

# **Estimates of funds needed to support vocational education and training in Timor-Leste**

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## **Executive summary**

Timor-Leste has a considerable gap between its demand for skills and the current provision of opportunities to receive vocational education and training. Using some simple assumptions, it is possible to estimate the amount of funds needed to close this gap.

### ***Meeting the skills training needs of new entrants***

Up to 20,000 young people are expected to enter the labour force each year over the next 11 years. Of these, it is likely that 3 in 4 will have completed lower secondary education and above. On the basis on the estimated current costs of providing a training place (US\$380), this represents a cost of US\$5.7 million per year.

The Government and private education institutions provide post-secondary school places, with differing user pays requirements. If it is assumed that these places are provided at no cost in the case of the government-funded places, then the above cost needs to be offset by a planned expenditure by the Government of US\$2.7 million per year. The number of vocational education and training places provided by private institutions is estimated to be 6,000. However, it is not known how long the courses are or what fees are charged.

These assumptions suggest that there is a shortfall of up to US\$3 million a year for new entrants to the labour force.

### ***Meeting the skills training needs of the existing labour force***

In relation to the existing labour force, there is clearly another gap between need and stock of skills currently held. The number of the existing labour force who have completed lower secondary education and above is 72,500. If only a small proportion, say 1 in 10, are targeted for training in any one year, this could represent an extra \$US 1.35 million to US\$2.7 million a year, depending on the duration of the training (6 months or a year).

It can therefore be estimated conservatively that from US\$4 million to US\$6 million a year will be needed to have a significant impact on lifting the skills profile of the Timorese labour force.

These estimates do not address the capacity constraints such as sufficient qualified teachers to provide the training. Tackling these constraints will require additional funds.

## **Introduction**

The purpose of this paper is to offer estimates of the support needed to lift the level of provision of vocational education and training in Timor-Leste.

Two parameters affect the basis for the estimates. The first is the number of young people entering the workforce each year. The second is the capacity of the sector to provide the training needed.

Different assumptions needed to be used about absorptive capacity so that the gap between the need and current constraints is not taken to be the upper limit on what is possible.

Before discussing the nature of the assumptions and the cost estimates derived from them, information about the need for vocational education and training in Timor-Leste is presented.

## **Demand for skills**

Timor-Leste's skills training needs have been identified for the following areas of commercial and social service activity by the Government's Education and Training Sector Investment Program Statement.

- ✧ For small business owners and employees in relation to financial skills to provide access to credit, assistance with machinery and equipment and training in production techniques.
- ✧ In the construction industry, more than 100 local companies have qualified for construction contracts of \$500,000 or more, and a small number of companies have qualified for contracts in excess of \$1 million. A priority for training in the construction industry is project development and management. There is a serious lack of skills in the area of supervision of civil construction and engineering projects. Site supervisors, architects, quantity surveyors and other skilled personnel are mostly Indonesians and Filipinos. The majority of Timorese in the construction industry are semi-skilled and unskilled labourers.
- ✧ In relation to the petroleum industry, there is a clear need to develop a cadre of Timorese who can find skilled employment in the industry. This can initially be with the operators of the Timor Sea program, but in the future with onshore facilities in the Timor-Leste. There are only four Timorese with training in geology.
- ✧ Agribusiness is an area of potential development. This term covers the production, processing and marketing of food and commercial crops for the domestic and export markets. It also includes the appropriate development of forestry and fisheries resources for commercial purposes. To date, a negligible amount of vocational training in these areas is available at the secondary school level.
- ✧ There is also a need for training in veterinary care. There are some 250,000 cattle and buffalo in Timor-Leste and larger numbers of pigs and chickens. People with training in veterinary care are needed to inoculate and monitor the health of a large stock of village-based livestock.
- ✧ Opportunities also exist in supplying goods and services to government in areas such as the rehabilitation of schools and the supply of textbooks etc. Training is needed in business and technical skills to ensure that domestic suppliers can meet supply these services.
- ✧ Finally, the delivery of health care requires a range of skills related to general practice, surgery, intensive care, community and hospital nursing and neo-natal and child health.

## Current provision of vocational education and training

Vocational and technical education is provided by the Government at the secondary school level and by a number of private organizations. There are currently seven Government technical vocational schools and three privately operated secondary schools that provide vocational and technical training. The Education and Training Sector Investment Program notes that churches and NGOs operate a range of vocational training programs. It is estimated that there are at least 41 private providers of vocational and technical training.

There are approximately 6,000 Timorese students enrolled in vocational education and training courses of varying duration. Of these, 2 in 5 students are in secondary schools. The remainder are in post school non-government institutions run by the Catholic Church and industry bodies such as the main purchaser of coffee. In two cases, private providers also include to two facilities funded by the Portuguese and Brazilian governments.

Table 1 provides a listing of the recorded expenditures by donors and the Government of Timor-Leste on vocational education and training and adult and non-formal education. The table shows that training provided in government secondary schools only accounts for relatively small amount of the total expenditure on training. The funds committed by the Department of Labour and Solidarity are also small. The table also shows that total government spending on vocational education and training in total has been around between US\$2.7m over the past four years. Donor funded vocational education and training has been the major source of funds.

Table 1 also indicates where what sort of vocational education and training was funded in this period. Farmer training and forestry & fisheries training were important. Considerable resources went into adult and non-formal education, probably related to education programs for the elections and constitutional consultations as well as through community based programs such as the Community Development Empowerment Program.

**Table 1:** Consolidated listing of expenditure on vocational education and training and educational programs for youth and adults in Timor-Leste, over four years to 2003/04

<b>Vocational education &amp; training</b>		
Donor funded programs	US\$	Per cent
Farmer training	2,502,230	11.4
Forestry & fisheries	818,188	3.7
Finance	14,915	0.1
Construction & trades	135,797	0.6
<b>Vocational education &amp; training (continued)</b>		
Tourism	46,345	0.2
Other vocational education	3,538,952	16.1
Ministry of Education	1,330,000	6.1
Dept of Labour & Solidarity	405,100	1.8
<b>Adult &amp; non-formal education</b>		
Donor funded programs		
Programs for women	674,886	3.1

Other donor funded adult & non-formal education	11,494,272	52.4
Govt funded adult & non-formal education	974,000	4.4
	21,934,685	100.0
Source: derived from Table 22, Education & Training SIP		

## Proposed expenditure on vocational education and training

The Government of Timor-Leste plans to spend about US\$19 million over the next five years to Financial Year 2008/09. This averages US\$3.8m per year and is a major increase compared with an average of US\$2.3m for the three years to 2003. Most of the expenditure (71 percent), however, will go to the creation of Vocational Education Training Authority, the rehabilitation of two technical schools and the delivery of vocational education and training in secondary schools. Only US\$5.4m over will be allocated to post school youth and adult education, just over \$1m a year.

Ongoing donor programs, mainly in the form of one large program from the European Union, will account for almost US\$7 million. Another US\$5 million will come from the Government's own budget. New funding is required for the balance of \$7 million. The three major donors who funded vocational education and training in the years to 2004, Australia, Japan and Brazil, are not continuing their funding.

The most important ongoing program is the \$5.2 million Skills Training for Gainful Employment project (STAGE), which is being funded primarily by the European Commission, along with some support from the International Labour Office (ILO) and the United Nations Development Program (UNDP). It is a five-year program which aims to provide demand-driven vocational and enterprise skills training through out the country. It is being implemented by program staff under the direction of the Office of the Secretary of State for Labour and Solidarity.

## Estimating what is needed

The aim of the Xanana Vocational Education Trust is to enable all Timorese the chance to receive appropriate vocational education and training. What funding is required to achieve this goal?

The following analysis outlines the assumptions for estimating the gap in funding between what the Government of Timor-Leste plans to spend over the medium term and what is needed to provide comprehensive provision for those who want to undertake the training.

## Assumptions

### *Number of new entrants entering the workforce*

The Government of Timor-Leste estimates that between 10,000 and 20,000 young people will enter the workforce each year over the next 11 years.<sup>1</sup> The first estimate is based on current

<sup>1</sup> Government of Timor-Leste, 2005, *Education and Training Priorities and Proposed Sector Investment Program*. Ministry of Education, Youth, Culture and Sports Secretariat of State for Labour and Solidarity, April, p 33.

level of labour force participation. The upper estimate assumes that more young people will leave their rural livelihoods to seek wage jobs because of higher levels of education. The latter scenario would represent a labour force growth rate of more than five per cent a year, which is consistent with the experience of other low-income countries.

However, not all these new entrants will have adequate levels of education to undertake formal courses in vocational education and training. The Government estimates that for several years to come, some 5,000 or more of the new entrants into the labour force will have little or no formal education. According to 2003 data, only 3 out of 4 children of primary school age are in primary school.<sup>2</sup>

Many others will have no more than a primary school education. Data for 2003 also show that as few as 1 in 4 adolescents of secondary school age are enrolled in secondary school.<sup>3</sup>

The differences in foundation education will require tailoring appropriate forms of training to the specific capacities of individuals.

### ***Existing population and workforce***

Timor-Leste has a population in mid 2004 of just under a million people (924,462 persons). One in 5 in the population are young people aged 15 to 25 years (184,100 young people). By the year 2007, another 24,300 will be added to this number and by 2010, there will be some 232,500 young people in this age group.

The skill needs of the existing members of the labour force will also need to be addressed. This includes both those looking for work and those in paid work. The size of the workforce in 2004 is estimated to be 290,000 persons aged 15 years and over. These numbers are estimated to rise under the lower growth assumption to 400,000 in 2015 or to 515,000 under the higher growth assumption.

### ***Number of students in junior and senior secondary schools***

Some 43,250 students are enrolled in 120 lower secondary schools in 2004 and some 21,500 students are enrolled in 55 senior secondary schools. The number of students in junior secondary schools is expected to increase to 53,600 in 2007. The number of students in senior secondary schools is only expected to increase slightly to 23,000.<sup>4</sup>

In relation to the population aged 15 years and over, only 1 on 10 have completed lower secondary school and only 15 in 100 have completed senior secondary school. In the urban areas, these proportions are higher, reaching 15 in 100 with lower secondary completed and 33 in 100 persons with upper secondary school completed in the major urban areas of Dili and Baucau.

### ***Number of students going into higher education***

The number of students heading for tertiary education at the National University of Timor Leste also has to be taken into account. The Government initially planned to fund 600 students a year to go to the National University with funding for 4,000 students in total. However, the demand for more places by graduating secondary students has resulted in the

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<sup>2</sup> Ibid, p 1.

<sup>3</sup> Ibid, p 1.

<sup>4</sup> Ibid, Table 10, p14.

total number of places being lifted to 7,000. It can be assumed, therefore, that the intake of new students into the National University will be more than 600 a year. The increase to a total student body of 7000 suggests that the intake of new students has lifted to around 1,000 a year.

In addition, there are 18 private higher learning institutions of variable quality currently in operation with an enrolment of about 4,000 students.<sup>5</sup> The Dili Institute of Technology, a private non-profit institution, has a student body numbering 350 full time students.

A number of other private institutions, however, are not likely to survive once new regulations are brought in. These regulations will require institutions to meet designated standards to receive accreditation as an institution of higher learning.

### ***Costs of providing vocational education and training***

Costs related to vocational education and training can be classified into two elements: capital and recurrent. The first relates to the costs of providing infrastructure in the form of land and buildings. It also includes one-off expenditures for equipment such as machinery and computers for teaching purposes. Other costs included as one-off expenditures are curriculum development and review, especially in relation to evaluation in relation to national accreditation requirements.

The second set of costs refers to recurrent expenditures. These relate to the running of the institution in terms of salaries of teaching staff and provision of other services to students such as student administration.

The estimated annual cost per student at the National University for the next five years to 2009 is anticipated to US\$355 per student.<sup>6</sup> Of this amount, US\$172 per student per year is allocated for recurrent expenditure and US\$183 per student per year is allocated to new programs.<sup>7</sup> This recurrent cost per tertiary student is considerably more than the recurrent cost of US\$95 per secondary school student.<sup>8</sup>

The cost of providing vocational education and training in government secondary schools is \$620,000. For the 2,051 vocational education and training students in this sector, this implies an average annual cost of \$300 per student. This is substantially higher than the average cost of secondary education programs at US\$95 per student.

The DIT has fees of US\$100 per semester or US\$200 per year. This can be indicative of recurrent costs only.

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<sup>5</sup> Some of these institutions provide higher education of appropriate quality. According to the Government, some institutions provide higher education of appropriate quality. Examples are the Catholic Institute for Primary School Teachers in Baucau, and the Institute of Business (IoB) in Dili. Other institutions provide more specific training related to a particular sector. Examples of this type of institution are the Coffee Academy in Ermera, the Agricultural Training College in Natarbora, and the Portuguese-funded Manual Skills Training College in Tibar. The Dili Institute of Technology (DIT) has 19 qualified staff, seven of whom hold PhDs and MAs. However, the Education and Training SIP notes that 'many of the remaining private institutions have few resources' and ... 'it appears that they have little likelihood of establishing proper academic credentials' (p10).

<sup>6</sup> Government of Timor-Leste, 2005, Table 17: Capital and Recurrent Spending on Formal Education

<sup>7</sup> These include the improvement of the National University's library (\$500,000), laboratories for improving the teaching of mathematics, chemistry, biology and physics (\$1.0 million); continuing capital development in key UNTL faculties such as engineering (\$5.9 million).

<sup>8</sup> Government of Timor-Leste, 2005, *Education and Training Priorities and Proposed Sector Investment Program*, p9.

## Estimates

The following are estimates of the gap between need and current planned provision of vocational education in Timor-Leste. They are based on the population who have left school and entered the labour force. They take into account the prior level of education attainment of the labour force. Also taken into account the planned expenditure of the Government of Timor-Leste on post school vocational education and training.

**Table 2:** Estimated costs per year of funding vocational education and training places for new entrants to the labour force in Timor-Leste

	Estimates	Estimated capital costs US\$	Estimated recurrent costs US\$	Total estimated costs
New labour force entrants per year	20,000			
Estimate of new entrants with lower secondary education and above	15,000	2,700,000	3,000,000	5,700,000

\* capital costs assumed to be US\$180 per student and recurrent costs assumed to US\$200 per student

Against this estimate of the need has to be offset the funds already committed to providing training places. The Government plans to spend some US\$2.7 a year funding post school vocational education and training including youth and adult education. A further 3,500 training places are provided by private training providers either on a user pays basis or as a free place or a combination of both. Using the same assumed cost per student of US\$380, these places are worth US\$1.3 million. However, as the training provided is likely to have widely varying durations and fees in many cases are likely to be charged, this is likely to be a considerable overestimate of the cost of the training provided by private education institutions' own resources.

Therefore, the gap each year between an estimate of the need for training for new entrants and existing provision for new entrants is, therefore, is up to \$US3 million.

In addition, the training needs of the existing labour force also need to be factored in. If only those in the labour force who have completed lower secondary education and above are included, their number is 72,500. If only a small proportion, say 1 in 5, are targeted for training, this could represent an extra \$US 2.7 million to US\$5.4 million, depending on the duration of the training (6 months or a year).