

***Implementing Information &  
Communications Technology (ICT) for  
Development***

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**Project Evaluation  
Of the**

***ICT for Human Resources Development Project***

**A joint Project of the Government of the Republic of  
Mozambique, the UNDP and the Italian Cooperation  
Office**

**By  
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## EXECUTIVE SUMMARY

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The intensive project evaluation noted that cooperation between the Government of Mozambique, the United Nations development Programme (UNDP), and the Italian Cooperation Office, gave birth to the ICT for Development of Human Resources Project, the purpose which was to create a cadre of human resources skilled and knowledgeable both in ICT technological operations and solutions, especially at community level, to facilitate the use of new ICTs in the development of the country.

With the thrust being on finding out what emerged from project implementation as regards effectiveness, efficiency, relevance, sustainability and impact on the target groups and the community at large, the evaluation focused on a number of aspects that included the project design and delivery, the extent to which project objectives were realized and the project impact in building ICT capacities of target groups.

The use of the interpretivist approach provided meanings and purposes that were firmly attached to human actors and their activities. Through interpretivism, the lives of participants were captured and meanings interpreted and understood. Focus on the Provincial Digital Resource Centres (CPRDs) presented convenient interactive processes at these delivery points. Through the use of four data collection instruments viz; documentary analysis; focus groups' discussions; one-on-one interviews, and observations, valuable information was secured.

What emerged from the information provided was that the project marked a significant stride in Mozambique's drive to address the ICT human resource deficit as it, amongst other things, successfully introduced the vibrant on-the-job ICT for development training for public servants and civil society, the popularity of which outgrew its capacity to deliver; that by and large, the project was efficient in terms of resources expended in the production of a given unit product, and effective as regards the extent to which it went towards the realization of its objectives. Project weaknesses noted were not in the design per se, but rather came in the form of omissions on the implementation process.

## SECTION ONE: BACKGROUND

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### **1.1 Project Background**

Project 00039087 – ICT for Human Resource Development originates as part of the UNDP’s ongoing country support for the Government of Mozambique’s ICT Policy Implementation Strategy of the year 2000 which, in turn, led to the setting up of the ICT Implementation Technical Unit (UTICT), as the delivery agent.<sup>1</sup> The project was initiated in July 2006 as a two-year project, by the Government of Mozambique, in collaboration with the UNDP and the Italian Cooperation Office. It was and continues to be housed and operated by the ICT Implementation technical Unit (UTICT). Its first phase, constituting the focus of this evaluation, came to an end in December 2008.

The project, which is an element of the UNDP’s ICT for Development Programme that was set up to support the Government of Mozambique in implementing the national ICT Policy Implementation Strategy, sought to create a cadre of human resources skilled and knowledgeable both in ICT technological operations and solutions, especially at community level, to facilitate the use of new ICT’s in the development of the country. Hence, the project was formulated and implemented in close collaboration with other ICT for Development initiatives within the framework of the ICT Policy implementation Strategy of the Government of Mozambique. Lack of human resources competent in ICT knowledge and skills remains as one of the critical issues that Mozambique has selected to effectively and efficiently address.

### **1.2 Project Objectives**

The main objective of the project was to address the ICT human resources skills development deficit in Mozambique, significantly focusing on the acceleration of the growth of the user base. Specifically, these included:

- Developing an ICT for Development curriculum that should integrate traditional technical training with socio-economic development, in the context of developing countries like Mozambique;
- Identifying and initiating ICT for Development operators training in three training centres in the country, to ensure an even geographical distribution;

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<sup>1</sup> Government of Mozambique (2002) ICT Implementation Strategy: Council of Ministers, 27 June 2002

- Introducing ICT for Development training into the teacher training curriculum, to provide teachers with expertise and an ICT for Development perspective needed for inclusion in the subjects that they teach;
- Introducing “on-the-job” ICT for Development training for civil servants, focusing not only on ICT technical training, but also on the potential for ICT in Development in different sectors of the economy;
- Providing support to students and teachers outside the classroom, to facilitate continuing and distance education, increase internet access and content availability to teachers, parents, graduates and the community at large, by placing all the training materials in an educational portal.

### **1.3 Purpose of the Project Evaluation**

The overall purpose of the evaluation of first phase of the ICT for Development of Human Resources Project, was to find out what emerged from its implementation, paying special attention to its effectiveness, efficiency, relevance and sustainability, as well as the impact on the target groups and the community at large, with a view to making substantive recommendations on a way forward.

### **1.4 Terms of Reference of the Evaluation Exercise**

The evaluation of the project’s first phase was guided by the following terms of reference:

- To assess the results achieved in the project implementation drive, paying special attention to:
  - *the project design and delivery;*
  - *the realization of the project objectives and relevance of instructional methods and techniques, as well as the impact in building ICT capacities of target groups at local government and community levels;*
  - *the identification and documentation of lessons learnt, including emerging best practice (if at all) that could be replicated in the execution of other UNDP ICT-related projects;*
  - *the review of the project management system with regards to its efficiency and effectiveness including clarity of roles and responsibilities.*
- Make recommendations that should include the feasibility of a possible continuation of the project.

### ***1.5 Project Evaluation Team***

To accomplish the purpose of the evaluation, as well as facilitate the carrying out of activities commensurate with the aforementioned terms of reference, the evaluation exercise was preceded by an all-important meeting of all project stakeholders. This meeting was convened to brief the evaluator on the project. It also served to ease the entry of the evaluator into the project, its role players and processes, while also setting the scene for how the evaluation would proceed. The meeting comprised representatives of the UNDP office in Maputo, the Italian Cooperation Office also in Maputo, and project team members in the ICT Policy Implementation Technical Unit (UTICT). The briefing was comprehensive and added value to the field visits and interviews that followed as part of the evaluation process. Interpretation, logistical support and research support, were adequately and timeously provided by the project coordinator, who acted as both an interpreter and guide throughout the study.

### ***1.6 Limitations of the Project Evaluation***

The Evaluator's inability to communicate directly with the interviewees limited, in many ways, his ability to follow nuances that might have given more meaning or another angle to the data. Except in Nampula, transport to get around was irksome. Not only were taxi drivers' fares arbitrary, but in majority of cases their vehicles were rickety and inspiring less safety confidence. Notwithstanding, the team were able to reach their pre-determined destinations and meet with the people and groups they sought to meet with.

## **SECTION TWO: PROJECT EVALUATION FRAMEWORK**

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### ***2.1 Methodology of Project Evaluation***

The evaluation study was located within an interpretivist paradigm; an approach able to provide meanings and purposes that are attached to human actors and their activities (McRobbie and Tobin, 1997). The interpretive approach was viewed as more appropriate for this exercise, for it aims at capturing the lives of participants in order to understand and interpret the meanings thereof (Henning, 2004). Basically, interpretivism is a component of qualitative research that subscribes to the fact that the world is socially constructed and that as such, there are multiple realities. This is in sharp contrast to quantitative approaches for which reality is external and can only be understood by empirical enquiry.

Interpretivism emphasizes how social experience is created and given meaning, as opposed to positivism that emphasizes the measurement and analysis of causal relationships between variables, not processes. Focus in qualitative approaches is on qualities rather than on quantities. In qualitative approaches, meaning is the basis for data. Discovering meanings and beliefs underlying action is the purpose of the inquiry. The outcome of the enquiry is knowledge that is dependent on the process of discovery. Hence recognizing that the ICT for Development of Human Resources Project was but a life, the evaluator within the interpretivist paradigm, selected to treat it as a case study. He conveniently focused on interactive processes at delivery points – the Provincial Digital Resource Centres (CPRDs).

## ***2.2 Data Collection Instruments***

To accomplish the evaluation objectives, the evaluator utilized four data collection instruments. These included:

- Documentary Analysis;
- Focus Group Discussions;
- One-on-One Interviews;
- Observation

### *2.2.1 Documentary Analysis*

The evaluator obtained relevant project documents from the UNDP country office, and others from the ICT Implementation Technical Unit (UTICT). According to Kelly (2006) documentary sources are useful in all forms of qualitative research. In this approach, the research aims at correlating the documentary analysis data with the information already gathered through other instruments, including those obtained in the initial review of relevant literature.

Thus, in this evaluation exercise, the written documents helped shed light on the origin, philosophy and context of the project. For instance, the cooperation agreement document bringing together the Government of Mozambique, the Italian Cooperation Office and the UNDP, entitled “ICTD Human Resources Development (ICTHRD)”, graphically describes the project as aiming at establishing a mechanism for training “ICT for Development operators”, as well as creating a new cadre of human resources knowledgeable both in technological solutions and their developmental impact at community level. This stipulation remains an overarching



aspect of the project, clearly and firmly underpinned by both the project objectives and its operations.

The framing of the project in the context of the overall Government of Mozambique's ICT Policy, and in particular, that of the ICT Policy Implementation Strategy remained equally clear and unambiguous. Emphasis of the project at design and initial project implementation stages, was not to be necessarily in the provinces per se, but in the three regions of the country namely, North, South and Centre. This was and remains highlighted in the Government of Mozambique and UNDP ICT for Development Programme. Indeed, the North, South and Centre conceptualization runs through much of the literature relating to the origination of the project. Of equal importance, emanating from the literature, was the identification of the initial target groups that remained constant throughout the life of the project. This group comprised public servants, civil society, community members, teachers and students. A clear picture of the project emerged while examining these documents.

#### *2.2.2 Focus Groups Discussions:*

The second data collection instrument used by the evaluator was the focus groups interview discussions. Van Dalen (1978) views a focus group discussion as a carefully planned discussion designed to obtain perceptions on a defined area of interest in a permissive non-threatening environment. Hence in this exercise, the focus group interviews were used to gather information from public servants, students, trainers and teachers from the three provincial digital resources centres (CPRDs) visited. The evaluator noted that in all discussions, many participants were more than willing to communicate orally than they would have in writing and therefore, provided data more readily and fully.

The focus groups discussions proved to the evaluator to be an appropriate means of gathering untainted information from the people themselves. The atmosphere created was friendly, permissive and directing the discourse into the desired channels that encouraged discussants to reveal information while, at the same time, motivating them to present useful facts regarding various facets of the project delivery. Admittedly, in some settings, one person tended to dominate the discussion making the viewpoints of other participants not to be thoroughly explored in the group.

### *2.2.3 One-on-One Interviews*

The one-on-one interview was yet another valuable data collection instrument that the evaluator fully utilized. Conducted in a private setting with one person at a time, it is believed that the interviewee is made to feel free to express him/herself freely and truthfully. As such, the evaluator noted that several advantages accrued from the friendly interaction in each of those interviews, that could have been ascertained with limited impersonal questionnaire contact. Thus, in those face-to-face meetings, the evaluator was able to probe more deeply into their impressions about the original design and delivery of the project, as well as secure their incidental comments, including information that could not be conveyed in such forms as written replies.

The one-on-one interviews are arguably the most vital technique when an in-depth understanding is required. It provides an in-depth understanding of the subject as this is best communicated through detailed examples and rich narratives. Thus, in this exercise and through this technique, the evaluator had room for probing, explanation and clarification of facts. Participants were able to express themselves at length, but within a structure that prevented them from going off track.

### *2.2.4 Observation*

Equally important for the evaluator in this exercise was observation. Van Dalen (1978) notes that obtaining data by observing subjects through a one-way-vision glass, by assuming a role as an unidentified participant-observer in a group, one involves a difficult ethical question of invasion of privacy. However, in this exercise, the evaluator was a known entity that, nevertheless, strove not to tread on ethical related issues, but to simply pay more attention to physical structures, equipment and processes. In that way, he was able to see, listen and understand how some things were what they were, and why certain things worked the way they did. Further, he determined to interact with the actors and listen to their explanations of some developments such as the physical conditions of some buildings housing Provincial Digital Resource Centre, availability of teaching space, and the state of teaching equipment, including issues about transport difficulties. Despite its limitations as a data collection tool, observation came in handy in the examination of the physical structure of the three centres visited, including their general environmental conditions.

## SECTION THREE: DATA PRESENTATION AND INTERPRETATION

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The findings of this evaluation will be presented in the context of a triangulation of multiple of sources of data and data instruments used which yielded very meaningful information that once knitted together, provides an accurate overview of the project under evaluation:

### **3.1 Documentary Analysis**

#### *3.1.1 Project Documentation*

As pointed out above, a number of project documents were reviewed as part of the evaluation exercise that provided an overview on the genesis, design and implementation of the project. Underpinning the documentary analysis of the evaluation exercise were key project, policy and agreement documents. These included:

- *The Country Programme Action Plan (CPAP) of 2007-2009 between the Government of Mozambique and the UNDP;*
- *The Global Operation Plan;*
- *The Third-Party Cost Sharing Agreement between the UNDP and the Government of Italy;*
- *The ICT Human Resources Development (ICTHRD) Cooperation document which brings together the Government of Mozambique, Italian Cooperation Office and the UNDP;*
- *The Information and Communication Technology Policy Implementation Strategy;*
- *Towards a Global Information Society, document approved by the Council of Ministers, 27 June 2002; and,*
- *A collection of quarterly reports.*

#### *3.1.2 Project Outputs*

Information gleaned from the aforementioned documents not only indicates the specific activities set out in the project, but provides a basis to assess the extent to which the project objectives were realized. Therefore, assessed against the project objectives and information obtained through focus group discussions, one-on-one interviews and personal observation, most of the project outputs were realized. Project outputs that were realized include:

- Funding of the ICT complementary infrastructure and the incurring of limited expenses on accommodation;
- The equipping of computer laboratories;

- The cabling and facilitation of internet connectivity;
- The training of trainers;
- The establishing of training mechanism for identified target groups;
- The development of training manuals, updating training materials and their distribution;  
and,
- The determination of the curriculum format and production, including course levels and the number of modules for each level.

### *3.1.3 Project Collaboration*

In addition to the outlined outputs, documentary evidence also attests to the fact that the project as was intended at its inception, also successfully established close cooperation with other Mozambican ICT strategic initiatives and related stakeholders and beneficiaries, which included:

- The community multi-media centres;
- The schoolnet project implemented by the Ministry of Education and Culture for developing ICT in schools;
- Distance education initiatives;
- Mobile ICT units

Indeed documentary evidence, also corroborated by other sources, presents a project the impact of which has begun to be felt in the targeted communities in and around the centres at which the project is operated.

### *3.1.4 Project Trainee Enrolment & Participation*

The evaluation exercise revealed that project course participants who went through the introductory course units, far exceeded the numbers originally envisaged. At the onset of the project, it was envisaged that the project would produce 500 certified students, 25 ICT trained specialist teachers and 1,000 ICT trained public servants, at a cost of approximately Euro 1,273,500. Tables 1, 2 and 3 below indicate both the effectiveness and efficiency of the project in terms of the extent to which it moved towards the realization of its objectives, and the amount of money expended to produce the indicated results.

**Table 1: 2007 Participants Enrolment and Completion**

Province	Male	Female	Total
Gaza	90	75	165
Inhambane	60	63	123
Tete	215	196	411
Nampula	207	131	338
Cabo Delgado	26	10	36
<b>TOTAL</b>	<b>598</b>	<b>475</b>	<b>1, 073</b>

*Note: No training was conducted in Sofala and Zambezi in 2007*

**Table 2: Participants Enrolment and Completion**

Province	Public Servants		Civil Society		Total
	Male	Female	Male	Female	
Gaza	78	99	99	131	407
Inhambane	206	157	93	127	583
Sofala	28	18	96	93	235
Zambezia	50	31	170	104	355
Tete	49	39	135	207	430
Nampula	17	12	219	187	435
Cabo Delgado	147	57	133	112	449
Maputo Province	27	73	0	0	40
Maputo City	0	26	23	27	76
<b>TOTAL</b>	<b>602</b>	<b>452</b>		<b>987</b>	<b>3, 440</b>

Table 3: Project Financial Statement – Euro

DESCRIPTION	FUNDS RECEIVED (IN EUROS)			TOTAL FUNDS RECEIVED	PROJECT EXPENDITURE				
	2006	2007	2008		2006	2007	2008	TOTAL EXPENDITURE	BALANCE
Opening balance	-527.22								
Paid by Project	103,322.99	587,735.00	549,302.00		63,531.75	614,355.00	546,207.02	1 224 093.77	
<b>TOTAL</b>	102,795.77	587,735.00	549,302.00	<b>1,239,832.77</b>	63,521.75	614,355.00	546,207.02	1 224 093.77	15, 739.00
Expenditure paid directly by UNDP						37,348.35			
International Consultant						1,587.95			
UNDP Fee Services						476.43			
Administrative Costs						39,412.73			
Total Expenditure UNDP								39 412.73	
<b>GRAND TOTAL</b>								1, 263 506.50	

Participant enrolment and completion figures in Tables 1 and 2 for years 2007 and 2008 clearly demonstrate the extent to which the project gained in popularity in its short project life of less than 24 months. For instance, Gaza province's trained participants' total enrolment and completion in 2007 increased by 59% with the participation and enrolment of women in the same province, for the same period, leap-frogging by 67%. Inhambane province similarly leapfrogged to greater heights.

What is equally significant in this scenario is that the targets in enrolment and participation were reached within the allocated budget and project timeframe of 24 months; attesting to the efficient implementation of the project and effective use of resources. Of the total funds of Euro 1,239,932.77 allocated to the project, 98.7 percent was used in registering the outlined achievements, leaving a positive balance of Euro 15, 739.00. This, in essence, serves to attest to the fact that the project implementers maintained high financial standards and efficiency levels.

On the inverse side, documentary evidence supported by that from aforementioned sources such as personal observation and one-on-one interviews, reveals an omission by project implementers with respect to implementing the project's initial resolutions. In particular, the project design phase recommended that there be three regional centres in the North, South and Centre. In practice, the project focused on provincial centres which resulted in overstressing their limited, financial and material resources. To service the widely dispersed provincial centres called for more intense logistical, financial and human resource arrangements. A visit to the provincial centres revealed largely inadequate and unsuitable accommodation facilities that did not accord adequate space for the Centre's different learning and teaching activities.

### ***3.2 Focus Groups Discussions***

As a data gathering instrument, the focus groups discussions at all the three centres visited, presented a wide range of information, especially on the subject of the curriculum and certification. The groups included civil society, high school students, public servants, trainers and, except in Nampula, technicians. All the groups expressed unqualified satisfaction with the project; that having enrolled as trainee participants in the introductory courses, helped to widen their horizons and improve their lifestyles in general. One civil society participant in Quelimane gave, as an example, his competency and enhanced confidence in his use of the Autobank or Automatic Teller Machine (ATM). Many stressed that since their exposure to the introductory

computer courses, they had become not only competent at their work places, but were also helping individuals and groups in their respective communities, in processing their documents. One young man in Quelimane indicated that he, following his training, had since opened his own printing services, graphic design and stationery business operating from his house.

One public servant in Beira revealed that since her introductory computer training, which included spreadsheet, she was helping with payroll preparation at her workplace. Several public servants and teachers stressed that they had acquired confidence building competencies in handling varied computer applications, including the use of power point, producing class marks schedules, using the internet and e-mail, word processing, etc. High school student continually stressed the fact that they were then able to hand-in word processed or typed assignments, in addition to their being able to assist their fellow students.

At every Centre, focus groups emphasized that the quality of training provided at the Centres was way above that provided by private commercial providers. That besides, the latter charged exorbitant fees for poor quality products. Hence they all pleaded that the project be continued. That its discontinuation would be a blow, not only to those that had done the introductory courses and wished to advance, but even more so to the wider community. Instead, they pleaded for the opportunity to advance and expand their training through the project. That the curriculum be reviewed to include web-design and programming, as well as advancing the existing course provisions. However, a scan of the current curriculum reveals that much of what was mentioned was already catered for.

Nevertheless, the subject that concerned the groups more, at every Centre visited, was that of delay in the issuing of attendance certificates, and the length of the initial computer training period. Groups repeatedly observed that the training period was too short, and that it did not take into account differences in entry behaviours. That there were some who entered the introductory courses at ground zero, while some of those had some previous contact with the computer. It was argued that designers and deliverers of instruction take that into consideration.

In regard to the delay in the issuing of certificates, the groups in Beira suggested that these be issued and printed at the Centre. That suggestion did not find favour with the official from headquarters, who argued that the process would easily be open to abuse. In Quelimane, a



debate ensued regarding whether or not the certificate should be norm referenced or continue as it is. Those arguing for norm referencing pointed out that the current issuing of certificates was based on marks, yet these were not indicated on the certificate etc. After a lengthy discussion, the UTICT official explained that the issuing of certificates was currently being discussed at headquarters; and that signs were that the process may result in the adoption of norm referenced examinations.

Further, all the groups, more so those in Quelimane and Beira, the wish for the Centres to effectively spread to the districts was passionately expressed. At Quelimane, it was even suggested that facilitators be recruited from the districts for training at the Centre, and that thereafter, those be returned to their districts to spearhead ICT training there. Beira expressed similar sentiments. They strongly canvassed for the stretching of the project to the districts in order that information and communication technological benefits be shared widely, both horizontally and vertically. One participant pointed out that, in fact, at Nhamatanda, Gorongosa and Caia, there was an Agriculture College that had 7 computers, and a secondary school with computers but no trained computer operators. A slightly improved outreach operation only existed in Nampula where the Center manager is able to ferry computers to an identified locale.

### ***3.3 One-on-One Interviews***

The richness of information gleaned through focus groups discussions was further buttressed by that secured through one-on-one interviews. Provincial Digital Resource Centres' managers were, as noted above, interviewed individually, in a private setting, as was the case with those persons in Maputo who had been associated with the project since its inception. In those settings, interviewees were encouraged, as noted earlier, to talk freely and fully about particular issues that impinged on the project.

All Provincial Managers expressed great satisfaction with the project design and delivery, and further indicated the wish that the project be turned into a permanent programme, that when donor funding came to an end, the government be urged to take over the funding; that, however, in the meantime, UNDP and the Italian Cooperation Office, be persuaded to continue their financial support, with the state gradually committing more and more funds in preparation for the final take over. They also noted that discontinuation of the project would be a blow to

the respective communities, since it had become so popular that many people continued to knock on their doors.

In unison with the focus groups, the managers advocated for curriculum review, including the need for upgrading their trainers through further training courses, so that they could offer more advanced training. Equally important for them, was the need to move from windows 2003 to windows 2007; that since UTICT had a partnership with Microsoft, it would be easy to access their latest software etc. The need for centres to be provided with transport and to have their finances increased to facilitate their extension to districts was highlighted. Thus both as individuals and a collective, provincial managers presented themselves as people who enjoyed their worth.

In addition to one-on-one interviews with the Provincial Managers, the evaluator conducted a number of interviews in Maputo, with many persons who had past or present association with the project, including representatives of the organisations funding the project. Information secured thereof, greatly helped plug some gaps. Ricardo Santos, whose association with the project went far back to its inception, was passionate about the project. However, while he expressed satisfaction with both the design and implementation of the project he, nonetheless noted that, with hindsight, he felt that the project had rather been too ambitious in that it had tried to cover the whole country, rather than starting with a selection of at least three provinces.

In a way, Ricardo seemed to be going back to the original idea of the project designers who stressed three regional centres. For him, the three needed to be Maputo, Beira and Nampula, because in these, there already existed the necessary ICT critical mass, with high levels of education to be able to push things forward. In some way, this seemed to make sense in that each of these cities would function as a hub, allowing services to radiate from an area of heavy skills concentration to the sparsely serviced areas. Radiating thus, implementation would be easier in that distance to the centre would be such as to make it easier to reach areas of provision, facilitate management and monitoring. The process would be more osmotic but in an opposite directional way i.e. molecules not moving through the membrane from a less concentrated solution into a more concentrated one; rather, from a more concentrated solution

to a less concentrated one. For Ricardo, this would be an investment in quality as opposed to quantity.

To secure the project's "state of the art," the one-on-one interview zoomed on the Project Coordinator who, among several issues, competently explained the curriculum in detail, giving enrolment and completion rates, who the project partners were, their roles and responsibilities, and general management concerns. Monitoring and advocacy/marketing were also explained at length. She pointed out that project curriculum's first phase concentrated on basic computer skills that covered seven modules broken down as follows:

- Introduction to Informatics;
- Understanding your computer;
- Word Processing;
- Excel;
- PowerPoint Presentation;
- Data Base Design;
- Internet and E-mail.

She further explained that what the focus groups and Provincial Managers were clamouring for at the Centres visited, as advanced course provisions were actually, already included as part of the next phase. As such, those provisions were planned for the subsequent phases. These included computer maintenance, programming, network and web-design.

As regards project partners, the Coordinator cited the Ministry of Education as the main partner. She explained that the Institute of Educational Development participated intensively in the initial stages of the curriculum design, and further assisted in the effort to integrate the ICT curriculum into the schools. The second crucial partner she cited was the Ministry of Science and Technology for which the project had trained persons currently rendering training to public servants. The Ministry of Public Service Administration was cited as the third principal partner for which the project continued to train trainers to staff their Institutes for Public and Local Administration, with presence in Maputo, Sofala and Niassa provinces.

While previously the Institute, through its branches, was teaching, in the main, informatics, it had since adopted and incorporated the project's curriculum, and its trainers were being trained

by UTICT, through the project's training school in Matola; that so far, they had trained 2 trainers for their Maputo branch; 2 for Niassa, and 1 for Sofala. The Community Media Centres scattered throughout the country were also cited as partners. As such, the project had assisted these and continues to do so, with the training of their trainers. Accordingly, in Nampula alone, the project trained 14 of their trainers. Thus, through its partners, the project did directly and indirectly impact on the wider community. Further, the advantage of its partnership with the Community Media Centres lay in this that the centres had their own computers, a phenomenon that helped to minimize the training equipment problem. Last but not least, the Mobile Unit, funded by UNDP and operated from Inhambane, constituted yet another crucial partner. Thus, with this array of partners, the project's community relevance and its contribution to ICT dissemination, had remained indisputable.

On the management side, the Coordinator explained that the project had, midway through, suffered the loss of the Project Manager and the Project Assistant, both of whom moved to greener pastures. This resulted in all administrative matters falling onto the shoulders of the Project Coordinator. However, the relative success of the project attest to the fact that she was able to cope, as she continues to carry out those added responsibilities competently. She nevertheless, noted that certain activities like monitoring had suffered, as these could not be carried out because of both person power and budgetary constraints.

Going out to see how project activities were being handled in the field stalled. Instead, project monitoring degenerated into management by telephone, e-mail, or incidentally, whenever an officer had a task to perform in the area concerned. Albeit, advocacy fared better. The project managed to secure a one-hour 5 o'clock slot, every Monday, in the national television, to beam their programme called "Technology". At the same time, Provincial Digital Resource Centres partnered with the national radio in the provinces in which discussions centred around ICT issues. Besides, at national level, all efforts were made to cover project activities such as graduation ceremonies, etc. on TV and radio.

Nevertheless, for UTICT as the implementing entity, it meant that contingent funds beyond the UNDP budget, had to be sought for incidental activities that had not been thought of in the original design, such as refresher courses. The other omission noted in the original project design was that of formally partnering with NGOs whose tentacles touch every part of the

country. These would have been better placed to assist the project with various delivery activities such as monitoring and advocacy at grassroots level. Nonetheless, all these considered, the project implementation thrust appears to have been satisfactorily handled.

### **3.4 Observation**

As a data collection tool, observation, in this exercise, served to pull all the loose ends together, as it focused mainly on space and equipment. Issues raised in both focus groups discussions and in one-on-one interviews, were carefully considered and observed in their given or natural settings. The need, for instance, of more and upgraded computers was seen as legitimate and urgent, recognizing that we now live in an ever changing technological world in which inventions are rendered obsolete by day. Equally essential and urgent was the need for mobility in and around the Centres. The Provincial Manager in the province is the face of the implementing organization, UTICT. He functions at the level of other government and private sector provincial officers stationed there. It, therefore, becomes rather awkward to have this officer walk around in the execution of his/her duties and responsibilities.

In addition to equipment, it was observed that accommodation of the Centres was extremely inadequate and unsuitable. In all cases, it was found that one had to search for the Centre until that pointed out in the insignificant part of a colossal building. Simply stated, the visitor strives to identify the Centre as an entity. Hence, the evaluator felt that there was a need for Centres to be more visible and presentable, to inspire learners' confidence and respect, as well as visitors' admiration. Currently the Centres are squashed in terms of both learning and teaching space, as well as administrative and workshop space, including toilet facilities. At all the centres, staff rooms or coffee/tea kitchenettes are a rarity. The Beira Centre, in particular, was found housed in a leaking building, with water from above continually pouring into the offices and teaching rooms, to the chagrin of all the space users, staff and learners alike. The need for the project to revisit the issues of equipment in terms of more and updated computers, staff mobility, and those of accommodation in terms of a suitable teaching, administrative and workshop space, loomed large.

## SECTION FOUR: FINDINGS AND CONCLUSION

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### **4.1 Findings**

The evaluation of the 24 months phase of the ICT for Development of Human Resources Project, sought to find out what emerged from its implementation, paying special attention to whether or not the project was effective, efficient, relevant and sustainable, including what its impact on the target groups and the community at large, was. The data presented in Section Three above adequately addresses all the stated issues, as well as the question of whether or not, assessed against the information presented, the projects objectives were realized.

Given the project's life-span and its geographical spread, the project should be seen to have marked a significant stride in Mozambique's drive to address the ICT human resources deficit. As noted, the ICT for Development curriculum was successfully developed and implemented, and steps were taken to introduce ICT for Development of Human Resources training into the schools and teacher training curriculums and to provide teachers with an ICT for Development perspective. Further, as was originally designed, the project successfully introduced the vibrant on-the-job ICT for Development training for public servants and civil society, the popularity of which has outgrown the project's capacity to deliver.

As noted in tables above, the funds allocated were efficiently used to meet the project's needs in terms of required equipment and materials for training and administrative activities. Scrutiny of the project's audited accounts attest to the efficiency that was the project's accounting hallmark. As such, no funds appeared to have been erroneously or otherwise, committed to unbudgeted for activities, however great may have been the need. The project implementaters' restraint not to divert funds to monitoring activities is a case in point. In short, utilization of funds allocated to the project was efficiently and professionally carried out, resulting in the account remaining in black.

Qualitative and quantitative outcomes or achievements stand out in section three above, under "Data Presentation and Interpretation". The project is further seen to have successfully carried out the implementation exercise in terms of expenditure on accommodation, equipping computer laboratories, cabling and facilitating internet connectivity, developing training manuals, training materials and their distribution, training of trainers, and the determination of

the curriculum format and its production. The sum total of this implementation exercise resulted in a positive impact that got felt in the targeted groups and local communities, in and around centres of operation, even though leaving out adjacent areas poorly serviced. The enrolment and completion figures in tables 1 and 2, serve to underscore the project's effectiveness.

Numbers of those that have enrolled and completed training, and those knocking on the project's doors, stand as a clear demonstration of the relevance of the project's provisions. Testimonies of praise from the beneficiaries in terms of how the training has changed their lives and employment situations, further underlie the project's relevance and the extent to which the project realized its overall objectives. Assessed as a shot in the arm of the country's overall ICT Policy and ICT Policy Implementation Strategy, the project's impact remains unquestionable. And, looked at against the level of articulated demand for its services far and wide, the project would, given resources, be sustainable. Hence, at every focus groups discussion, and indeed in each one-on-one interview, the choral response was "project continuation". With continued joint donor and government funding, the project is sustainable, since its support base remains solid.

On the inverse side, the evaluation noted the project implementers' omission regarding the North, Centre and South regional approach; that with the limited resources, the project's effort of servicing the scattered Provincial Centres, became constrained, since the resources were overstretched, resulting in the provisions being thin on the ground. Other important concerns that emerged from the evaluation exercise were space, equipment and mobility. It was noted that the Centres were not adequately and appropriately accommodated in the currently huge and relatively closed in buildings, some of which were on the verge of becoming dilapidated, such as that in Beira, with limited teaching, learning, administrative and workshop space.

Under the circumstances, the nature of accommodation was seen as affecting the amount of equipment that could be brought into these, in the form of computers, furniture and office equipment. Equally important was the need for an increase in the number of computers and having the existing ones upgraded from Windows 2003 to 2007. By and large, space seemed to be a major handicap, even if financial resources were available to enable a given centre to improve its supply and quality of equipment.

Mobility was seen as yet another constraint working negatively on the operations of the Centres, in that the Provincial Manager and his staff were found not able to get to the real areas of ICT training needs. Nor were they able to move easily within the vicinity of the Centres, to attend meetings, or meet with clients; indeed, to attend to anything that impinges on their work as Provincial Managers. Also of concern was the absence of budgetary inclusion of monitoring as a line item appropriately budgeted for. As such, no monitoring activities from headquarters were carried out, except by phone or with such like modes of communication. In a way, these were considered as putting spanners to the wheels of the project, in its drive to the full realization of its objectives.

#### **4.2 Conclusion**

Measured against information secured and herein presented, the ICT for Development of Human Resources Project served well in spearheading one aspect of the Government's ICT Policy Implementation Strategy – human capacity building. The project's effort in initiating ICT for Development of Human Resources activities away from Maputo, should be viewed as an event that helped to set the stage for future well resourced, more streamlined and more systematic efforts. The government's goal of using ICT to enhance an across the board development thrust, will undoubtedly prosper with a sufficient supply of skilled Information and Communication Technology practitioners.

Persons armed with such skills will be crucial in driving the policy to fruition. What is more encouraging is that Mozambique's concern with effective ICT applications has been gladly embraced by international donor agencies like the United Nations Development Programme, and the Italian Cooperation Office. The current number of initiatives and projects in the ICT realm in Mozambique is but a pointer to the nation's pursuit of the democratization ideal for economic, political and social development. Evidently, the government's effort to encourage unrestricted citizenry's access to information, is a development, the emulation of which may help other developing countries still in the grip of free media phobia.



## SECTION FIVE: RECOMMENDATIONS

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On the basis of finding discussed in Section Four above, it is hereby recommended:

- that the ICT for Development of Human Resources Project be continued and converted into a permanent programme, taking into account suggestions indicated below. This is in recognition of the firm expressions of focus groups discussions, one-on-one interviews, and evidence from observation;
- that UNDP and the Italian Cooperation Office, in the light of the overwhelming and demonstrable participants' appreciation of the project, be requested to continue their financial assistance, while the government seeks mechanisms for the programme's permanent budgetary inclusion;
- that the delivery strategy be reviewed, with a view of reverting solidly to the original idea of three regional centres, incorporating the North, Centre and South regions, with Maputo as the centre for the South region; Beira the centre for the Centre region, and Nampula as the centre for the North region. The rationale for choosing the three cities as centres for each region is that in these there already exists ICT critical mass, with high levels of education that should make it easy for each of them to function as a hub, from whence ICT for Development of Human Resources services would radiate, that is, radiating from the area of heavy skills concentration to that sparsely serviced. As pointed out earlier, the systematic movement of concentrated services from the centre, covering manageable distances, would make it easier to systematically cover less concentrated areas of provision. This would further make it easier and cheaper to monitor and formatively evaluate field activities.
- that in terms of accommodation, the Regional Digital Centres be decently accommodated, in an open and easily accessible part of the city, in order that they be easily identified on approach and their services be within reach of users, be it that these come to the centre by train, bus, bicycle or own car;
- that the Regional Digital Resource Centre building, in addition to administrative offices, face-to-face teaching/learning, library and related space, be provided with a well equipped large computer room, designed for self-instruction, to cater for advanced individual self-instructed learners. The set up and operation of this room, would need to be more or less along the lines of an Internet Café. Learners would purchase from the centres, well

developed self-teaching/instructional packages, walk into the self-instruction room, and each quietly follow the lesson/instruction on her/his own. Once ready to be assessed for proficiency in the given skill or skills, the candidate simply submits him/her-self for a criterion referenced examination. Trainers would only be available to be asked for assistance whenever a learner gets into some difficulty. In that way, the teaching salary bill would be kept to a minimum.

- that the programme partner more closely, or even merge with the Mobile Unit based in Inhambane, and the distance education provider, to reinforce its revised delivery mode;
- that the programme contracts a team of ICT specialists along the lines of the Open University in Britain, or Everyman University in Israel, to develop quality and ease to use self-instruction packages for distribution to each Regional Digital Resource Centre;
- that the Regional Digital Resource Centre progressively establish sub-centres according to distance from the centre and size of demand in the area;
- that as far as resources permit, these sub-centres be mini duplicates of their mother Regional Digital Centres;
- that high selection criteria for Regional Digital Resource Centre managers be observed;
- that the Regional Digital Resource Centres' managers, be seen as the face of the ICT Programme in the region, and be accorded the befitting status and membership of regional/provincial development committees;
- that each Regional Digital Resource Centre be supplied with a twin-cab 4x4 vehicle to facilitate movement in and around the city, and be able to reach sub-centres and outlying areas;
- that each Regional Digital Resource Centre operates an Imprest Account that is replenished monthly, the size of which is determined by volume of the Centre's work, with the RDRC manager functioning as the accounting officer.
- that Regional Digital Resource Centre Managers carry both administrative and teaching responsibilities, with responsibility for organizing ICT regional conferences, seminars, workshops, classes, and occasional public lectures, including hosting local and international researchers.

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## APPENDIX 1

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### National Consultant: ICT for Human Resources Development

#### Terms of Reference

<b>Type of Contract:</b>	SSA (national)
<b>Languages Required:</b>	Portuguese/English
<b>Commencement Date:</b>	1 <sup>st</sup> of May 2010
<b>End Date:</b>	1 <sup>st</sup> of June 2010
<b>Duration:</b>	20 working days
<b>Location:</b>	field work and home based as necessary

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#### Background

The Government of Mozambique in collaboration with UNDP and the Italian Cooperation has implemented the Project 00039087 - ICT for Development of Human Resources that came to a close in December 2008. This project was initiated in July 2006 as a component of the ICT for Development Programme, signed between the Government of Mozambique and UNDP. With an end of this programme this component was transferred to a new framework in 2008, the Country Programme Action Plan (CPAP) also agreed between the Government of Mozambique and UNDP.

The main objective of the project where to establish a mechanism for training 'ICT for Development Operators, leading to the creation of a new cadre of human resources, knowledgeable both in technological solutions and their development impact, especially at the community level, to facilitate the use of new ICTs in the development of Mozambique. Specific objectives included the following:

- **Define an ICT for Development Curriculum** that would integrate traditional technical training with socio-economic development, in the context of developing countries like Mozambique
- **Identify and initiate ICT for Development Operators training** in three training centers in Mozambique, ensuring even geographic distribution

- **Introduce ICT for Development training within the teacher training curricula** – This would provide teachers with the expertise and an ICT for development perspective needed to include ICT in the various subjects they teach
- **Introduce ‘on-the-job’ ICT for Development training for civil servants.** This training would focus not only on the ICT technical training but also on the potential for ICT in development in the different sectors of the economy.
- **Provide support to students and teachers outside the classroom,** facilitate continuing and distance education and increase Internet access and content availability to teachers, parents, graduates and the community at large, by placing all the training materials in an educational portal.

This project is framed in the overall context of the ICT Policy Implementation Strategy that was approved by the Government of Mozambique in June 2002 and is currently under implementation through a series of priority ICTD programmes. The ICT Policy Implementation Strategy, as well as the ICT Policy, has identified the lack of human resources as one of the critical issues that Mozambique must quickly address to successfully implement the priority programmes and make them sustainable, scalable and replicable. In addition to specific ICT technical training, it is fundamental to design a strategy that will properly take into account teaching of ICT for development in the existing public and private educational system in order to increase the understanding and usage of technology oriented to provide direct benefits to the community.

The project was executed by the ICT Implementation Technical Unit (UTICT), under the guidance of a Steering Committee. The Steering Committee was comprised by the ICT Implementation Technical Unit Director, the UNDP Representative, a representative of the Italian Cooperation Office in Maputo, appointed representatives of the Ministry of State Administration, Ministry of Education and Ministry of Science and Technology and other participating stakeholders were incorporated as they came on board. The Steering Committee meet two or three times over the duration of this project and other ad hoc meetings were convened with smaller technical groups to discuss issues that arose during implementation.

The Steering Committee was responsible for:

- Defining the main strategic orientations for the project;

- Validating planned activities as well as progress and financial reports
- Following up planned activities and results obtained in each phase;

Given the piloting aspect of the project, which required close monitoring of progress according to established timelines and indicators, the ICT Policy Implementation Technical Unit submitted quarterly reports to UNDP.

A national Project Manager (PM) was appointed by the ICT Policy Implementation Technical Unit. The project manager was responsible for the overall management and day-to-day operations of the project and prepared and updated the project annual work plan, produced quarterly reports that were sent to UNDP. It was also the project manager's duties to supervise activities allocated to project staff throughout the implementation and outputs delivery, co-ordinate project activities with governmental agencies, donor organizations, NGOs and other relevant parties.

### **Objectives of the Assessment**

The overall objective of the final evaluation of the ICT for Development of Human Resources Project is to undertake an assessment of the results achieved in the implementation of this project and present recommendations for its possible continuation with the introduction of innovative approaches leading to increased impact and sustainability. Particular attention is to be given to relevance, effectiveness and sustainability of the various activities and strategies in achieving the set of objectives and outputs.

### **Scope of Work**

The activities to be performed by the consultant will include but will not be necessarily limited to the following:

- A professional assessment of the project design, implementation strategies and capacity to achieve set objectives;
- Evaluation of the set interventions that were conducted during the life of the project and their impact to the different target groups ;
- Assessment of the impact of the various interventions in building capacity in the local government level to address major weaknesses affecting ICTs use;
- Assessment of the relevance and use of the skill provided by the centre to the local community based on individual interviews and focus-group discussion with formal trainees

- Assess with trainers trained in the different areas ( education, public administration, community level) the extent to which the skills obtained are used in the actual place of work
- Assessment of implementation performance in terms of efficiency, effectiveness and sustainability;
- Identify and document lessons learned and best practice that are emerging within UNDP supported activities in the area of ICT and explore the possibility of replication to other related projects;
- At the level of the three centres assess ongoing central and local level partnerships and networking for the implementation of the set of ongoing interventions, the existing strengths and weaknesses and the potential to improve the existing partnerships and for expansion to new partners;
- Review the programme management arrangement systems and their efficiency and assesses the clarity of roles and responsibilities of various partnership arrangements established to secure the implementation of several interventions;
- Review links/joint activities with other UNDP supported programmes and any other related initiatives in the area
- Support UNDP in identifying new interventions aligned with other UNDP and UN supported programmes and national priorities.
- Present recommendations for possible continuation of the project with the introduction of innovative approaches leading to increased impact and sustainability

The assignment will include a review of annual work plans, progress reports, financial and audit reports and other relevant documents. Meeting main stakeholders and beneficiaries is considered very important.

#### **Duration of the Assignment, Duty Station and Expected Places Of Travel**

The evaluation will take 30 working days. The assignment is expected to commence on the 1<sup>st</sup> of May 2010 at the very latest outset. It is estimated that the consultant will need to spend at least 20 working days in relevant provinces and districts to be agreed with an evaluation reference group.

### **Final products**

The consultant will provide the UNDP and the ICT Policy Implementation Technical Unit (UTICT) a comprehensive report detailing the following:

- The extent to which the interventions implemented under the ICT for Development of Human Resources Project contributed to the objectives set for the project: was the implementation of the interventions focused on doing the right things?
- The appropriateness of the arrangements that were put in place to implement the interventions, taking into account the need to secure efficiency, effectiveness and sustainability as well as institutional and economic sustainability: was there a permanent attention on doing the things right?
- A set of lessons learned until the completion of the implementation of various interventions under the ICT for Development of Human Resources Project and an assessment of the potential for their replication in other areas of ICT interventions
- A set of recommendation on how to addresses possible weaknesses in the design, implementation and evaluation and documentation of the results that were achieved with the implementation of the ICT for Development of Human Resources Project and how to expand identified strengths in order to reduce identified weaknesses in case of the continuation of the project.
- Submit and present the final report to an evaluation reference group for review and approval. The report should contain recommendations for possible continuation of the project with the introduction of innovative approaches leading to increased impact and sustainability.

### **Provision of Monitoring and Progress Controls**

The consultant will share with a reference group a technical proposal containing the plan of the evaluation, the methodology to be used and other relevant information. A draft report is expected after the first 20 working days. Ten working days is the lead time to work on the final draft report to be subsequently presented to the evaluation reference group and UNDP.

- The consultant will be recruited by the UNDP country office, and report directly to the UNDP Country Office.
- The consultant will anchor the design of the project in evidence and information extracted from existing national policy documents and in stakeholder consultations in-country.



**Degree of expertise and qualifications**

The consultant should have as a minimum a Master in ICT related areas. S/he should have at least proven 10 years of wide experience on Project Evaluation with considerable experience of work with governance issues. S/he should in particular be conversant with the ICT world and also have proven ability to appraise institutional performance and to assess capacity building initiatives. The consultant should have proven expertise in evaluating programmes/projects for UNDP or other international organizations.

**Review time required**

Time required to review/approve outputs prior to authorizing payments will not exceed two weeks

**Budget**

The Consultant will be paid 20% of the contract value with the approval of the plan of the evaluation; 40% of the contract value upon receipt of the first draft of the evaluation report, and 40% upon receipt of the final report that satisfies UNDP standards.

## APPENDIX 2

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### List of Persons Interviewed

1. Dr. José Macamo, UNDP
2. Mr. Robert Mmaitsi, UNDP
3. Dr. Salomão J. Manhiça, Director, UTICT
4. Ms. Zauria Saifodine, Project Coordinator
5. Mr. Ricardo Santos, ICT Consultant
6. Dr. Casimiro Américo Assibo, Provincial Manager, Quelimane, Zambezia
7. Mr. Buanamade Amade, Trainer, Quelimane, Zambezia
8. Mr. Lucrécio Esteroleo Uasseda, Provincial Manager, Beira, Sofala
9. Mr. Alcides Ernesto Pombo Baptista, Trainer, Beira, Sofala
10. Mr. Miguel Benjamim Dias Branco Morais, Trainer, Beira, Sofala
11. Mr. Narciso Melo Afonso Uachane, Trainer, Beira, Sofala
12. Mr. Virgílio Mário Laimo, Trainer, Nampula
13. Ms. Nilsa Moquire, Trainer, Nampula
14. Mr. Sondro Monteiro, Provincial Manager, Nampula
15. Ms. Laura Virgili, Official de Programas, Italian Cooperation Office
16. Dr. Ernesto Vasco Mandlate, Director, Department of Curriculum Information, Eduardo Mondlane University
17. Dr. Dina V. Back, Director, ADPP, One World University
18. Mr. Adérito Mucaisse, Civil Society, Beira, Sofala
19. Ms. Maria Tarcisia, Civil Society, Beira, Sofala
20. Mr. Edvaldo Vasco, Civil Society, Beira, Sofala
21. Mr. Telmo Fausto, Civil Society, Beira, Sofala

## FOCUS GROUPS DISCUSSIONS

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### **A**      **Quelimane, Zambezia**

- Civil Society
- Public Servants
- High School Students
- CISCO Technicians

### **B**      **Beira, Sofala**

- Civil Society
- Public Servants
- High School Students
- CISCO Technicians

### **C**      **Namupla, Nampula**

- Civil Society
- Public Servants
- High School Students
- School Teachers