INDEPENDENT EVALUATION REPORT FOR UNDP MINE ACTION CAPACITY DEVELOPMENT OF INAD 2007 - 2009

ANGOLA

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Acronym Glossary:

CNIDAH	Commission for National Intersectoral De-mining and Humanitarian Assistance
UNDP	United Nations Development Programme
NEX	National Execution
QA/QC	Quality Assurance and Quality Control
SOP	Standard Operation Procedures
CED	Executive Commission for De-mining
INAD	National Institution for De-mining
FAA	Angolan Armed Forces
UNMAS	United Nations Mine Action Services
IMSMA	Information Management System for Mine Action
LIS	Landmine Impact Survey
IMAS	International Mine Action Standards
NMAS	National Mine Action Standards
CTA	Chief Technical Advisor
IT	Information Technology
FTA	Field Technical Advisor
MINARS	Ministry of Assistance and Social Affairs
UNDSS	United Nations Department of Safety and Security
VA	Victim Assistance
MRE	Mine Risk Education
MAC	Mine Action Centre
POR	Provincial Operational Rooms
ERW	Explosive Remnants of War
EOD	Explosive Ordinance Disposal
AOR	Area of Responsibility
TIA	Task Impact Assessment
INAROEE	National Institute for the Removal of Obstacles and Explosive Ordnance
UNOPS	United Nations Operational Services

Capacity Development of the National Institute of De-mining (INAD)

Introduction

Executive Summary

Between the dates of 13th August 2009 and the 28th September 2009 a comprehensive evaluation of the UNDP Mine Action (MA) project for the Capacity Development of the National Institute of De-mining (INAD) was conducted by an independent evaluator, the purpose of the evaluation was to assess the overall activities of the UNDP MA Project team, the impact that those activities had, and the resulting sustainability of the Project's endeavours.

The Project undertook its obligations of Capacity Development of INAD in January 2007 for a three-year period, ending December 2009; therefore this evaluation is the culmination of its achievements for that three-year period. It is apposite at this point to note that that recruitment and placement of appropriate staff for the Project did not take place until November 2007. This therefore reduced the three-year time frame to just over two years, leaving a large obligation to be fulfilled in a very short period.

Furthermore, an assessment conducted pre-2007 to establish INAD needs and create a strategic plan for the UNDP MA Capacity Development Project from 2007 to 2009, failed to recognise that INAD, as a government institution, was bound by Government policy and structure, allowing no room for the Project to restructure the somewhat cumbersome and autocratic managerial mechanisms in place.

Secondly, the proposed renovation for the Vianna School of De-mining was considered by the incumbent Chief Technical Advisor to be larger than the capacity of the Project.

Overall evaluation: The relationships built up between the UNDP MA Project staff and INAD from the Director and his Headquarters team to the Provincial Brigade Commanders and field operations staff are credible and sustainable.

- The Project team have committed themselves to this relationship, building and creating a trust and understanding.
- The Project team have conducted comprehensive training courses and systems on an operational level that have greatly enhanced the INAD activities.
- The Project team have, through mentoring and relationship building, managed to influence some decision making at head quarter level, enhancing its management role of the national de-mining institute.
- The Project brought to the table a technical global experience in the field of MA. This valued asset was evident in improved and effective coordination, an efficient local application of global knowledge, and innovative solutions to complex challenges. A commitment to promoting national ownership of the Mine Action process was also apparent.

The overall impression of the evaluation was that INAD was happy with the contributions made by the Project. The provincial commanders were motivated by the inputs and although there are still many aspects of the operational outputs that need capacity development, the accomplishments made in the time frame given have been impressive.

Below are the evaluation recommendations to be considered during the next phase of strategic planning for 2010 and 2011.

Evaluation Recommendations:

In order to look to the Project's future role in INAD assistance and capacity development, it is necessary to scrutinise the current and past areas of weakness in structure, planning and operational aptitude. Listed below are recommendations for the Project team to focus on:

Increase management and technical capacity of INAD at headquarters level.

- Continued and increased relationship-building between UNDP Project team and INAD HQ.
- The UNDP Project team should continue to guide, through suggestion and confidence-building rather than interference. INAD HQ should try and become further de-centralised in their operational structural make up.
- The Project should continue to emphasise the need for an external QA/QC unit.
- INAD HQ should consider the recruitment of a trained, skilled and dedicated transport manager.
- INAD HQ should request a budget for further recruitment of manual de-miners to replace those being recruited to the mechanical de-mining division.
- INAD HQ should consider replacing any staff deemed unable to effectively manage their department (Operations).
- INAD HQ should establish, as a priority, more systems to improve the mobility of mechanical assets and mechanical training facilities.
- INAD needs to create and sustain an effective and reliable spare parts procurement system.

Develop a dynamic and well supported Technical De-mining School (ETD) that has a renovated premises, enhanced management systems and an updated curriculum, based on international and national mine action standards.

- The establishment of an external QA/QC team is essential to maintain standards within the IMAS.
- The UNDP Project team should reinforce their system for ongoing post training support, M&E and QA routines.
- The continuation of retraining and ongoing evaluation of needs is essential to sustainability of INAD.
- There should be more ongoing M&E of SOPs within the field.

Capacity develop and enhance seven of fifteen INAD de-mining Brigades to a level where they are trained, equipped and responding to development needs in Angola in a safe and effective manner.

- Once the UNDP Project is satisfied that a provincial Brigade is working to a good level of competence, the team should focus its attention on weaker Brigades that have been identified through the ongoing M&E.
- The UNDP Project should highlight the need to establish efficient systems to ensure mobility and sustainability of all mechanical assets and human resources to tasks in an efficient manner.

- Brigade Commanders should become more proactive in field operational decision-making.
- The criteria for report writing and data collation and distribution needs to be defined and standardised so that data can be documented and updated regularly by the co-ordinating body.
- Regular QA and QC on Brigade operations should be established with a system in place to ensure that there are 'lessons learned sessions' after each M&E.

Further evaluation recommendations:

- Establish better communications and closer co-operation between the CINIDAH, INAD, UNDP and INGO Mine action. EG: With effective and efficient coordination some of the INAD substantial mechanical assets could be utilised effectively to enhance the capacity and performance of the INGO humanitarian de-mining, enabling humanitarian, infrastructural and commercial development to take place at a parallel pace.

Project Scope

The Capacity Development of the National Institute for De-mining (INAD) Project fell within the "Angola's Poverty Reduction Strategy" Paper, which states and emphasises the following:

"*The need to guarantee basic physical security through de-mining, disarmament and the upholding of law and order throughout the country*." This subject is further emphasised in the "UNDAF for Angola" paper (2005 – 2008) where it states that *"There needs to be support for the national plan for disarmament and Mine Action (MA) to secure a physically safer environment for development."*

Evaluation Scope

The evaluation has focused its assessment on how the Project approached and implemented its plan to capacity develop INAD in order to respond to government priorities to make land safe for further infrastructural development and humanitarian needs. The evaluation has examined the Project document's three main outputs:

- *Increase management and technical capacity of INAD at headquarters level.*
- *Develop a dynamic and well supported Technical De-mining School (ETD) that has renovated premises, enhanced management systems and an updated curriculum based on international and national mine action standards.*
- *Capacity develop and enhance seven of the fifteen INAD de-mining Brigades to a level where they are trained, equipped and responding to development needs in Angola in a safe and effective manner.*

The evaluation has determined the Project's success based on the following criteria:

1. <u>*Relevance/appropriateness*</u>

Has the Project achieved the necessary confidence within the INAD management, so that advice and recommendations of the Project staff were successful? Were the outputs consistent with the objectives of preparing land for infrastructural objectives? Have infrastructural Projects been held up due to lack of support from INAD?

2. *Efficiency*

Did the Project team work in an efficient manner? Was the Project course curriculum relevant and pertinent to the gaps and needs of INAD? Were there weaknesses?

3. *Effectiveness*

To what extent were the Project objectives achieved? What factors contributed to achievements? Did INAD improve in a marked manner?

4. *Impact*

What happened as a result of teaching INAD staff? What were the positive and negative changes produced, directly or indirectly, intended or unintended?

Methodology of Assessment:

In order to carry out the evaluation the following methodology has been used;

- All documents pertaining to the Project have been read, including: The Project Document, progress reports, Landmine Impact Survey reports (LIS), Poverty Reduction strategy Paper, UNDAF for Angola paper.
- Internet Research where applicable.
- Interviews were held and there was close interaction with the Project Chief technical Advisor (CTA) UNDP and the programme specialist.
- Field trips were taken to selected provinces within the Areas of Responsibility (AoR) of INAD to meet with the provincial directors and Brigade commanders and to witness the operations in progress.
- In the field, interviews were held with the Project's International and National Field Technical advisors (FTA).
- Interviews were held with the 'MineWolf' mechanical representative.
- Visits and interviews were undertaken with INGO staff.
- Meetings were held with the Information Technology (IT) departments of INAD and Commission for National Intersectoral De-mining and Humanitarian Assistance (CNIDAH) to gather required data in order to evaluate IT and data base skills.

The Project Objectives and Aims

Stated Project objective as per 'Project Document 2006':

The stated aim and objective of the Project was "*to assist INAD to enhance its role as the national de-mining operator. The specific outcome of the Project will be consolidated access and security for development efforts in Angola through developing the capacity of INAD*." The Project's three main outputs and activities were:

1. *Increase management and technical capacity of INAD at headquarters level.*

   1.1 Development of two effective departments that are responsible for finance, human resources, logistics and transport management.
   1.2 Implementation of training, coaching and mentoring plan at INAD Head Quarters (HQ).
   1.3 Review of operational planning, monitoring and evaluation systems to ensure they are functioning in an effective and decentralised manner.
   1.4 Enhancement of resource mobilisation capacity.

2. *Develop a dynamic and well supported Technical De-mining School (ETD) that has a renovated premises, enhanced management systems and an updated curriculum based on international and national mine action standards*.

    2.1 Enhancement of technical De-mining school management and planning budget systems.
    2.2 Review and update of the current curriculum and training courses.
    2.3 Review and update of the Standard Operating Procedures (SOPs) used by the de-mining Brigades to ensure that they conform to the National Mine Action Standards (NMAS).
    2.4 Develop a plan and renovate the facilities available at the Technical De-mining School.
    2.5 Mobile Quality Management teams, trained equipped and deployed.
    2.6 Conduct a study to determine which mechanical clearance assets have been successful in Angola and then make recommendations on the mechanical clearance assets that would be most appropriate for INAD and what support structures will be required to successfully deploy mechanical assets.

3. *Capacity develop and enhance seven of fifteen INAD De-mining Brigades to a level where they are trained, equipped and responding to development needs in Angola in a safe and effective manner.*

    3.1 Retraining and re-equipment of INAD Brigades to ensure they are working within the parameters of the National Mine Action Standards (NMAS)

Evaluation of the Assumptions, Challenges and Possible Risks

Assumptions

Assumption 1

The development of INAD is a government priority and is appropriately supported with human resources and financial assistance by the relevant ministry MINARS.

Evaluation comment:
The government of Angola has continued to prioritise and support INAD and mine clearance throughout the country with financial assistance and human resources, although with the recent acquisition of mechanical De-mining assets, further human resources are required to adjust to the expansion.

Assumption 2

The Director General remained fully involved in the implementation of the Project and staff with appropriate skills and experience.

Evaluation comment:
The Director General has remained committed to the Project, and has shown keen ability and skills in recruiting his staff. The evaluation has noted that there is further scope for decentralised operational decision-making through appropriate delegation.

Assumption 3

The lessons learned from previous experiences will be incorporated into the Project.

Evaluation comment:
The Project team have shown their ability to incorporate previous MA interventions to enhance the Project's activities.

Assumption 4

The legal framework for mine action activities in Angola is understood and acknowledged by INAD, CINIDAH, CED, GRN and the armed forces FAA and other partners.

Evaluation comment:
This assumption has proved correct.

Challenges

Challenge 1

To ensure that INAD is appropriately equipped and trained to enable them to make an enhanced contribution to addressing the humanitarian and development priorities.

Evaluation comment:
This is assessed as having been addressed by the GoA by providing all necessary equipment and by the combined efforts of the UNDP Project team and the commercial company, Magnaclad.

Challenge 2

To develop an appropriate Monitoring and Evaluation (M&E) plan to measure the outcomes of the Project.

Evaluation comment:
This challenge was addressed by the Project Field Technical Advisors (FTAs) for Monitoring and Evaluation (M&E), at the Brigade end of the chain of support. *(See annexe organ-o-gram maps 1 & 2)*

Challenge 3

Mainstreaming the work of INAD into the planning cycles of other GoA ministries.

Evaluation comment:
From the Projects point of view the mainstreaming of the planning cycles from the GoA Ministries to INAD appears to have a short timeframe allowing little long term planning scope for INAD.

Challenge 4

To ensure that all capacity development efforts result in sustainable outcomes.

Evaluation comment:
The Project is endeavouring to rise to this challenge; however the rapid expansion of INAD's mechanical assets suggests that they must have all necessary continued financial support to run the equipment for several years.

Challenge 5

To decentralise responsibility in the structures of INAD.

Evaluation comment:
The evaluation recommends further commitment to decentralisation and throughout this evaluation paper alludes to the necessity of decentralisation of responsibility if sustainability is to be fully established. However the style of Angolan management might not allow for this.

Possible Risks

Risk 1

Possible lack of co-ordination with Government partners such as CINIDAH and FAA.

Evaluation comment:
INAD has been appointed coordinating partner of FAA by the Executive Commission for De-mining (CED). INAD reports all statistics to CINIDAH, which co-ordinates the NGO De-mining and commercial sector.

Risk 2

A lack of political willingness to ensure that GoA funds are available to equip INAD.

Evaluation comment:
During the three-year period from 2007 to 2009 the GoA has provided the funds and shown political willingness to support De-mining within Angola.

Risk 3

Lack of willingness of GoA ministries that are involved or plan to be involved, in Mine Action (MA), to support INAD.

Evaluation comment:
The line ministry has provided all equipment and funds to INAD.

Risk 4

There may be insufficient donor support to fully equip INAD de-mining Brigades and support the other activities of the Project.

Evaluation comment:
The Governments of Japan and Sweden have provided adequate funding to the Project.

The evaluation also determined the impact on the beneficiaries as per the Project document Paragraph 1.4 '*Beneficiaries*':

- Primary: The direct Beneficiaries: Inclusive of INAD, CINIDAH, and MINARS.

  Evaluation comment:
  The evaluation has focused most of its efforts on the primary beneficiaries, specifically INAD, and discussion regarding the capacity development of these can be read in the Evaluation Document below.

- Secondary: The indirect Beneficiaries: Inclusive of mine-affected communities, and communities that benefited from infrastructural redevelopment implemented due to the Mine Clearance activities of INAD.

  Evaluation comment:
  Impact on indirect beneficiaries is discussed in the comments of 'Socio-economic impact' within the section Case Studies.

Interviews, Project Evaluation and Comment on Tasks Completed

1) To increase management and technical capacity of INAD at headquarters level

Overview:

The initial assessment made by the CTA and the International Training advisor found that the INAD management cell was staffed by qualified personnel who were in control of the overall support of the field operations. Interviews were conducted by the CTA and Training Advisor to assess the key department staff members. During these interviews, the department heads were asked to identify and highlight any areas of perceived weakness within their scope of responsibilities. According to the Project assessment, the structure and organisational skills of the *Finance* and *Human Resources* departments were organised and the areas identified for specific support and upgrading within those sections were minor in comparison to the suggested intervention in the Project document. However, according to the assessment, the *Logistics* and *Transport* sections had deep and possibly un-resolvable problems that were beyond the scope of the Project's capacity to correct. *(See Annexe INAD HQ flow chart).*

1.1 Development of two effective departments that are responsible for Finance, Human Resources, Logistics and Transport Management.

During the interviews conducted by the CTA and Training Advisor, all INAD department heads and key staff members were found to be qualified and had the necessary skills to run their designated posts. The department heads were aware of their duties and responsibilities and were able to implement their department functions with diligence and skill.

Evaluation comment:
Interviews conducted with the Finance and Human Resourses department heads verified that the initial Project assessments opinion and findings were correct and that both the above departments did not express the need for assistance with their functions. However, the interviews with the Logistics and Transport department heads also proved to be as originally assessed, and the process and ways that the Project could assist them were not immediately apparent.

Transport section:

The Project stated that the INAD transport section had undergone a massive expansion in assets over the last two years:

Type	Number	Status of vehicles
Unimogs	181	
MAN trucks	70 (not confirmed)	
Toyota Hilux	500 (not confirmed)	
Toyota land cruiser	500 (not confirmed)	
Toyota landcruiser ambulance	500 (not confirmed)	
Water bowsers	15 (not confirmed)	
Fuel bowsers		
Bozena (MMC)	25	
Hitachi (MMC)	12	
Minewolf (MMC)	6	
Casspirs (MMC)	12	
Recovery trucks		
Samil		
Kamatsu	1	

The immediate conclusion drawn by the Project was that inadequate provision had been made for the maintenance and repair of such a large number of vehicles; this was also coupled with a lack of driver training to deal with the new road surfaces recently built throughout Angola. The Project advised that a programme of mechanic training should be introduced as soon as possible so that a skill base could be established. The Project also suggested that Brigade mechanics should be trained to deal with the daily maintenance of the provincial fleets. Spare parts were also not procured in proportion with vehicle numbers.

The Project began by writing and conducting basic mechanic courses that would form a base for the selection of potential candidates for the advanced courses. These basic courses were carried out and selections were made for further training of personnel for the advanced courses. According to the Project, the lack of proper equipment and tools then became an issue for the completion of these courses and, without the proper equipment to practise on, subsequent training could not advance. For this reason these courses were postponed until the issue had been resolved.

In the meantime the commercial company Magnaclad, which had been contracted by the ministry, began to take on the role of service provider of spares, tools and maintenance of the INAD fleet. In light of this and after a meeting with the INAD director, the Project decided to redirect its focus towards constructing and equipping a provincial skill centre with Project funds in order to deal with the need for skills and mechanical training in the de-mining of bridges. The INAD director agreed that once this pilot skill centre was completed he would replicate the facility in four other provincial locations.

Evaluation comment:
The evaluation noted that the courses carried out by the Project were well structured and had achieved the initial aim of identifying the weakness within the transport department. The reason

for not continuing the advanced instruction was questioned, as it was conceivable that the lack of tools and systems could have been overcome by providing them to INAD. The response to this by the Project was that the quantity of tools needed was greater than the Project's scope and that the UNDP system for procurement for such an order would take too long to come through. Under the circumstances, the intervention by a commercial company, Magnaclad, to take over the area of centralised transport for INAD was a positive way to implement the INAD transport needs quickly.

The evaluation also recognised the need for the GoA to facilitate customs clearance of parts arriving into the country as it currently takes up to five months to clear goods through the port and airport customs (according to Magnaclad), leaving machines and vehicles unable to operate due to the lack of necessary servicing and maintenance parts.

Mechanical workshops are being built in:

1) Vianna De-mining School, supported by Magnaclad, which will be operational in December and used to service and maintain vehicles, trucks and mechanical deminers. The workshop will also be used as a mechanical training centre.
2) Cunene, with the support of UNDP. It will be used as a model, which INAD will be able to replicate across the country to support the 4x4 fleet. It will also be used as a mechanical training school.

Logistics section:

The Project noted that the Logistics department was also going through a major expansion and that equipment was arriving at the de-mining school in large quantities. At the time of the Project's inception, INAD was building warehouses for the storage and control of all incoming goods so that the delivery of equipment to the Brigades could become routine. The Project suggested to the INAD director that storage bases should be built in selected locations in the provinces, thus facilitating the efficient resupply of equipment to the more remote bases. These bases were completed during early 2009. The Project then began to monitor the equipment status in the De-mining Brigades and via this process acquired a greater understanding of the logistical bottlenecks.

Evaluation comment:
It is clear that logistics is a complicated issue within INAD and the role given to the Project was ambitious. However, the suggestion to create half-way storage houses that could facilitate forward logistical movement was a key factor in allowing the Project to use its field staff both to pinpoint problems and observe the overall efficiency of the logistical chain by monitoring the delivery of equipment at the operational end. Given the size of the INAD operation and the problematic factors of transporting and delivering goods within the country, it would appear that the logistical department is succeeding in its given role and that the suggestions made by the Project were measured and timely.

1.2 Implementation of training coaching and mentoring plan at INAD HQ.

The CTA and Training advisor concluded that the key staff members of INAD Finance and Human Resources required little mentoring, training and coaching and were capable of supporting the Project's planned activities. This decision was based on the way that both departments were managed according to the Angolan civil service guidelines and as such they were not open to suggestions for improvement and change. The fact they were run efficiently reinforced this decision, and therefore no further action was needed.

Evaluation comment:
Due to the nature and makeup of the INAD HQ and from the initial assessment made by the CTA and Training advisor at the inception of the Project, the evaluation concurs with the decision of the CTA and Training advisor not to interfere with the structure of the HQ management team, since it is well established and functions within the civil service guidelines and therefore does not lend itself to external influence on structural change. However, it was recognised that advice regarding process of action can be delivered without interfering with established operating methods and that this should be given on a more frequent basis than currently occurs.

The approach taken by the Project was given utmost consideration, bearing in mind the circumstances in which the INAD HQ must function. Therefore cautionary advice and continual interaction between INAD and the Project team is the most effective and efficient way to build up relationships and gain respect and trust from the INAD HQ. The evaluation also recognised that INAD is bound by civil law and guidelines and therefore has to comply with the Ministry's directives regarding structure and tasking.

1.3 Review and enhancement of operational planning, monitoring and evaluation systems to ensure they are functioning in an effective and decentralised manner.

The Project established that the INAD deputy director, in conjunction with the operations officer, was responsible for all operational planning monitoring and evaluation. The Project found that the method in which this was implemented tended to take the form of an instruction from the HQ department in Luanda rather than making field visits to the Brigades; this of course had the disadvantage of assuming that all information from the field was accurate and correct. In response to this, the Project developed a process whereby they encouraged a member of the HQ operations department to accompany them to the Brigades in order to conduct detailed inspections of the operational process. This intervention by the Project established an understanding that physical verification was necessary if advice was to be effectively directed towards resolving a task identified as having operational weakness.

Evaluation comment:
The evaluation observed that the Project actions were in measured response to dealing with the institutional habit of directing operations from the capital. By subtle encouragement INAD now appears to have recognised the need to have a more direct field approach to operational Monitoring and Evaluation (M&E).

1.4 Enhancement of resource mobilisation capacity.

Regarding resource mobilisation, the CTA and Training officer concluded that INAD was receiving funds directly from the line ministry and therefore did not need to develop its own resource mobilisation capacity. However, suggestions were delivered by the Project for potential areas of self-generated funding, such as eventually delivering regional and cross-border mine action assistance from a commercial perspective. This can be achieved by leasing mechanical assets and experienced qualified human resources to United Nations Operational Services (UNOPS) contractors. A plan to get INAD accredited with UNOPS is currently underway.

Evaluation comment:
The option of future regional commercialisation is an attractive and motivating concept for INAD; however it is important that while the GoA and donors are able to support Mine Action, INAD should devote time to establishing systems that enable them to become a regionally commercial provider of mine action assets.

The INAD HQ seems to be committed to improving the efficiency and effectiveness of the country's de-mining programme; it undertakes tasks given from several quarters and the country's infrastructure is redeveloping rapidly as a result. This directly impacts on the communities who have been living within the contaminated areas of the country and are now able to travel safely and return to a semblance of normality.

The effectiveness of the INAD operations in the country can be seen by the development of roads, railway links, fibre optic cables and housing over the last few years. The impact of the country's mine action can be seen and felt across the country, as areas, previously unreachable, are now safely accessible, agriculture is developing a profile, communications are improving and industrial growth is taking place.

2) To develop a dynamic and well supported Technical De-mining School (ETD) that has a renovated premises, enhanced management systems and updated curriculum based international and national mine action standards.

Overview:

At the beginning of the Project in 2007, a CTA had not been appointed and the position temporarily filled by a training advisor. During this time it was decided that the International De-mining Training Centre in Nairobi, Kenya provided a good example for INAD of how a successful establishment functioned in Africa. Therefore three members of the INAD management team travelled to Nairobi in mid 2007 to derive ideas for a similar facility at the training school in Vianna. The visit was successful and the director began to discuss plans for the improvement of the school with the Ministry. However, by the time a Project CTA had been appointed, plans were already underway to recondition the school and the surrounding area and were being directly funded by the Ministry. Therefore the Project's original plan to assist with the redevelopment of the school had actually been taken care of due to the inspirational visit to the Kenya centre. This meant that, as the GoA was funding the rebuilding of the INAD technical de-mining school, the Project found itself prematurely released from its requirement for a training adviser to draw up plans, outline costs and contract architectural consultants for such an endeavour.

2.1 Improvement of technical de-mining school management and planning budget systems.

The training assessment needs of middle management staff was conducted in conjunction with the commercial company Magnaclad. Both the Project managers from UNDP and Magnaclad agreed to arrange a course based on the Cranfield University Mine Action Managers curriculum. The immediate training needs were:

i) Administration
ii) IT education

It was therefore decided that Magnaclad were better placed to arrange a course with Cranfield for all Brigade leaders and operational managers in Namibia, where they would be instructed by Cranfield lecturers in the finer points of administration management. The students who received the highest grades were selected to return to Namibia for an advanced course. The consequences of these courses have been seen in the general level of Brigade organisation, but have also exposed weaknesses in the areas of IT management, report writing and data collation.

The Technical De-mining school saw a number of UNDP training courses completed during 2008; these included middle management training of Brigade Commanders and operations officers,

combined mechanical systems training, map reading and surveying, as well as quality assurance and quality control. A partnership was also formed with the UNDP mine action programme in Laos, where a very high of report writing has been instilled within the national de-mining organisation that they are capacity developing. They were able to travel to Angola to assist INAD to produce the same level and standard of report writing.

Evaluation comment:
With reference to the initial comment concerning the Finance Department, the Project found that it was unable to advise on the construction of budgets at the school since all staff based there reported to the director and did not influence budget decisions. Therefore this area of the Project's responsibility was not pursued.

2.2 The review and update of the current curriculum and training courses.

The Project found that both the curriculum and the training plan of INAD were in need of complete revision and updating. However, as INAD was operational at the time, it was decided that the most appropriate action would be to bring all Brigade commanders to the school in Luanda and put them through a process of refresher training as well as getting feedback from them regarding weaknesses and areas for improvement from their point of view. The refresher training of all Brigade commanders took place in January and February of 2008 and as a consequence a clear idea of how the new curriculum and training plan could be planned was established by the Project.

Evaluation comment:
The Project used an inclusive method of capacity development by seeking the comment and opinion of the field commanders via the refresher training initiative. This provided a realistic overview of the needs and requirements from the Brigade's perspective, rather than imposing a remote solution that did not take into consideration the realities on the ground.

2.3 Review and update of Standard Operating Procedures (SOPs) used by the de-mining Brigades to ensure that they conform to the National Mine Action Standards (NMAS).

In 2008 a specialist consultant was recruited by UNDP to assist with the creation of 12 Standard Operating Procedures (SOPs) specific to the needs of Angola. This was completed in 2008 and has been translated into Portuguese and given to INAD HQ for review. The Project planned and conducted a workshop that evaluated and discussed the SOP with the senior operational staff and subsequently the senior provincial staff. The SOPs will become the foundation of all quality management and quality control throughout all INAD operations in the future. *(See Annexe SOP Content Table).*

Evaluation comment;
The evaluation found that the commercial provider Magnaclad had attempted to compile a full SOP, which was rejected by INAD for its inappropriateness to the situation on the ground. The Project then took on this responsibility of creating a definitive set of SOPs that has taken more than one year to develop. However the resulting document appears to be practical, user-friendly and the type of document originally requested by INAD.

2.4 Development of a plan and renovation of facilities at the Technical De-mining School.

The GoA has undertaken to fund the rebuilding of the INAD Technical De-mining School. The Project reviewed the situation with Magnaclad and both came to the conclusion that they, Magnaclad, were in a more advantageous position to assist INAD with the renovation of the

school. It was also apparent that INAD had been given all necessary funds to complete the process by the Ministry. The Project therefore agreed to concentrate on its construction efforts and advice to the provinces.

Evaluation comment:
The Project document outlined that the Project would be spending its funds on architectural consultation to advise on the structure of the school facility. This process appeared to be already underway, therefore rendering the intervention of the Project redundant. As a consequence, the decision taken by the Project to redirect its efforts in assisting Brigade HQ appeared to be valid.

2.5 Training, equipping and deployment of mobile quality management teams.

The Project initially visited all provinces to establish the feasibility of deploying Quality Assessment (QA) and Quality Control (QC) teams throughout the country. As a result of this survey it was decided that a QA/QC cell should be established and operate from the Luanda HQ and that QA/QC teams should be organised and dispatched to the provinces on a rotational basis to conduct QA/QC within the Brigades, reporting back to the HQ cell. However, the INAD director requested that the Project should train all teams from the Brigades to conduct internal QA/QC. This request by the director was discussed at length with the Project CTA who emphasised that QA/QC needed to be detached from the Brigade structure in order to maintain impartiality. The director overruled this advice and courses were then planned to train internal rather than external QA/QC teams. It was agreed that the Project staff would conduct external QA/QC with the head of the INAD QC cell and members of the school training team.

Evaluation comment:
It is apparent to the evaluation that this discussion needs to be continued with INAD since using internal quality control and assessments can result in a lack of accountability. Although the Project team conducts QA/QC procedures when visiting a Brigade, the team does not have the resources to visit every task undertaken by INAD and therefore can only evaluate visited tasks. It is, therefore, essential that an external evaluation and control team be established.

2.6 Conducting of a study to determine which mechanical clearance assets have been successful in Angola and making of recommendations on the mechanical clearance assets that would be most appropriate for INAD and what support structures would be required for their successful deployment.

By the time the Project had started, INAD had already bought twenty-five Bozena 5 mini flail machines and had been given two Hitachi swing arm multi-head diggers. INAD was also in the process of negotiating ten Hitachi heavy flail machines. In light of this, the Project decided to concentrate on the appropriate use of mechanical assets within the operation and the correct support mechanisms to maintain them in the field. The Project also made three further recommendations for what it considered to be appropriate types of clearance machines for Angola. The recommendations were for the heavy MineWolf tiller machine, the armoured grader and a skeleton bucket for the swing arm Hitachi. The Project also emphasised the urgent need for a dedicated manager for the expanding INAD mechanical unit.

Evaluation comment:
As stated by the Project, INAD had already made certain decisions concerning the make and type of machine that they required. The Project therefore began by examining the type and number of possible future tasks that INAD would be involved in. The need for the large scale verification of land that had been identified by the Landmine Impact Survey (LIS) was featuring as a major factor for INAD tasking. In addition there were the thousands of kilometres of road verge that required verification for the laying of fibre optic cables, as well as the entire network of secondary dirt roads throughout Angola that would need to be verified or cleared.

Project Action

- The Project recommended the MineWolf tiller machine which had a proven record in many mine-affected countries for its capacity to verify large areas of ground at a constant depth of 30cm. INAD have since ordered six of these machines.
- The Project also suggested that armoured road graders should be considered, as they would be the best method of clearance for all dirt roads because of their speed of action. The Project spent considerable time looking into the cost and armouring process of the graders. INAD have since bought two graders but have yet to have them armoured.
- The Project CTA had several meetings with the Hitachi Company to advise them on additional tools for their swing arm machine. The skeleton bucket was proposed, as it would allow INAD to find and clear deeply buried anti tank mines. So far no addition has been made to the machine.
- The Project ran several courses on Task Impact Assessment to determine the most suitable machine out of the INAD pool for ground type and threat. This was followed up with an integrated assets course that used machines in mock situations to demonstrate for INAD how machines should be deployed in an operation. This course incorporated the detailed components of logistical support and maintenance requirements for the machines.

Evaluation comment:
The evaluation could see that the Project had devoted a considerable amount of time to advise INAD on the subject of mechanical clearance and had certainly made an impact on the overall understanding on how machines should be used. However, the evaluation noted that the use of all the mechanical assets still remained low in relation to their numbers, with the exception of the Komatsu heavy tiller machine, located in Bengo province, where two full-time Japanese instructors are running the team.

3 To capacity develop and enhance seven of fifteen INAD De-mining Brigades to a level where they are trained, equipped and responding to development needs in Angola in a safe and effective manner.

Overview:

The task of upgrading seven out of the fifteen Brigades essentially encompassed all aspects of mine action management. However, as INAD was well established, with existing operational obligations and targets, the Project had to combine its instruction and advice without interfering with the INAD work schedule. The first action taken by the Project was to refresher train all the Brigade Commanders and to seek their opinion on how INAD operated. Once this was achieved the focus turned to provincial upgrading of the seven Brigades via the introduction of:

i) Task impact assessment
ii) Reporting and statistics
iii) Yearly operational planning
iv) The understanding and use of SOP
v) The understanding of QA/QC use and systems
vi) EOD training

The provinces of Benguela, Huila, Cunene, Kwando Kubango, Huambo, Bie, Zaire and Malange, were the targets for the Project's activities listed above. However, it became apparent that the Project would not be able to address all the required elements to allow INAD to operate effectively

within the Project's allotted time frame. This was because of a number of unforeseen factors affecting the Project:

a) The purchasing of unsuitable metal detectors prior to the Project's commencement
b) The Brigade's organisational structure
c) The link between SOP and QA
d) Data analysis
e) Consistency and standards

The Project CTA felt that there was a need to broaden the advisory team by recruiting former Angolan Mine Action managers who had worked for international Mine Clearance NGOs. The strategy behind this decision was to enable INAD to continue to receive advice and guidance on the above issues once the Project period had ended and funding for continued international advisors was in doubt. The role of the national team of advisors would be to address the residual issues of concern within the Project that had not been adequately dealt with by the Project in the given timeframe.

Evaluation comment:
The Project decision to increase the national staffing to advise and QA/QC the INAD operations gave the Project greater scope and Area of Responsibility (AOR). It is also preparing for the exit strategy by building up a competent national staff base to undertake the Project role currently managed by internationals.

3.1 INAD Brigades retrained - reporting and statistics:

All seven Brigades received intensive tuition in reporting the status of current tasks as well as how to compile and analyse statistical information. It was emphasised to the Brigades' officers that statistical information had to be taken each day from the mined area, compiled every week and then reviewed at the end of each month. The operations officers were taught how to identify patterns of highs, lows, and consistent performance, to help them predict their Brigade's optimum achievement rate depending on ground, climate and risk. They were taught to place all statistical information at the centre of their reporting and form conclusions as to why certain inconsistencies were apparent due to logistical or manpower failure. The Brigades were taught how to report on a monthly basis to the Luanda HQ and to the provincial government. The importance of socio-economic information was emphasised to assist and guide the Brigades in understanding high, medium and low impact.

A specialist reporting and statistical advisor was brought in from UNDP MA in Laos under the Mine Action Exchange Programme (MAX). He was able to streamline the reporting channels from the provinces to the HQ and spent time intensively training two national UNDP advisors, so that they could replicate his instructions to the INAD Brigades.

Evaluation comment:
The reporting and statistics carried out by the Project is the basis from which all future tasking should be undertaken. It is essential to planning and institutional knowledge. However, the evaluation notes that it is not fully practised and further field retraining and capacity building is needed to standardise the procedures and to emphasise the importance of them.

3.2 INAD Brigades retrained - task impact assessment and risk assessment courses:

The first task assessment course was held in Huambo and was delivered to three representatives of four separate Brigades. The objective and scope of this course was to instil an understanding of

how to plan and organise the clearance of a suspected area. The students were taught how to conduct an information gathering survey of the suspected area that would consider ground type, socio economic impact, perceived threat, the amount of de-miners required, their average clearance rate and ultimately the estimated time frame for the task's completion. All this information would be reviewed and reassessed by understanding what mechanical assets could be deployed in those conditions to assist the task and improve overall efficiency. A map of the suspected area would be drawn and a focus on areas of definite clearance and areas that only required verification would be established. The second phase of the assessment would be a calculation of all logistical needs and support as proposed by the technical planning of the task. The intended benefit of a Task Impact Assessment (TIA) would be a comprehensive knowledge of why the task was being done, how it was being done and what was needed to achieve the time frame target. The TIA courses were then conducted in Hiuila, Cunene, Kwando Kubago, and Zaire.

Further to the direct influence of the UNDP Mine Action team on INAD, the extended influence of their capacity building, training, QA and QC flows down from INAD to other MA departments related to land release, including FAA engineering, the National Reconstruction department (GRN) and Border Patrol Police (BPP) (see flow chart, not in hard copy).

3.3 INAD Brigades retrained - annual task planning for seven Brigades:

In order to achieve a sense of scale within INAD operations each of the seven provinces was taught how to create a yearly work plan. The operations officers were shown how to use the TIA information and assemble it into ten task folders of priority sites. This information was then transferred to a provincial map and an overall time scale was calculated using detailed information from the combined folders. The operations officers could then see from this information what their projected productivity was likely to be over the course of a single year.

Via this method INAD were taught to understand that a degree of flexibility could be injected into the planning cycle. For example, if an unexpected job was given to them they could add it to the yearly plan and deduct a lesser task, but would nevertheless have all the necessary information to demonstrate why this decision had been made. The Luanda HQ was also encouraged to use this form of operational monitoring to control and estimate the organisation's productivity over the course of a year. The MAX advisor from Laos also re-enforced this planning method by creating a quarterly reporting template that could be used as the agency's means of demonstrating its yearly achievement to the government via the line ministry.

Task Case Studies

Benguela Province:

The Project focused on the operational tasks within Benguela Province in order to demonstrate how the planning system of yearly tasking could be achieved. The Project staff made five impact assessments with the Brigade:

1) ***Benguela Province****: Catenge*

The Project advisors were able to use the TIA method to increase productivity along the 70 km road from Benguela to Catengue. After this task was completed the Brigade moved on to the three bridges at Catenge and, according to the information derived from the TIA, the task required the assistance of a 'swing arm Hitachi'. As a consequence of the TIA planning, both tasks were completed within the time requested by the construction company rebuilding the road and the bridges.

Socio economic and infrastructural impact:

Catengue is a major road junction for Huambo, Benguela and Lubaongo and Namibia. The road into Benguela sees some of the heaviest traffic in the country as all vehicles bringing goods from the port of Swakapmund in Namibia and overland from South Africa must use this route. The widening of the road verges by 30 metres and the strengthening of all bridges and culverts has made travel by truck much easier and safer. The link road to Huambo has also made this important city more accessible for commercial traffic on a year round basis. Villages along the route have also been impacted by increased traffic and accessibility.

Probable Socio-Economic and infrastructural impact Table

Impacted sectors	Direct positive impact	Direct negative impact	Indirect Positive impact	Indirect negative impact	No impact
Small scale agriculture	**x**		**x**		
Commercial agriculture	**x**		**x**		
Market access	**x**		**x**		
Input accessibility	**x**		**x**		
Trade access	**x**		**x**		
Communications	**x**		**x**		
Mining					**x**
Employment opportunities	**x**		**x**		
Social Community development	**x**		**x**		
Local industry development	**x**				
Infrastructure	**x**				

2) ***Benguela Province****: Santa Maria lighthouse*

The clearance of the area surrounding the lighthouse at Santa Maria was a government requested priority as this is one of the most hazardous coastal points in Angola. However, due to its remote location the task presented several logistical difficulties for a manual De-mining team. Access to fresh water and casualty evacuation were both areas of concern during planning. Therefore the resulting TIA concluded that the best approach was to verify the suspected area using a Casspir vehicle with steel wheels along the old road leading to the lighthouse. If the Casspir encountered mines a further plan would be made to bring in manual de-miners. However during the Casspir operation the route leading up to the lighthouse proved to be free of mines and an area was marked and delineated so that any contactor who had to work on the site would be clear as to where the safe area was. The task took five days to complete with a team of ten people. This was an example of how proper planning and use of specialised assets can pre-empt the unnecessary deployment of a large group of manual de-miners in a particularly difficult area.

Socio economic and infrastructural impact:

The lighthouse can now be refurbished and the important lighthouse signature beacon and radar signal can now be installed, making shipping along this coast safer.

Probable Socio-economic and infrastructural impact Table

Impacted sectors	Direct positive impact	Direct negative impact	Indirect Positive impact	Indirect negative impact	No impact
Small scale agriculture					**x**
Commercial agriculture					**x**
Market access					**x**
Input accessibility					**x**
Trade access					**x**
Communications	**x**				
Mining					**x**
Employment opportunities					**x**
Social Community development					**x**
Local industry development					**x**
Infrastructure	**x**				

3) ***Benguela Province****: Santa Maria fishing village*

During the verification of the lighthouse the Project advisors accompanied the Brigade survey team to conduct a detailed threat assessment of the village, which was being used by migrant fishermen who occupied the beach area to dry fish and mend their nets for three months of the year. The abandoned former village had once been a fish-processing factory and was the target for UNITA attacks in the 1980s. The entire area had been marked as suspected of containing anti-personnel (AP) mines. However, after the risk assessment had been completed, it was established that the defending forces had only mined five ravines that accessed the back of the village and over the course of twenty years only one accident had occurred (due to ignorance of this fact). Therefore, it was decided, due to the lack of people using the area, combined with the inhospitable and difficult conditions for manual de-miners, that the base and top of each ravine would be

marked with permanent danger signs alerting anyone who came across them of the risk. The task was considered of low impact and would be returned to at a later date.

Socio economic and infrastructural impact:
The fishing communities in the areas now have full knowledge of the clearance teams' activities, are aware of the threat and are now in a position where they can work without danger to themselves. They also have detailed knowledge of the access route leading to the lighthouse should a contractor wish to make a survey.

Probable Socio-economic and infrastructural impact Table

Impacted sectors	Direct positive impact	Direct negative impact	Indirect Positive impact	Indirect negative impact	No impact
Small scale agriculture					**x**
Commercial agriculture					**x**
Market access	**x**				
Input accessibility					**x**
Trade access	**x**				
Communications					**x**
Mining					**x**
Employment opportunities					**x**
Social Community development					**x**
Local industry development	**x**				
Infrastructure			**x**		

4) ***Benguela Province****: Lobito oil refinery*
The proposed site for a second oil refinery in Angola was the harbour entrance in Lobito. The area had previously been a Cuban ammunition supply camp and was abandoned in the early 1990s. Since then several attempts to destroy the ammunition had only resulted in dispersing it, thus spreading the contamination. Therefore when the TIA assessed it, it was established that no mine clearance or mechanical assistance was needed and that the area required systematic surface clearance. The area was mapped and gridded and a clearance plan was drawn up for Battle Area Clearance (BAC). BAC is a form of systematic clearance of an area by a team in an extended line, which searches the ground for objects of ordnance. Progress is made as each square of the map is visually searched. The clearance was achieved in a short space of time and several hundred explosive devices were found. The Project Explosive Ordinance Disposal (EOD) advisor oversaw the bulk of the demolitions and the area was declared safe within two months of the task commencing.

Socio economic and infrastructural impact:
The clearance of this area will allow for the building of Angola's second oil refinery. The construction of the refinery will be of great significance to the country's oil industry and will bring both jobs and an economic boost to the city.

Probable Socio-economic and infrastructural impact Table

Impacted sectors	Direct positive impact	Direct negative impact	Indirect Positive impact	Indirect negative impact	No impact
Small scale agriculture					**x**
Commercial agriculture					**x**
Market access					**x**
Input accessibility					**x**
Trade access					**x**
Communications					**x**
Mining/oil	**x**				
Employment opportunities	**x**				
Social Community development			**x**		
Local industry development	**x**		**x**		
Infrastructure	**x**				

5) ***Benguela Province****: Catumbela Airport*

The planning for the clearance of Catembela airport started by using free satellite imagery of the area. This allowed the Brigade to make an accurate clearance plan by dividing up the site using the clear imagery of the satellite photograph. As this task involved both mechanical and manual assets, the clearance map needed to pre-determine the areas required to be verified by the Hitachi and then cleared by manual de-miners. This map was also used to explain the plan of clearance to the commercial contractors who were responsible for lengthening the airport runway. This form of planning allowed the contractors to continue working in the areas that did not require clearance or had already been made safe by the INAD Brigade. The result of this assistance to INAD introduced the concept of land release; and demonstrating to the Brigade that they could release land to the contractors within priority areas whilst still conducting clearance operations.

Socio economic and infrastructural impact:

The immediate impact of lengthening the airport runway will be to bring in supporters and visitors to Lobito for the All Africa Cup of Nations in 2010. The airport will generate income from tourism in all sectors of the community. Hotels are being constructed, roads and bridges built, supermarkets opened and jobs created throughout the community and the surrounding areas.

Probable Socio-economic and infrastructural impact Table

Impacted sectors	Direct positive impact	Direct negative impact	Indirect Positive impact	Indirect negative impact	No impact
Small scale agriculture					**x**
Commercial agriculture					**x**
Market access			**x**		
Input accessibility					**x**
Trade access	**x**				
Communications	**x**				
Mining					**x**
Employment opportunities	**x**		**x**		
Social Community development			**x**		
Local industry development			**x**		
Infrastructure	**x**		**x**		

Huila Province:

*6) **Huila Province**: Caconda Airfield*

Caconda airfield in Huila Province was a task that the INAD Brigade had been clearing for two years when the Project team made its first inspection in June 2008. By employing the TIA method, the Brigade was able to re-evaluate the clearance plan and as a consequence estimated that it could reduce the end date by two years. Bozena 5 mini-flails and Casspirs with steel wheels were deployed to the site and the Project team posted two national mechanics and one international advisor to assist with the supervision of the clearance. As a result, the clearance accelerated by approximately seventy percent and the task was completed in September 2009.

Socio economic and infrastructural impact:

Caconda was devastated during the war and massive displacement took place. With peace, displaced persons have returned to this historically and agriculturally rich area to resume their livelihoods. The area that the Brigade was clearing, once a defensive area for both FAA and UNITA, is the proposed site for extensive new housing.

Probable Socio-economic and infrastructural impact Table

Impacted sectors	Direct positive impact	Direct negative impact	Indirect Positive impact	Indirect negative impact	No impact
Small scale agriculture	**x**		**x**		
Commercial agriculture	**x**		**x**		
Market access	**x**				
Input accessibility					**x**
Trade access			**x**		
Communications	**x**		**x**		
Mining					**x**
Employment opportunities	**x**		**x**		
Social Community development	**x**		**x**		
Local industry development	**x**		**x**		
Infrastructure	**x**				

Cunene Province:

7) ***Cunene Province****: Santa Clara border post*

The customs department at Santa Clara had requested that INAD clear an area of 5 km x 1 km so that they could increase the space for parking cars that were being imported into the country. The plan to clear the area, proposed by INAD, was estimated to take approximately 22 years by the Project team's TIA assessment. Obviously this was impractical and inefficient and therefore the Project introduced the concept of land release: areas of known agricultural use and habitation were marked as free from mines and UXO. By using this method the contaminated area was reduced by about 70%. After conducting a threat assessment the Project advised that the remaining area should be surface area cleared using rakes and a grid system, and as a result the task took six months to complete.

Socio economic and infrastructural impact:

The Santa Clara border post in Cunene is one of the busiest land entry points into Angola. Cross-border trade and the importation of goods into the country have been gradually increasing over the past two years. The importation of vehicles has increased to such volumes that the area requested for clearance will be vital as a dry port for hundreds of new vehicles. The rebuilding of the new road to Luanda will also increase the number of trucks entering Angola.

Probable Socio-economic and infrastructural impact Table

Impacted sectors	Direct positive impact	Direct negative impact	Indirect Positive impact	Indirect negative impact	No impact
Small scale agriculture		**x**		**x**	
Commercial agriculture					**x**
Market access	**x**		**x**		
Input accessibility			**x**		
Trade access	**x**		**x**		
Communications					**x**
Mining					
Employment opportunities	**x**				
Social Community development				**x**	
Local industry development	**x**				
Infrastructure	**x**				

Cuando Cubango Province:

8) ***Cuando Cubango Province****: Menongue Airport*

Planning for the clearance of Menongue airport used satellite imagery to establish the clearance of the area. The Brigade had two Bozena 5 mini-flail machines to assist with the clearance and a platoon of manual de-miners. Areas were divided up into mechanical and manual activities in the same manner as Catumbela airport in Benguela province. The highest priority areas required by the contractors were released first and clearance subsequently continued around the working contactors.

Socio economic and infrastructural impact:

Menongue airport is of major significance to the province due to its remoteness.

Probable Socio-economic and infrastructural impact Table

Impacted sectors	Direct positive impact	Direct negative impact	Indirect Positive impact	Indirect negative impact	No impact
Small scale agriculture			**x**		
Commercial agriculture			**x**		
Market access			**x**		
Input accessibility					**x**
Trade access					**x**
Communications	**x**				
Mining					**x**
Employment opportunities	**x**				
Social Community development	**x**		**x**		
Local industry development	**x**		**x**		
Infrastructure	**x**				

Huambo Province:

9) ***Huambo Province****: Housing scheme for 7 towns*

Village SHA survey Huambo: The INAD Huambo team has been tasked to survey seven towns in Huambo province for the purpose of expansion and development for a GoA One million low-income housing scheme. The GoA has directed INAD Huambo to survey areas close to or within the villages deemed to be SHA by the original LIS and report back on land release and mine clearance requirements. UNDP MA has been asked to assist with the task assessments, and the QA and QC of this survey in support of INAD.

Village	Area (Ha)	Post-survey comment
Bailundo	100 088	
longondjo	100 739	
Mungo	100 982	
Ukuma	100 347	
Lunduimbali	100 174	
Tchindjenji	100 716	
Ekunha	100 651	
Porto Seco (Boas Aguas)	236 607	
Caala	1 704 904	
Catchiungo	100 919	
Tchicala Tcholohanga	120 313	

Socio economic and infrastructural impact:
Contrary to the evaluation's initial perception that the majority of INAD tasking was infrastructural and commercial, the above is an example of direct impact on poverty reduction and of social benefit; clearing these areas of mines and the construction of low-income housing will have immediate socio-economic benefit.

Probable Socio-economic and infrastructural impact Table

Impacted sectors	Direct positive impact	Direct negative impact	Indirect Positive impact	Indirect negative impact	No impact
Small scale agriculture			**x**		
Commercial agriculture			**x**		
Market access			**x**		
Input accessibility			**x**		
Trade access	**x**				
Communications					**x**
Mining					**x**
Employment opportunities	**x**		**x**		
Social Community development	**x**				
Local industry development	**x**				
Infrastructure	**x**				

10) ***Huambo Province****: Rail line (80kms) Huambo to Catchiungo*
INAD was tasked to clear the mine-affected railway between Huambo and Catchuingo, part of the CFB rail system rebuild. The purpose of the clearance is to allow the commercial contractor to rebuild the railway to create a link between Benguela and Moxico. The railway clearance has been completed by INAD and the commercial contractor has now requested clearance for strategic stockpile points along the way to store material removed from the old line.
The railway will create a link from the coast across the country to the eastern border with Zambia and the DRC.
The Project is assisting this task by managing the survey data.

Socio-economic and infrastructural impact:
This railway will link the port of Lobito to the interior of the country and on through to the Zambian and DRC borders, making the Lobito port available for shipping to these countries through Angola. Villages and stations along this route will benefit, and it will allow easy and safe passage of people and produce en route.

Probable Socio-economic and infrastructural impact Table

Impacted sectors	Direct positive impact	Direct negative impact	Indirect Positive impact	Indirect negative impact	No impact
Small scale agriculture	x		x		
Commercial agriculture	x		x		
Market access	x		x		
Input accessibility	x		x		
Trade access	x		x		
Communications	x		x		
Mining					x
Employment opportunities	x		x		
Social Community development	x		x		
Local industry development	x		x		
Infrastructure	x		x		

11) ***Huambo Province****: Power line (140kms) Huambo to Catchiungo (ongoing)*
INAD has been tasked to clear a route for a new power line connecting Huambo and Bie provinces. UNDP is assisting with the task planning, assessment and QA/QC work.

Socio-economic and infrastructural impact:
The impact is infrastructural.

Probable Socio-economic and infrastructural impact Table

Impacted sectors	Direct positive impact	Direct negative impact	Indirect Positive impact	Indirect negative impact	No impact
Small scale agriculture					x
Commercial agriculture					x
Market access					x
Input accessibility					x
Trade access					x
Communications					x
Mining					x
Employment opportunities	x		x		
Social Community development	x		x		
Local industry development	x		x		
Infrastructure	x		x		

12) ***Huambo Province****: Roadside clearance for fibre opticsalong main route from Huambo to Wakukungo (ongoing).*

The Project is assisting with task assessment, planning and the use of integrated systems using mechanical de-miners and manual methods. It is also assisting with assessments and QA/QC.

Socio-economic and infrastructural impact:
The impact is infrastructural; however it will also impact on communities when communications are fully established across the country.

Probable Socio-economic and infrastructural impact Table

Impacted sectors	Direct positive impact	Direct negative impact	Indirect Positive impact	Indirect negative impact	No impact
Small scale agriculture					**x**
Commercial agriculture					**x**
Market access					**x**
Input accessibility					**x**
Trade access					**x**
Communications	**x**				
Mining					**x**
Employment opportunities	**x**				
Social Community development			**x**		
Local industry development			**x**		
Infrastructure	**x**		**x**		

Zaire Province:

13) ***Zaire Province****: Roadside clearance for fibre optics (270 kms)*
The task in Zaire Province involved the clearance of 270km of road verge so that a fibre optic cable could be laid. When the Project visited the Brigade it found that it had not worked for two weeks due to lack of fuel and that the task had therefore only cleared 20 km in over 8 months. The Project advisors conducted a TIA along the 270 km route and found that only seven hot spots or areas known to contain mines existed. However, as the commercial company laying the cable required the area to be marked, a certain amount of vegetation removal was required, but as this did not involve mine clearance local labourers could be employed to do the work, leaving the Brigade free to concentrate on the hot spots. The task is now 50% complete.

Socio economic and infrastructural impact: Fibre optic cables are a fast and modern method of establishing communication within a country, and Angola has embarked on a programme to lay thousands of kilometres of cable throughout the provinces.

Probable Socio-economic and infrastructural impact Table

Impacted sectors	Direct positive impact	Direct negative impact	Indirect Positive impact	Indirect negative impact	No impact
Small scale agriculture					**x**
Commercial agriculture					**x**
Market access					**x**
Input accessibility					**x**
Trade access					**x**
Communications	**x**				
Mining					**x**
Employment opportunities	**x**		**x**		
Social Community development			**x**		
Local industry development			**x**		
Infrastructure	**x**		**x**		

Lubango Province:

14) ***Lugango Province****: Standardisation of Provincial Operations Rooms (PORs)*

Model Ops room development Lobango: In order to enhance the clearance efficiency of INAD, the Project designed an operations room in the Brigade HQs that could monitor and catalogue the activities and clearance statistics of their platoons. In addition to this, maps were assembled indicating all past and present task locations. Displays were made of all mine types that were likely to be found in Angola, including UXOs, with technical information cards detailing their profiles and characteristics. The structure and composition of INAD as an organisation and the Brigade as an entity were also placed in diagram form on the walls. The Brigades were also taught to use the operations rooms as briefing rooms for visitors so that an accurate situation report could be given regarding the provinces' contamination status. After the operations rooms were completed in Lubango, more were assembled in all of the other seven provincial bases. The Project hopes that by standardising operations data, input will become more formalised, regular and consistent. Survey plans and QC/QA inspections schedules were also placed on white boards.

Evaluation comment:

The assembling of effective, functional and informative operations rooms was seen as a vital initiative within INAD as it appeared to be characteristic of Brigades for the operations officers to keep information either locked in a drawer or filed away on a computer that only they had assess to. Computer problems and viruses seemed to be a regular occurrence, so the information was also vulnerable. Placing the plans and achievements of the Brigade in an open and accessible environment allowed everybody to be kept up to date with the Brigade's activities.

ALL PROVINCES Courses and Training

Course Name	Objective	Number of days	Number of INAD students	Total Man days
EOD Explosive Ordnance Disposal: 1 2 & 3	Instruct INAD on IMAS level I, II and III EOD operator in accordance with International Mine Action Standards (IMAS)	48	110	5280
Survey and Quality assurance	Train IMAS standard Survey/QA teams for INAD capable of conducting survey activities and monitoring of INAD clearance work.	10	76	760
EOD (Kenya)	Capacity build INAD EOD team to international standards	26	16	416
Instructors	Qualify to the instructor's pedagogic and methodological abilities for better administration of the teaching and learning.	22	8	176
Map reading	Train and qualify INAD in map reading and navigation techniques.	12	15	180
Computer literacy	Train INAD in Microsoft Word, Microsoft Excel, Access, PowerPoint, with minimum of values above 15 points.	15	10	150
Diesal mechanic	Train diesel engine mechanics to strengthen general repairing	15	31	465
De-mining management systems	Train INAD to understand capacities and application of coordination and control of all de-mining systems in the work place to guarantee integration, safety and quality.	15	15	225
Quality Control (QC) and task assessment	Train INAD to have knowledge of Quality Assurance and Quality Control procedures according to the SOP	60	105	6300
Planning and statistics	Train operational staff in reporting and information management	30	22	660
Task Impact assessment	Plan and assess the risk of a task, settting deadlines and targets for their completion.	35		
Reporting & statistics	Streamline reports and compile statistical information concerning the Brigade's activites.			
Brigade leaders' refresher course	Initial course to understand the strengths and weaknesses of INAD from a field perspective.	60	80	
TOTAL		348 days	488 students	14 612 days

Evaluation comment;
Overall, the Brigades visited were well equipped and well managed. They had a positive attitude towards the UNDP Project team. They were keen that the UNDP Project team remain to continue capacity development as they felt that the UNDP team's assistance with training was a positive influence that helped with confidence building within the INAD Brigades.

The INAD Brigades were taught effective clearance methods and new concepts such as land release and BAC. Using these methods and by using integrated systems of clearance backed up by logical preliminary information, it appeared that the Brigades were able to enhance their performance and achieve their goals more effectively and efficiently.

The evaluation considered that the training of INAD was conducted in an efficient manner and that courses were well organised and researched. The UNDP Project also assessed the specific needs of the Brigades, focusing on areas in need with an emphasis on Explosive Ordinance Disposal (EOD), safety and task assessment.

Once back in the field, the INAD de-mining teams require further QC and assistance to reinforce the training and to ensure that the lessons learned are understood in the context of practical field work. Furthermore, it is essential that follow-up Monitoring and Evaluation (M&E) is undertaken by the FTA team to ensure IMAS compliance (in some cases the evaluation noted that marking and safety could become compromised without such follow up). The evaluation recommends that the UNDP FTA teams carry out more follow up in Quality Assurance and Quality Control, as well as conducting more field workshops to establish sustainability of action within the Brigades. These issues were raised by INAD Provincial directors and Brigade commanders.

De-mining is, by its nature, an ongoing process of learning, with new and different scenarios arising on a daily basis. Although INAD has highly skilled and experienced middle management and provincial teams, often they rely on the international experience of the UNDP Project team to assist with new developments that occur, as well as assistance with confidence building for more difficult tasks.

The Specific Mine Action SOP development for Angola will enable standardisation and improved sustainability.

A common concern of the Provincial directors and Brigade commanders is that, as mechanical de-mining becomes the preferred method of verification, de-mining staff will be recruited from the field to be trained as operators and mechanics, leaving the already understaffed Brigades with fewer manual de-miners. Furthermore, there is some concern that there may be a tendency to replace manual mine clearance with mechanical mine clearance, due to the lack of human resources in the field.

Landmine Impact Survey (LIS) Suspected Hazardous Areas (SHA) reduction:

Below is a comparison chart produced by CNIDAH based on the Landmine Impact Survey (LIS) results published in 2007, showing the reduction of Suspected Hazardous Areas (SHA) and comparing the results to the SHA situation in September 2009. However, it should be noted that not all SHA reductions are undertaken by INAD and credit for some of the reduction can also be attributed to the work of (I)NGO. The initial seven provinces from the Project Document 2006 are highlighted.

Province	Total SHA 2007	Total SHA 2009	High Impact 2007	High Impact 2009	Medium Impact 2007	Medium Impact 2009	Low impact 2007	Low impact 2009
Bie	282	228	1	0	60	45	221	182
Bengo	74	60	0	0	15	12	59	48
Benguela	127	84	4	2	17	9	106	73
Cabinda	27	27	0	0	0	0	27	27
Huambo	153	54	2	0	35	1	116	53
Huila	71	69	1	1	9	9	61	59
Kwando Kubango	171	156	1	1	33	27	137	128
Kunene	126	108	0	0	7	0	119	108
Kwanza Nort	64	58	3	2	22	19	39	37
Kwanza Sul	168	101	6	1	33	25	129	74
Luanda	2	2	0	0	1	1	1	1
Lunda Nort	30	27	2	1	5	4	23	22
Lunda Sul	73	40	1	0	31	0	41	40
Malanje	87	60	4	2	38	26	45	32
Moxico	289	244	15	8	107	89	167	147
Namibe	3	2	0	0	1	1	2	1
Uige	172	172	0	0	29	29	143	143
Zaire	66	61	0	0	12	10	54	51

(See also annexe ‘LIS SHA’ and ‘LIS Communities’ excel, not in hard copy.)

Evaluation comment:

Since the inception of the programme in 2007, the Government of Angola (GoA) has prioritised Mine Action as an essential and integral part of the redevelopment of the country. To this end, it has made funds available to enhance the overall capacity of INAD, reducing the burden of resources on the already fatigued International Donor Community. As a result of this, the GoA has prioritised targeted sectors, focusing mainly on Infrastructure - specifically primary roads, bridges, fibre optics, airports - and the oil and gas industry, leaving much of the humanitarian de-mining to be funded and carried out by the INGO communities. The effect of this is that humanitarian de-mining has slowed and many SHA remain in place. This factor may leave the rural population vulnerable and frustrated, creating an exaggerated flow of people away from the rural areas and driving them in to an already over-subscribed urban environment.

Socio-economic and infrastructural impact:
The reduction of LIS SHAs has had an obvious impact on communities living in previously contaminated areas. Once the area has been cleared communities can conduct normal livelihoods with safety and dignity, mine accidents will decline, agriculture and micro industry can establish themselves, and humanitarian aid, trade and communication can gain accessibility; all the above assists in poverty reduction.

Budget:

Budget		US$11 354 820
General Management Support fee		US$ 794 837
Total Budget		US$12 149 657
Allocated resources		
UNDP Angola		US$ 225 400
UNDP BCPR		US$ 270 000
Other		
Donor		
In kind Contributions Government of Angola		US$ 7 609 241
Gov of Japan		US$ 4 045 016

Budget:
At the time of conducting this evaluation, the Project foresees a surplus of US$400 000 at the completion of the 3 year period ending December 2009.
The two contributing factors to this surplus are:

- Although the Project was initiated in January of 2007, recruitment and placement of the appropriate staffing was not completed until November of 2007, therefore the budget for the three-year period was only active for two years.

The budget identified for planning and architect design of the Vianna School for De-mining was not used, as the Government of Angola undertook responsibility for the reconstruction with the support of Magnaclad. (Please see evaluation after '*To develop a dynamic and well supported Technical De-mining School (ETD) that has a renovated premises, enhanced management systems and updated curriculum based international and national mine action standards'*, p.17).

- Part of this funding was diverted instead to develop and build a mechanical training workshop in Cunene.

Conclusion and preface to 2010 UNDP MA Strategy:

The main objective of conducting the evaluation was to develop an understanding of the weaknesses and strengths of INAD, through this understanding the Project is able to create a sustainable solution to Capacity develop the institutions operational and management skills, so that the humanitarian and development goals of the Government can be met in an efficient and effective manner once the UNDP MA Project terminates. It is therefore essential, according to this evaluation, that the UNDP MA Project continues its support and capacity building for a further three years to ensure sustainability.

The focus of the Projects activities in the coming year/s should be:

- Capacity development of a mechanical team to service and maintain the INAD fleet of vehicles
- Capacity developing a competent team of National Field Technical Advisors (FTA) assisting them to become a Monitoring and evaluation cell for INAD and CNIDAH with the purpose of integrating them in to INAD as part of the UNDP MA exit strategy plan
- Quality Control (QC) and Quality Assessment (QA) of INAD tasking
- The strengthening of the capacity of the Monitoring and Evaluation (M&E) national mine clearance systems as per the National Standard Operating Procedures (SOP),
- The sustainability and efficient use of MMC, and mechanical sustainability of the Institutions fleet of vehicles.
- Quality Control (QC) and Quality Assurance (QA), this sector of CNIDAH is responsible for the completion process of all mined or suspected mined areas. The planned UNDP MA assistance will focus on guiding and mentoring the provincial QA/QC teams so that final inspections of the sites and tasks are completed in a timely and fashion and ensure that the clearance organisation has correctly filled in and submitted all completion forms.
- Advocacy: Additional support to CNIDAH/ GoA will include support and advocacy to ensure compliance under its obligations as a signatory to the Anti Personnel Mine Ban Treaty. Of primary importance will be UNDP support to CNIDAH and the Government of Angola's visibility and profile in International Mine Action conferences and relevant forums, ensuring that Angola is able to report and demonstrate genuine progress under the terms of the Anti Personnel Mine Ban Treaty. Angola has consistently failed to meet the terms set out in Article 7: *'each state party is required to report to the Secretary-General of the United Nations on appropriate measures undertaken to fulfil its treaty obligations'*. Angola has managed to report only twice in the past five years in accordance with article 7 of the Anti Personnel Mine Ban Treaty.
- Inclusion and assistance to the NGO MA community to enhance the productivity of these agencies Humanitarian demining activities.

Researched and compiled by Charles Hamilton

ANNEXES:

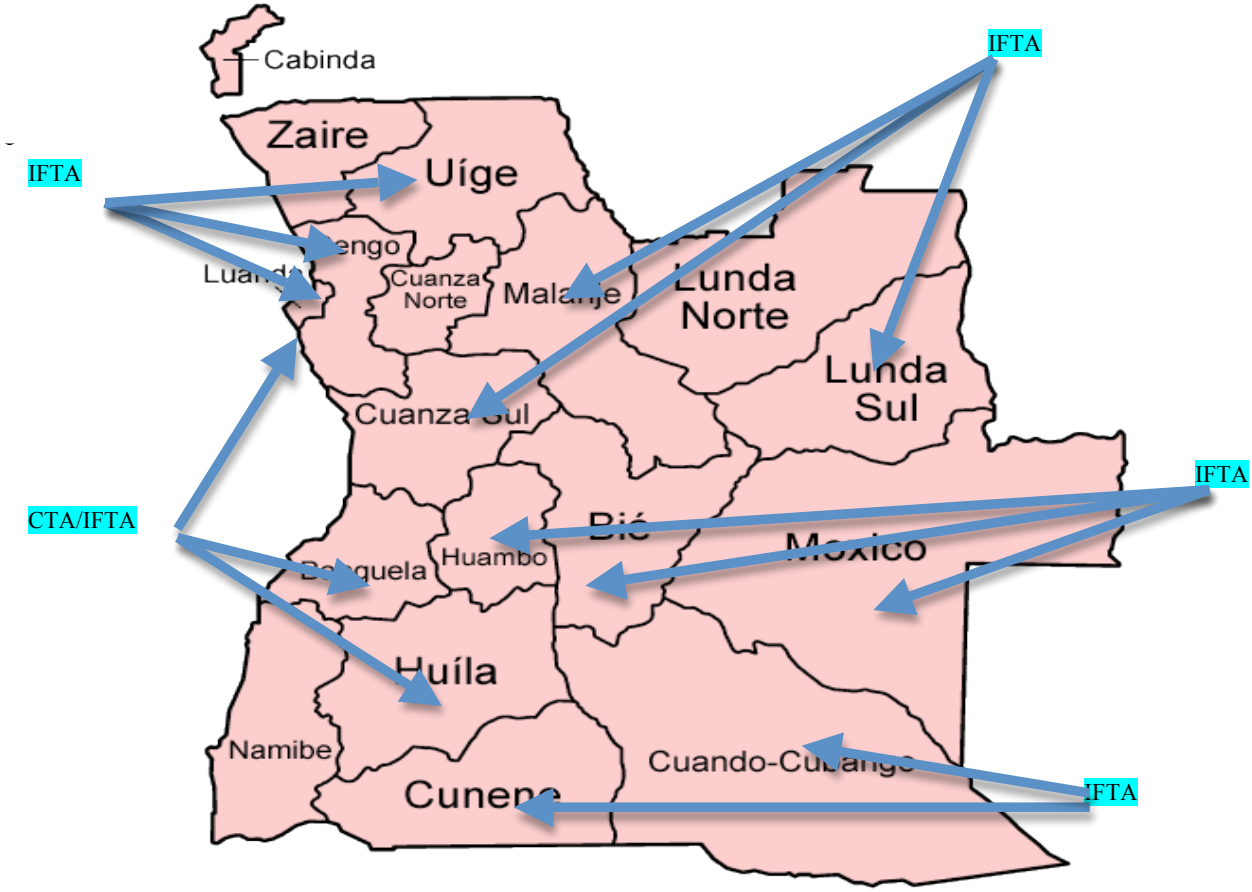
UNDP Mine Action Staffing and Capacity Building 2007 – 2009

Map (1) 2007: provides the organ-o-gram and Areas Of Responsibility (AOR) of the UNDP MA international staff in 2007. This application of the AORs was based on the original seven provinces to which the UNDP MA was requested to assist and capacity build for INAD.

CTA= Chief Technical Advisor

IFTA= International Field Technical Advisor

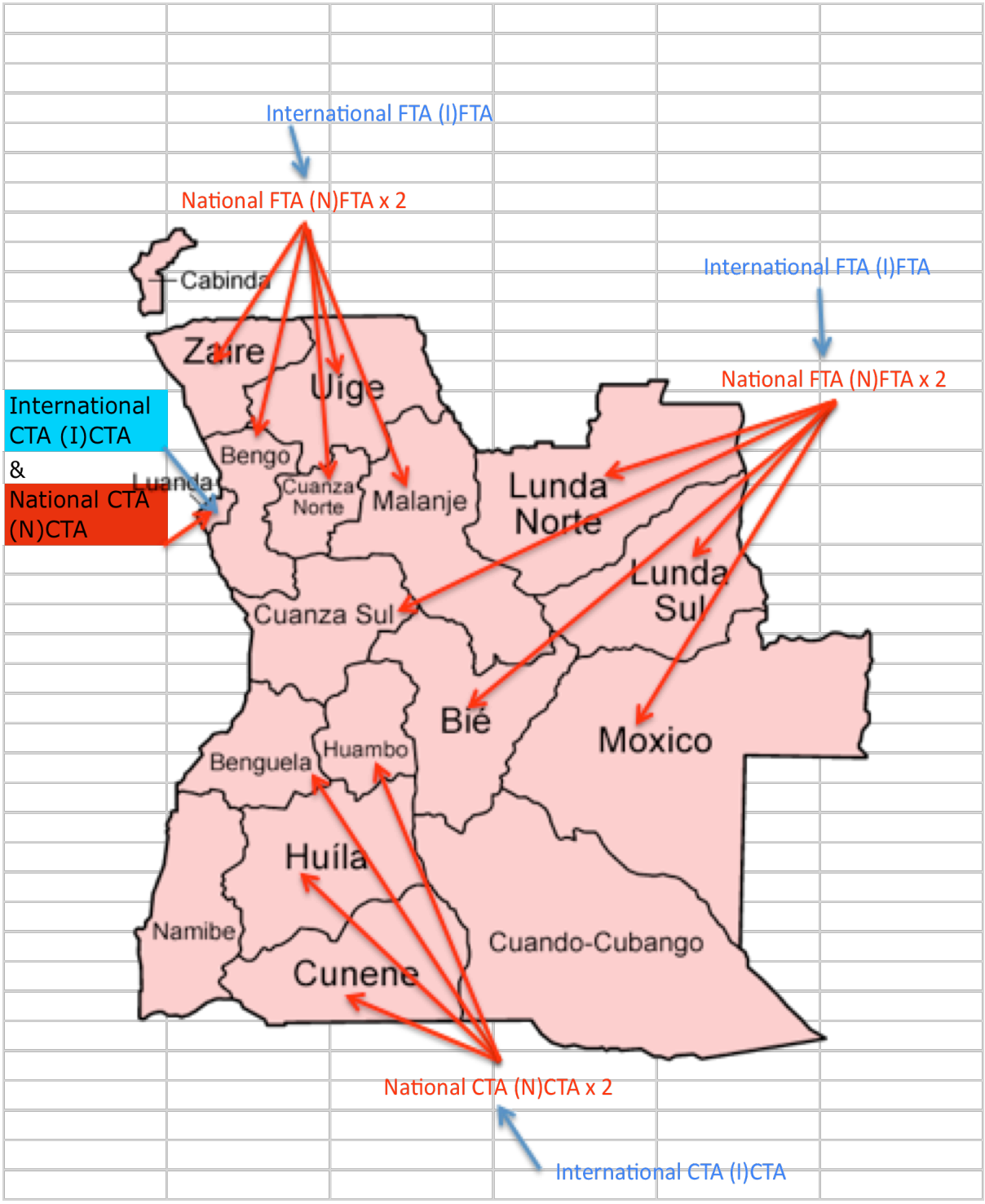
Map 1:



Map 2

Map (2) shows how UNDP MA responded to the GoA's inclusion of 15 provinces as INAD's AOR expanded. It also shows the incorporation of Angolan Nationals within the UNDP MA umbrella, reducing international direct responsibility for QA and QC. It should be noted that International Field Technical Assistant (I)FTA's still oversee and QA the UNDP National Field Technical Assistant (N)FTA.

Map 2:

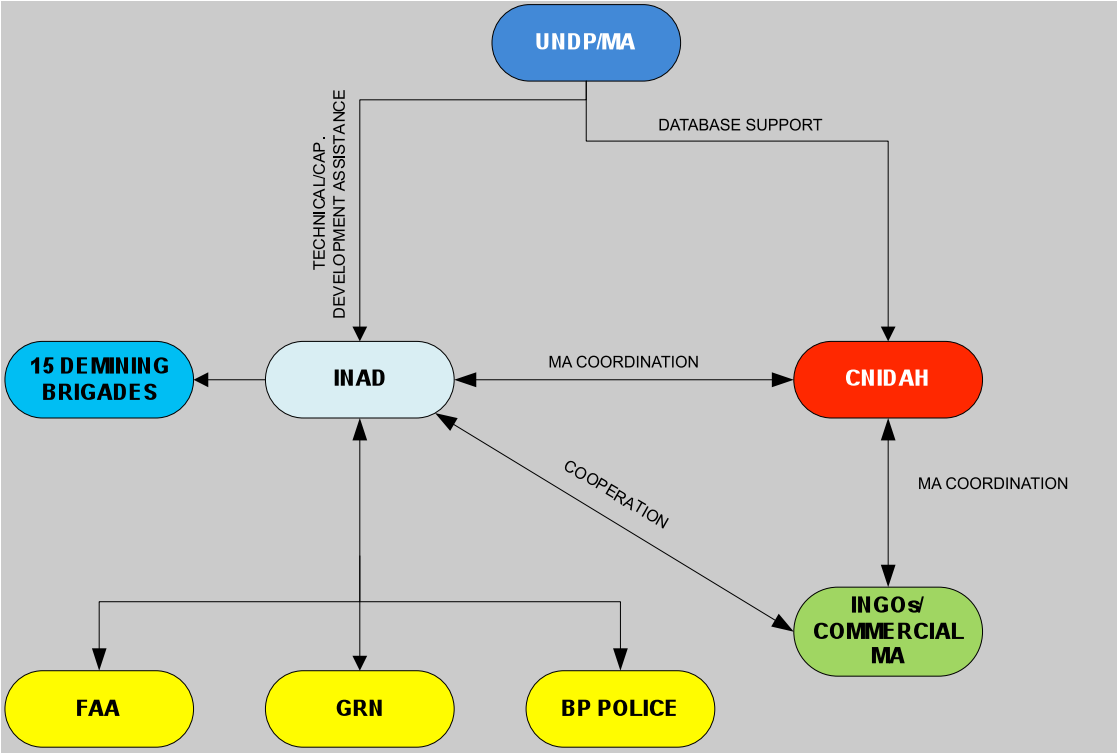


Further to the direct influence of the UNDP mine Action team on INAD, the extended influence of their capacity building, training, QA and QC flows down from INAD to other departments related

to land release, including FAA engineering, the National Reconstruction Department (GRN) and Border Patrol Police (BPP). To illustrate the extent of this influence, please see flow chart below.

Capacity Development Chart:

UNDP Training and Capacity Development Influence Flow Chart:



SOP Content Table

SOP	Content	Observation
1) Safety	Personal Protective Equipment Working Periods Minimum Size of a De-mining / EOD Team Safety Procedures – Equipment Mine Clearance Safety Distances Demolitions Safety Misfires - Action Explosives Handling Storage and Transport Storage of Explosives Transportation of Explosives Visitors – Safety	English & Portuguese
2)De-mining Organisation	Team Composition Organisation Responsibilities Discipline	
3)Survey and Marking	Area Survey Source of Information Information reliability Standard Reporting Marking of Hazardous Areas Levels of Hazardous Area Marking Operational Support	English & Portuguese
4) Site preparation and setting out	Designated areas Site reference points Setting out a baseline Site reconnaissance Site layout requirements and preparations Site layout Site layout Site requirements Site preparations and setting out Clearance sequence Clearance sequence	English & Portuguese
5) Hazardous area clearance marking systems	Mine clearance marking Minefield/UXO marking levels Minefield signs – standards Minefield signs – Angola Perimeter marking Measurement standards Mine field records Marking system Operational lanes Mine marking Marking sticks Lane marking Mine tape Mine marking signs Mine marking sticks	English & Portuguese
6) Clearance operations	Mine clearance techniques Basic techniques Manual de-mining – one man drill Trip wire feeler drill Trip wire reaction drill Trip wire thick vegetation drill Mine detector drill Prodder and excavation drill Pulling drill Route clearance drill	English & Portuguese

	Sealed roads Unsealed routes Building clearance drills Booby traps Responsibilities Clearance drill Methods of clearance Safety Site setup	
7)Demolition of mines and UXO	Demolitions EOD	English & Portuguese
8) Medical support and casualty evacuation	General preparations before exec of clearance activities (maybe put with site preparations) Medivac procedures Casevac procedures Procedure in event of accident Procedure following an accident Minimum med equipment for trauma care pack Introduction Minimum standards Minimising risk Casualty evacuation Casualty evacuation (casevac) drill Casevac drill responsibilities	English & Portuguese
9) Reporting & communications	Introduction Operational / administrative communication networks standards Communication questionnaire Radio room procedures, discipline, guidelines language	English & Portuguese
10) BAC	Battle Area Clearance Deep search techniques Surface area techniques	English & Portuguese
11) Mechanical mine clearance	Guideline to general procedures Specific SOP for: • Mine Wolf • Hitachi • Bozena • Casspirs • Komatzu	English & Portuguese Not yet for specific machines
12) Quality assurance	QA & QC questionnaire Guidelines standards	English & Portuguese
13) Mine detection dogs	Search procedure Accreditation Refreshed training schedule	English & Portuguese
14) Accident investigation	Introduction Immediate action Investigation	English & Portuguese

Mine Action comment

The assessment paper written by the Project in 2007 appraised the mine action situation in Angola with regard to how things had changed since the 1990s. The paper outlined the situation in Angola where the international de-mining Non Governmental Organisations (NGO) sector operated throughout the country and conducted a Provincial Level 1 survey of contaminated areas. During this period, security concerns often disrupted activities, as did the fact that many mined areas were still strategic and were protected by the armed forces. Compounding this, the country was still divided, with UNITA controlling significant areas within the provinces. With the resumption of war in 1998, de-mining activities were subsequently disrupted. However, when peace returned in 2003, the government undertook to repair the country's infrastructure and rid the country of mines and Explosive Remnants of War (ERW).

With the growing amount of funding provided for mine clearance by the Government of Angola (GoA), international donors reviewed their contribution to International Non-Governmental Organisations (INGOs). As a result the United Nations Development Programme (UNDP) Mine Action (MA) Project team pointed out that this was not the time to abandon the INGO community, since government funding was being directed towards National Institute for De-mining (INAD) and Angolan Armed forces (FAA) to carry out mainly infrastructural verification and was not aimed at reducing the priorities indicated by the Landmine Impact Survey (LIS) 2005-2007, affecting communities in Angola. Therefore with the reduction of staff from the (I)NGO community, UNDP saw an opportunity to recruit former senior technical national staff and include them in the Project.