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“Leveraging ICT to Improve Education and Skills in Timor-Leste”

Final Evaluation Report

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UNDP SAR-ZEESM Project	Final evaluation of the project “Leveraging ICT to Improve Education and Skills in Timor-Leste”
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ABBREVIATIONS

CPAP	Country Programme Action Plan
CPD	Country Programme Document
CSO	Civil Society Organisations
ICT	Information and Communication Technologies
DIM	Direct Implementation Modality
DoE	Department of Education
EQ	Evaluation Question
MRV	Measurement, Reporting and Verification
NESP	National Education Strategic Plan
OBI	Oé-Cusse Business Incubator
PMB	Project Management Board
PM	Project Manager
RAEOA	Special Administrative Region of Oé-Cusse Ambeno
SAR	Oé-Cusse Special Administrative Region
SDGs	Sustainable Development Goals
SME	Small Medium Enterprise
SO	Specific Outputs
SRESS	Regional Secretary of Education and Social Solidarity
ToR	Terms of Reference
TVET	Technical Vocational Education and Training
UNDAF	United Nations Development Assistance Framework
UNDP	United Nations Development Programme
UNICEF	United Nations International Children’s Fund
UNSDCF	United Nations Sustainable Development Cooperation Framework
UNOSSC	United Nations Office South-South Cooperation
UNV	United Nations Volunteers
ZEESM	Special Zones of Social Market Economy

1. EXECUTIVE SUMMARY

This document presents the final evaluation of the Project “Leveraging ICT to Improve Education and Skills in Timor-Leste”. The project aimed to improve primary and secondary education by providing children and young people in the Oé-Cusse region with Information and Communication Technology (ICT) skills and knowledge to prepare them to better address the challenges and opportunities of the economy, contributing to the realisation of their right to education and access to technology.

The project design included activities such as building in-house ICT and robotic labs and facilitating two mobile computer labs to provide ICT training and lessons. The location of the labs were geographically planned to provide equitable access to ICT infrastructure in urban as well as in rural areas. The project aimed to develop curriculum and learning material in Tetum, Portuguese, and English to train teachers and students. Educational games on environmental problems and solutions in Tetum, Portuguese, and English aimed to provide the necessary skills and knowledge to take educated decisions on finances and promoting entrepreneurship.

The Project had a total budget of US\$ 959,129.00 and was financed through the UN-India Development Partnership Fund (US\$ 881,193.20) and parallel co-financing from the government of Timor-Leste (US\$ 77,935.80). The Project was initially planned to implement from May 2019 to 30 November 2020.

The Project Progress Summary

The project’s progress, achievements, and results are presented below with final evaluation achievements and a table of indicators in Annex 8.

Output 1: Improved education quality in Oé-Cusse region by promoting computer skills to 2,000 children at primary school and 3,702 young students attending secondary school through the implementation of laboratories for IT innovation and experimentation.

Key achievements

- 5,542 students, (52% female), 168 school teachers (26% female), and 118 government staff (43% female) benefited from the ICT training which includes matters in Innovation & Experimentation, Career Development Training (CDT), basic computer programming, robotics, and curriculum-vitae development.
- Primary school aged children total of 1884 (50% girls) trained; Secondary-school aged young people total 858 (64% female) trained on ICT.
- Infrastructure: 16 schools with improved ICT infrastructure: 4 in-house computer labs, , and 4 robotic labs and 2 mobile computer labs to operate in 8 different schools.
- .

- 3 ICT manuals in Tetum, Portuguese, and English language for teachers on general ICT knowledge, basic computer applications, website design, internet browsing, and email (540 copies distributed).
- ICT curriculum development (in the Ministry of Education ongoing).
- Robotic and IoT (Internet of Things) day-long training has been conducted during the project. During the bootcamp, an international robotic institution provided one day training on robotic and IoT; after the bootcamp the same organization provided more three days training to 15 secondary students.
- 120 students (58% female) from 27 primary, secondary, and vocational schools benefitted from the ICT boot camp and exhibition. The boot camp’s overall aim was to educate students on becoming potential social entrepreneurs by using ICT to develop real-life solutions for existing problems and to transform their ideas into innovative business concepts.
- COVID-19 response: 5,500 face masks distributed; 14 hand-wash stations for 14 schools; certificate course and online learning platform for 130 school representatives; and 130 teachers trained on school reopening guidelines. During 2020 and 2021, the project observed all COVID-19 protocols, while organizing the project events, including the ICT boot camp.

New activities requested by the Regional Secretary of Education and Social Solidarity - extension:

- a) training 100 government staff on basic computer applications, use of open-source software and data store management in computer.
- b) assessment of needs of capacity building of government staff.

Output 2: Enhanced child and young people's knowledge on financial education and environmental awareness through the development and implementation of two computer-based educative interactive games in Tetum and Portuguese language.

Key achievements:

- Two interactive games on “Environmental Awareness” and “Financial Literacy” have been developed to enhance people's knowledge of financial education and environmental awareness.
- 35 teachers and 3,370 students trained on how to play both interactive games.

Going beyond the outputs, a report on ICT curricula in secondary education for Timor-Leste has been prepared and handed over to the Ministry of Education, Youth and Sports. The report is expected to inform the revision of secondary education curricula to introduce ICT in education.

Concise summary of conclusions

RELEVANCE

The project is highly relevant and consistent with national development strategies in the promotion of ICT in education, national education priorities and commitments on education, and the UN’s Development Cooperation Strategy. The project fully reflects the national needs in the education sector that are described in the National Education Strategic Plan 2011-2030.

COHERENCE

The evaluation confirms the very good cooperation with the Government of India, as the main donor to the project in the framework of South-South cooperation and coherency in the project. It was pointed out in the interviews that the cooperation and support by India worked successfully in the project.

The evaluation concludes that the project demonstrates strong involvement of the Ministry and good cooperation with the UNDP throughout the whole duration of the project regarding the development of education policy and practice.

The involvement of the Regional Government of Oé-Cusse and its support throughout the whole duration of the project was confirmed in the evaluation. This contributed to higher level of project’s visibility, transparency, co-creation of project outputs, and consequently complementarity and sustainability. The involvement of the Regional Government was essential for increasing education quality (e.g. installment of ICT equipment in schools) and for motivating teachers for changes in the teaching process.

EFFECTIVENESS

The project achieved the objectives. There were no deviations to the original plan. There were some delays in the start of the project due to delays in procurement of equipment from other countries. The active and fruitful cooperation of the partners involved in the project (Government/Ministry, UNDP, Indian Government, Department of Education in the region) have enforced the effective implementation of the project.

EFFICIENCY

Overall, the project was implemented efficiently given the context and the pandemic situation. Due to the COVID-19 pandemic, the project requested a no-cost extension of 6 months (until May 2021) to complete training activities that were unable to be commenced, continued, organized, or completed because of the pandemic. The extension contributed to a higher level of project efficiency because the planned results were eventually achieved.

The targeted numbers of trainings were well achieved and exceeded regarding the target groups of government staff, teachers, and students, as evidenced with key achievements and numbers of indicators in Annex 8. The challenges regarding efficiency were related to the lack of proper infrastructure, and delays in the installation of the labs and procurement of the equipment in the beginning of the project.

IMPACT

The project has contributed to the achievement of basic indicators in terms of human development in the Oé-Cusse region because it increased teachers’ and government staffs’ capacities and ICT skills.

The project has achieved significant results and impact because it contributed to the decrease in inequalities within the country and balanced regional differences between urban and rural areas. It increased the overall quality of education by training teachers in tools that support learning process in

interactive ways. It also contributed to the development of financial and ICT literacy, communication skills, and promoted environmental awareness among students. Still, there is a big gap in teacher training; teachers need more skills to apply ICT in teaching and adopt active learning approaches.

The project involved many different actors, from the public sector (Ministry of Education, Youth and Sport; Regional Secretary of Education and Social Solidarity; private sector (private companies and other players with expertise and capacities; education sector institutions (primary education, secondary and technical education); etc. This was very positive because it enabled knowledge sharing among different actors and enabled awareness raising about the importance of ICT-supported teaching methods, and the need to develop ICT skills of students and teachers, through a dedicated ICT skills curriculum.

Due to the achievements and changes introduced into the education system, the Government recognized the project as an example of a good practice project to pioneer and drive change nationwide to influence the development of the national ICT curriculum.

SUSTAINABILITY

The project developed a pilot model to continue expanding to other regions in education in Timor Leste.

The project observed the fact that there were not enough capacities in the schools to maintain the labs and equipment has indicated a risk regarding the sustainability. To mitigate the risk, the Ministry has decided to recruit specialist support in the maintenance of the invested labs and equipment in the schools. The Government reports to have made a budget reservation to ensure the maintenance.

HUMAN RIGHTS AND GENDER EQUALITY

The share of women participation in the project’s trainings was lower due to the lower number of female teachers in secondary education. There were a higher number of female teachers in pre-primary and primary schools. Female students had the same rights as their male student fellows, and they were equally included in all project activities. The project was perceived to support inclusion of vulnerable groups as it targeted teachers and learners in remote villages, who were supported with inclusion to digital communication. The project did not make any specific reference to targeting disabled people.

The United Nation’s 2030 Agenda for Sustainable Development Goal 4 (SDG 4) is the education goal. It aims to “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all.” SDG 4 is made up of 10 targets, where the target 4.1 aims to free primary and secondary education. The project supports the target 4.1 with the aim: “by 2030, ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes”.

Recommendation Summary Table

RELEVANCE	<p>It is recommended to design and implement the future similar projects in a similar way by aligning the project to wider strategic plans of all partner institutions. Concerted efforts at primary, secondary and tertiary level needed to develop a comprehensive approach to develop ICT in education. The scaling up of the results should reach out to students in Universities.</p> <p>In addition, it is recommended to participate the target beneficiaries in the design to appraise the needs and gaps at an early stage of the project.</p>
COHERENCE	<p>It is recommended to continue implementing future projects coherent with the Government, United Nations Office for South-South Cooperation (UNOSSC), and other UN Agencies’ strategic frameworks for coherency and knowledge transfer and peer support between the countries.</p> <p>It is recommended to ensure coherency of the project’s results in terms of Ministry’s policy support and integration of results in education systems, e.g. curriculum development, which ensures long term use and continuity of the project’s results in education, in addition to the capacities and skills developed.</p> <p>It is recommended to continue the design and implementation of similar project in close cooperation with the Government at different levels to ensure smooth implementation of activities at school level. It is recommended to have certain level of flexibility in implementation to be able to address the local needs.</p>
EFFECTIVENESS	<p>It is recommended to learn from the project and prepare back-up systems and alternative plans for project implementation, which consider the deviations caused by local contexts or crisis situations.</p>
EFFICIENCY	<p>It is recommended when planning education projects to note the academic school year and calendar with school holidays.</p> <p>It is recommended to plan early on the procurement for the trainings to start as planned in similar education projects. It is also recommended to plan alternative training methods and modules which can be flexibly implemented, e.g. remotely and independently by learners.</p> <p>It is recommended to continue child-centered, interactive learning and teaching methods in ICT trainings; to break the barrier of teachers and students, and to create collaborative learning environments in schools.</p> <p>It is recommended to acknowledge the role of ICT in education, for example in science related subjects serving everyday conditions and use, such as project-based learning in conservation of water, nutrition, and food etc.</p>

IMPACT	<p>It is recommended to continue supporting the impact of the project's results in education across Timor Leste. The project will serve as an example and resource to draw lessons learnt for the Government to continue the activities in the region and scale up the project to other regions.</p> <p>It is recommended that the Government will ensure the National curricula and adoption of ICT trainings in education as a subject at all levels of education.</p> <p>It is recommended to use the manuals developed at different levels of education.</p> <p>It is recommended to continue the teacher trainings on ICT in education in the regions, through Training of Teachers by capacitated teacher trainers of the project. The next phase should make the teacher training a priority, including the training of head teachers on ICT, noting especially teacher trainings for remote areas.</p> <p>It is recommended to review the curricula of pre-service and in-service teacher trainings based on the project.</p> <p>It is recommended to acknowledge the children's skills will spill-over of ICT skills to benefit families and communities, especially in remote areas.</p>
SUSTAINABILITY	<p>It is recommended to sustain the project's achievements in the future projects and continue expanding to other regions in education in Timor Leste. The developed results, e.g. capacities built of the government staff, skills acquired by teachers and students, training materials developed, methodologies developed, e.g. boot camp all can serve as examples to exploit and further develop in similar future projects.</p> <p>It is recommended to ensure the sustainability of ICT in education with the Government budget reservations, including maintenance.</p> <p>It is recommended to sustain the teacher trainings as requested by the project participants of teachers, including lessons learnt to revising the curricula of pre-service and in-service teacher trainings.</p> <p>It is recommended to sustain the project activities through ToT trainings as planned in the project.</p> <p>It is recommended to sustain the students peer-to-peer support as planned in the project.</p> <p>It is recommended to continue and maintain different multi-media teaching and learning provision through the radio, TV and podcasts especially to remote regions.</p> <p>It is recommended for the Government and regional education regarding the continued ICT trainings in the region as well when designing future similar projects and trainings to take into account the electricity power interruption and low</p>

	<p>quality internet connection as was reported from the schools in the Oé-Cusse region.</p> <p>It is recommended for the scaling up and formulation of the next stage of programming on ICT in education especially in TVET, to reshape the results of the project, and make a policy case for labour market responsiveness, digital skills, green skills, involve private sector. The to emphasis should be more on the benefit, how the project is important to support the student for future jobs for improved growth in the country.</p>
HUMAN RIGHTS & GENDER EQUALITY	<p>It is recommended to continue future projects with similar human rights, leave no one behind, and gender equality approaches.</p> <p>It is recommended to include gender as a Key Performance Indicator for different target groups to monitor the projects and report accordingly with disaggregated data. The policy should ensure the equal representation of females/girls and males/boys in all targeted groups.</p> <p>It is recommended to apply special incentives (non-material; campaigns, guidance, competitions etc.) to engage equal numbers of boys and girls; males and females in project activities and trainings.</p> <p>It is recommended for the Government to support gender balance in teaching with policy instruments, e.g. with specific targets of female teachers in STEM and ICT teacher trainings.</p>

2. INTRODUCTION

The overall purpose of this evaluation is to assess the processes and achievements made by the project implementation to provide recommendations for the future similar programming in Timor Leste. The specific purpose of the final evaluation of the project is to capture effective lessons learned and provide accurate information on the nature, extent, and the effect of the project. The final report aims to provide further support policies and practices of ICT Education in Oé-Cusse, the Special Administrative Region of Oé-Cusse Ambeno’s (RAEOA) Government, and the Ministry of Education, Youth and Sports in Timor-Leste, who are expected to benefit from the findings of the report in future similar projects.

The specific objectives of this final evaluation are:

- To review the results and outcomes towards the project’s objectives;
- To identify strengths and weaknesses in the implementation;
- To identify challenges and lesson learned;

- To draw conclusions and provide recommendations.

The evaluation focuses on the project implementation from the start on May 2019 to the completion date of 30 June 2021. This final evaluation considers all aspects and activities of the implementation of the project. In terms of geographical scope, the assessment will focus on the Oé-Cusse region.

The evaluation was conducted remotely online by the international expert, respecting the COVID-19 regulations in Timor-Leste. The international expert continued the work and finalised the evaluation started by another expert. The national expert collected field data in May – July 2021 for the purpose of the final evaluation.

The limitations to the Final Evaluation are related mainly to the remote mode of work during the pandemic, which required effective management of time and resources by all involved. It can be assumed that online discussions may not reveal all insights and do not allow demonstration and observations of achievements compared with face-to-face meetings on-site.

3. EVALUATION APPROACH

Regarding the methodology and scope, the evaluation has been conducted under the Monitoring, Reporting, and Evaluation Systems of the UNDP M&E tools. The OECD DAC evaluation criteria: relevance, coherence, effectiveness, efficiency, sustainability, and progress to impact, as well as human rights and gender equality are applied in the execution of the assessment.

In terms of methodology, three data collection methods were applied; the document review, key informant interviews, and field data collection of targeted beneficiaries. In the first phase, the data collection of document review was executed. The document review analysed the following document and sources and was presented in the inception report (14.10.2021).

- The original project document, reports (such as monthly, quarterly, semi-annual and annual reports, mid-term review report, and other reports), UNDP Country Program Document etc.
- Minutes from the Project Board meetings
- Documentation produced during the implementation of the activities, e.g. training manuals, training presentations, curriculum, outcomes of the different course etc.
- Government data on education

The list of documents reviewed is presented in Annex 2. The document review is presented in Annex 3. Regarding the key informant interviews, the approach was to participate the stakeholders in the evaluation to provide insights and findings of the project through stakeholder consultation in Timor-Leste. The interviews collected insights from active participants and stakeholders through online discussions with UNDP project staff, relevant government representatives, and other stakeholders. The

interviews followed the DAC criteria and the research questions outlined in the inception report. The evaluation criteria and questions are in Annex 4. The interview questionnaire is presented in Annex 5. The list of key informants interviewed is presented in Annex 6.

The field data was collected from direct beneficiaries of the project by the local consultant. The insights and findings from the field are incorporated into the final evaluation. The field data is presented in Annex 7.

The data analysis included qualitative and quantitative analysis of the data collected and reviewed. The qualitative data assessed the interview, discussions, and project documentation with content analysis regarding the DAC criteria. The quantitative analysis supported and evidenced the findings.

To sum up, the evaluation adopted a mixed-method approach incorporating qualitative and quantitative data collected from the different data sources as described above.

4. PROJECT DESCRIPTION AND BACKGROUND

The Project Design and the Context

The Project “Leveraging ICT to Improve Education and Skills in Timor-Leste” was launched in 2019 in partnership the government’s Region Authority of Oé-Cusse Ambeno (RAEOA), funded by the UN-India Development Partnership fund. Since 2019, the project has achieved several results within the aim of improving primary and secondary education by providing children and young people in Oé-Cusse with information and communications (ICT) skills and knowledge to prepare them to better address the challenges and opportunities of the local economy, thus contributing to the realisation of their right to education and access to technology.

The first objective of the project was to “improve education quality in Oé-Cusse Region by promoting computer skills to 1,007 children at primary school and 4,370 young students attending secondary school through the implementation of laboratories for IT innovation and experimentation”. To achieve this, the project aimed to install 10 laboratories: 4 in-house computer labs; 4 robotic labs and 2 mobile computer labs. The labs were planned geographically located to provide equitable access to ICT infrastructure in urban as well as in rural areas. Additionally, the project aimed to develop curriculum and learning materials in Tetum, Portuguese, and English. The aim was to develop students’ and teachers’ capacities to interact with and use ICT technology by providing access to ICT infrastructure and facilitating educational lessons. The aim was to support the students to apply the knowledge learned through the trainings in their everyday life, to support their schooling and to identify potential academic or occupational pathways.

The second objective of the project was to “enhance child and young people’s knowledge on financial education and environmental awareness through the development and implementation of two computer-based educative interactive games in Tetum and Portuguese language”. The games were to be installed on all procured computers and educate students on environmental problems and solutions and introduce students to the skills and knowledge they need to make informed financial decisions,

promoting entrepreneurship early on. The aim with playing the games was directly to impact learning outcomes and prepare students to address the challenges and opportunities of the local economy.

The Project had a total budget of US\$ 959,129.00 and was financed through the UN-India Development Partnership fund (US\$ 881,193.20) and parallel co-financing from the government of Timor-Leste (US\$ 77,935.80). The Project was planned for 14 months, but requested a 6-month extension. The project’s implementation period was from May 2019 to 30 June 2021. The project was directly implemented by UNDP with extensive involvement and collaboration with the Regional Secretary of Education and Social Solidarity at the Special Administrative Region of RAEOA, the Special Zones of Social Market Economy (ZEESM TL) and the United Nations International Children’s Fund (UNICEF) Timor-Leste, where the latter has promoted in coordination with the Ministry of Education Youth and Sports of Timor-Leste. A governance mechanism with a Project Board was established to provide overall guidance and oversight to implement the project.

Development context: environmental, socio-economic, institutional, and policy factors relevant to the project objective and scope

Timor-Leste is a young stable country considered as a low middle-income country (GDP in 2019 of 2.018 billion US\$ and GNI per capital for 2019 was of 2,020 US\$), which has achieved substantial progress on human development thanks to the work of the government and the population (in 2019 Timor-Leste had 1,293,119 inhabitants). Nevertheless, the progress achieved has not been equal across all the country’s regions, with Oé-Cusse region showing the lowest fundamental indicators in terms of human development in the country. Oé-Cusse is a coastal district of Timor-Leste which is separated from the rest of Timor-Leste, by the West Timor, province of Nusa Tenggara Timur, Indonesia. Oé-Cusse is surrounded by West Timor, except by the north that borders the Savu Sea. The capital of the district is Pante Macassar (Oé-Cusse Town). This district holds the Timor-Leste youngest population with 42% being under 15 years-old¹ and the literacy rate lower than the national level by 14.6% points. The Passabe subdistrict having the lowest literacy rate of 50.3%. Oé-Cusse has been affected by a lack of skills education in high schools, insufficient educational materials in Tetum (the national language of Timor-Leste), and lack of access to ICT learning and equipment. These challenges represent a major barrier to the achievement of the region’s development goals.

The Timor-Leste Strategic Development Plan 2011-2030 recognises education and training as key elements to support the improvement of life opportunities for the population and to achieve the country’s economic development goals. Education has also been recognised as a major means to reduce poverty and achieve successful development. In order to redress the situation, in 2014 the government established the Special Zones of Social Market Economy (ZEEM TL) and the Special Administrative Region of Oé-Cusse Abeno (RAEOA), and a regional authority to administer Oé-Cusse and the island of Atauro. RAEOA-ZEESM TL has a people-centred approach focus on simultaneous investment in education, health, and economic sectors. Since 2015 RAEOA has been investing in areas including nutrition and educational materials. Thus, by 2018, the number of schools that have been renovated were 26 and 81 schools (67 primary schools and 14 pre-schools) received support to feed 20,882 children, and 22,758 students received educational materials.

¹ General Directorate of Statistics Census, 2010-2015

Considering the existing youthful demographic of Oé-Cusse and the country in general, it is clear that education will play a critical role in the development of the country. Other factors that need to be taken into consideration as part of the context of the ICT project have been the political situation and the COVID-19 in Timor-Leste. The political struggle between the President Francisco ‘Lu-Olo’ Guterres and Xanana Gusmão, the independence leader and main figure of the national congress for Timorese Reconstruction (CNRT) party was put at halt in March 2020 when the political parties agreed to ask President Guterres to declare a state of emergency, suspending some political rights and constitutional guarantees in order to stage the first measures of confinement and prevent the virus from entering the country. In April the consensus was broken as the CNRT refused to give its consent, which unleashed Taur Matan Ruak change from the CNRT to the President’s party, the Revolutionary Front for an Independent East Timor (Fretilin). Thus, while the government formally kept its function, the CNRT ministers were replaced by Fretilin’s ministers. This led to a period of limited collaboration between the implementing partners, and the regional authorities until the changes were completed by mid-December 2020. The government has been able to successfully control the pandemic, with the first confirmed case on March 21 and the declaration of state of emergency on March 28. The state of emergency has been renewed again on April 24 and May 28, the government’s response has been decisive and timely. Nevertheless, the country is still under the consequences of social and economic pandemic, which exacerbates the existing structural problems of public health, high poverty rates, vulnerable employment, dependency on the petroleum exports, high malnutrition, and poor basic infrastructures. Although the social and economic costs are high with declination of job and income of people, the choices that the government has to make are either saving lives or saving the economy as in many other countries in the globe. The several declared states of emergency, which coincided with the launching of the training phase of the project, have caused in delays in the implementation. As a consequence, a 6-month extension was granted to the project.

Problems that the project sought to address, threats and barriers targeted

The project aimed at addressing the issue of slow progress in technical and vocational education and training, since 2011, when a national qualification framework was developed and regulatory processes for vocational training providers were introduced. The areas in need for improvement were identified as: improving the quality and learning outcomes of basic education, increasing enrolment in secondary education, reducing urban-rural disparities in access to education, improving the relevance of education to provide practical life skills and employment linkages, and strengthening government capacity to plan, implement, and coordinate the sector’s key policies. In addition, the challenge of non-availability of educational materials in the national language (Tetum) and other languages (Portuguese, English, Indonesian, etc.) was recognised. Tetum is usually spoken in pre-primary schools and at secondary education level, while Portuguese is added in primary school. Therefore, the project recognised the need to produce teaching materials in Tetum because students will benefit from increased access and equity, improved learning outcomes, reduced repetition and dropout rates, socio-cultural benefits, and lower overall costs.

The project aimed at addressing the aspect of systemic integration of ICT into the education system, classrooms, students’ homes, etc. Technological developments have a significant role in the country’s economy and, at the same time, ICT literacy and digital skills can contribute to the socio-economic developments in the country. In the school environment, the educational ICT tools can support in

creating a more creative and effective learning environment, thus motivating students for lifelong learning.

Project Description and Strategy: objective, outcomes and expected results, description of field sites (In-house and Mobile Labs)

The project aimed to improve primary and secondary education by providing children and young people in Oé-Cusse region with ICT skills and knowledge to ensure they are best prepared to confront the challenges and opportunities of the economy. The project recognised and acknowledged the importance of ICT education that can contribute to provision of practical life skills and linkages with the modern demands of the labour market.

It is important to note here that the project very clearly provided rationale for the investment in ICT equipment, trainings, and skills development. Namely, the benefits of investments in ICT were recognised as the following:

- Reducing inequalities within the country and also between Timor-Leste and other Asian countries
- High quality ICT training and facilities will contribute to reducing regional disparities between urban and rural areas (e.g. Oé-Cusse)
- Increasing educational and employment opportunities for disadvantaged groups, e.g. young girls
- Improvement of overall quality of education
- Equipping educators with the tools and training to make the learning process more engaging for students at their final stages of secondary education before entering the labour market
- Improving communication skills, digital skills, exchanging knowledge
- Implementing new innovative methodologies
- Contribution to a more egalitarian, inclusive and comprehensive education system
- Creating ICT-supported environment for disadvantaged groups with the aim of increasing the level of access to education, and to empower people who might be excluded due to gender, disability, economic status or geographical location
- Creating opportunities for individualized teaching and instruction to students with special educational needs / disabilities resulting in a higher level of inclusion and supporting students’ learning interest and potential
- Preventing low income or rural groups from becoming further marginalized in comparison to wealthier or urban population

The general objective of the project was “to provide quality, relevant, and inclusive education for children and young people of Oé-Cusse, contributing to the realisation of their right to education and access to technology”. The overarching objective as per the UNDAF Timor-Leste Programme Results and Resource Framework was to be achieved through two interrelated outcomes:

Outcome 1. (UNDAF Outcome 1): People of Timor-Leste, especially the most disadvantaged groups, benefit from inclusive and responsive quality health, education, and other social services, and are more resilient to disasters and the impacts of climate change. Education Sub-sector -> SO1.2 Children, youth and adults benefit from inclusive and quality education at all levels in an equitable manner.

Output 1 / Result 1: Improved education quality in Oé-Cusse Region by promoting/teaching computer skills to 1,007 children at primary school and 4,370 young students attending secondary school through the implementation of laboratories for IT innovation and experimentation.

Indicator Result 1:

of children and # young people (50% girls) developed new skills on the use of computers and technology

of curriculum and materials developed to provide ICT education in Oé-Cusse

schools have labs for ICT innovation and experimentation

schools are providing ICT classes through mobile computer rooms

1.1 Activity: Planning and start-up workshop of the project with all partners, care givers, and school authorities.

1.2 Activity: Exchanges with India on education for ICT literacy and innovation labs. Exchanges with Indian-based companies developing education tools.

1.3 Activity: Procurement of and distribution of equipment to the schools: IT in house and mobile innovation labs.

1.4 Activity: Development of the curriculum, lesson plans, and identification of contents which will be used as basis for training teachers in the development of content.

1.5 Activity: Training for teachers and school's responsible personnel.

Outcome 2. (UNDAF Outcome 3): Economic policies and programmes geared towards inclusive, sustainable, and equitable growth and decent jobs -> SO3.4 S Financial & technical capacity of relevant institutions enhanced to deliver skills, productivity & employability of the workforce

Output 2 / Result 2: Enhance child and young people knowledge on financial education and environmental awareness through the development and implementation of two computer-based educative interactive games in Tetum and Portuguese language.

Indicator Result 2:

computer-based educative interactive games developed in Tetum and Portuguese language

children and young people increased their knowledge on financial education and environmental awareness

teachers trained to use computers and interactive games as part of the education process

2.1 Activity: Develop 2 computer & mobile base educative games in Tetum languages i) Financial education & business development skills for young people, and ii) Environmental awareness

2.2 Activity: Training to teachers & children on the use of the educative games

2.3 Activity: Communication & visibility activities: case study, brochures, etc.

2.4 Activity: Monitoring & evaluation of the project to measure its effectiveness to scale up

The project was also aimed to contribute to the achievement of Outcome 3 of the UNDP Country Programme Action Plan (CPD, 2015 – 2019):

Outcome 3: By 2019, state institutions are more responsive, inclusive, accountable, and decentralized for improved service delivery and realisation of rights, particularly of most excluded groups.

CPD output 3.3: Capacities and systems of subnational institutions developed to provide more efficient, accountable and accessible services to citizens, particularly for the poor and other disadvantaged

Indicator: percent of functions assigned to sub-national institutions that are implemented

Baseline: 11 functions assigned under the pre-administrative decentralization act from 2014

The project has nine activities in total for a budget of US\$ 959,129.00. The allocation of the budget reflects the importance of the activity. Thus, the funding provided by the donor India-UN Development Partnership Fund, for the output 1 a total budget of US\$ 755,400.00 has been allocated, while for the output 2 a total budget of US\$ 100,127.38 has been allocated. There was also US\$ 25,665.82 allocated to general management support. The Timor-Leste Government provides US\$ 26,435.80 and the equivalent of US\$ 51,500.00 in-kind.

The in-house computer labs, robotics labs, and mobile labs were geographically dispersed to provide inclusive and quality education for students, regardless of location. The utilization of ICT labs supported students in adapting to novel challenges and applying newly acquired skills to their studies. The project had actively developed students and teachers’ capacities to interact with and use ICT technology by providing access to ICT infrastructure and facilitating educational lessons. Mobile labs contribute to developing basic ICT skills, such as computer operation, basic computer applications, introductory software, and hardware. The ICT labs represent a space for innovation and experimentation, where young students can gain computer skills and learn basic computer programming and applied science, such as how to assemble solar panels or a solar water heating system at home. With the help of in-house labs, the project supported secondary school students in developing knowledge about office applications; internet, email, and multimedia technology; website design and CV writing; career development training. In the robotics and innovation laboratory, the students learned about robotic applications, integration, and programming; Arduino and IoT applications; and 3D printing.

In house Lab were installed in four Schools:

- a. Secondary School Leobeno Oesilo 30 units
- b. Secondary School Mecosicaloti Baqui 30 units
- c. Technic Agriculture School (ETARO) 28 units
- d. Pre-secondary Tulaika Aenmat 23 units

Project Implementation Arrangements: short description of the Project Board, key implementing partner arrangements and similar

The overall management of the project was steered by UNDP under the Direct Implementation Modality (DIM) in partnership with RAEOA – ZEESM TL and UNICEF. RAEOA ZEESM TL was the responsible partner for the implementation of specific project activities. The project implementation was under the responsibility of the ZEESM TL-UNDP Programme. The role of the Project Management Board was to provide strategic guidance and oversight of the implementation process. Representatives of MSA RAEOA – ZEESM TL, UNDP and UNICEF were members of the Project Management Board. Two board meetings were planned during the project implementation period. The Project Manager had a responsibility for day-to-day project management, including reporting to ZEESM TL UNDP Programme Manager about the progress of the project implementation.

Project timing and milestones: The project timing was from the start date in May 2019, and end date in November 2020. Due to Covid-19 pandemic, the project requested a no-cost extension of 6 months – until May 2021.

The main stakeholders of the project were as follows:

- a) Public sector: RAEOA ZEESM TL, Regional Secretary of Education; Ministry of Education, Youth and Sport
- b) Private sector: private companies (national, local and international), vendors, consultants and other institutions with the interest and capacity to develop interactive games
- c) Social sector: representatives from the community organisations; Education sector (pre-primary, primary education, secondary and technical education); representatives of youth and women
- d) NGOs and international cooperation: national and international NGOs implementing projects on education; UN agencies (UNDP, UNICEF)

5. FINDINGS

6. RELEVANCE

Relevance based on the document review

The project is highly relevant and consistent with national development strategies in the area of education and promotion of ICT, national priorities and commitments on education, and UN

Development Cooperation Strategy. Evidence is found in several strategic documents that are referenced here.

The Timor-Leste Strategic Development Plan 2011-2030 recognizes education and training as key elements to support the improvement of life opportunities for the population and to achieve the country’s economic development goals. Education is regarded as a major means to reduce poverty and achieve successful development. In order to redress the situation, in 2014 the government established Special Zones of Social Market Economy (ZEESM TL) and the Special Administrative Region of Oé-Cusse Abeno (RAEOA), and a regional authority to administer Oé-Cusse and the island of Atauro.

Building on the Strategic Development Plan 2011-2030, the UN Country programme document for Timor Leste (2015-2019) recognizes education as an important sector that could contribute to both human and economic development. It states that there are significant constraints in skills and competences capacity in most areas of the economy, as well as in Government and state institutions. Overall, 40% of the population older than age 15 years has not had any education and another 25% have not advanced beyond primary school². Therefore, the programme document for the period 2015-2019 identified a national priority goal “To improve the lives of Timorese people by setting out strategies and actions, along with targets, in the critical areas of education, health and social inclusion”.

The UN Country programme document for Timor Leste (2021-2025) relates to the previous programme document and demonstrates continuous efforts to utilize education and provide support to labour market needs. It notes the need of young men and women in the labour market in skills and competencies development to foster entrepreneurship and create new job opportunities. The United Nations Sustainable Development Cooperation Framework (UNSDCF) outcome involving UNDP No.2 is defined as “By 2025, institutions and people throughout Timor-Leste in all their diversity, especially women and youth, benefit from sustainable economic opportunities and decent work to reduce poverty”.

The National Education Strategic Plan 2011-2030 (NESP) contains a vision for education and for the different parts of the education sector. It focuses on equality of opportunity by stating that “in 2030 the people of Timor-Leste will be educated, knowledgeable, and qualified to live long and productive lives, respectful of peace, family, and positive traditional values”. All individuals will have the same opportunities for access to quality education that will allow them to participate in the economic, social, and political development process, ensuring social equity and national unity”.

The vision for basic education is: “Basic Education is universal, compulsory, and free. The reform of Basic Education will be based on the following four pillars of learning: learning to know, learning to do, learning to live together and with others, and learning to be.”

The vision for secondary education is: “When students have reached the age of 15, they will be entitled to begin their Secondary Education and learn the core scientific, humanistic and/or technical knowledge needed to continue their studies. Graduates will learn to apply this knowledge to the productive sectors in Timor-Leste and will be prepared to join the labor market. They will be able to continue their studies, if they choose, at university or polytechnic levels. At secondary general education, students will acquire

² National Education Strategic Plan 2011-2030.

learning techniques along with a solid base in languages, technologies and science, mainly structure to prepare students for continuing their academic studies at higher level. At secondary technical-vocational level, students will further develop specialized technical skills and competencies, with an emphasis on skills acquisition and the use of IT, to ensure that students are capable of entering the labor market or can pursue their studies in technical or university level.”

The NESP introduced the “Escola Basic” model, a holistic approach to improving basic education. Among new school management principles, four school quality standards were identified, and under “Effective School Management” reference to ICT is made: “the administration and management of all school-based operations, including financial, asset, ICT, and human resources management”. The NESP recognizes a need to integrate technology into the curriculum, both as a subject in itself, as well as a teaching tool and also using ICT in management of student assessment. Based on that, the programme defines “Introducing ICT and MIS” as point number 11 of the Priority Programme. The goal is to install ICT infrastructure to enable education management and planning, and consequently implementation of ICT-supported new teaching methods.

With more than 60% of young people unemployed in Timor-Leste and 30% illiteracy rate³, the launch of the systemic integration of ICT in education aimed to increase the access of learning opportunities for primary and secondary education as well as improve the quality of teaching and learning to rural schools across the Oé-Cusse region.

Based on the identified needs, the project was framed to improve the quality of education in Oé-Cusse by enabling 5,000 young students from twelve different schools to receive support through the implementation of four in-house innovation labs, and parallel to that, 8 schools will receive once a week engagement with the mobile innovation lab. The ICT labs represent a space for innovation and experimentation, where young students can gain computer skills and learn basic computer programming and applied science, such as how to assemble solar panels or a solar water heating system at home. A curriculum with relevant ICT content is developed for the students to acquire important ICT related knowledge and life skills.

Relevance from the viewpoint of the Government

The interviewees described the project as having a significant contribution to the development of 21st skills and competences to apply ICT. The project is aligned with the five priorities in the NESP: infrastructure, teacher training, school management, inclusion, and curriculum and learning.

The interviews with the Government, Ministry of Education representatives revealed that the project implemented in the Oé-Cusse region will become a larger national project and will be implemented in Dili region (agreement is signed). This approach will strengthen the significance of ICT supported education that is incorporated in many national documents related to education, as elaborated at the beginning of this section. In addition, the Ministry representatives expressed their gratitude to the Government of India for providing financial support and knowledge sharing opportunities in the education sector that has gained a significant momentum on the overall country level. The Government

³ National Education Strategic Plan 2011-2030.

officials highlighted that UNDP was experienced in this field and presented and provided a model for ICT development for the Ministry to discuss and make a decision. A further point to in building a good partnership was that UNDP is permanent in Oé-Cusse. While many NGOs have supported education in the region, however they have not been permanent.

According to the Ministry officials the project was well aligned with the strategy in terms of importance to improving ICT skills for teachers and students. The Ministry representatives noted that the relevance of the project was further justified during the time of the pandemic. For example, it became obvious that teachers need to have competence in digital online teaching during the time when the schools were closed to continue providing education to children. The project provided access to ICT-supported teaching skills and pedagogy for the teachers. In this regard, the project was relevant and provided significant change in terms of enabling learning to progress in the pandemic situation. It was concluded that the project succeeded in yielding positive effects to both students and teachers. It was also confirmed from the Ministry’s side that gender equity was an important priority in the implementation of the project.

Regarding the challenges, the Ministry representatives noted that these are related to the internal system of education. It was noticed soon that there is a need for continued maintenance of equipment and labs, but there were not enough skills in school and the labs and equipment were not well used. As a result, the Ministry decided to recruit specialist support to ensure the maintenance of the invested labs and equipment in the schools.

Relevance from the viewpoint of external actor involved in implementation

The interview with an external stakeholder who was active in the implementation confirmed the high relevance of the project to address 21st century skills in the region of Oé-Cusse in Timor Leste. Activities have involved for example curricula development for ICT in basic and secondary education, setting up school laboratories and training computer literacy and providing teacher training. The interviewee noted that it would have been better to have the project earlier and start from lower levels to progress to higher levels. An interesting finding was that a handbook was asked to develop in basic skills, but as children learn fast, the handbook proved to be even too easy for them. It was noted that in the project, cameras and other devices related to multi-media knowledge and ICT were added to improve capacity and skills to use ICT for different purposes of communication and enhance innovative skills in learning.

The interviewee noted that Oé-Cusse is an autonomous area, so it was easier to implement the project in the region as a pilot in a limited scope rather than nation-wide. The project was successful and it was also an eye-opener for the Ministry to see the opportunities of ICT in education. The interviewee revealed that Oé-Cusse was a pilot project and is now replicated in other parts of the country.

Relevance from the viewpoint of UNDP

One of the UNDP interviewees noted that the relevance of the project was ensured with appropriate needs analysis. An appraisal was made to assess what is the need and level of ICT knowledge with visits to many schools in Oé-Cusse before the start of the project. It was assessed that the schools had only a few computers, which were mostly damaged and no one knew how to use them. The UNDP officials noted the UNDP has been pioneer in introducing eGovernment, ICT in education etc. and Timor Leste was late in that aspect and behind in the development of ICT infrastructure in remote parts of the

country. Therefore, the project was designed to support ICT in education with mobile labs and computer labs in the selected schools in Oé-Cusse. The target group of students was achieved 100% and more in the project. The target group of students appreciated the project. There were many results seen in the learning of students, who built up their capacities in the latest technology. It was confirmed that regarding the gender aspect, the girls got the same rights and were supported equally with ICT learning in the project.

The capacities of ICT teachers were supported in terms of explaining what is the procedure of introducing ICT in education and installing the labs. The project provided training to around 168 teachers. In addition, around 118 Government staff (43% female) had an opportunity to develop their capacity on ICT in education in the project.

The UNDP interviews highlighted the impact of the boot camp to demonstrate the project and ICT skills. The boot camp was a three day training program with small projects, where learners could show their capacity e.g. in website design. According to UNDP, the boot camp was an opportunity to show the results of the project to the local community, education authorities, and the Government. The project became an icon project as the National Government with the Ministry officially visited the project and they saw the results. As noted in all interviews, the Government is ready to scale up the project in other parts of Timor Leste.

Relevance from the viewpoint of UNOSSC

The interviews with the UNOSSC representatives revealed that the key relevance of the project is that it fulfills the Government’s relevance objectives. It was noted that there was a national ownership in the project by the Government, and in this regard the project supported the South-South principles. It was confirmed that the Government is committed to supporting the SDGs, so the project is highly relevant in Timor Leste. The discussion noted that all project reports received from the country described good results and included also pictures to evidence the situation in the field.

One of the South-South principles for cooperation is to provide peer support, like India in this project. The India peer-support provided mutual benefit and opportunity for the countries to learn from each other regarding introducing ICT in education.

Field data

The field data collected by the local expert reveals that Regional Secretary and Director of Education and Social Solidarity as key persons and cooperating partners appreciated the ICT project implementation in Oé-Cusse. For the ICT trainings, there was enthusiasm to participate, however, due to the pandemic some people were frightened which caused some programs were pending. At the end, the project orientated to follow the WHO and the Minister of Health protocol such as using masks and maintaining social distance. Some teachers from the remote areas came and brought food with them.

In general, the training programmes were offered on the basic of Microsoft word, and a little bit on excel and power point. The original planned was to have only 60 teachers to join the training. However, it became 168 teachers attending the trainings.

The targeted number of students was approximately 3,300 in secondary schools. However, the students trained with ICT skills exceeded the target, they were 3,500 students in total. For the primary school and pre-secondary school, they were targeting 2,000 and finally it reached 2,042.

It can be concluded that based on the field research there were more people who were interested and participated in the project’s activities, which indicates high relevance and need of the project to the targeted people.

7. COHERENCE

The project evidently contributed to the achievement of United Nations Development Assistance Framework Guide (UNDAF) and Country Programme Action Plan (CPAP) outcomes:

UNDAF Outcome 1: People of Timor-Leste, especially the most disadvantaged groups, benefit from inclusive and responsive quality health, education, and other social services, and are more resilient to disasters and the impacts of climate change.

Education Sub-Sector Specific Outcome 1.2: Children, youth, and adults benefit from inclusive and quality education at all levels in an equitable manner.

The project is also related to the UNDAF Outcomes 3: Economic policies and programmes geared towards inclusive, sustainable and equitable growth, and decent jobs are the specific objective 3.4: Financial and technical capacity of relevant institutions enhanced to deliver skills, productivity and employability of the workforce.

The ICT Project was recognized as a good practice project (pilot project) to pioneer and drive change nationwide and had an influence the development of the national ICT curriculum. That confirmed the project’s coherence with national priorities in education and training as mentioned under Relevance section of this report.

This strategic framework of the United Nations Office for South-South Cooperation (UNOSSC) 2018-2021, was designed to guide the work and support of efforts of Member States to implement the 2030 Agenda for Sustainable Development through South-South alliances and partnerships. The overarching goal of UNOSSC under this framework is to support the Country’s efforts to achieve the eradication of poverty in all its forms and to promote gender equality and women’s empowerment so as to achieve the 2030 Agenda through enhanced South-South cooperation, including triangular cooperation. The opportunities for UNOSSC lie within existing South-South approaches, including peer-to-peer learning, exchanges of knowledge and experience, and networking; policy dialogues, advice and coordination; and training programmes, technical assistance and financial support to projects and programmes, among many other interventions. The financial support from Indian Government reflects the main characteristics of a successful South-South Cooperation because it also offered knowledge transfer.

The project contributes to UN Sustainable Development Goals (SDG), in particular SDG4: “Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all”. In light of

that, it is interesting how ICT skills are related to SDG4, in particular the Timor-Leste project. This was analysed by Tyagi R. et al. (2020⁴ in their publication where the authors described the added value of ICT for digital literacy as related to sustainable computing and digital sustainability. Sustainable computing is described as a practice of using computing resources efficiently, with an impact on a variety of economic, ecological and social objectives. Digital sustainability provides the context for digital preservation by considering the overall life cycle and technical and socio-technical issues associated with the creation and management of the digital item. The authors conclude that “ICT can contribute to employment, income generation, and poverty reduction by enabling enterprises to capture economic opportunities by realizing process efficiency, promoting participation in expanded economic networks, and creating opportunities for employment”. In conclusion, rolling out ICT solutions will not only transform education and deliver social and economic benefits to people but also provide substantial benefits for the education sector globally. This analysis and its conclusions support the country’s and project’s overall aims to equip students and teachers with skills and competences required on a contemporary labour market and global landscape: ICT skills, environmental skills, financial skills, etc.

Coherence from the viewpoint of the Government

The interviews with the Ministry officials revealed that the project was coherent with the Government policies regarding Oé-Cusse and the priority to support the region with the development of social economy through skills development and improving education to children. The project has also been coherent in terms of support in the use of information technology in rural areas to promote change. The teachers have acquired pedagogic skills especially during the pandemic situation and students have become users of ICT and can use technology for problem solving, communication etc.

Coherence from the viewpoint of external actor involved in implementation

The interview with an external actor confirmed a good participation in the trainings to support the coherency in line with the objectives of the UNDP and the Government. It was also noted that UNDP had a role in advocacy to the Ministry to see the importance of supporting ICT in education. The funding from the UNDP and the good cooperation with the Ministry ensured the coherency in the implementation, e.g. in terms of development of curricula and training materials approved by the Ministry. In practical terms, there was good cooperation with the Ministry e.g. there was an advisory panel to develop the handbook. There was also an education specialist from UNESCO, who worked together with the project consultant in designing the curricula and handbook.

Coherence from the viewpoint of UNDP

The interviews with the UNDP officials noted that the overall coordination with the Government, the UN Agencies, UNICEF, and India were very valuable. The small-scale project on ICT in education was encouraging for the Government to progress in eGovernment and digitalization of administration and services. The strength of the project was that it was a good selection to implement the project coherently with all partners’ input to support ICT in education. The students and teachers greatly

⁴ 17. Tyagi R., Mohammed S., Vishwakarma S.: ICT Skills for Sustainable Development Goal 4, in W. Leal Filho et al. (eds.), Quality Education, Encyclopedia of the UN Sustainable Development Goals, <https://www.researchgate.net/publication/344461231>

benefited from the project. There was great enthusiasm around the project, e.g. in the context of the ICT boot camp, where more than 20 schools were involved. The Government showed great involvement and there was also coordination with other ministries to procure the computer labs into the schools. There were also important conversations with the national university to gain knowledge on how to utilize ICT in education and make a project on it.

Coherence from the viewpoint of UNOSSC

The interview noted that India has a position in South-South cooperation. However, the approach could have emphasized more the use of local agencies in the implementation. Regarding the balance of human rights, the approach of the project was rightly “Leave no one behind” in the rural community of Oé-Cusse. From the South-South perspective, the gender dimensions were appropriately promoted, since based on the reports there was no segregation of girls in the project, but students of boys and girls were included into the training in schools equally. The project provided the support and provided the courses both girls and boys equally.

Field data

The field research participated government staff and teachers interviewed (total 26 people, 4 male and 22 female). The field interviews reveal that the local government’s key cooperation partners were satisfied with the implementation of the ICT project in Oé-Cusse coherently according to the objectives. The field interviews reveal that the project was carefully planned in cooperation with the local education authorities and beneficiaries, because a number of meetings were held. In the meetings, a timetable was prepared that did not at the same time with daily disciplines. UNDP contracted trainers had really carefully organized the teaching materials, because the methods of teaching were very easy to follow. Teachers were satisfied with the method and program delivery of the trainers and the participants are very interested and enthusiastic.

8. EFFECTIVENESS

At the initial planning phase the project has indicated the following targets:

Output 1: Improved education quality in Oé-Cusse region by promoting computer skills to 1,007 children at primary school and 4,370 young students attending secondary school through the implementation of laboratories for IT innovation and experimentation.

It became evident during the project’s implementation that planned targets will be exceeded and therefore they were adjusted to respond to the project’s success. Overall, the key achievements are listed as follows in the “Project achievement summary 2021 Statement” and are referred to here:

Output 1: Improved education quality in Oé-Cusse Region by promoting computer skills to 2,000 children at primary school and 3,702 young students attending secondary school through the implementation of laboratories for IT innovation and experimentation.

Key achievements

- 5,542 students, (48% male, 52% female), 168 school teachers (74% male, 26% female), and 118 government staff (57% male, 43% female) benefited from the ICT training which includes matters in Innovation & Experimentation, Career Development Training (CDT), basic computer programming, robotics, and curriculum-vitae development.
- Infrastructure: 16 schools with improved ICT infrastructure: 4 – in-house computer labs, and 4-robotic labs and 2 mobile computer labs to operate in 8 different schools.
- 3-ICT manuals in Tetum, Portuguese, and English language for teachers on general ICT knowledge, basic computer applications, website design, internet browsing and email (540 copies distributed).
- ICT curriculum development ongoing.
- 120 students (58% female) from 27 primary, secondary, and vocational schools benefitted from the ICT boot camp and Exhibition. The boot camp’s overall aim was to educate students on becoming potential social entrepreneurs by using ICT to develop real-life solutions for existing problems and to transform their ideas into innovative business concepts
- COVID-19 response: 5,500 face masks distributed; 14 hand-wash stations for 14 schools; certificate course and online learning platform for 130 school representatives; 130 teachers trained on school reopening guidelines. During 2020 and 2021, the project observed all COVID-19 protocols, while organizing the project events, including the ICT boot camp.

New activities requested by Secretary of Education - extension:

- a) training 100 government staff on basic computer applications, use of open-source software and data store management in computer (118 staff trained (43% female).
- b) assessment of needs of capacity building of government staff.

Output 2: Enhanced child and young people's knowledge on financial education and environmental awareness through the development and implementation of two computer-based educative interactive games in Tetum and Portuguese language.

Key achievements:

- Two interactive games on “Environmental Awareness” and “Financial Literacy” have been developed to enhance people's knowledge of financial education and environmental awareness.
- 35 teachers and 3370 students trained on how to play both interactive games.

Going beyond the outputs, a report on ICT curricula in secondary education for Timor-Leste has been prepared and handed over to the Ministry of Education, Youth and Sports. The report is expected to inform the revision of second education curricula to introduce ICT education.

Effectiveness from the viewpoint of the Government

The interviews confirmed the view of the Ministry that the project was perceived effective. For example, the teacher trainings and the trainings of students were implemented effectively and the project exceeded the planned targets.

Effectiveness from the viewpoint of external actor involved in implementation

The interview noted that the project was effective as it addressed the need for the use of ICT in the rural region and remote villages. There was a need to have access to the Internet and learn the use of basic ICT knowledge and tools. There was good participation in the trainings.

Effectiveness from the viewpoint of UNOSSC

The interview with UNOSSC noted that South-South cooperation approach is to build and nurture local capacities. The South-South cooperation approach emphasizes the pairing of partners and actors to and build up strong peer support and link the knowledge and expertise, which was well organized in the project. It was observed from the project’s reporting that there were some challenges in technical capacities, where pairing of partners and actors could have been exploited more effectively.

Effectiveness from the viewpoint of UNDP

From the viewpoint of UNDP, it was pointed out in the interviews that the cooperation with India worked very well in the project. The UNDP funding ensured the smooth progress of the project’s activities. The equipment was delivered to 100%. Later even additional equipment was delivered, which was perceived positive. It was noted that the Government will continue to take care of equipment and ensure maintenance in the long term.

Findings of the field data

During the field interviews, the students shared their excitement about the project activities because they were given the opportunity to acquire new knowledge, such as Microsoft Office programmes, robotics, website development, Internet search etc. Government staffs, directors, and teachers who were included in the training programme reported to have benefitted from the project in their daily work such as administration, which include exam questions, students’ score calculation, typing letters, editing, transferring photos and so on. The training materials were sufficient for the teachers and Government staffs.

During the interviews, teachers shared their interest and the need for further teacher trainings in advanced ICT skills. In addition, the teachers found it important to receive certification after the initial 3-day trainings, which were not arranged during the project. The implementation of trainings encountered some challenges, such as: electricity power interruption during the training duration of training time, low quality internet connection, computer operating language was English which made it difficult to understand how to use computers, for many teachers who do not speak English language. These findings from the trainings at schools need to take into account by the Government and regional education officers regarding the continued ICT trainings in the region as well when designing future similar projects and trainings.

9. EFFICIENCY

The project demonstrates strong involvement of the Regional Government of Oé-Cusse and its support throughout the whole duration of the project. Such an approach ensured project’s visibility, transparency, co-creation of project outputs, and consequently complementarity and sustainability. The involvement of Regional Government was essential for increasing education quality (eg. installment of ICT equipment in schools) and for motivating teachers for changes in the teaching process. The interviewees expressed their opinion about the quality of the overall project planned by stating that the project was carefully planned through a series of staff meetings. It was created based on the real needs of the education sector and it was visionary with the overall aim because, when the COVID-19 pandemic occurred, the project was ready to support the teachers and schools in the transition to teaching with the support of digital tools.

UNDP was responsible for the overall project management. The project was coordinated by the Indian diplomatic mission in Indonesia, Special Administrative Region of Oé-Cusse (RAEOA), through the Secretary of Education in Oé-Cusse region and UN agencies, such as UNDP and UNICEF. It was implemented in partnership with public, private and social institutions at different levels:

- Public sector: Ministry of Education, Youth and Sport; Regional Secretary of Education (RAEOA ZEESM TL)
- Private sector: private companies and other players with expertise and capacity to develop interactive games
- Social sector: representatives from community organisations; education sector institutions (primary education, secondary and technical education); youth organisations; representatives of women
- NGOs and international cooperation: national and international NGOs implementing projects on education

Project Steering Committee with delegates from RAEOA ZEESM TL and UNDP was responsible for technical discussions and provision of support to decision making processes. The role of the Steering Committee was to strengthen communication and collaboration, support regular monitoring and evaluation reviews, guide the implementation in the execution of the project, ensure accountability and transparency throughout the implementation of the project. In addition, the Steering Committee was responsible for gathering and preparing evidence and information for better Project Management Board decision making. The Steering Committee was chaired by the Regional Secretary for Education and Social Solidarity.

Project Management Board was responsible for strategic guidance and oversight to the project. The PMB was composed of representatives of Government of Republic of India, RAEOA-ZEESM TL, UNDP and UNICEF. The project planned two board meetings during the project period. This plan was exceeded because the PMB met three times: 29.09.2020; 05.11.2020 and 21.06.2021. On some occasions meetings were organized to discuss specific issues, such as budget spending in September 2020. This was an excellent approach to project management, balancing and resources planning. It reflects adequate project monitoring and timely decision-making.

Due to COVID-19 pandemic, the project requested a no-cost extension of 6 months (until May 2021) to complete training activities that were unable to be commenced, continued, organized or completed because of the interaction caused by the pandemic. The extension contributed to a higher level of project efficiency because the planned results were eventually achieved.

Project budget

- Total project budget: \$ 972,129.00
- India UN- Development Partnership Fund’s contribution: \$ 881,193.20
- RAOEA government contribution: \$77,935.80
- UNICEF contribution: \$13,000.00

When the project proposed the extension, it requested a no-cost extension because the project still had a remaining budget of around \$108,466.57 to spend from December 2020 until May 2021.

The reprogramming for Covid-19 response was allocated \$20,701.50 and new activities (Activity 1.6 and 1.7) during the extension were allocated \$5,500.00.

In June 2021, during the Project Board Meeting, the project requested a one month extension for financial closing because the remaining budget of \$25,000-30,000 was planned to be used for two project staffs contract extension for one month (June 2021) and for the purchase of the new ICT equipment for school computer laboratories.

The document review reveals that the project faced several challenges during the implementation:

- lack of statistical information about number of schools, teachers and students in Oé-Cusse
- lack of basic internet facility in all schools and the poor mobile network in rural areas in Oé-cusse
- many teachers have very limited ICT knowledge and practical experiences
- in the rainy season, mobile lab schools in remote areas were difficult to reach due to road conditions

These challenges were also confirmed in the key informant interviews.

The Government interviews noted that there was a pandemic at the same time when the project was implemented. Overall, the project was efficiently implemented. However, some challenges were noted, e.g. the lack of proper infrastructure, and delays in the installation of the labs and procurement of the equipment in the beginning.

The trainers reported that the students, both young boys and girls, were enthusiastic to learn (those children who could not participate were peeking through the windows). Regarding the challenges, it was noted that the teachers’ training took more time than planned. There were delays in the procurement, renovation of lab, electric installations, completion of networks and software. The sub-contracted company for delivering the furniture was also late. Regarding the curricula and training materials, the translation from English to local language caused some delays

The UNDP interviews noted the context of the project and the challenges of organizing training in remote areas, where infrastructure is poor in terms of roads, lack of electricity etc. The goods were delivered from abroad, which took time (started in June 2019 and came for use in early 2020). It was noted that in 2020, the UNDP staff was removed from Oé-Cusse to Dili due to pandemic for two months, which had an effect on the efficiency.

The UNOSSC interview discussion noted that the project was implemented under the COVID-19 pandemic. In this regard, masks and wash-systems were appropriately delivered. The project was

implemented efficiently with extension. The project managed to implement the activities in reasonable time, compared to many others that struggled during the pandemic.

The field data confirms the installation of in-house Labs in 4 schools; Secondary School Leobeno Oesilo 30 units, Secondary School Mecosicaloti Baqui 30 units, Technic Agriculture School (ETARO) 28 units, Pre-secondary Tulaika Aenmat 23 units.

The field interviews also reveal robotics training was conducted during one day during boot camp competition just for secondary schools. The program contained how to disassemble a robot, sensor, LED lamp controlling using application. There were 8 Secondary level attended and around 24 students involved.

Some challenges were encountered, e.g. electricity power interruption during the trainings. The training time was perceived limited (3 days only), there was a low internet connection, the computer language in English was perceived difficult.

10. IMPACT

The project has contributed to the achievement of basic indicators in terms of human development in the Oé-Cusse region because it increased teachers’ and government staff capacities and ICT skills. The project exceeded planned indicators in that regard. At the end of the project, 168 teachers (26% female) in total were trained whereas it was initially planned that only 60 teachers will participate in teacher trainings. The project also exceeded the number of participating government staff in trainings with 118 government staff (43% female) in total compared to 100 staff member initially planned.

The project increased primary and secondary school students’ skills in ICT literacy, environmental issues, and supported them in development of financial literacy.

Additionally, the installed ICT labs enhanced students’ knowledge on financial literacy and business development as well as environmental awareness through the development and implementation of two computer-based educative interactive games in Tetum and Portuguese language.

In the last year of the project, a national reform ICT curriculum started to be developed supporting the continuous efforts of the project partners and the Timor-Leste education system for modernization and equipping the students with ICT skills needed for higher employment chances. The new ICT curricula will be implemented in all Timor-Leste regions thus spreading the effects and impact of the project towards other parts of the country.

The project participants has demonstrated successfully that the investment in ICT has positive impacts, such as:

- Decrease in inequalities within the country
- Communication with the world and creation of new partnerships and co-operations
- Balancing regional differences between urban and rural areas such as Oé-Cusse
- Increasing employment opportunities for disadvantaged groups such as young girls

- Increasing the overall quality of education by training teachers in tools that support learning process in a more interactive way
- Improvement of communication skills, ICT literacy, literacy in general
- Improvement of financial literacy
- Promotion of environmental awareness among students

Impact from the viewpoint of the Government

The interview discussions with the Ministry officials reiterated the high number of primary and secondary education students trained in the project. The interactive games were also highlighted as new ICT-supported learning methods introduced in the project. The impact was perceived as young students with computer knowledge and skills have an opportunity to communicate globally from the rural areas, e.g. access the Internet and write emails etc. The Ministry interviews also emphasized the impact in terms of number of teachers training in ICT to adopt in their teaching methods.

Impact from the viewpoint of external actor involved in implementation

The external view on the project noted that students can learn technical skills fast and properly. ICT will help the students in career guidance to enhance in employment and reduce poverty. The project taught students e.g. to set up small businesses with ICT skills. In this respect, there are great opportunities for expansion for employing the secondary school/TVET graduates. The students gained knowledge on computer literacy. The students were learning fast e.g. how to touch screen boards to seek information, learn and play. The impact on teachers focused on learning about ICT subject. Teachers also got rid of teacher-centered learning and could adopt more student-centered learning with the help of ICT. The teachers learnt how to use ICT and Google Classroom. Overall, the project’s impact yielded better human resources with ICT skills in education in Oé-Cusse.

Impact from the viewpoint of UNDP

The interviews confirmed the impact as described. The schools were trained on applying ICT in education and gained knowledge of and access to ICT. The curricula development in ICT for the basic and secondary education was seen as an important impact to modernize education. The teacher trainings and the training of permanent Trainers of Teachers (ToT) to continue the trainings were perceived to have a significant impact of the project. The project was seen by UNDP interviewees as a regional activity with impact on the regional development in the long term.

The two mobile labs were perceived to have impact as they can be moved any school, while also the in-house labs continue to operate in schools. (This implies continued maintenance support by the Government). The lesson learnt from the project can be drawn if the Government wants to scale up the project and acquire more labs. The practical experiences from the project can be used to scale up, e.g. how to reform the curricula as there is a report on curricula reform. Three manuals were developed in the project; one for secondary, one for primary level and one for teachers.

According to the trainers, the focus of the project was not only on ICT technology and skills, but also how to develop the digital learning content and how to use the computer for different purposes in education; e.g. preparing learning materials, teaching materials, PPTs, excels etc. These skills continue to have impact over the next years. Students and teachers are now better connected; they

can exchange their email addresses, teachers can communicate with students and other teachers through WhatsApp etc. The ToTs (8 teachers can train other teachers) will continue to produce impacts of the project.

Findings from field data

The field interviews discussed with students (group discussion with 104 students; 46 male and 58 female students), who revealed that this project is very interesting because they learned new things training, like learn Microsoft office such as Microsoft word, excel, and PowerPoint. The students noted that the project improved their ability in using technology. Trainers taught them how to create websites, email, and robotic. The students perceived the project really important for their future. The students perceived the teaching methods well organized because the trainers made sure that the student understood clearly the topic before moving to another topic. The students were happy with the project because it helped them to expand their understanding with the computers. It gave them a good experience and basic knowledge ICT to go to high school or University level. The students saw that they can use computers as communication instrument with other people in around the world.

11. SUSTAINABILITY

At the last Project Board Meeting in June 2021, the Regional Secretary of Education and Social Solidarity committed to continuing working on the ICT programme with the aim of increasing the students’ ICT knowledge and competences, and consequently improve their level of knowledge. The project was acknowledged for motivating government staff and teachers by promoting ICT skills through the training programmes.

In August 2021, the UNDP and the Ministry of Education, Youth and Sports confirmed their will to continue working together to improve ICT education for secondary and vocational school. The Memorandum of Understanding and Cost Sharing Agreement were signed to support the achievement of the objectives defined in the National Strategic Plan for Education (NSPE) 2011-2030. Namely, the partners plan to develop a new five-year project (2021-2025) “Digitizing the Education System and ICT skills to Improve the Quality of Education in Timor-Leste and accelerate learning and employment”. It is planned that within this new project, the partners will develop a comprehensive strategic plan for the ICT education system at the secondary and vocational levels in Timor-Leste, including a baseline assessment. In addition, the project will equip schools with the necessary physical and digital ICT infrastructure and provide hands-on ICT training for teachers and students (50% female).

The interview with Ministry representatives confirmed the Government decision to expand the project implemented in Oé-Cusse across the country, which is a strong indication of sustainability. According to the interview, ICT in education will become part of the general budget in Timor Leste. A reservation for equipment specialists has been made to guarantee sustainability of the investment in ICT labs and equipment. By the time of the evaluation, it was not yet decided how many staff members were to be recruited. From the Government perspective, the Oé-Cusse region has been supported by the project in skills development with the aim of supporting the development of social economy. An agreement has

been signed with UNDP to continue the improving education to children and activities are under process. In the next phase, there will be a comprehensive appraisal of the baseline. The infrastructure will be mapped and the skills needs of different target groups will be assessed. There will be a market survey with private companies and industries in order to respond to the ICT skills need in TVET. As a result a comprehensive plan for the development of ICT in education will be designed.

From an external trainers’ point of view, the interview noted that UNDP needs to continue supporting the Ministry in terms of how to make the project implemented in Oé-Cusse sustainable. This support was perceived to be linked to the continued management and keeping the project running with reserved budget. It was advised to start computer literacy with school directors as part of standard management and guidance trainings. There needs to be a decision how many maintenance personnel are needed, and the Ministry of Finance is looking into this centrally. There is a need to continue budgeting for ICT in education, where parent donations could also be considered locally. In the meantime radio, TV, and podcasts continue to sustain education in remote areas during the times of crises.

Sustainability from the viewpoint of UNDP

From the UNDP viewpoint, the sustainability of the project is granted with the Government’s continued commitment to developing ICT in education. The Government will keep on training the teachers and children and installing the equipment under the responsibility of the Regional Secretary of Education. In parallel, the UNDP needs to continue strengthening the capacities and supporting the policy development. The interviews note the weak infrastructure outside Dili, and the weak capacities of municipalities that are not trained to use the ICT tools. Still, there is a big gap in teacher training; teachers need more skills to apply ICT in teaching and adopt active learning approaches. The next phase should make the teacher training a priority, including the training of head teachers on ICT, noting the special teacher trainings for remote areas.

The project participants, the ToTs, and students who participated in the boot camp have been asked to continue training their peers with ICT skills to support digital learning in education.

The UNDP can support the Government in creating employment opportunities through education with similar projects, e.g. in secondary education level. The aim is also to support in preventing drop-out from school for the children to continue learning remotely.

Sustainability from the viewpoint of UNOSSC

The interview confirmed the UNOSSC satisfaction with the project. The project was perceived transformational, since there was strong Government engagement, and the implementation of activities was driven by the local actors in Oé-Cusse. With this regard, it was noted that the Government will continue maintaining the labs and scaling-up the project.

According to the field interviews, the four schools, which got facilities will continue with the ICT program based on their Technology and Multimedia Discipline in each class once a week. For those schools who did not get in-house lab, only do the theory because no facilities, according to the curriculum.

In regard to the sustainability of ICT labs equipment, the interviewees shared their concern that teachers do not possess sufficient level of skills to use the equipment in adequate ways and to be

responsible for its maintenance. Therefore, the Ministry of Education will recruit specialist to ensure the maintenance, which will be a very positive contribution to the long-term sustainability and continuity of project results.

The field interviews included interviews of four trainers (2 for government staffs and teachers and 2 for Students). The trainers report that they conducted a preliminary test to identify the level knowledge of the student before the training and in the end they conducted post test and based on that they selected the students who could participate in the boot camp. The trainers report that there were huge differences between the result from the pre-test and post-test. Before the students did not know about the components of the computers but after they got this training, they all understood them. In the high school, students were learning a more advanced, and learned how to create website, using Internet and so on.

12. HUMAN RIGHTS AND GENDER EQUALITY

In the National Education Strategic Plan 2011-2030, it is stated that regarding teacher quality, there are proportionally more unqualified female teachers than unqualified male teachers. The National Education Act aims to ensure equal opportunities for both genders, safeguarding schools to make sure they are gender-friendly and offering professional guidance as well as raising the awareness of the stakeholders in all areas of inclusive education. This is in line with the UN Sustainable Development Goals, in particular SDG4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all”.

The above mentioned “Escola Basica” should provide quality basic education that ensures that every child regardless of their gender, social, or economic status, ethnicity, race, physical or intellectual ability has a right to and receives a quality education.

The National Education Strategic Plan 2011-2030 defined the priority programme 6: social inclusion with the long-term goal (in 2030): To promote the educational rights of socially marginalized groups (those groups that are often denied access to entitlements and services because of their socio-economic status, ethnicity, language, race, religion, age, gender, disability, HIV status, migrant status, or where they live), ensuring they gain full access to the same opportunities, rights and services that are accessed by the mainstream of society. It considers the aspect of education of females in that it plans to ensure that females have the same right to access at all levels of education. It foresees 50% more female teachers in education and revised “gender friendly” curriculum at all education levels; more children with disabilities in basic education.

It is important to note that the project was implemented in schools Oé-Cusse region. The participants of the trainings were ‘given’ without the project’s possibility to select any participants based on the project’s preference. As a result, during the project, the share of women participation was lower due to the low number of female teachers teaching in secondary education. There was a higher number of female teachers in pre-primary and primary schools. Also female students had the same rights as their male student fellows in the classes and they were equally included in all project activities. However, the

project reports would have benefited from more precise reporting style, including an overview of disaggregated data on female / male teachers and students, who participated in the project’s activities.

The interview with the Government representatives confirmed that the gender equality was emphasized in the project with regard to teaching ICT to girls equally. The Ministry officials had observed that many girls performed the same as boys in the boot camp. According to the Government, no one was left behind in the project. Also the female teachers were involved in the training equally with the male peers. The trainers confirmed that UNDP gender policy was respected in the project. Many girls got enthusiastic about ICT and performed well as was proven in the boot camp. However, the women participation among teachers was lower due to the low number of female teachers in secondary education (in contrast to primary schools). The interviews with UNDP staff revealed that the project had the approach of Leave no behind in Oé-Cusse. The project reached out the region and villages and supported the human rights in a very fundamental way, human rights in terms of including the region to regular services and providing the facilities for communication. The UNDP project focused on younger generation supporting with access to education through ICT and enhancing human rights development.

There was gender parity in the project in terms of equal numbers of male and female students involved in the trainings. Regarding the gender of the teachers involved in the project, the project worked with teachers who were working in the schools, with lower share of women in the teaching staff at secondary level.

13. CONCLUSIONS AND RECOMMENDATIONS

14. CONCLUSIONS

The conclusions incorporate the statements as presented in the Findings section, and highlight the strengths, challenges, and results of the project.

The main strengths are summarized in the following:

The project is highly relevant and consistent with national development strategies in the area of education and promotion of ICT, national priorities and commitments on education, and UN Development Cooperation Strategy. The project fully reflects the national needs in education sector that are described in the National Education Strategic Plan 2011-2030. Due to its achievements and changes introduced into the education system, the project was recognised as an example of good practice project to pioneer and drive change nationwide and influence the development of the national ICT curriculum.

There was a very good cooperation with the Government of India, as the main donor to the project in the framework of South-South cooperation. The project demonstrates also strong involvement of the Regional Government of Oé-Cusse and its support throughout the whole duration of the project. This contributed to higher level of project’s visibility, transparency, co-creation of project outputs and

consequently complementarity and sustainability. The involvement of Regional Government was essential for increasing education quality (eg. installment of ICT equipment in schools, timing of trainings etc.) and for motivating teachers for changes in the teaching process.

The evaluation concludes that the project demonstrates strong involvement of the Ministry and good cooperation with the UNDP throughout the whole duration of the project regarding the development of education policy and practice. The involvement of the Regional Government of Oé-Cusse and its support throughout the whole duration of the project was confirmed in the evaluation. This contributed to higher level of project’s visibility, transparency, co-creation of project outputs and consequently complementarity and sustainability. The involvement of Regional Government was essential for increasing education quality (e.g. installment of ICT equipment in schools) and for motivating teachers for changes in the teaching process.

The project was effective as it achieved the objectives and there were no deviations to the original plan. There were some delays in the start of the project due to delays in procurement of equipment from other countries. The active and fruitful cooperation of the partners involved in the project (Government /Ministry, UNDP, Indian Government, DoE in the region) have enforced the effective implementation of the project.

Overall, the project was implemented efficiently given the context and the pandemic situation. Due to COVID-19 pandemic, the project requested a no-cost extension of 6 months (until May 2021) to complete training activities that were unable to be commenced, continued, organized or completed because of the interaction caused by the pandemic. The extension contributed to a higher level of project efficiency because the planned results were eventually achieved.

The targeted numbers of trainings were well achieved and exceeded regarding the target groups of government staff, teachers and students, as evidenced with key achievements and numbers of indicators in Annex 8. There was a pandemic at the same time when the project was implemented. The challenges were related to the lack of proper infrastructure, and delays in the installation of the labs and procurement of the equipment in the beginning of the project.

Regarding the sustainability, the project developed a pilot model to continue expanding to other regions in education in Timor Leste. The fact that there were not enough capacities in the schools to maintain the labs and equipment has indicated a risk regarding the sustainability, which is being addressed. The Ministry has reported about the decision to recruit specialist support in the maintenance of the invested labs and equipment in the schools; a budget reservation is reported to ensure the maintenance.

Regarding human rights and gender equality, it can be concluded that the project addressed a remote region in Timor Leste and supported the participants inclusion through ICT. The project was implemented in schools, and the participants were given in the school contexts. As a result, the share of women participation in the project’s teacher trainings was lower due to the lower number of female teachers in secondary education. (There were a higher number of female teachers in pre-primary and primary schools). Regarding the classrooms, the female students had the same rights as their male student fellows and they were equally included in all project activities.

There were challenges encountered in the project’s implementation. There were some delays in the start of the project due to delays in procurement of equipment from other countries. Also there was a

lack of basic Internet facility in the schools and the poor mobile network in the rural area and villages in Oé-Cusse. The Microsoft Office programme was available in English, which is a limitation for some teachers and students because they do not speak and understand English language. There were not enough capacity skills in schools to maintain the labs and equipment. The Ministry has decided to recruit specialist support to ensure the maintenance of the invested labs and equipment in the schools in the region.

Regarding impact, the project has contributed to the development of human resources in the Oé-Cusse region because it increased teachers’ and government staff capacities and ICT skills. The project successfully increased teachers’ and government staff capacities and trained them in ICT-related skills. The project increased primary and secondary school students’ skills in ICT literacy, environmental issues and supported them in development of financial literacy. The ICT labs enhanced students’ knowledge on financial literacy and business development as well as environmental awareness through the development and implementation of two computer-based educative interactive games in Tetum and Portuguese language. In addition, the project has achieved significant results and impact because it contributed to the decrease in inequalities within the country and balanced regional differences between urban and rural areas. It increased the overall quality of education by training teachers in tools that support learning process in interactive ways. It also contributed to the development of financial and ICT literacy; communication skills and promoted environmental awareness among students. The project developed a pilot model to continue expanding to other regions in education in Timor Leste.

The table overview of the objectives and achievement of activities against the indicators are presented in Annex 8 of the report.

15. RECOMMENDATIONS

Here recommendations are provided to follow up or reinforce initial benefits from the project.

Since the project identified that many teachers have very limited ICT knowledge and practical experiences, one of the main recommendations is that future actions continuously provides support, in-service teacher trainings with a variety of topics, in particular teaching methods supported by ICT technologies. Teachers expressed their interest (interview findings) in participating in novel teacher training programmes focused on learning about advanced ICT skills.

The ICT programme should be included in the National Curriculum to all levels of education.

The project’s actions should be continued because the education system needs to prepare students for 21st century and globalization, which is significantly influenced by the technological developments. All teachers, at primary and secondary level, should be involved in ICT trainings and workshops. When organizing staff trainings, trainers should be supported with trainer assistant who could devote more time to individual learner support during trainings.

The Government and Ministry of Education should ensure the resources for ICT equipment maintenance.

In order to enable equal opportunities to all students in the country, computers should be installed in all schools and all students should learn ICT skills and financial skills.

The recommendations regarding relevance of the project are:

- It is recommended to design and implement the future similar projects in a similar way by aligning the project to wider strategic plans of all partner institutions. In addition, it is recommended to participate the target beneficiaries in the design to appraise the needs and gaps at an early stage of the project.

The recommendations regarding the coherency of the project are:

- It is recommended to continue implementing future projects coherent with the Government, UNOSSC and other UN Agencies’ strategic frameworks for coherency and knowledge transfer and peer support between the countries.
- It is recommended to ensure the sustainability of the project’s results in terms of Ministry’s policy support and integration of results in education systems, such as the curriculum development in this project, which ensures long term use and continuity of the project’s results in education, in addition to the capacities and skills developed.
- It is recommended to continue the design and implementation of similar project in close cooperation with the Government at different levels to ensure smooth implementation of activities at school level. It is recommended to have certain level of flexibility in implementation to be able to address the local needs.

The recommendations regarding effectiveness of the project are:

- It is recommended to learn from the project and prepare back-up systems and alternative plans for project implementation, which consider the deviations caused by local contexts or crisis situations.

The recommendations regarding efficiency of the project are:

- It is recommended when planning education projects to note the academic school year and calendar with school holidays.
- It is recommended to plan early on the procurement for the trainings to start as planned in similar education projects.
- It is also recommended to plan alternative training methods and modules which can be flexibly implemented, e.g. remotely and independently by learners.

The recommendations regarding impact of the project are:

- It is recommended to continue supporting the impact of the project’s results in education across Timor Leste. The project will serve as an example and resource to draw lessons learnt for the Government to continue the activities in the region and scale up the project to other regions.
- It is recommended that the Government will ensure the National curricula and adoption of ICT trainings in education as a subject at all levels of education.
- It is recommended to use the manuals developed at different levels of education.

- It is recommended to continue the teacher trainings on ICT in education in the regions. The next phase should make the teacher training a priority, including the training of head teachers on ICT, noting especially teacher trainings for remote areas.
- It is recommended to review the curricula of pre-service and in-service teacher trainings based on the project.

The recommendations regarding sustainability of the project are:

- It is recommended to sustain the project’s achievements and continue expanding to other regions in education in Timor Leste. The developed results, e.g. capacities built of the government staff, skills acquired by teachers and students, training materials developed, methodologies developed, e.g. boot camp all can serve as examples to exploit and further develop in similar future projects.
- It is recommended to ensure the sustainability of ICT in education with the Government budget reservations, including maintenance.
- It is recommended to sustain the teacher trainings as requested by the project participants of teachers, also more widely in-service and pre-service teacher training curricula and provision.
- It is recommended to sustain the project activities through ToT trainings as planned in the project.
- It is recommended to sustain the students’ peer-to-peer support as planned in the project.
- It is recommended to continue and maintain different multi-media teaching and learning provision through the radio, TV and podcasts especially to remote regions.
- It is recommended for the Government and regional education to take into account the electricity power interruption and low quality internet connection as was reported from the schools in the Oé-Cusse region regarding the continued ICT trainings in the region and in designing future similar projects and trainings.

The recommendations regarding human rights and gender equality the project are:

- It is recommended to continue future projects with similar human rights and gender equality approach. It is recommended to include gender as a Key Performance Indicator to monitor the projects and report accordingly with disaggregated data. The policy should ensure the equal representation of females/girls and males/boys in all targeted groups.
- It is recommended to apply special incentives (non-material) to engage equal numbers of boys and girls; males and females in project activities and trainings.

16. ANNEXES

17. TOR OF FINAL EVALUATION

18. LIST OF DOCUMENTS REVIEWED

19. DOCUMENT REVIEW

20. EVALUATION CRITERIA AND QUESTIONS

21. INTERVIEW QUESTIONNAIRE

22. LISTS OF PERSONS INTERVIEWED

23. FIELD DATA COLLECTED

24. TABLE OF INDICATORS