

Review of UNIDO TA to Entrepreneurship Education in Mozambique

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Executive Summary

As part of its educational reform the Ministry of Education in Mozambique is changing the secondary education curriculum from one that merely prepares students for continued academic studies to one that prepares them to be productive elements in society through self-employment. The changes include the introduction into the secondary curriculum of “professionalizing subjects” one of which is “entrepreneurship”. In line with the growing focus on entrepreneurship teaching and training in the world, The Review Team (RT) is fully behind the introduction and stimulation of business thinking, attitude and development in Mozambique.

The project is providing technical assistance to the Ministry of Education (more particularly the National Institute for the Development of Education – INDE) in the introduction of this Entrepreneurship Curriculum Programme (ECP), initially over four years 2007-2010. However, the project document and the financing agreement for assistance from Norway (USD 2.3 million) was only signed in mid-2007 and the project has been extended to the end of 2011. The project strategy was to “create the self-sustaining national capacity that will be able to continue operating and evolving the ECP on their own” with project assistance.

The project benefitted from inputs from similar UNIDO projects in other countries and a two-year pilot phase in Cabo Delgado province.

The project team has conducted in-service training courses for over 800 secondary teachers who are teaching some 72,000 students and has prepared the curricula and a range of teaching and learning materials. Using interactive, participatory methods the course comprises two hours a week plus four hours of practical work where students visit local companies, hear lectures from local businessmen, seek out entrepreneurial opportunities, organise fairs in their schools and prepare business plans for their selected projects. The team has also trained a national (based in INDE) and 11 provincial Technical Working Groups in entrepreneurship and the monitoring of the programme. With a view to the expansion of the programme the project has assisted the Pedagogical University, responsible for training secondary teachers, in preparing the curriculum and has trained 597 teaching staff in 7 of its 11 province-based campuses. The project team has established a detailed monitoring system to track the progress of the project and the ECP programme in general.

INDE has taken responsibility for selecting the initial target schools, organising and funding the in-service teacher training courses and producing and distributing the teaching-learning materials. However, difficulties have arisen with regard to the availability of Government funds for the in-service training programme resulting in a reduction in the intended duration of training from three to one week, affecting teachers’ command of the subject, and fewer courses.

The ProDoc is based on INDE’s phasing plan which grossly underestimates the task at hand. Apparently the scope and magnitude of work planned by INDE is accepted by UNIDO in the ProDoc, without any comments or critical appraisal of the magnitude of the project. This situation is further compounded by the fact that no real assessment could have been made during preparation regarding number of ECP teachers that could be trained at the UP.

The number of schools, classes and teachers to be trained has evolved over the project period, and the number of teachers that would have to be trained in 2009 was estimated at about 2 000. Based on MINEC’s statistics and using ProDoc’s relationship between number of classes and teachers, the RT has estimated that as many as 6,300-7,500 teachers should have to be trained to cover “all” schools. So far only 817 teachers have been trained, 75% of the budget has been spent and there is only half a

year left of the initial 4-year project period. Thus, the situation calls for a profound revision of targets and work plan.

The review team found that the trial period in Cabo Delgado was well worth the effort, enabling the TA team and INDE to hit the ground running with a tried and tested programme as soon as the project started. The project fits well with the country's current needs and the Government's priorities of fighting poverty, promoting employment and its district development focus. Its efficient and effective project organization and small TA team are doing a lot with a considerable multiplier effect. In just three and half years a totally new subject has been into the Mozambican secondary curriculum and students with a totally new perspective on their future and post-school options have been produced.

Stakeholders are enthusiastic and supportive: the students met have started new initiatives, found new interests and abilities of which they were unaware and have acquired new attitudes towards their future options. The programme is overwhelmingly popular with parents, some of whom are already applying their children's new knowledge in their own small entrepreneurial activities. Local government officials are supportive and appreciative of the course. The RT met a few young, confident and mature entrepreneurs who credited the training for their current ventures.

However, there are difficulties in meeting the demands made of them, and some aspects of ECP development are outside their control. During 2007-2009 the programme was supporting only 33 schools, expanded to 48 after a training course in April 2010 and with a course planned for July 2010 adding a further 110 schools – resulting in a total of 158 schools teaching entrepreneurship at the beginning of 2010 (compared to the 270+ foreseen by INDE for 2009). Thus, the project lags far behind the initial quantified targets, and even much further from the 450+ schools in the country .

Some of the teacher and student materials are weak, contain errors and need to be rewritten. The business plans reviewed showed lack of realism and with a strong focus on the formal economy rather than the informal one (where they have the best chances).

The members of the Technical Working Groups (including that in INDE) have other professional responsibilities and pressures, their knowledge of the entrepreneurship component in the secondary curriculum is still limited and the TWGs do not contain any one with entrepreneurial experience or able to dedicate full-time attention to this important new subject. They do not have the capacity to assume responsibility for the monitoring system as currently formulated.

It is also concluded that the Project Document is weak, reflecting a poor understanding of the context in general (informal economy as the first step, not SMEs) and the education sector (e.g. the scale of secondary education and the teacher training system). Most of the proposed work plan has proved to be unviable. Contractual requirements covering Steering committee meetings and reporting time frames and content have not been met.

It is recommended that during the remainder of the project there should be a balance between quantitative expansion and a strong emphasis on consolidation, improving quality and learning. A new workplan should be prepared covering the period until the end of 2011 or 2012. It should be based on TA capacity to carry out its responsibilities in the different areas, the possibility of refresher courses for existing teachers covering the key areas where they need the most additional support, a realistic assessment of the Government funds available for the programme and new areas of work (e.g. tracer study, recommendations by studies, production of audio-visual material, examples of post-school employment possibilities). It is recommended that a joint team be established with INDE to produce a prospective outline plan containing alternative expansion strategies and time frames until full coverage, based on more realistic forecasts of school population/classes/teachers/materials requirements and the respective costs, UP output etc.

It is recommended that the current monitoring system be adapted to make it more focused on the information really needed, to take advantage of data produced annually by the MEC system, and to make it more accessible and viable for management by the provincial TWGs.

Given the fruitful experience of various countries it is suggested that UNIDO should undertake a comparative study of the various national experiences.

1 Introduction

The Review Team's (RT) work comprised an initial desk study of documents as well as preparations for the inclusion of a tracer study that turned out not to be possible for timing reasons. During 10 days of field work the review team worked in the capital and in the province of Nampula, and also visited schools in Gaza province and Maputo city. The team had lengthy meetings with the project staff and also met with the national Technical Working Group (TWG) in the project's counterpart institution, the National Institute for the Development of Education (INDE), the national UNIDO office, the Pedagogical University, members of the provincial TWGs, teachers, pupils, the private sector, local education authorities and also visited a number of entrepreneurial activities run by current and former students. The Terms of Reference for the review are attached as Annex 1. Context

Since the 1992 Mozambique has experienced steady, robust growth reflecting infrastructure investment programmes, strong recovery in key sectors such as agriculture, growth in tourism, substantial foreign investment (especially in a number of "megaprojects"¹) and strong support from international donors in the form of budget support and project assistance. However, megaprojects and the like do not make much of a contribution to increased employment. The Government's top policy priority is reducing poverty and between 1997 and 2003 the poverty headcount index fell by 15 percentage points, bringing almost three million people above the poverty line and out of extreme poverty (out of a total population of 20 million).

Another major priority is decentralization, involving both government functions and a strong district-based development focus. This has included the introduction of a District Development Fund, managed by local District Consultative Councils, intended in particular to promote food production and create employment.

There have been major gains in school enrolment at all levels, although quality is still a major challenge. Between 1998 and 2009 primary school enrolment rose from 1.8 to 4.2 million and in the first level of secondary school from 9,500 to 85,000. Along the way the government has introduced major educational reforms, intended in particular to shift from an academic content that presupposes further studies to a stronger emphasis on preparing students for their working life. Reforms include the introduction of new "professionalizing" area in the secondary education, comprising entrepreneurship, agriculture/livestock, information technology and psycho-pedagogy².

2 The Project - Entrepreneurship Development for Youth: 2007 -2010

According to the ProDoc the Immediate Objective is "to assist the Ministry of Education and Culture (MEC) in introducing the entrepreneurship curriculum programme (ECP) in all the secondary

¹ Including two large coal exploration projects, an aluminum smelter, the exploration and of natural gas and construction of an international gas pipeline and the Cahora Bassa hydro -electric dam.

² "...the preparation of the young person means developing competencies directed to towards personal fulfillment, successful integration into a society undergoing rapid change and for the new dynamics of the labour sector. See **Curriculum Plan of General Secondary Education**

schools.” According to the Administrative Agreement between UNIDO and the MFA Norway: as above but “.....in all secondary schools **and vocational schools nationwide**”.

The project comprises **technical assistance** team from UNIDO to help MEC implement the ECP with one international team leader, 5 national specialists and 3-4 secretaries/monitoring assistants based in three regional offices in Maputo, Beira and Nampula where the head office is also located.

The project benefitted from extensive preparation that included a study visit to learn from a similar experience in Uganda, the adaptation of its materials, and experimentation/testing in Cabo Delgado: establishment of a TWG and the introduction of the programme in 6 schools in 2005-06. Based on this experience the planned starting date for the project was January 2007. However, the ProDoc was only signed in June 2007. The same month an agreement was signed with Norway on funding for the project amounting to NOK 1.6 million (USD 2.327 million) for the four-year period 2007-2010.

According to the ProDoc the project assistance to MEC (in particular its National Institute for the Development of Education – INDE) comprises training secondary teachers according to the INDE phasing in plan (i.e. in-service training for existing teachers although not specified as such), training teaching staff in provincial teacher training institutions, preparing teaching and learning materials, establishing development, support, oversight and monitoring capacity in the form of Technical Working Groups in INDE and in the 11 Provincial Directorates of Education and Culture (DPECs).

The project strategy was to “create the self-sustaining national capacity that will be able to continue operating and evolving the ECP on their own” with project assistance. “Therefore, while the project personnel would take the major role in training the ECP instructors³ in 2007, the emphasis of the project activities will increasingly shift in 2008 to assist IMAP and UP in developing their capacity to train ECP instructors.” The year 2010 would focus on project exit, assisting in addressing weak spots, with a progressing approach that would enable the TWG and INDE to “identify and solve constraints that are normally experienced in the scaling up process” by the end of the project.

However, the project strategy and document are seriously flawed. The provincial CFPP⁴ and IMAP institutions identified train primary not secondary teachers, who are only trained in three and four-year university courses in the Pedagogical University. There are no solid figures on schools and classes⁵, that would have revealed the substantial scale of a) the in-service training challenge, for which only 4 person months were allocated, and b) the fact that the “scaling-up” from the 33 initial to all schools to “all” in 2009 was in fact a gigantic leap. And there appears to have been no common understanding of what was meant by “all” schools: all secondary, plus “some” or “all” technical secondary, or also middle level technical that have since been included. The expansion figure contemplated for 2009 was reportedly “270+”⁶ schools but that year there were 402 general secondary schools, 28 basic technical schools and 18 technical institutes i.e. the “all” for expansion could be around 450 schools (see Annex 3 which gives statistics from MINEC). Apparently the huge scale of the Project was not picked up by any appraisal or comments in the ProDoc.

³ = teachers. The terminology used is confusing as instructors usually = teacher trainers

⁴ Not mentioned above but included in the ProDoc

⁵ The basis for identifying the number of teachers to be trained

⁶ Project Progress Report October 2008 -September 2009

2.1 Project Structure and linkages

The Project Structure comprises the following:

- Steering Committee (Members: UNIDO operations coordinator, INDE and Norwegian embassy), that should have annual meetings convened by UNIDO and with reporting requirements established in the Trust Fund and Administrative Agreements.
- Project Offices with a head office in Nampula staffed by an international coordinator with a Mozambican pedagogical adviser, an administrative/monitoring assistant and more recently an economist and three regional offices in Maputo, Beira and Nampula each with a Mozambican regional coordinator and administrative/monitoring assistant. The Maputo office is located in INDE to strengthen cooperation with the project.
- Counterpart government institutions INDE, with a national Technical Working Group comprising INDE staff as well as representatives from MEC departments for teacher training and technical and general education. There are equivalent provincial Technical Working Groups based in the Pedagogical Departments of the DPECs. INDE has a leading role in policy and institutional coordination and in guiding and coordinating the scaling-up process. The provincial TWG is supposed to lead the same process in each province and monitor the programme. In schools one teacher – the subject delegate – heads the team of entrepreneurship teachers.
- Pedagogical University that has a campus in each province with about 18,000 students⁷. It produces secondary school teachers in three-year Bachelors and four-year Licentiate Courses. In addition to its specialist subject departments it has a School of Accounting and Management and a School of Economics and Finance, as well as a Curriculum Reform Centre.

⁷ Although not all graduates enter the teaching profession. Many just want to obtain a higher degree certificate and government budget constraints mean that not all those who want to teach can be employed.

2.2 Project Budget

The project budget is structured according to expense items as shown in the table below, and not activities like “in-service training, “preparation of teaching material”. Thus, when project accounting follows the same structure, it is not possible to compare targets for different activities with achievements, budget and actual expenditures as required by the agreements between Norway and UNIDO⁸. Moreover the accounting is carried out in Vienna, and the RT was referred to UNIDO Vienna for any clarification of financial information. This situation is further compounded by the fact that almost all payments will have to go via Vienna (is being revised now) which gives little financial authority to the local project manager.

As seen from the table the budget in the ProDoc is structured slightly different to that of the Agreement with Norway.

Project Document (USD)			UNIDO-MFA Norway Agreement (USD)		
Technical Assistance	677 000	32%	Project personnel	1 433 000	68%
Support Staff	242 000	12%			
Vehicles and Equipment	163 000	8%	Equipment	163 000	8%
National Consultants	514 000	25%			
In-service training/workshops	320 000	15%	Training	320 000	15%
Running costs	180 000	9%	Miscellaneous	180 000	9%
Total	2 096 000	100%	Total	2 096 000	100%
			Support cost reimbursement ⁹	230 615	10%

2.3 Project Activities and Achievements

Annex 2 contains a summary of the Logframe and project activities as contained in the ProDoc with the review team’s comments. Annex 3 contains statistical data relevant to the project and the ECP.

The entrepreneurship course is given once a week in a double period, around 70 hours a year. There are also 4 hours of practical activities per week: visits to banks and companies, lectures by local business people, group work, seeking out local business opportunities and the organisation of fairs where students engage in commercial activities. They must prepare a business plan (usually done in groups) that they have to defend at the end of the two-year course. Many students start putting their ideas into practice while still at school and many of those who were already engaged in out-of-school income generation have improved their activities. Each school must establish special “Notions of Entrepreneurship” office where teachers can meet and a “Post Box” for correspondence.

⁸ UNIDO was requested by the RT to prepare such accounts during the field work period, but no figures have yet arrived.

⁹ The support cost is a 10% mark-up kept by UNIDO HQ

2.4 Schools, Teachers and Pupils 2007 -2010¹⁰

The two-year NE course (x) is taught in the following types of schools and levels.

Years	1	2	3	4	5	6	7	8	9	10	11	12	13
Primary	Level 1 (EP1)					Level 2 EP2							
General Secondary 1 st cycle									X	X			
General Secondary 2 nd cycle											X	X	
Technical 1 st cycle									X	X			
Technical 2 nd cycle/Middle												X	X

Teachers Trained by the project

	05-06 (a)	2007	2008	2009	2010		Total beg 2011 (c)
		(b)			April (c)	July plan (d)	
Trained that year	(53)	197	142	258	167	550	
M		173	118	226	114		
F		24	24	32	53		
F%		12%	7%	2%	32%		
Total trained (cumulative)		197	339	597	764	1,314	1,314
F		24	48	80	133		
F%		4%	4%	3%	17%		
Total ECP teachers (e)	(53)	250	392	650	817	1,367	1,367

(a) Teachers trained in pilot project

(b) As the ProDoc and Financial Agreement were only signed in June 2007 the training of teachers that year was funded by the pilot project.

(c) Given the shortage of Government funds for teacher training in April 2010 the project organized 3 non - residential courses in Nampula, Beira and Maputo sufficient to cover an additional 15 schools.

(d) After the UNIDO programme coordinator met with the Minister of Education funds were found for another 3 regional boarding courses to train 550 additional teachers – sufficient for a further 110 schools. However, they will only start teaching in 2011.

(e) Including the 2005 -06 pilot trained teachers

Expansion of coverage: Schools and Classes

	2007		2008		2009		2010 (d)		2011
	Plan	Real	Plan	Real	Plan	Real	April Training	July training	
Schools	33	33 (a)	33	33 (a)	All(b)	33	15		110 (c)
Cumulative		33		33			48		158 (e)
Classes	126	126 (d)	164	119 (d)		225	412		
Cumulative				245		470	812	?	?

(a) It was decided to limit the start in 2007 to just 2 general secondary (GS) and 1 technical secondary (TS) in each of the 11 provinces. This continued in 2008. The 6 schools used as pilots are not included. Three new schools were selected in Cabo Delgado to be included in the project.

(b) Unclear what “All” means. According to the ProDoc in 2009 INDE planned to expand to all general and technical schools (with a figure of 270+ but in fact there were considerably more). As this was clearly not

¹⁰ Unless otherwise stated the figures exclude the 6 schools started in Cabo Delgado during the pilot phase as they cannot be attributed to the project. However their inclusion in the overall figure gives a truer picture of coverage.

- possible expansion in 2009 was limited to all grades 9, 10, 11 and 12 g in the 33 schools. The expansion of schools only occurred in 2010 after the April 2010 in-service teacher training course for 15 new schools.
- (c) School staffed by teachers trained in July 2010
 - (d) The launch in 2007 covered only 2 classes in the 1st year of each cycle (9, 11 and technical equivalent). To complete the two-year course this meant 4 classes in 2008 (grades 9+10 and 11+12 and the technical equivalent). In 2009 the ECP was expanded to cover **all classes** in these grades in the 33 schools. The number of classes dictated the number of teachers needed.
 - (e) If all the Cabo Delgado schools are included then in early 2011 the ECP will cover a total of a total of $159+6 = 165$ out of the country's roughly 450 general and technical secondary schools.

Students covered by the Entrepreneurship Curriculum Programme

	05-06	2007	2008	2009	2010 April	2010	2011
Each year	605+2600	11,300	13475	30,250	Maybe around		?
M			8,566	17,504	72,000		
F			4,909	12,751			
F%			36%	42%			

The Cabo Delgado pilot had only a one-year course so the first graduates were produced in 2005 and 2006. As INDE then decided that subsequent courses should take two years there have so far been graduates from the project-supported ECP in 2008 and 2009. These constitute the universe for the tracer study to be conducted before the project ends.

2.5 Technical Working Groups

All members of the national TWG and the 11 provincial TWGs have been trained in entrepreneurship teaching and monitoring practices. Although they do some monitoring it seems that the bulk of the work so far has been done by the TA team (that have transport facilities and no other responsibilities outside the ECP programme). Within the MEC's budgetary constraints the national TWG/INDE has fulfilled its responsibilities, including the preparation and funding of the teacher training courses, the publication and distribution of materials and the validation of the course evaluation system. However, the TWG members have no "entrepreneurial" background or experience and have other (and probably more pressing) responsibilities. The INDE national TWG members are specialists in music, bilingual education and teacher training. Members of the Nampula TWG are from the Secondary Education Department and the head of the Pedagogical Department.

2.6 Students and Teaching Materials

Annex 4 contains a list of the materials produced by the TA team and consultants together with INDE. They include curriculum materials, manuals for teachers and pupils, student evaluation systems and programme monitoring materials. INDE has started to take over responsibility for such work. It commissioned a consultant to revise the curriculum, reducing the six modules to four and is producing a new student textbook and a teacher's manual. This is a good demonstration of ownership leading to sustainability.

2.7 Student evaluation

The TA team has prepared an evaluation system, the key aspect of which is the student's business plan that is subject to a written and oral classification. The former awards marks for 12 different aspects¹¹ and the latter six characteristics during the oral defence of the plan¹². The plan has to be defended before a three-person panel comprising representatives from the school, the private sector and the school council. The final five classification categories range from excellent to insufficient. The result is included on the certificate containing all the subjects studied by the pupil during the respective school cycle. The project has prepared a methodological guide on the evaluation process.

The TA team has prepared a detailed report on the results of the 2009 evaluation process, covering 1,130 business plans in 28 of the 33 participating schools (See Annex 5 for a brief summary). It found that around a fifth of the students who took the course did not take part in the final business plan exam, mainly because it did not affect their final overall grade and students preferred to concentrate on subjects relevant to university entrance requirements. In some cases they were not sufficiently prepared as their teachers were only trained in the middle of the year. Three quarters presented group work, with an average 3.7 students per group¹³.

The most popular sector selected in the Business Plans was commerce (41% of plans), followed by agriculture (32%), and industry and services with 13.5% each. The concentration in commerce is explained by the following:

- the easiest activity with the most rapid turnover and gains
- this makes it most conducive to projects prepared by students with limited time for the project while still studying and limited/no resources
- industry or services need prior knowledge of the alternatives and additional skills

Of the students active in income generation activities around 50% produced savings and 50% obtained an income¹⁴. Around a quarter of the business plans needed credit for start-up purposes despite the project's realistic emphasis on the importance of savings for starting an activity rather than credit.

Annex 6 contains data on the attainment of students in the 2009 final exam.

2.8 Monitoring

The project has established an intensive monitoring system covering seven topics and involving various survey instruments and interventions during the year, as shown below:

Forms	Description	Reporting Period
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¹¹ Identification of opportunities, activity sector, product's characteristics, realization of initial capital, market research, supplier market, marketing plan, legal responsibilities, human resources, action plan, financial plan, motivation.

¹² Capacity for logical organization, teamwork, dealing with problems, correct expression, definition and explanation of concepts, development of a critical mind and real applicability of the project

¹³ In an Agricultural School the RT identified a group of 28 students who were raising chickens together.

¹⁴ It should be noted that such income generating activities in most cases could not form the basis for a living.

Form 1	Pupil Statistics per term	March – July - October
Form 1.1	Pupil's Form	March
Form 2	Fulfilment of thematic plan	April – July – October
Form 3	Pedagogical Performance	April – July – October
Form 4	Application of knowledge	May – August
Form 5	Register of students' entrepreneurship projects	September – October
Form __	Annual Programme of the Notions Entrepreneurship Office	February
Form __	Parental Satisfaction	June – August

The forms are distributed and collected either directly by the project team or by members of the PTWG. The information is processed by the project administrative assistants in the regional and head offices. As some of the forms have to be completed 2-3 times there are at least 15 forms per school (the Pupil's Form clearly one per pupil). Excluding the latter, there are at least or 14 x 33 schools = 462 forms a year to be processed!

2.9 Studies

Both prior to and during the project there have been a number of studies that are listed in Annex 5, with summaries of their content. 3.9 Pedagogical University

Following an agreement with INDE the UP is assuming responsibility for two types of training:

- Inclusion of entrepreneurship as a crosscutting subject for **all** students, 48 hours in one semester in year 2 of the **four-year Licentiate course**. It is intended that this course should eventually replace the current in-service training of existing teachers currently done by the TA project.
- In its recently introduced **fast-track one-year teacher training course** for grade 12 graduates (known as 12+1), there is 10 hours of entrepreneurship training, part of a collection of short inputs that also include gender, aesthetics, environment, etc;

The project funded a Brazilian consultant who trained 597 UP teaching staff in 7 of its 11 provincial campuses. He also prepared the curricula for the two above-mentioned courses.

3 Findings

3.1 On the current status of the project

As of June 2010 some **75%** of the planned project period has elapsed, with conclusion according to the ProDoc at the end of 2010 but with an extension granted to the end of 2011. Some **75%** (USD 1.5 million) of the budget has been spent, with USD 600,000 remaining. The TR understands there is the possibility of a request for a further extension until the end of 2012 that is being discussed internally although no formal proposal has been submitted. Apparently it is hoped to still address coverage in addition to other activities to be undertaken by the end of the project e.g. tracer study, adaptation and full handover of the monitoring system (see section 5 on Recommendations)

3.2 On project preparation (pilot phase)

There is no doubt that the effort that went into preparation and the trial period with schools in Cabo Delgado was well worth the effort. It enabled the TA team (and INDE) to hit the ground running with a tried and tested programme as soon as the project started, avoiding many of the teething problems that often undermine project timetables and achievements. The pilot phase even allowed teacher training to start as planned in 2007 when the project started six months later than planned. The ProDoc is based on INDE's phasing plan which grossly underestimates the task at hand. Apparently the scope and magnitude of the work planned by INDE is accepted by UNIDO in the ProDoc, without any comments or critical appraisal of the magnitude of the project. This situation is further compounded by the fact that no real assessment could have been made during preparation regarding the number of ECP teachers that could be trained at the UP (and it also assumed training at what are in fact primary teacher training colleges).

3.3 On relevance of the project, adequacy of design, project-government collaboration

The project fits well with the country's current needs and the Government's priorities of fighting poverty, promoting employment and its district development focus. Entrepreneurship training is a key element in the country's ongoing education reform process. The project was conceived as a technical assistance-advisory service for government, with no executing function that might end up replacing the MEC and it has been executed as such. There is a clear division of responsibilities complemented by close collaboration at both the central and provincial levels. There has been a flexible response to unexpected challenges e.g. government difficulty in funding in-service training. A stop-gap solution of cheaper non-residential courses was adopted. When UP decided it would prefer to training teaching staff in all its 11 campuses not just the anticipated 3 this was organised (at least for 7 so far).

3.4 On sustainability and the TWGs

Although the above and the fact that entrepreneurship is now embedded in the curriculum have established solid foundations for sustainability, the brief training course for the TWGs provided by the project was only the beginning. A number of issues still need to be addressed:

- The most important is the need to equip INDE and the TWG with staff capacity - in both quantitative and qualitative terms - with personnel equipped for this important new subject. The preparation of new materials and the necessary qualitative revision of existing materials (for a n extremely young subject in Mozambique) will require ideally enhanced in-house capacity and/or substantial funds for consultancy assistance. But even in the latter case in-house quality assurance capacity will have to be established.
- Similar human and material capacity building for the DPECs
- The teachers need constant support in school and in the form of refresher courses.
- Solutions need to be found for the maintenance of the all-important and currently labour-intensive monitoring system – ensuring that only the most necessary data are collected and analysed.
- The teaching-learning materials need to be revised to correct errors and make them more directly relevant to entrepreneurship that starts small in the informal economy.

Although the “entrepreneurship” subject has been established there is a need for a more realistic assessment of teacher training requirements, the solutions to be adopted (e.g. expansion of in-service training versus reliance on UP graduates), the cost and thus the realistic time frame for expansion of coverage.

3.5 On effectiveness and efficiency

The RT feels that the project has an efficient and effective project organization – the small TA team is doing a lot with a considerable multiplier effect. The location of head office Nampula permits more efficient communication with regional offices and the project coordinator is not diverted to other non-project UNIDO tasks¹⁵. The TR would like to stress that it feels that in just three years much has been achieved in introducing a totally new subject into the Mozambican secondary curriculum and producing students with a totally new perspective on their future, post-school options. Nevertheless, as with all ground breaking endeavours there is still some way to go to achieving a truly effective system.

The results of the various evaluations are encouraging (See Annex 5) although those making the assessments are still not very demanding.

The reduction in the teacher training course from three weeks to one has affected their command of the subject and this was repeatedly mentioned in meetings, particularly with regard to the business plan. It was evident in the quality of those studied by the RT – even those classified as “good” were weak and contained errors. There was also an excessive emphasis on formal (limited liability) companies when their immediate prospect will most probably be to make a living in the informal economy. In short, it is clear that the teachers still have a superficial understanding of how to do business, which is inevitable considering their chosen profession (“more academic than entrepreneurial”) and the minimum training they have received.

Nevertheless, they are making a big effort to handle this completely new and unique subject, one that is not only substantially different from their specialist subjects but also makes extra demands on their time (organizing visits, fairs etc.). While it was clear that the schools visited were able to teach the required two hours per week of classroom lessons the four hours of practical work were less assured. It is, however, reported that the more active, participatory techniques practiced in entrepreneurship lessons have affected students’ responsiveness in other classes.

Some of the teacher and student materials studied by the team are weak. In particular, the document on teaching methods (Programa de Transformação Curricular do Ensino Secundário e Ensino Técnico Profissional) is very general and provides little guidance in terms of entrepreneurship training. Some documents contain errors, for instance the Manual on Savings, Investments and Insurance contains errors in its calculation of interest earnings, the savings example forgets to account for inflation and the definition of an investment project is incorrect. Some topics are of questionable relevance for school leavers (e.g. description of a stock exchange which in addition has a weird presentation). Towards the end of the mission the review team became aware of the INDE revision of the curriculum and production of new modules currently in the final draft stage. However, it was not possible to study this material.

¹⁵ It has, however, also been argued that a location in Maputo could have improved communication with INDE.

Effectiveness in achieving the project's objectives is discussed in the section on the Project Document.

It was not possible to assess the financial efficiency of the project because a) key costs involving outputs were shared with the government and b) it has been difficult to obtain the necessary financial information from UNIDO. However, a rough estimate of operational/TA running costs for 2009 (excluding government costs and the initial investments in vehicles etc. which should be distributed over the whole four-year period) gives about USD 25 TA cost per school student, which is quite reasonable given the introductory scope of the activity.

3.6 On stakeholders

Based on the meetings with teachers and students, it is clear that this new subject is very popular. They like it and the type of training (more active, interesting participatory than other lessons). Students who do not yet benefit are pressuring to be included. Some of the students met have started new initiatives, found new interests and abilities of which they were unaware, with some able to ensure payment of their school fees in this manner and thus avoid dropout. Within the RT's limited exposure it seems that at least some of those who were already operating in the informal economy are now doing so more dynamically and efficiently.

One of the unplanned ECP outputs even at this early stage is a new understanding of the "entrepreneurial" world and a shift in their thinking about their future. They now recognize that a diploma will not automatically guarantee or entitle them to paid employment and that they can have a prosperous future in self-employment. But they must seek out these opportunities and develop them.

The programme is overwhelmingly popular with parents, some of whom are already applying their children's new knowledge in their own small entrepreneurial activities. Some teachers have also seen the potential benefits for their productive activities outside the classroom. The review team met with a few graduates who had established their own informal business activity and they showed confidence, maturity and entrepreneurship skills. As regards government officials a District Administrator expressed his appreciation of the course and specifically mentioned its potential for improving the effectiveness of the District Development Fund. Project reports also contain a variety of statements by Governors and other senior officials expressing their appreciation for the course.

3.7 On entrepreneurial activities ¹⁶

The RT met a few young entrepreneurs (some still studying) who demonstrated confidence, maturity and entrepreneurship skills in producing and selling goods: making and selling bread, *aguardente*, a photocopying service and interprovincial trade in clothing. Various other encouraging initiatives are mentioned in project reports. However, one difficulty expressed by a number of students, especially in general secondary schools, was the lack of information on innovative possibilities of which they are

¹⁶ A statement in the 2008 Progress Report (p. 10) could be misleading about the number of students who actually start viable businesses. Only a few have done so to date. The figure of "85% projects implemented" does not mean businesses that could earn a living but rather the small economic activities demonstrated in the school fairs. Similarly, the subsequent statement, that 92% of projects presented achieved an average pass grade refers to the "formal pass", not necessarily that the business plans could be the basis for a real life venture.

unaware. A concern along similar lines was expressed by teachers who said they felt the need for varied and alternative practical examples to present to their students.

This raises the question of the transition from an output of secondary graduates with entrepreneurial skills to their starting up entrepreneurial ventures. The reasoning underlying the project seems to be that this will happen automatically, but it will not. Many interested graduates will need to acquire some rudimentary production or service skills if they are to move beyond just buying and selling and probably some nurturing in their early entrepreneurial life. However, this cannot be a concern of the project.

3.8 On Monitoring

For many years to come the “entrepreneurship” subject will require special monitoring and support given its very “experimental” nature where there is no pre-existing expertise in MEC, the school’s programme and the teaching profession. This need is even greater given the fact that entrepreneurship training, understanding and attitude are relatively rare in Mozambique, and the introduction of such new methods/thinking and change of mentality will take time.

Monitoring is vital for the ongoing project analysis and identification of difficulties and improvements but the current system appears to be somewhat cumbersome and probably could not be applied on a larger scale. It does not make use of key planning data (statistics) readily available in the MEC planning department and in the DPECs. Once the programme expands from the current 33 to over 400 schools it will be impossible to handle the volume of forms involved in the current system, much less analyze the data. There should be a clear focus on “need to know” not “nice to know” and :

- to distinguish between the information needed to improve the “project” and that needed for monitoring/learning by INDE/DPEC;
- to see what relevant information can be gathered through the regular annual MEC statistical surveys;
- to study the respective roles of INDE as a pedagogical/curriculum development organization and the MEC Planning Department responsible for various kinds of physical/quantitative planning activities and statistical surveys (see below).
- to see how to institutionalise and standardise non-paper monitoring e.g. provincial meetings of subject delegates on teachers’ weakest areas.

The TWGs are still not equipped for this (lack of personnel, funds, skill sets, time).

3.9 Pedagogical University

The 12+1 entrepreneurship 10-hour course content is merely a “general culture” component. In no way does it prepare these students to teach entrepreneurship. This is relevant to future plans if, as the RT heard several times, budget constraints may encourage local education authorities to give priority to 12+ 1 candidates rather than their better qualified but more expensive colleagues.

There is the danger that if entrepreneurship is taught in the 2nd year of a 4- year course graduates might forget what they have learned by the time they start teaching. Of more immediate concern, however,

is that if the first group of 597 UP teacher trainers start teaching year 2 students in 2010 they will only be available to schools in 2013. This suggests that in-service teacher training will be required for considerably longer than currently anticipated.

3.10 On the importance of planning (See Annex 3 for data)

The various changes in expansion plans were presented in the following table in September 2009:¹⁷

	2007	2008	2009	2010	2011	2012
ProDoc	33	33	270+	270+		
Updated Plan 2008	33	33	39	39	270+	
Updated Plan 2009	33	33	33	140*	250*	311+*

* The total number of schools will be updated by INDE, MEC in November 2009

Quote: “As the total number of schools increased from 270 (2007) to 311 (2009) it is expected that the estimated number of new ECP teachers will be 2,050 (2012).”

The RT obtained from MINEC Statistical Department the current number of schools, classes and students as shown in Annex 3.

By 2009 there were almost 450 eligible schools. Moreover, the project’s focus on schools missed the crucial figure of classes as the basis for teacher requirements. Between 2007 and 2009 the number of pupils in public secondary general and technical schools rose by over a third from 390,000 to 530,000¹⁸. In 2009 in the relevant ECP grades in ESG alone (9,10,11,12) there were **5,058 classes** in public secondary schools. In addition there were 375 classes in technical schools making a total of **5,433 classes** plus an unknown number of classes in private schools. .

Based on the calculations carried out in the ProDoc (page 5) there is a need for 1.3 to 1.5 teacher per class, which gives a total of **6,300 to over 7,500 teachers to be trained**, excluding private schools. As of today the project has trained only 817 ECP teachers.

As compared to the 2 000 ECP teachers expected for 2009 the scope has been and is of a completely different magnitude. There is consequently a need to reassess the whole project and phasing, including its implications for the TA project as well as the government budget for training. As already stated, a shortage of government funds for even a modest scale of training has been a constraint on reaching the initial training targets.

This leads to a number of conclusions:

- Providing teachers for full ECP coverage of all schools will take much longer than anticipated – and with every year that passes the number of schools and pupils will rise;
- The UP programme will not be able to meet requirements in the short term (and probably even in the medium-term)¹⁹.
- Consequently, the in-service teacher training programme will have to run for much longer than anticipated;

¹⁷ Project Progress Report October 2008 -September 2009

¹⁸ Including private schools they rose from 445,000 to almost half a million (594,000).

¹⁹ Its contribution could also be affected if budget constraints encourage local authorities to recruit 12+1 teachers with no effective entrepreneurship training rather than their better qualified but more expensive colleagues.

- d) A planning exercise is needed to identify the challenges and underpin some costing exercises and suggestions as to alternative time frames and/or priorities, as the basis for deciding what the project should and can try to achieve before it ends. The exercise could probably also help INDE to plan a more realistic post-project future expansion rate²⁰.

3.11 On Gender, Equity and AIDS

According to the ProDoc the project supports increasing women's participation in economic life, especially private sector development. The project should work to increase the number of female teachers. However, when people were asked about the criteria for selecting candidates, gender was never mentioned. (The two very different criteria mentioned were teachers with the lightest teaching load and the most experienced/respected teachers.)

Although the proportion of women attending the in-service courses to date has been relatively small – 17% - the situation is improving. Women accounted for one third of the non-residential April 2010 course, tending to confirm the TA's opinion that residential regional courses make participation by women more difficult. However, it should also be noted that the April courses covered urban schools that tend to have more female teachers. Nevertheless, the fundamental reason is beyond the project's control. There are relatively few female teachers at the secondary level – at both ESG levels in 2009 they comprised only 18% of teaching staff and only 15% in technical schools.

One area where the project could have an influence is the attainment of girls in the ECP. Project data on the evaluation of the business plan show that girls consistently perform less well than boys – particularly so in Cabo Delgado. Annex 6 shows that in four Northern provinces girls consistently perform less well than boys and in Cabo Delgado in particular their performance is half that of boys.

The project also cannot address the balanced coverage aspect of equity as it is INDE/MEC that decides how many and which schools should participate. It was decided that the project should start with an equal number of schools in each province (three). This approach continued with the selection of five schools in each of the three towns for the April course. The planned July course will again cover an equal number of schools in each province.

However, Annex 3 shows that 50% of all secondary education pupils are located in just four provinces: Nampula, Zambézia, Maputo city and Inhambane. As regards gender and geography, urban schools have more girls - Maputo city has 14% of all ESG students but 17% of all female students.²¹

As regards the urban-rural divide a project survey of the 2008 evaluation found that opportunity identification was more dynamic in rural areas and initiatives were more likely to involve student's families who would provide some financial support. Activities often involved a combination of production and commerce, or farming generated start-up income for another activity with more job creation possibilities and supply capacity that responds to demand. In urban areas, however, the identification of opportunities is slower and activities are more repetitive. Students also need more time to work on their plans.

²⁰ And possibly take into account the training (and thus manpower/budgetary requirements) of the 3 other new "professionalizing subjects".

²¹ Conversely, in Zambézia has 13% of the total ESG students population but only 10% of female students.

HIV/AIDS was introduced into the programme in 2009.

3.12 On the Project Document and the TA work programme

A project document is the basic working tool for a project. It establishes the (desired) longer-term development objective, the more immediate, shorter term objective that can be strongly influenced by the project, and the outputs and activities that can be controlled by the project. It tells the project team what they should do, constitutes the basis for their work plans and for evaluating their work.

In the case of the current project these features are a little blurred since, as a TA project providing supporting services that involve complementary engagement with the government, many activities and outputs are not within the project's control. This requires particular care in the presentation of the Logframe on which the project is based but the RT finds that the Logframe is very weak, reflecting a poor understanding of the context in general (informal economy as the first step, not SMEs) and the education sector (e.g. the scale of the secondary education and the teacher training system. Annex 2 contains its comments in this respect. Most of the proposed work plan has proved to be unviable.

3.13 On Financial Procedures

Correct project financial management is severely hampered by the unfortunate, highly centralized requirements of the UNIDO system that do not allow for any kind of field responsibility.

The UNIDO financial management system is cumbersome and does not promote the effective management of resources by the UNIDO local management. Requests for even small expenditure items have to be sent to Vienna for approval and disbursement. The project accounts are also done in Vienna and apparently not properly explained, undermining in-country financial management capacity.

Financial reports do not meet the requirements of Agreements and it is not possible to compare budget with actual for each year or at all. A revised budget and expenditure set-up to meet the requirements of the agreements with Norway has been requested from Vienna, but so far no response.

3.14 On the Steering Committee and Reporting

Reporting is weak and does not comply with the requirements of the Programme Document in either content or timing (annual in-depth progress report and mid-year progress report) and the Administrative Agreement: six-monthly progress reports (covering actual compared to planned outputs, achievements, work plans and time schedules, budgets, use of inputs, problems)²² and semi-annual financial statements (interest income, expenditure, assets and liabilities). The project has produced three narrative reports covering the periods: June 2007-August 2008 (14 months), October 2008-September 2009 (11 months) and September 2009-April 2010 (7 months). The content was informative but did not observe the established requirements.

²² The difference between the ProDoc and Agreement requirements impose an unnecessary narrative reporting burden

Although the agreement stipulates that UNIDO should convene a Steering Committee meeting every 12 months (i.e. June 2008, 2009 and 2010) there has only been one, in October 2008. A second one is planned for the end of June 2010.

More organized and timely reporting coupled with the required Steering Committee meetings would have permitted fruitful discussion producing guidance on the various constraints encountered during implementation and alternative solutions.

4. Conclusions

It is concluded that after only three years following the introduction of an important innovation in the secondary school curriculum the major effort by the small TA team has established the foundations for the introduction of entrepreneurship into the secondary school curriculum and for teacher training in in-service and formal university teacher training modalities. The RT finds this to be an important contribution to the education, thinking and attitude in Mozambique that should be continued.

Albeit with the shortcomings inevitable in the early days of such an innovative programme, the country's first ever teaching and learning materials have been produced and are being revised based on experience. Technical Working Groups have been established and trained. Teachers who have been trained under minimal conditions are producing pupils who are seeking out entrepreneurial opportunities and getting to know the business community in their areas, organising fairs and preparing simple business plans. New forms of interactive evaluation are taking place in schools. The RT met with a few young entrepreneurs who showed confidence and mature business abilities.

To reinforce the training process the teaching material needs to be revised, refresher courses need to be carried out and a more realistic approach to business planning needs to be installed. The business plans reviewed by the team showed little realism and focused on the formal enterprise market, not the informal sector where the graduates would have the best chances.

The teachers and students interviewed are overwhelmingly in favour of this kind of training and wanted to continue to learn. The programme is already having an impact on the thinking of secondary pupils – from passivity and reliance on a diploma to acknowledgement that they have to assume responsibility for their future well-being. However, the “success” stories show that personality traits are also important – initiative, courage, determination.

The total national coverage anticipated by the INDE expansion schedule, accepted as the basis in the ProDoc, will not be achieved, and never could have been. It is alarming to observe that no realistic estimate of the number of classes and hence teachers to train have been made based on available statistics in MINEC – neither prior to or during the Project implementation. Moreover, the RT did not manage to get any reliable data base for such calculations until after the field work. The RT also requested during field work to get a reliable calculation of the Project's annual capacity for in-service training, taking into account all other tasks included in the TA Project. This has so far not been received.

The over-ambitious training target, and INDE's decision, should have been at least been commented on in the ProDoc and its appraisal process, that also reveal a weak understanding of the reality of Mozambique in general and the education sector in particular. However, if pursued with the project's vigour the process it has helped to launch is destined to make a substantial contribution to establishing entrepreneurial education in Mozambican schools and through this eventually have a significant impact on entrepreneurial activity in Mozambique. However, within the time frame of the Immediate Objective this will be predominantly within the informal sector, not the formal small and medium enterprise sector.

5. Recommendations

It is strongly recommended that during the remainder of the project there should be a balance between quantitative expansion and a strong emphasis on consolidation, improving quality and learning. The RT understands that the TA team wants to try and complete in-service training for all the remaining schools (although possibly not aware of how many teachers this would have cover). This should be balanced against learning and improving what already exists, including refresher courses/additional assistance for existing teachers and teaching materials. The possibility of provincial versus regional courses should balance the gender advantages against the quality advantages.

Given that the ProDoc and workplan are no longer relevant a new, brief and realistic workplan should be prepared for the remaining life of the project, including an extension to 2012 within the existing budget frame. It should include:

- A realistic assessment of TA capacity to carry out additional in-service training in addition to its other project responsibilities (e.g. monitoring/follow-up, revision of teaching material, supporting schools, working with TWG, evaluation activities, tracer study etc.)
- the possibility of refresher courses for existing teachers covering the key areas where they need the most additional support (in order to have schools that come closer to the ideal and thus provide a better picture of what might be achieved by student graduates, with teachers providing more solid input on the kind of support they need);
- A realistic assessment of the funds available from government for
 - in-service teacher training courses,
 - publication and distribution of Teachers' Manuals and other course and school teaching materials
 - Modules and teaching material for students (in particular the new draft Modules if available/to be used in 2011)
 - refresher courses

Financial considerations should take into account the deadlines for the submission of MINED budget proposal (that for 2011 is probably already tight).

- New areas of work:
 - Assessment of the project's impact on secondary school graduates' engagement in entrepreneurial activity through a tracer study of a random sample of secondary graduates with and without the entrepreneurship course (see Annex 7). The study

should focus primarily on Cabo Delgado (longer time frame), but also with some samples of 2008 and 2009 rural and urban graduates;

- Relevant recommendations of the ICT and distance education studies;
- Production of audio-visual material to address weak teaching areas e.g. preparation of the business plan (a suggestion by teachers);
- Compilation and production of a reference list of possible post-secondary entrepreneurial activities. This could start with a publication containing case studies of successful student entrepreneurial activities.

The revised work plan covering 2011 and 2012 should contain a budget with a request to Norway for disbursement within the agreed budget frame of USD 2 096 500. This budget should be specified by activity item (e.g. in-service training, tracer study, refresher courses etc. not by budget components (equipment, personnel etc.). The revised project document should be subject to a brief appraisal.

If the revised plan is considered to be realistic and it meets the requirements of the agreements with Norway, the budget should be extended to the end of 2012 ;

It is recommended that a joint team be established with INDE to produce a prospective outline plan containing alternative expansion strategies and time frames until full coverage, based on more realistic forecasts of school population/classes/teachers/materials requirements and the respective costs, UP output etc. It could contemplate, for example, more equitable options such as geographical concentration on Nampula and Zambézia provinces, which would also permit improved monitoring and support activities. It could also indicate the kind of support capacity required of the TWGs and the capacity building they require.

Current monitoring activities should be studied in conjunction with the DPECs/PTWGs, with input from the MEC planning/statistics personnel and the current system adapted so that:

- Reflects clear and feasible objectives for the monitoring system;
- Covers predominantly “monitoring for lessons learned” contributions that can be transmitted to INDE, coverage and attainment;
- Makes full use of existing MINEC statistical data collection system e.g. number of schools, pupils, teachers and graduates at the relevant levels;
- By the end of the project it is a system that is within the execution and analytical capacity of the provincial TWGs.

The suggested new workplan should be approved by the Steering Committee and the requirement of annual meetings should be observed. All future narrative and financial reporting must respect the requirements stipulated in the agreements with Norad.

The new workplan should be budgeted by activity and financial reporting on expenditures should be made accordingly

Given the fruitful experience of various countries it is suggested that UNIDO should undertake a comparative study of the various national experiences.

Abbreviations

CFPP	Primary Teacher Training Centre
DPEC	Provincial Directorate for Education and Culture
ECP	Entrepreneurship Curriculum Programme
ESG 1	General Secondary Education Level 1
ESG2	General secondary Education Level 2
IMAP	Middle Institute for Primary Teacher Training
INDE	National Institute for the Development of Education
MINEC/MEC	Ministry of Education and Culture
MFA	Ministry of Foreign Affairs
RT	Review Team
SME	Small and Medium Enterprise
TA	Technical Assistance
TWG	Technical Working Group
UP	Pedagogical University
USD	United States Dollar
TOR	Terms of Reference
UNIDO	United Nations Industrial Development Organisation