has already led to a student-teacher ratio of about 62 (Democratic Republic of Timor-Leste et al., 2003, p. 73).

Summing up the educational situation in Timor-Leste, the first thing that strikes the observer is that the historical heritage is close to dismal. The Portuguese did next to nothing to develop the educational system in their colony. The situation improved somewhat during the years of Indonesian occupation, but East Timor displayed consistently lower scores on all education indices than Indonesia in general. Independence, in turn, brought new problems. Approximately 95 percent of all schools were destroyed and many teachers left the country.

All this means that Timor-Leste displays a number of severe educational deficiencies. The literacy rate is only 60 percent, primary school enrolment is far lower than elsewhere in Southeast Asia, dropout rates are high and many pupils have to repeat classes, the pupil-teacher ratio is twice as high as elsewhere in the region, and the quality of education in general is low. No more than 5 percent of the population has completed the primary cycle. The situation will presumably improve during the years to come, but factors like the decision to employ a foreign language – Portuguese – as the medium of instruction and the poor functioning of the Ministry of Education constituted obstacles to be overcome.

Health

The development of health services in Timor-Leste shows strong similarities to the development of education previously discussed. In other words, health was poor during the Portuguese colonization, improved under the Indonesian rule but did never quite catch up with the rest of Indonesia, and has faced large difficulties since the transition and independence. The one important difference is that quality improvement in the health area has perhaps been more significant than in education in the last few years.

More precisely, the Portuguese did not totally neglect health in East Timor. They did set up medical centres and provided free medical treatment to the rural population and to the urban poor (Saldanha, 1994, p. 61). However, in practice they failed to reach out to broad segments of the population since most people lived far away from any medical centre. Malaria, influenza, tuberculosis, and malnutrition were common – with severe consequences for the population. Saldanha (1994, p. 62) cites Portuguese sources stating that the infant mortality rate exceeded 50 percent in the first half of the 20th century, a figure that seems almost unbelievably high.

Health conditions improved under the Indonesian occupation but the problem of reaching out to the rural population by and large remained. Most people continued to depend on self-help or of traditional health practitioners (*dukun*) and very few ever got in touch with doctors or other professional health practitioners (Jones, 2001, p. 266). As a result, tuberculosis, malaria, lower and upper respiratory tract infections, and other diseases continued to plague the population and resulted in a situation worse than in most other parts of Indonesia.

The Current Health Situation

As seen in Table 8 the health situation in Timor-Leste remains worse than in Indonesia and in other Southeast Asian countries. For instance, life expectancy is only 49 years, which can be compared to 67 years in Indonesia and an average of 65 years in other developing countries.[8] The low life expectancy is mirrored in a high under-five mortality rate, higher than in most other developing countries and higher than in any other Southeast Asian country with the exception of Cambodia. As previously mentioned, a number of different diseases plague the population of Timor-Leste. The Human Development Report includes figures on the number of tuberculosis cases for a large number of countries. Tuberculosis is as common in Timor-Leste as in Cambodia and more common than in other Southeast Asian countries.

Access to health is difficult to measure but one way is to look at the share of births attended by skilled personnel which is included in the last column of Table 8. Only 24 percent of the births are attended by skilled personnel, a figure which is, again, lower than in most other countries even those at a comparable income level. Other reports come up with an even lower rate of attendance by skilled personnel. For instance, the Ministry of Health (2004b, Table 10.9) finds that a nurse, midwife, obstetrician, or general practitioner attended only about 16 percent of births.

[8] The figures on life expectancy, as well as other variables, differ between sources, often because of different definitions. For instance, the Ministry of Health (2004a, p.1) puts the life expectancy on Timor-Leste to 57 years. The UNDP figures are used in Table 8 since they use similar variable definitions for the included countries.

Table 8: Health Indicators for Timor-Leste and Other Southeast Asian Countries (2002)

Country	Life expectancy at birth (years)	Under-five mortality rate (per 1,000 live births)	Tuberculosis cases per 100,000 people	Births attended by skilled health personnel (%)
Timor-Leste	49.3	126	734	24
Malaysia	73.0	8	120	97
Thailand	69.1	28	179	99
Philippines	69.8	38	540	58
Indonesia	66.6	45	609	64
Vietnam	69.0	39	263	70
Cambodia	57.4	138	734	32
Laos	54.3	100	359	19
Burma	57.2	109	176	56
All developing countries	64.6	89	307	55

Source: UNDP, Human Development Reports, www.hdr.undp.org/reports/global/2004.

Hence, the health situation on Timor-Leste is poor compared to most other countries, and the population suffers from roughly the same diseases as they did during the Portuguese colonization. For instance, malaria is endemic in all provinces; four provinces including Dili are high-transmission areas; and chloroquine-resistant strains have been reported (Ministry of Health, 2004a, p.1). Even more troublesome is the fact that malaria has shown a three-fold increase in Timor-Leste since 1999. It is sometimes argued that this increase is caused by a breakdown of surveillance, vector control activities and treatment in the last few years (Ministry of Health, 2004a, p. v). Other preventable communicable diseases such as tuberculosis and diarrheal diseases are also common. Moreover, the under-five mortality rate is high, as shown in table 1. Accordingly, the infant mortality rate is also very high: about 88 per 1,000 live births (Ministry of Health, 2004a, p. 1). Maternal mortality is, again, very high with about 800 deaths per 100,000 live births. The main causes of maternal mortality seem to be an increased incidence of teenage pregnancies and short time periods between pregnancies. Both factors is reflected in the extremely high, and rising, total fertility rate of 7.77 (Ministry of Health, 2004b, Ch. 5, p.1).[9] This makes the fertility rate in Timor-Leste the highest in the world, and it seems to be caused by a mix of factors. The most important explanation is a widespread unfamiliarity with family planning practices, which is rather surprising considering the large effort to spread information on family planning during the Indonesian occupation (Ministry of Health, 2004b, Ch.6). A related issue is how to avoid sexually transmitted diseases. Again, such knowledge is lacking, which is perhaps not surprising since only about a quarter of the popula-

[9] The total fertility rate is calculated from the age-specific fertility rates (number of births per 1,000 women in each five year group in child-bearing age). These rates are added and the resulting figure is multiplied by five, to account for the five-year age groups and divided by 1,000, to produce an average rate per woman. The total fertility rate thus tells us how many children a woman would have on average passing through the entire child-bearing age.

tion has ever heard of HIV/AIDS (Ministry of Health, 2004b, Ch. 14). As a result the country is likely to face a coming HIV/AIDS epidemic.[10]

The most common diseases among children are acute respiratory infections and diarrheal diseases (Ministry of Health, 2004a, p. v). The latter problem, which is also common among adults, is closely linked to lack of safe water, a situation that does not seem to have improved since the Indonesian occupation (UNICEF, 2003, p. 44). Around 60 percent of the rural households do not have access to safe water. The situation is similar for urban households where water is widely available but often contaminated by sewerage and other waste (Ministry of Health, 2004a, p. v). The problem with contamination is made worse by the lack of sanitation: around 45 percent of the population has no toilet facility and only around half of the existing ones can be considered safe (UNICEF, 2003, p. 45).

Table 9: Share of Children Under Five Years Moderately or Severely Malnourished 2002 (%)

	Weight-for-Age		Height-for-Age	
	Moderate malnutrition	Severe malnutrition	Moderate malnutrition	Severe malnutrition
Total	42.6	12.6	46.7	24.7
Eastern Region	37.4	7.8	47.9	22.6
Central Region	42.3	13.6	46.8	25.5
Western Region	50.8	16.9	44.7	22.7
Urban	36.2	7.6	38.9	19.2
Major Urban	37.6	9.5	40.4	19.7
Rural	44.5	14.1	49.1	25.6
Male	44.2	13.6	48.4	26.6
Female	40.9	11.5	45.0	21.5
Mother's education				
None	45.7	14.0	50.2	27.4
Primary	42.2	12.2	45.8	23.4
Secondary +	37.1	10.2	40.9	18.3
Wealth Quintile				
Poorest	45.2	13.8	51.3	28.1
2	44.6	13.2	50.5	26.1
3	43.3	13.4	49.2	25.6
4	45.4	12.2	45.4	23.1
Richest	34.5	10.0	36.8	16.9

Source: UNICEF (2003, Table 8.1).

[10] Interview with the Minister of Health, Rui Maria de Araujo, October 2004.

Another reason for many diseases is that people are suffering from malnutrition and therefore become more receptive to various infections. Table 9 shows the share of children under five that are moderately or severely malnourished. Malnutrition can be measured either as the weight or the height of the child in relation to the age. Moderate malnutrition is very common. It affects more than 40 percent of all children under five irrespective of the measure used. Around 13 percent of all children suffer from severe malnutrition according to the weight-for-age criterion and 25 percent according to the height-for-age criterion. Malnutrition differs between regions and seems to be highest in West Timor and lowest in Timor-Leste, although the pattern depends on the measure used. What is very clear, however, is that malnutrition is higher in rural areas than in urban areas, higher among male children than among female, and higher the less educated is the mother. Finally, not surprisingly, malnutrition is negatively correlated with household income.

Although the situation is troublesome there are many indications that it is improving thanks to an ambitious government program, and the Ministry of Health is widely recognized as the most efficient of all government ministries. The main problem is to bring health services to the rural population. Only around 10 percent seek health care when sick (Democratic Republic of Timor-Leste et al., 2003, p. xi). One explanation is presumably long distances to health care centres, in combination with poor roads that get even poorer during the rainy season. Inconvenience and costs for transport and medicines also have a negative effect on the utilization of health care. Still, the low utilization can hardly be explained by distance and costs alone. An additional important reason may be a lack of understanding of the benefits of modern health care. The Ministry of Health (2004a, p.2) argues that 'There is a widespread lack of awareness of health problems, particularly among women and a general lack of understanding of health benefits.'

The government attempts to improve the situation through information and by providing health care closer to the people. Information campaigns try to spread knowledge not only of modern health care facilities but also about ways to prevent diseases through, for instance, mosquito nets, personal hygiene, and safe drinking water. Such campaigns are of course a major challenge in a society with high illiteracy rates and little coverage of radio and television.

The main focus of the government health policy has been on provision of basic primary health care at the local level and concentration of in-patient treatment in four large hospitals in the urban centers. More precisely, there are about 160 health posts located in villages, which provide very basic health care. There are also 63 community health centers with employed doctors who also visit the sub-districts and who are able to provide more sophisticated medical care. Finally, there is a network of radio communication and of ambulance services to improve access to health care also for more isolated villages.

Alongside the public health service, there is also a substantial amount of services provided by churches and non-government organisations. Such clinics account for roughly 20 percent of all outpatient visits (Ministry of Health, 2004a, p.4).

The focus on community health centers appears to have been a successful strategy for reaching the poor. It is estimated that roughly 87 percent of the population today has good access to health care, defined as less than two hours walk from the home (Ministry of Health, 2004a, p.2). This is likely to have yielded some other benefits. For instance, immunization coverage for DPT increased from 20 percent in 2001 to 69 percent in 2004, and from 20 percent to 60 percent for measles (World Bank, 2005). Moreover, the share of births assisted by skilled attendants has increased to 52 percent in 2004. Finally, out-patient visits per capita from 1.6 to 2.15 (World Bank, 2004a, p. 5).

Despite the progress that has been made, many problems remain in the health sector. Again, doctors and midwifes are too few; malaria, tuberculosis and various skin diseases are common; and the country is likely to face a coming HIV/AIDS epidemic. It is therefore fortunate that Timor-Leste spends roughly 7 percent of GDP on health, compared to an average of 1.7 percent in the low- and middle-income countries in East Asia and the Pacific (Ministry of Health, 2004a, p.26). This policy will have to continue over a foreseeable future if Timor-Leste is going to make any more substantial catching up with the health standard in other parts of the region.

As could be expected, overall, the health situation is similar to the situation in education. The Portuguese and the Indonesians both failed to reach the population at large, and the situation in Timor-Leste is worse than in Indonesia and Southeast Asia. Life expectancy at birth does not reach 50 years, and the country performs notably worse on the specific health indicators than its neighbors and the developing world in general. Malnutrition is a problem among small children. However, the Ministry of Health is the most efficient one in the country and it has designed a strategy which saves on expensive resources while at the same time it emphasizes reaching as many people as possible with primary care.

The Economic Side of Poverty Reduction

It should be completely clear from the foregoing that poverty is the number one problem in Timor-Leste. Economic growth is a necessary ingredient in any poverty reduction strategy. Societies without growth can have temporarily successes in fighting poverty but the results tend to be unsustainable. Economic growth generates resources for improving living standards, both by increasing private incomes and by increasing the ability of the government to launch poverty reduction programs. However, although the importance of economic growth for poverty reduction can hardly be overemphasized, it should be noted that economic growth is necessary but not sufficient for poverty reduction.

Having said this, in the final part of the report we will briefly sketch the evolution of the Timorese economy since independence, in order to obtain a better perspective of the task that the government is facing in its endeavour to reduce poverty. We will finish with an account of the financing side of the problem.

East Timor experienced a dramatic economic contraction in the late 1990s (Hill and Saldanha, 2001, p. 8). One reason for the contraction was the crisis that struck most economies in Southeast Asia in 1997. However, other parts of Indonesia's outer Islands did relatively well in 1998 and 1999 when a heavily depreciated Indonesian rupiah boosted exports of resource-based goods. Unlike those parts of the archipelago, East Timor did not produce much export goods but depended on a large public sector which faced severe cutbacks in transfers from the central authority in Jakarta (Asian Development Bank, 2004a, p. 3). Moreover, the drought brought about by El Niño had a sharp negative effect on agricultural output and hence also on the incomes for most of the population. The climax of the decline was reached with the destruction in 1999.

Considering the sharp decline in GDP in the late 1990s, it is not surprising that East Timor witnessed high economic growth once the reconstruction started in late 1999. The first two years with large foreign assistance, 2000 and 2001, saw an annual real growth rate of GDP of about 15 percent (Table 10). The first year of independence, 2002, this rate declined to about 2 percent, and a further decline took place in 2003 – to minus 3 percent. The most important reasons for the negative growth were the withdrawal of a large number of foreign advisors and substantial flood damage to crops caused by a delayed rainy season in 2002 (Asian Development Bank, 2004b). Better weather conditions in 2004 are expected to offset the negative impact of continued reduction of the international presence and result in a positive, albeit relatively small, growth of about 2 percent in 2004 (IMF, 2004, p. 13).

The growth experience of Timor-Leste in recent years demonstrates that the country depends on the presence of foreign advisors who boost the demand for goods and services and thereby also economic growth. After the beginning of the withdrawal of the foreign community in 2002, economic growth has been relatively slow. This gives rise to concern, since it should be noted that even growth rates of 2–3 percent of GDP are insufficient to lift the population out of poverty. A high fertility rate, together with declining mortality rates, has led to a rapid population growth.

Table 10: The Macroeconomic Situation of Timor-Leste (2000–04).

	2000	2001	2002	2003	2004 (predicted)
GNP current prices millions of USD	329	400	389	370	408
GDP current prices millions of US$D	321	387	373	334	325
GNI per capita current USD	--	--	440	430	--
Real GDP growth (%)	15	15	2	-3	2
Oil/gas income millions of US$D	8	13	17	35	83
Inflation*	3.0	-0.3	9.5	4.2	3.5
Merchandise exports millions of USD**	5	4	6	7	9
Merchandise imports millions of USD	240	268	249	201	183
Overall trade balance millions of USD	-235	-264	-243	-193	-174
Merchandise exports share of GDP**(%)	2	1	2	2	3
Merchandise imports share of GDP (%)	75	69	67	60	56
Overall trade balance share of GDP (%)	-74	-68	-65	-58	-54
Current account/GDP, excl. Official transfers (%)	-83	-76	-72	-57	-36
Current account/GDP, incl. Official transfers (%)	15	14	10	13	20

Note: * Rupiah-based CPI for Dili through 2000 and, thereafter, dollar-based CPI for Dili. The projection for 2004 reflects actual inflation up to September 2004.

** Excludes oil/gas revenues, which are recorded under the income account (royalities) and transfers (tax revenues)

Sources: IMF (2004), World Bank, World Development Indicators (database).

Increased growth is likely to require a combination of productivity improvements in the agricultural sector and the emergence of a modern private sector. Improvements in agriculture are especially important because a large proportion of the population makes its living in this sector. The most severe problem facing agriculture is a lack of modern technologies, including high-yield grains and seeds, irrigation, and fertilizer (UNDP, 2003, p. 48). Moreover, lack of market access effectively reduces the incentives to invest in modern technologies and forces farmers to continue subsistence activities. Improvements in roads and other infrastructure are therefore important for bringing farmers into contact with urban markets. Finally, land rights are controversial and poorly defined in Timor-Leste. There is in fact a host of different land claims, deriving from tradition or custom, from land rights given under the Portuguese or under the Indonesian occupation, or from arrangements made after independence (Fitzpatrick, 2002). Until the difficult issue of land rights is settled, farmers (as well as other actors in other sectors) will be reluctant to invest in costly technologies since they cannot be certain that they will be able to reap the benefits (Saldanha and Guterres, 2002).

Although the importance of improvements in agriculture can hardly overemphasized, agriculture alone cannot generate sustainable economic growth. One reason is that the labor force is increasing with about 15,000–20,000 new entrants annually (Asian Development Bank, 2004a, p. 55). Agriculture is unlikely to be able to absorb this number if productivity and incomes are to increase. Hence, it is likely that a sustainable development requires the formation of a modern private sector. Such activity is, with a few exceptions in the modern service sector, lacking in Timor-Leste. A partial exception is the banking sector. The reconstruction of his sector began with the establishment of the Banco Nationale Ultramarine (BNU) in 2000, followed by the ANZ in 2001 and the Bank Mandiri in 2003. All three receive deposits and the BNU and the Bank Mandiri also provide home mortgages and private business loans. In addition, some micro finance NGOs are operating with the support of the ADB.

Private sector development faces many hurdles. For instance, there is little experience of modern private sector activities. The economy of Timor-Leste has for the last 400 years been based on subsistence farming and with the public sector as the main engine of growth. The private sector activities that took place during the Indonesian occupation were often run by people from other parts of Indonesia (mainly Chinese) and most of these left in 1999. Attempts are being made to bring them back and some success has been reported. However, the issue of repatriation is sensitive as shown by the anti-'foreign' or *non-pribumi* demonstrations in 2004 (Smith, 2004).[11]

Moreover, wages are relatively high in Timor-Leste: about twice as high as in Indonesia and many other Southeast Asian countries, despite relatively poor skill levels of the employees in Timor-Leste (UNDP, 2003, pp. 54–55).[12] One reason for the high wages is the presence of foreign experts whose demand for domestic goods and services tends to have a strong positive effect on both prices and wages. As a result, it is difficult for producers of tradable goods to compete with imports.[13]

Finally, poor institutions constitute an obstacle to private sector development. For instance, progress on foreign and domestic investment laws has been slow. The same is true for laws on bankruptcy, insurance and payments (IMF, 2004). Moreover, the problem of implementing the laws is perhaps even greater than the problem of incompleteness, and it is likely to remain serious as long as the judiciary system remains dysfunctional. The government, however, is aware of the pressing need for institutional improvements and various reforms are to be launched.

11 Non-pribumi refers to ethnic Chinese who control large parts of private business in the Southeast Asian archipelago.

12 Saldanha et al. (2004) find the lack of skilled workers to be an obstacle for manufacturing expansion. In particular, there is a lack of engineers and people with computer skills.

13 Cf. the discussion of Dutch Disease below.

Stabilization

The reconstruction of Timor-Leste after the events in 1999 led to a record high inflation rate of about 140 percent that year. However, since the introduction of the US dollar in 2000, inflation figures have been considerably lower, ranging from a small negative rate in 2001 to a positive 9.5 percent in 2002 (Table 10). The inflation rate is predicted to be about 3.5 percent in 2004 (IMF, 2004, p. 13) and is likely to remain low in 2005 due to the continued withdrawal of foreign experts and the restraining effect this has on demand and prices. It should be noted that official inflation rates are based on prices in Dili, and might therefore exaggerate Timor-Leste's actual inflation rate since most other parts of the country are less affected by the inflationary pressure emanating from the large foreign community in the capital.

The economy of Timor-Leste largely consists of traditional subsistence farming and a modern sector that contains only the public administration and some services. Not surprisingly, the result is a very small amount of merchandise exports, about 7 million USD in 2003, a figure that is expected to grow to about 9 million in 2004. Exports have increased from approximately 5 percent of GDP in 2000 to some 9 percent in 2004 (Table 10). The bulk consists of coffee, and is mainly targeting the high-quality segments of the coffee markets in the United States and Indonesia. The largest market for Timor's total merchandise exports is also the United States with about 53 percent of the total, followed by Indonesia with about 21 percent (Ministry of Planning and Finance, 2004a).[14] Official trade figures, however, underestimate the importance of exports to Indonesia. A substantial amount of non-registered trade takes place across the border to West Timor.

In contrast to exports, imports to Timor-Leste are very large. The two main reasons are a large demand for products necessary for the economic recovery and a very low domestic production capacity for such goods. Imports, however, decrease as the economy slowly recovers and the infrastructure is reconstructed. More precisely, imports decreased from about 240 million USD, or 75 percent of GDP, in 2000 to about 183 million, or 56 percent of GDP, in 2003. The trade balance deficit remains, however, at a massive 54 percent of GDP, since exports continue to be low (Table 10). The prospects for future export expansion remain relatively bleak. There is basically no manufacturing in Timor-Leste, the country is a net importer of food, and poor infrastructure constrains farmer access to domestic markets and even more to foreign markets. It is likely that exports will continue to be dominated by coffee and perhaps a few other cash crops, for the foreseeable future.

Given the large trade deficit, it is hardly surprising that the current account balance, exclusive of official transfers, displays a large deficit of about 36 percent of GDP for 2004. However, large official transfers from foreign donors more than cover this deficit and the current account balance including official transfers has ranged from a surplus of about 10 percent of GDP in 2002 to a one of 20 percent in 2004 (Table 10).

The Funding of Poverty Reduction

The public budget has been surprisingly and substantially strengthened during the last year. Government revenues amounted to about 21 percent of GDP in 2003 and are expected to more than double to about 48 percent of GDP in 2004. They can be divided into oil/gas revenues and

[14] The shares are based on exports until September 2004.

other domestic revenues, including taxes and fees. The collection of taxes and fees approximately doubled as a share of GDP between 2002 and 2004 (Table 10). The increase is not primarily due to increased economic activity but to increased collection efficiency. The administrative efficiency may improve further through training of local staff but there are concerns that the decreased number of international advisors will be difficult to balance. The gradual withdrawal of international staff will also affect tax revenues from the service sector negatively, and this will not be balanced by the expected, or at least desired, increase in small Timorese businesses since these are very small taxpayers. The bulk of increased revenues derives from a dramatic increase in oil and gas revenues: from about 13 percent in 2003 to a predicted 39 percent in 2004 (Table 11).

The most recent figures tend to indicate that even these projections may be underestimates. During the first quarter (July-September) of the 2004/05 fiscal year, no less than 62 percent of the budgeted revenue for the entire year had already been collected. Timor Gap tax revenue alone, almost twice as much as projected and almost four times as much as during the corresponding period 2003/04, accounted for 82 percent of this (Ministry of Planning and Finance, 2004d).

Table 11: The Government Budget in Timor-Leste 2000–2005. Share of GDP (%).

	2000/01	2001/02	2002/03	2003/04	2004/05 (predicted)
Revenues	7.7	8.2	13.8	21.4	48.4
Domestic revenues	4.0	5.4	5.5	8.9	9.8
Oil/gas revenues	3.7	2.8	8.3	12.6	38.6
Expenditure	14.5	13.8	20.0	21.0	22.8
Recurrent expenditure	8.4	10.8	15.9	18.0	19.7
Capital expenditure	6.1	3.0	4.1	2.9	3.1
Overall balance	-6.8	-5.6	-6.2	0.5	25.6

Source: IMF (2004).

On the expenditure side, increased recurrent expenditures have increased total expenditures from about 14 percent of GDP in 2000/01 to an estimated 23 percent in 2004/05. Because of the much larger increase of revenues than of expenditures, the government budget has gone from a deficit of about 7 percent in 2000/01 to a small surplus of 0.5 percent in the fiscal year 2003/04. The surplus was completely unexpected, with the mid-year budget review predicting a budget deficit for 2003/04 of about 9 percent of GDP (IMF, 2004, p. 2). The budget surplus is expected to increase further to about 26 percent in 2004 (Table10).

Hence, it is clear from the figures in Table 11 that the budget has improved tremendously in the last year. As seen in Table 12, revenues were expected to amount to 98 million USD in the combined sources budget for 2004/05. This figure has now been revised upward to about 192 million USD. Hence, revenues are now expected to be more than twice the original estimates as a result of the high oil revenues, an increase from an expected 44 million USD, at the time of the 2004/05 budget, to present estimates of 125 million USD (IMF, 2004, p. 4). The same pattern is seen for the expected revenues for the coming years. For instance, the revenues for 2005/06 were previously expected to amount to about 86 million USD but the figure has been revised upwards with about 90 million USD. It should also be noted that the revenue figures for 2005–08 do no include foreign budget support.[15] Hence, revenues are expected to increase substantially even if foreign budget support is abolished.

Part of the increased government revenues is caused by increased oil prices in 2004. The very volatile oil price makes it difficult to predict future revenues. However, the figures in Table 11 are based on relatively conservative expectations of future oil prices. For instance, the oil price is assumed to be 35.4 USD per barrel in 2005 and 28.2 USD in 2008, compared to the current price of over 40 USD per barrel (Ministry of Planning and Finance, 2004b).[16]

Table 12: Revised Total Revenues 2004–08 (million USD)

	2004–05	2005–06	2006–07	2007–08	Total
Update	192.2	176.8	179.4	168	714.4
2004–05 Budget	97.9	86.4	110.7	103.9	368.1
Change	94.3	90.4	68.7	62.1	346.3

Source: Ministry of Finance (2004b).

The most important explanation for increased oil and gas revenues is, however, that production form the Bayu Undan Field has started earlier than expected and generated more output than expected. The extraction began in February 2004 and is expected to produce around 2.6 trillion cubic feet of gas and 370 million barrels of liquids during 20 years of exploitation (Ministry of Planning and Finance, 2004b).

The large increase in government revenues will lead to substantial budget surplus over the coming years, despite large and widespread needs for investments in infrastructure, education, and health. The revenue constraint has been broken in Timor-Leste. At the same time, as demonstrated by Table 13, budget implementation is running behind schedule. The main reason for lagging expenditures is that there is a lack of administrative capacity to increase government spending. Timor-Leste simply lacks the capacity to spend at the rate envisaged in the various plan and budget documents.

[15] Grants of about 31 million USD are included in the figures for 2004/05.

[16] As of December 2004.

Table 13: Budget Execution Rate (% of approved expenditures)

Sector	2002/03	2003/04
TOTAL	95.3	92.7
Office of the President	85.4	79.9
National Parliament	95.2	98.4
Government Structures	94.4	90.7
Ministry of State Administration	95.2	92.6
Ministry of Interior	99.2	96.4
Ministry of Justice	90.3	86.9
Development and Environment	83.5	54.0
Trade and Industry	79.5	80.7
Agriculture	93.9	88.2
Education	94.7	93.4
Health	94.2	95.2
Employment	91.3	88.5
Ministry of Foreign Affairs	78.7	77.9
Planning and Finance	94.2	91.0
Transport and Public Works	97.7	94.0

Sources: Democratic Republic of Timor-Leste (2003, 2004).

Timor-Leste was left without qualified and experienced administrative personnel when the Indonesians left the country, and the return of Timorese in exile has not at all sufficed to fill the gap. For the time being expatriate advisors in many instances have had to assume direct operational responsibility. The public administration is crucially dependent on this support. By the same token it will be left in a very vulnerable situation if the UNMISET mission (which has already been prolonged) comes to an end in May 2005.[17]

In order to solve the problem of how to spend the oil and gas revenue, the government has decided to propose parliament to establish a petroleum fund, based on the Norwegian model (see Norway, Ministry of Finance and Norway, Central Bank, for details). This is expected to be operational from 1 July 2005.

The basic idea behind the fund is to guarantee that the oil revenues expected to flow into the country over the next 20–30 years are spent wisely, in the interest of the economic development of the country (Ministry of Planning and Finance, 2004c). To ensure intergenerational equity, the fund builds on the perpetual income concept, i.e. in the longer run the real value of petroleum wealth should be kept constant over time. The permanent income of the fund will be spent each year, and anything in excess of that will be added to the fund. More precisely, only the interest component on the sum of current assets and expected future revenues is spent every year.

[17] It has recently bee proposed by the United Nations that UNMISET will continue its mission, but at a smaller scale, until May 2006.

Oil and gas revenue is presently projected to rise until reaching a peak in 2011 and then fall off towards eventual exhaustion in the mid-2020s. The projections, however, are uncertain, with respect to both timing and magnitude. The exact size of the reserves is not known. The maritime boundary between Timor-Leste and Australia has not yet been determined, the most recent effort, at the end of October 2004, having failed. The pace and cost of extraction remain uncertain. Finally, historically, petroleum prices, which are presently very high, have tended to display large fluctuations. Present revenue projections, which envisage a gradual reduction of the oil price level point to a figure around 3.7 billion USD, but if the price turns out to be 5 USD lower per barrel the latter shrinks to some 2 billion, and if it is 5 USD higher, it increases to 5 billion (Ministry of Planning and Finance, 2004c, p 7).

Whichever projection that turns out to be correct, the magnitudes involved are so large that they could easily cause trouble. One of the main problems that could arise is that of Dutch Disease (Corden and Neary, 1982). In an economy that has its own currency this shows up in two different ways. In the first place, the domestic currency will appreciate as foreign currency flows in as a result of oil and gas extraction. The domestic cost level rises in terms of foreign currency and it becomes difficult to export goods and services other than those which led to the original inflow. Since the currency of Timor-Leste is the US dollar, however, this effect disappears. What remains is the second effect. The inflow of foreign currency increases the money supply and with that also domestic demand and hence the price of non-traded goods. (The price of traded goods, on the other hand, will remain constant since this is determined in the world market.) Production factors are pulled out of the traded goods sectors and into activities producing non-traded goods. Alternatively, as in the case of Timor-Leste, it becomes difficult for sectors that attempt to establish themselves in the export market to compete for resources. Thus, there is a risk that large oil revenues may act as an obstacle to the development of non-traditional exports and in addition create difficulties for the traditional exports of coffee.

To avoid problems like this, all revenues from petroleum, including the return on the fund's investments will go into the fund as savings, which will be invested abroad in low-risk financial assets. Hereby, oil and gas reserves will be transformed into financial assets. This will separate expenditure from revenues. Expenditure from the fund will be used only to finance the deficit on the government budget (excluding petroleum revenues), so as to avoid an overstimulation of economic activity. In the longer run the strategy envisages a convergence of expenditure to a constant level. The inherent volatility of petroleum revenues over time makes it imperative to impose a measure of regularity in this respect on the one hand, and fiscal (expenditure) discipline on the other.

The Ministry of Planning and Finance will be responsible for the fund and the operational management of the fund will be entrusted to the Banking and Payments Authority. A special steering committee will be set up to advise the ministry, and auditing will be performed by an independent, external, agency, and possibly a council of eminent persons will be appointed to monitor and inform parliament of the activities of the fund.

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