Philippines – Australia
Land Administration and Management Project

Prototype Implementation Office 2
Quezon City

PIO2 FINAL EVALUATION REPORT

31 December 2003

REPORT D30

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Land Administration and Management Project

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A. INTRODUCTION

1. This report covers the activities carried out by Prototype Implementation Office 2 (PIO2) up until the 31st December 2003. It contains an evaluation of the activities undertaken, the methods tested, lessons learnt and makes final recommendations.

Background

2. This document doesn't contain a review of how LAMP came about or the main objectives, this is covered in the document "Introducing Innovations in Land Administration and Management: Lessons and Experiences from LAMP" produced by the Monitoring and Evaluation Unit, this is a review of the activities of Project Implementation Office 2 (PIO2).

Objectives of Project Implementation Office 2

3. The project area for PIO2 was requested by the Land Registration Authority (LRA). The original project design was more on Land Titling and from the start PIO2 has suffered as the poor cousin to the "main project". PIO2's main objective was to work with the Land Title Computerisation Project (LTCP) an objective which to date has not been realised. It was also charged with trying to improve the land records management system an area where it has had greater success.

4. The output of PIO2 is to produce proven new procedures and demonstrate successful cooperation between land related agencies for the improvement in quality and completeness of land title records. PIO2 is concerned with increasing confidence in the existing land registration system.

The prototype is involved in the following activities:

- Creation of Cadastral Index Maps (CIM) and development of cross indexes to control duplicate land titles and for other administrative purposes;
- Validating existing titles held in the Register of Deeds (ROD) against the records of the Quezon City Local Government Unit (LGU) records;
- Going into the community to try to locate missing records in the field.
- Reconstitution of certificates of title, for the prototype area, which are missing from the Registry of Deeds and facilitating the process of providing land owners with new titles as replacement to their missing titles;
- Integration of the CIM and Cross Index into the ROD, streamlining of land registry operations to maintain quality of land register documents and exchange of land information between related agencies of government.
- Setting up a One Stop Shop to incorporate the services offered by the ROD, LGU Treasurers, LGU Assessors, Bureau of Internal Revenue (BIR), Land Registration Authority (LRA) and the Department of Environment and Natural Resources (DENR), in a single location.
- Community Relations Services (CRS) educating the communities about the objectives and services being offered by the project, as well as advising them of their rights to use and transact in land.

5. In addition, there is a strategic process of developing a national plan for improved management of land ownership related records. This will be based on the lessons learnt from this Prototype, and also from the rural activities in Leyte in Prototype 1, and will also link with the implementation of the BOO Project.

6. The project followed a Bridging Loan that instigated the procedures that are in place, these procedures have been modified and tested. The aim is to obtain standard tested procedures that will be suitable to implement throughout the Philippines in urban situations.

7. The lead agency for managing the prototype is the Land Registration Authority (LRA), while the Department of Environment and Natural Resources (DENR) and Tax Assessors Office also are stakeholders who will be sharing the facilities of the One Stop Shop (OSS). The composition of prototype personnel are from LRA, DENR and Tax Assessors Office, the remaining staff are employed on a contractual basis by the prototype. The Bureau of Internal Revenue (BIR) will also be involved in the OSS, but will only supply staff to the OSS not the prototype office.

8. This report has been structured as follows;

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B. Background on the Pilot Project in Quezon City

9. PIO2 was originally set up in Quezon City Hall finally operating from the 9th Floor. At the time the Registry of Deeds was in the building next to City Hall. However with the completion of the new building within the LRA compound the Registry moved to its new location. In August 2002 after negotiations had been completed, PIO2 were also able to move to the 2nd Floor LRA building in East Avenue. LRA then cleared out a small area near the ROD which the project has since extended and renovated for the One Stop Shop (OSS). Late in September 2003 the PIO2 office space was renovated with the works being completed in early October. At the same time the extensions to the OSS were completed and partitioning was installed mid October 2003, ready for the OSS to begin operations. To date the hold up has been the final fittings for the OSS, some of which are funded by the Quezon City Mayor's office. The funding from the Mayor's office however could not be applied for until all parties had signed the MOA, this happened in mid October.

10. PIO2 has been involved in testing different methods for the validation of records using both office and field verification of records, CIM production and identification of fake, duplicate and missing titles. Manuals have been produced in all areas and as new procedures are tested and agreed to they are added to the documentation. The prototype has tried to introduce worlds best practices to develop a Land Information System linking CIMs to a database of land record information. Trials have also been carried out on creating a Graphic Information System (GIS) that would hold the CIM data and the cross index.

11. All these systems have been developed independently with each unit working to a work plan that defined the activities for that unit in context with the log frame. However the focus of the prototype needed to shift towards a more harmonised approach. Originally Community Relations Services (CRS) would go into the field and hold community assemblies. These were held all over the prototype area and the concept of the Land Administration and Management Program (LAMP), the OSS, and other PIO2 activities like CIM, office validation and field validation were explained. This campaign caused several problems as the prototype took two years to get the OSS completed, over one year to complete a preliminary field validation of Holy Spirit and two years to begin the field validation in the other four barangays. The feeling in the community towards government programs was never favourable, the prototype has not delivered on this campaigns promises and LAMP is seen in many quarters as just another waste of government money, increasing taxation, etc.

12. To try remedy this perception PIO2 has put a lot of time and effort into securing the respect and the assistance of the local community. In Holy Spirit where most of the work has been concentrated there is great anticipation surrounding the actual opening of the OSS. A Barangay Advocacy group (BAG) was created to assist the prototype in getting its message to the community. Many syndicates have been removed from the area, either through the public being educated about their rights or the fear that they will be detected. Many community concerns have been clarified right through the prototype area, eg the various government departments involved have come up with a clear resolution on the Forest Land dispute declaring that all land in the prototype area is already alienated and disposable. A united effort has been negotiated by the prototype on the court decisions regards Original Certificate of Title (OCT) 333, with the departments and local congressmen all united to ensure the land owners do not lose there rights. These have all been positives for the project and its acceptance by the community and agencies alike.

13. The prototype office now needs to focus on internal processing management. Each unit within the prototype has been charged with getting a certain job done and testing different methods to come up with the best method to carry out that activity. The units loosely work together and have had several training sessions and presentations on what each other do. The next phase is to take the step up and turn the prototype into a strong cohesive unit with each section working together. There is

more detail on this in the next section.

14. The Prototype activities were set out in the project design documents created by the World Bank and AusAID. The requirements of both organisations do not always match and a consolidated log frame was developed covering both, which the project planning has followed. The activities and reports have been broken up into 6 monthly periods as per the project inception report.

    As the start dates for the commencement of the World Bank and AusAID components did not match, the World Bank agreement ended in September 2003, the AusAID component is however continuing until early 2004. After the Government of the Philippines extended the project until the next phase in 2005, both the World Bank and AusAID have agreed to extended their activities until December 2004 to implement a smooth implementation of the subsequent phase.

The tasks for the final six months of 2003 are set out in the following table.

Table 1: Deliverable 36 tasks

Deliverable 36 task	PIO2 Activity	Status
Identification of methods that have potential to detect fake, duplicate and missing titles, and to resolve the title anomalies;	Workshops, Manual, Formation of the Fake Title TWG	Completed. All current procedures are documented and a manual prepared with recommendations for improvements that the TWG can explore. However the TWG has not met with great success. The main problem has been a lack of ownership by the agencies. The last meeting in early December saw some improvements with the LRA taking a positive roll to chair the meeting All current procedures are documented and a manual prepared that will be updated with any resolutions from further meetings.
Facilitating wide consultation to ensure that the views of all stakeholders including direct customers and the wider community, are considered and integrated in the process	Field Validation, Workshops, Community Relations Services	On-going. While a Barangay Advocacy Group (BAG) has been set up in Holy Spirit and meets regularly it is not clear what benefit it is supplying the project other than public relations. Community members and NGO's have been included in all OSS simulation workshops as well as the National Land Records Strategy and Land Laws workshops. Even though PhilSSA (the NGO commissioned for the remaining barangays) was to look at new and innovative methods they will Also form BAGs in the 4 remaining barangays.

Deliverable 36 task	PIO2 Activity	Status
Technical assistance to develop a range of objective criteria (i.e. time, budget, equipment, human resources and skills, costs, affordability, agency capacity and capability, stakeholder and community acceptance, regulatory changes required before adopting, suitability, sustainability) by which the proposed methods could be compared.	All activities within the prototype.	Completed. The technical assistants have been working with the different PIO2 units and the Monitoring and evaluation staff to develop the criteria. These results have been used to determine the costing for each method undertaken in all areas that PIO2 have been working in. Where possible the measurements have used the current system as a base to allow comparison with the trialled methods. Also the comparisons have been carried out between the methods trialled.
Obtaining all necessary material, including the results from Output 3.1, and conduct an evaluation, including opportunities and constraints that would need to be overcome before adopting the methods	Evaluation workshops for each unit.	Completed. All activities carried out in 3.1 have been evaluated. For new methods trialled in this period the PIO2 production units have been carrying out evaluation workshops at the end of each activity. In these workshops they evaluate the strengths, weaknesses, constraints, issues and lessons learnt from the activity. The workshop output also includes updates required to produce new versions of operational manuals. The evaluation reports for the PIO2 activities form part of this report.
Assisting to conduct workshops on the results and gain consensus for recommended improvements	Workshops	Various workshops have been held with all the stakeholders, PMO and PIO1 to gain consensus. However PIO2 and the PIO2 TA's were largely ignored in the consensus building process carried out by PMO.
Providing technical assistance to drafting any required modifications to laws/regulations and seeking approval	Assisting the Land Law TA & the National Land Records Strategy TA in their investigations.	Completed. Two strategy documents have been prepared one by the Land Registration Law Adviser, the other by the National Land Records Strategy Adviser. PIO2 have been pursuing the stand of the agencies regarding these proposals, but have little commitment from LRA or DENR, both seem to be waiting for the LAA to be formed and carry out the changes.

Deliverable 36 task	PIO2 Activity	Status
Documenting the selected methods and procedures;	Production of Operational manuals for all PIO2 activities	Completed. Operational manuals have been developed through workshops and consultations with the operational teams. As new methods are adopted or activities modified the manuals have been updated and reviewed by the operation teams. The Manuals produced are: ▪ Fake Title Investigation ▪ One Stop Shop operations ▪ CIM production ▪ Field Validation ▪ Office Validation ▪ Tracking/Cross Index User manual ▪ PIO2 manual of operations ▪ Manual for Densification PIO2
Assist to develop and operationalise the One-Stop-Shop.	Workshops, training, meetings with agency heads, TWG meetings.	The development phase has been completed, however the OSS is still not operation due to lack of equipment and will not be running until at least January 2004. PIO2 have worked with the agencies involved to get agreement on the functions to be carried out within the OSS and have been able to facilitate agreement between the agencies to work together for a common goal. The OSS activities have been agreed to and a Memorandum of Agreement signed off by all agencies involved. Staff to be employed in the OSS have been identified and trained ready to start OSS operations. The funding for the procurement of the rest of the equipment required for the OSS is the only thing holding up the start. PMO have promised to prioritise the request and the mayor's office have pledged funds but neither have been forthcoming.

C. Overall Performance of PIO2

The overall performance of PIO2 is difficult to rate as it has failed to met many of its objectives. This has been the result of many difficulties the major one being the slow release of funds to the prototype. This lack of funds has resulted in problems in acquiring equipment, employing staff and renovating the OSS.

The prototype was involved in the following activities:

1. Creation of Cadastral Index Maps (CIM) and development of cross indexes to control duplicate land titles and for other administrative purposes.

The CIM group have created preliminary CIMs but not one final CIM that can be used outside PIO2 has been produced. The cross index is developed but less than half the records have been attached to CIMs. On these figures all you can say is that PIO2 has failed to complete these activities. However if you look at it from the view of achievements versus equipment/staff/etc provided, then PIO2 have produced a great deal with very limited resources. For example computers where not supplied until September 2003 yet the prototype area has been fully digitised and all titles that could be located from the Assessor's data have been captured.

2. Validating existing titles held in the Register of Deeds (ROD) against the records of the Quezon City Local Government Unit (LGU) records.

All TCTs identified in the Assessor's data have been located and keyed. Also any new TCTs created from transfers, land consolidation and or subdivision have been captured. 75% of record's mismatched with around 50% of these mismatches having the potential to increase LGU revenue. Based on these figures the process was very successful, however the prototype is still unsure how many files the LGU still possess which are not converted and what the real benefits would be.

3. Going into the community to try to locate missing records in the field.

In Holy Spirit 1472 records were located 900 of which differed from what was known by the Assessor's, however 26% or 2000 parcels have no TCT records. From these figures locating records in the field has limited success and other methods need to be trialled.

4. Reconstitution of current certificates of title which are missing from the Land Register and facilitating the process of providing land owners with new titles as replacement to their missing titles.

LRA do not want the prototype to take over any reconstitution process and are only interested in the project informing the users of the process for reconstitution. PIO2 has had limited success in this area only advising a handful of people in the process and failing to capitalise on the feedback from field validation.

5. Integration of the new records into the ROD, streamlining of land registry operations to maintain quality of land register documents and exchange of land information between related agencies of government.

None of the new records in the form of CIM's or the cross Index have been integrated into the OSS. On this point PIO2 would have to be judged as failing, however seeing the budget to operate and equip the OSS, where these records would form the front end of ROD operations, have not been supplied it has been impossible for PIO2 to complete this requirement.

6. Setting up a One Stop Shop to incorporate the services offered by the ROD, LGU Treasurers, LGU Assessors, Bureau of Internal Revenue (BIR), Land Registration Authority (LRA) and the Department of Environment and Natural Resources (DENR), in a single location.

This was impossible to accomplish without funding. A site was supplied in June 2002, however funding for the renovations was only approved in mid July 2003, funding for the computer equipment September 2003 and when funding to supply the rest of the equipment need to operate the OSS will be approved/supplied is unknown. However PIO2 has complete agreement on the processing to be carried out, staff to be detailed by the agencies have been identified and trained and a Memorandum of Agreement between the agencies has been signed. Also the Mayor of Quezon City has pledged 1.5 million pesos to help with OSS operations and to help finalise the set up. Community support and anticipation has been tremendous and they also eagerly await the opening. Making all the activities surrounding the OSS a huge success, but with no way to operate it.

7. Community Relations Services (CRS) is educating the communities about the objectives and services being offered by the project, as well as advising them of their rights to use and transact in land.

In Holy Spirit the statistics indicate that just over 50% of the community are benefiting. The rest had not heard of LAMP before the field enumerators arrived at the door. For the other Barangays the responsibility lies with PhilSSA to provide the education. This process is only just beginning and won't be measured until the field validation activities have been completed.

D Evaluation of the Management of the Prototype

15. The full history of the setting up of the project and the management structure outside of the prototype has been documented by the PMO and this document will not go back over that detail. The focus here is PIO2 management and organisation, the organisational chart of set out in Annex 1. PIO2 is organised into 7 units, with the exception of the OSS each unit has a unit head or chief. At the top of the structure there was to be a Prototype manager and two deputies, one deputy for technical operations and one for administration. The Prototype manager was to be supplied by the lead agency the Land Registration Authority (LRA), then the other major agencies DENR and Quezon City LGU Assessor's would supply the deputies.

Land Registration Authority management of PIO2

16. A major problem facing PIO2 has been the disinterest of the LRA in its activities. Under the original arrangements the LRA administrator signed the agreement and was keen for PIO2 to work in Quezon City with the Land Title Capture Project (LTCP). Unfortunately before the project commenced the LRA Administrator died and his replacement had no interest in the prototype or its activities. Under the arrangements the LRA were going to detail a full time prototype manager and three staff to act as unit heads and cartographers. Under this arrangement the detailed staff would gain new skills and be exposed to international advisers, introducing worlds best practices. The skills and training that they received would then be kept within LRA when these people returned to their units at the end of the project. However only one of the three detailed staff provided has stayed with the project, the two that left were never replaced. The prototype manager has been a separate problem. The original prototype manager was required by the incoming LRA Administrator as an adviser on plan registration. LRA Administrators are Supreme Court judges who are appointed to the position, they have no formal training in plan approval, however as the LRA Administrator they are required to sign all plans that are approved. As such most appoint a senior LRA officer as an adviser who carries out a final check on their behalf, they then sign the plan when the adviser is satisfied the plan is registrable. The first PIO2 prototype manager was therefore kept very busy and had little time to devote to the prototype. Finally after being pressed, by the PMO in a workshop in January 2002, to make an effort to work full time at the prototype he resigned his position. However it was not until the second LRA Administrator also died in office and was replaced that any action was taken by LRA to replace him. The next prototype manager was extremely inconsistent switching between spending a large amount of time at the prototype and spending little time there. As the time he spent working with the prototype dwindled away to almost non existent it was agreed with the LRA Administrator and his Deputy, who had been assigned to assist PIO2, that he would be replaced.

17. The current prototype manager is also a Registrar of Deeds and initially his registry had no deputy. This required him to fill in half his day at the Registry and half at PIO2, on top of this it can take 45-60 minutes to get from his registry to LRA so the amount of time allocated to PIO2 was suffering. Mid 2003 a deputy was appointed to the Registry to free up his time but as full time Registrar of Deeds he has been unable to supply more than half a day to the prototype and on many occasions could not be present at all. This is compounded by the fact that there is a Registrars meeting every Monday afternoon which eats into PIO2 time and he is required to appear in court cases for his Registry. However of the three prototype managers he has been the most useful to the project. Having connections within LRA and with other Registries he has been able to negotiate more affectively than the previous managers and has been involved in some of the major changes in the project. However this was just a matter of timing as most budgets and procurements have only lately been approved, but he was still able to contribute and to make some decisions that smoothed the process.

What are the lessons

18. Part time management at the top of the prototype does not work. Projects need strong managers who are working full time within the project.

19. LRA has a larger commitment to LTCP and is not prepared to give a large commitment to LAMP at the same time.

Issues

20. If the prototype manager does not come from the lead agency what will be the effect on the project and it's relationship with the LRA. Will this also have a longer term affect with the LAA.

21. While the prototype sits within the LRA building it is not accepted as part of LRA.

Recommendations

22. The current prototype manager needs to be retained in some capacity. If LRA are prepared to release him in a full time capacity then this should be pursued, otherwise a manager should be appointed from outside government and the current prototype manager retained as a deputy/adviser.

23. The relationship between LRA and the project needs to be further enhanced. LRA have a preference towards the LTCP project and while there is some support for LAMP at the top levels, it is not universal in the organisation.

Local Government Unit management of PIO2

24. There have been similar problems with the deputy prototype manager from the LGU Assessors. When the prototype was in Quezon City Hall he was able to spend at least half a day a week and be present for meetings. However once the prototype was moved to LRA his attendance diminished appreciably, the prototype has been lucky to get half a day per month, although lately he has not been present at all, except for the odd workshop. At one stage it was negotiated with his managers that he would spend one day a week at the prototype but this has not occurred and the LGU Assessors are reluctant to remove him from the post and replace him.

What are the lessons

25. The project needs to ensure that when a partner has committed staff that they can maintain the commitment.

Issues

26. Whether LGUs are prepared to work with LAMP and can commit the necessary staff and equipment.

Recommendations

27. In Phase II lamp needs to secure commitment from LGUs before they begin operations in their areas. Part of this commitment should include supplying some management support for the process and possibly taking on the role of sustaining the OSS in their region.

Department of Environment and Natural Resources management of PIO2

28. The only constant has been the Deputy Prototype Manager from DENR, who has made a commitment from the beginning to maximise his time in the project. As part of the original team assigned to the project he is the unofficial prototype manager (although he refuses to except the role). Someone had to Champion the role of PIO2 and make sure that the activities were carried out with very little support (other than TA assistance) he has taken on the full time running of the prototype managers role, his role and the other deputies role. Also because of the poor training and under skilling of the unit heads he has also been forced to take on many of their roles as well. Because the structure has ended up so lop sided an Organisational Development TA was added to the prototype to assist the Deputy in training the unit heads and in trying to maximise the use of the Prototype managers. This makeshift management team have been responsible for driving the prototype and helping it achieve the results that it has risen to, with occasional assistance from the international TAs. However the Deputy receives little compensation, unlike the prototype manager who has been awarded a government vehicle to transport him around and the contractual unit leaders who receive a higher pay, he must share any honorarium with the other detailed staff and any agency staff who assist the project, often receiving no reward.

What are the lessons

29. A committed management team is required to run and project activities, there is too much pressure placing all the emphasis onto one person.

Issues

30. Whether LGUs are prepared to work with LAMP and can commit the necessary staff and equipment.

Recommendations

31. In Phase II lamp needs to secure commitment from LGUs before they begin operations in their areas. Part of this commitment should include supplying some management support for the process and possibly taking on the role of sustaining the OSS in their region.

PIO2 Unit Heads

32. The last area of the project management structure is the unit heads. There are 6 unit heads, 4 are detailed staff the other two are contractual staff. The original intention was to have all unit heads as detailed staff, however as M&E and CRS are specialised fields the unit heads have been supplied outside the government sphere. The problem with the unit heads has been their inability/unwillingness to take responsibility. Most do not understand that a project structure varies from the normal organisational structure found in Government and are ill prepared for the added responsibilities they must take on. There is a tendency for them to push all problems towards "Senior Management" rather than to deal with the problems themselves. The organisational development manager has spent a lot of effort in training these people in management skills and introducing systems within the prototype to make the process smoother. The problem is most of these programs have been abandoned, for example a system of weekly reporting that relates the weekly output to the work plan is no longer used, weekly meetings have ceased, etc. This lack of discipline is one of the hardest skills to teach the unit heads and as a result does not filter down to the staff. For example the detailed staff, being poorly paid next to the contractual staff, supplement their incomes by doing private work. An agreement was made that they would carry out this work in their own time rather than office time, however this is no longer the case and many are seen with

customers sitting at their desks during office hours. Instead of managing their unit's operations they often become involved at the operational level only, not recognising problems until they are pointed out by other units or the TAs.

33. The staff are required to produce weekly plans with the unit heads and should report back on these plans ever week, bringing up issues and problems for the unit heads to deal with or to pass on to the unit heads meeting. However this type of management is seen as to time consuming and difficult to implement, instead staff run around gathering statistics for their unit heads when a meeting is to be held. Thus the units are run by responding to problems rather than by anticipating problems and having a strategy ready.

What are the lessons

34. The role of the unit heads needs to be properly defined and the staff undertaking the role need to understand their role, as well as being committed to it.

Issues

35. Finding, training and retaining good unit heads who can take the responsibility for their units production and managing their staffs outputs.

Recommendations

36. There is a lot of knowledge in the current unit heads, each one should be assessed and if suitable they should be trained. Where any are not suitable they should be retained in a deputy role taking on other duties.

Project Management Offices role in the management of PIO2

37. The relationship with PMO management has also been an area of contention. PMO have not had a great focus on PIO2, the role of the deputy director at PMO who deals with PIO2 has never been filled full time (this has also been an LRA responsibility). PMO have mainly focussed on the policy studies and PIO1 having left PIO2 to try and run its own operations. PMO only taking interest when a quarterly review takes place or if PIO2 get desperate enough to ask for assistance. At one stage there was a push to close PIO2, as the LRA had not wanted to talk to the prototype or assist it in any way. The prototype was saved as result of a new LRA Administrator taking over, who was interested in the Land Administration and Management program and a favourable report from the QAP who took the time to review the work carried out by PIO2. The role definition between PMO and PIO2 at the management level has been unclear to PIO2 for sometime, confusion starts when the prototype is told to take responsibility for themselves, but are then pulled up for doing something that PMO should have approved. PMO's cause is not helped by the lack of a full time deputy who should be working with the prototype. LRA have not been able to supply the deputy and instead of having a full time manager who can work with and help the operations PIO2 have to wait until the Director or the other deputy have free time to assist them.

38. A Project Management Team (PMT) was introduced in mid 2003. The team consists of the PMO executive director and the deputies, PIO prototype managers and their deputies, the TA team leader and the major TA's form PIO1 and PIO2. The PMT was formed to try and assist the managers by giving them a forum for presenting their achievements and issues. In this forum the PIOs can be kept informed of the project developments, while reporting progress back to the PMO.

What are the lessons

39. There needs to be a clear definition of the roles of the PIO2 management and where they need to defer to the PMO.

Issues

40. The amount of support that PMO can reasonably supply to the prototype. There needs to be a balance between showing interest and interfering in the prototypes activities. PMO seem to lean towards not interfering as much as possible but this has been to the point that the prototype feel they are being ignored.

Recommendations

41. The person(s) in PMO who will look after any implementation activities must be working in the project full time and need to work closely with the implementation offices to ensure they are properly managed.

What worked?

42. Having a fulltime deputy prototype manager, if all managers had been part time the prototype would not have succeeded.

43. Having an organisational development TA who could help guide the prototype and document the procedures.

44. The PMT the meetings have allowed the prototypes to bring up issues and improve their relationships with each other and PMO. Also the PMO has been able to present the major issues affecting the project and keep the PIOs informed on the progress of these issues.

What didn't work?

45. Part time management. Projects need strong managers who are working full time within the project.

46. The current unit head structure. It is badly in need of review, unit heads have to be responsible for day to day management leaving the project management to guide the direction and work with the other agencies to give the project all the support needed. If the project managers have to constantly deal with unit problems they cannot focus on the project concerns.

47. Working within a structure that does not supply management support. The prototype management office needs to be able to work on multi levels prototypes and their needs cannot be abandoned because the PMO are more interested in the policy studies and building relationships to get legislation through. Additional managers need to be available to support the other operational units. While the PMT has gone a long way to fixing this problem it should have been in place at the start of the project.

48. Identifying the rules of operation for the prototype and having them followed by the staff. There is a lack of discipline, brought about by two factors. Clear rules have not been defined for the working environment, for example when computers were introduced into the office no rules were introduced for their operations, as a result the staff all play music on separate machines making the office noisy and difficult to concentrate in. Also when the computers were networked the networking software contains the ability to send messages, this is now the preferred method of communications with staff sending hundreds of messages across the network every day, clogging the network and wasting work time.

What was planned but didn't happen?

49. Not really applicable here however it would have been good to have tried using an external project manager to see how government works with the private sector running a project and managing some of its staff.

D: Evaluation of the PIO2 units operations

50. This report is concerned with evaluation of the PIO2 operational units and is the final evaluation that will be delivered under activity 36. While CRS, M&E, CIM, Survey Mapping, Orthophoto and Survey Control have separate reports developed for there activities this is a broader look at all activities. In all instances these reports, compiled by the TA responsible should be referenced as they will contain far more details. There are also separate reports from the Land Law Adviser and on the National Land Records Strategy. Both these reports were current at the time of production and this report will only look at any progress made since their creation.

Cadastral Index Mapping

51. Cadastral Index Mapping (CIM) production started during the Bridging TA period. With very limited equipment and staff the CIM was based on the information provided by the Local Government Unit (LGU). Lists of plans in Holy Spirit were created from the LGU data and when the plans were retrieved they were reduced/enlarged on the photocopier to get them to the same scale (1:10,000). Tracing paper was then placed over the Photocopied plan and the CIM was traced using a pencil. This photocopying introduces errors into the parcels as the image is stretched at both ends and this was never intended to be the final method, it was more an introductory method to demonstrate that CIMs could be produced. Given the availability of resources this was quite a clever method and helped set the team on the path of working together. As the staff was a mixture of DENR, LRA and contractors it allowed them to learn how each other worked and to see if they could work together as a team. Sadly the commitment of the LRA staff wasn't there and over time both representatives disappeared from the project, never to be replaced by their organisation.

52. After the Bridging Period a Survey and Mapping International TA was introduced to the project. Prior to the TA's arrival a digitising board was acquired from DENR and after some additional software and cords were located it was setup and attached to a PC. Some basic training was supplied by the Land Parcels Records International Adviser and this was enhanced by one of the LRA staff who had been formally trained in the use of the equipment at LRA. When the Survey and Mapping International TA arrived he was required to work equally between PIO2 and at PIO1 in Leyte and one the first steps he undertook was to develop a standard that could be applied to both prototypes. The International Adviser introduced a more structured approach to CIM production and introduced the use of Pantographs to enlarge/reduce the plans, thus eliminating the stretch and distortion introduced by photocopying. CIMs were also converted to the national standard PRS92 and once the survey control had been completed and was ready a block adjustment was made to get the CIMs orientated correctly and to get the best fit with the control.[1]

53. The introduction of the Survey control allowed for a more accurate production of digitized CIMs and all CIMs for the five Barangays have been digitised. In December 2002 the International TA for Survey and Mapping ended their commission and was not replaced. This left several methods untested including the use of Orthophotos, which had not been delivered.

54. Orthophotos were finally produced and delivered in early 2003. The International Orthophotos TA was then mobilised and work carried out testing the production of CIMs using Orthophotos[2].

55. A flatbed scanner has been purchased but to date lack of a suitable computer (the system requires on older version of windows with high memory), the scanning of plans and producing the CIM from the digitising from the scanned image have not been trialled.

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[1] See the Procedure Manual for Urban and Rural Cadastral Index Map report C25 for more details
[2] See TA Report Orthophoto Mapping Second Assignment November 2003 report D29 for more details

What worked?

56. The current process used by the CIM unit, where the survey control is captured, then the survey plan(s) are digitised using the control. The CIM is finished off by having the Unique Parcel Identification (UPI) Numbers added by hand. Where the CIM is a preliminary CIM the Lot and Block numbers are also entered to allow the office validation team to capture the CIM/UPI against the parcel record.

57. Borrowing a digitising board from the DENR. Although LRA has one they do not use the prototype was unable to borrow it, but the one we obtained has proven to be invaluable. If it had been ordered through the project it would not have arrived until September 2003 with the computers.

What didn't work?

58. Hand drawing of CIMs from a copy of the plan that had been resized to the required scale using a photocopier. Photocopies distort when enlarge and this causes all sorts of problems when the plan is traced onto the CIM.

59. Quality Assurance

60. Following the Manual

What was planned but didn't happen?

61. The following are yet to be tested:

- Heads up digitising

Office Validation

62. The Office Validation team forms part of the Titles Reconstitution and Validation Unit under the control of one unit head. Office Validation was not very well defined in the design of the initial documentation. The initial focus in the bridging period was on the Assessor's records provided by the Local Government Units (LGU) of Quezon City. Little thought or planning went into how the TCT data would be used or how. When the project started there was a major problem in identifying what was contained in the 5 barangays. The ROD cannot provide data about barangays, TCTs are stored in the order that they are registered, while the districts are mentioned on a TCT there is no reference to the barangay they belong to. This left the identification of records to be carried out using the data held in the LGU of Quezon City. While the LGU's data was helpful and a great starting point, the Assessor's and Treasurer's held data in a variety of loosely related systems. At the LGU a conversion program was underway converting the data to digital format and PIO2 was able to secure a copy of this information. However the program is still ongoing and in 2001, when the data was obtained, there were many gaps. Also the LGU's data was held in two databases, the main Assessor's database and what appeared to be a secondary Treasurer's database. It has been assumed that there was a separate database for Treasurer's data as anytime a record was not among the data supplied from the Assessors the deputy prototype manager (from the LGU) was usually able to locate the record required on the other database. In other instances a search was carried out from the Assessor's tax maps and the information located in the paper records.

63. In initial office validation data was placed into 4 separate Microsoft Excel spreadsheets. Microsoft Excel was chosen as the bridging international TA was familiar with that program and felt comfortable developing in it. PIO2 works in 5 Barangays, however the LGU Assessors and Treasurers do not recognise Payatas as a barangay, even though there is an established barangay hall and the barangay elected captain is invited to Quezon City committees and functions. As a result the four separate spreadsheets where developed for Holy Spirit, Bagong Silangan, Commonwealth and Batasan Hills. Parcels within Payatas being held within the records of Commonwealth and Bagong Silangan. A lot of time and effort went into the development and updating of the records from the LGUs. The process however was flawed. LGU records are only updated after the owner goes to the LGU and registers as the new land owner, if this does not happen then the LGU record is out of date; also there is no legal requirement for owners to register. The intention was to hold a field in the spreadsheet and indicate if the LGU's record matched the TCT record, there was no clear direction on what to do next, except that all mismatches would be subject to field validation. The intention was to fix the LGU's record in the spreadsheet and have an up to date cross index, although the data in the original LGU file would not be correct.

64. Pulling lists were produced from the LGU data spreadsheets and sent to the ROD. Again this process was not thought through and had many difficulties. The first problem was the ROD itself. The ROD was originally located in the building next to the LGU, however even before the project had been designed and started LARES had planned to build a new ROD building in the LRA compound, with the intension of moving all the staff and records. PIO2 was not made aware of this and had even planned to build the One Stop Shop at City Hall. This made access to the records difficult as they were being boxed up to transport to the new ROD. Also when the ROD records were burnt in late 1988, a decision was made to renumber from 1, rather than continuing the numbering from the point were the records were burnt. This made the majority of the TCT numbers held in the LGU records worthless, but more unfortunately meant that many TCTs initially pulled were not within the prototype area, wasting time and resources. The majority of theses records PIO2 initially received from the ROD were useless. Of the hundreds of TCTs retrieved only a handful were the correct TCT, but the effort to sort through the lists compare land descriptions and determine which ones were needed was horrendous.

65. At the same time the CIM group has produced a set of CIMs based on the tax maps, not PRS92. The CIM sheets were individually numbered and a lot of time and effort was used in locating records in the Excel spreadsheets and adding this CIM sheet number to the record.

66. The entire approach and design was analysed by the International Land Title Records Adviser. The data was removed from the excel spreadsheets and placed into a Microsoft Access database. Pulling lists were then formatted on the date of registration of the TCT, being split into:

- those that were registered before the fire,
- those registered after the fire and
- those which the LGU records had no date of registration.

The pulling lists were also produced and printed on a CIM basis, using the sheet number which had previously been captured. By using this method the title retrievers could employ appropriate techniques for pulling the separate lists. All TCTs registered after the fire are accepted and copied, all TCTS registered before the fire or with no registration date, are not removed and copied unless the land description matches the land description on the pulling list. TCT data is government guaranteed making it the logical basis for the cross index, what other agencies need to know is how their records match with the land title information. Therefore the data was also restructured, with the main break up of the data being a parcel containing the land description, that would be linked to the CIM, and separate tables for TCT and LGU data. An input screen was designed that allowed the linking of these three components and by displaying the TCT data against the LGU data matches or mismatches can be reported. More importantly the reason for the mismatch is recorded to enable the generation of a report to the LGU on the differences between their data and the TCTs. This also significantly changed the approach for field validation as 75% of LGU records have some form of mismatch. The emphasis of field validation was switched to locating the owners of properties that no longer had a TCT in the ROD. Although where a large discrepancies is noticed between the TCT and LGU records this will be investigated in the field.

67. The initial database was held on one PC and the data entry operators captured the information into copies of the database on their own PCs. Each morning the systems analyst had to load up the TCTs captured, then as each was loaded the records in the owner and New TCT title tables (which are linked by an internal system number) had to be changed to match the new number before that data could be loaded. The TAs were able to provide a network hub and enough cabling to join the stand alone PCs together and have the data captured directly to the main database. This enhanced the capture, storage and integrity of the data, while freeing up the time of the systems analyst to get onto more important tasks.

68. When the CIM procedures were finalised and the new set of preliminary CIMs produced a different method was adopted by the office validation team. The new CIMs were created in PRS92 which caused the CIM boundaries to move. When the first set of CIMs had been produced titles had been captured and stored in folders under that CIM number. When the

Office validation is the next step after the production of the preliminary Cadastral Index Map (CIM) for a particular area. See also the process diagram in annex 2. Once the preliminary CIM has been created and each parcel allocated a CIM number the parcel records are validated against the records of the ROD and LGU. In the future it is also hoped that these can be validated against the records

from the Bureau of Internal Revenue (BIR). The office validation will then give the field validation teams the necessary information to allow them to carry out their work in the field.

What worked?

69. The relationship between the project the LGU and the ROD. The LGU, mainly the Assessor's office, has gone out of their way to supply information to the Project. The ROD has also made large adjustments to help the project collect information from their records.

70. Removing the data from the excel spreadsheet, putting it into a Microsoft access database and creating data capture formats. Linking the data entry operators in a network that captured all the data into a single database.

71. Highlighting the parcels that have been office validated on the copy of the CIM to be used for field validation. This saves the field validators having to visit properties that the project has already validated.

72. Quality assurance of the keying, as the confidence of the data entry operators increases there is less need to have a full check of all keying and random checks are sufficient.

What didn't work?

73. Using a Microsoft excel spreadsheet as the cross index and focusing on the Assessor's data as the main information to be held in the cross index.

74. Not having an update system in place for the LGU assessor's records. It was twelve months before the first updates were received. As a result many of the mismatch reasons between the TCT data and the Assessor's data were no longer relevant. The overall problem was that the project was unable to deliver any results back to the Quezon City LGU.

75. Making changes to the system but not updating the documentation. At times the team decided to change their work practices, however they failed to update the documentation, in particular the user manual. As a result many of these changed activities were not properly monitored or evaluated.

76. CIM capture for Holy Spirit. Only the parcels that had TCTs attached were captured, leaving gaps in the database. The structure in the database has all records connected to a parcel, without this base structure it is impossible to determine which parcels have an Assessor's record, but n o TCT. This made the analysis of the field validation results too difficult and they were not properly analysed for over 6 months.

What was planned but didn't happen?

77. The following are yet to be tested:

- Using the LARES data instead of keying TCT records, the LARES data has been promised but is yet to be delivered.

- Keying from the books held in the registry rather than by barangays, a sample keying should be arranged and trialled to identify problems if this method is adopted in the future.

Field Validation

78. Field validation is the other part of the Titles Reconstitution and Validation Unit. The field validation process was added to the prototype activities as an opportunity to locate records that were no longer available in the agencies. With the burning of the Registry of Deeds many TCTs were destroyed and the only record was the owner's copy. For 95% of Quezon City the deeds have been reconstituted, however the majority of the remaining 5% is within the five Barangays covered by the prototype.

79. Three pilots were carried out to help determine the best method to carry out field validation of the records. From these activities it was determined that field validation (FV) needed to include some CRS activities, as well as measuring the effectiveness of the CRS program. By the end of the third pilot a field validation manual had been completed and the approach agreed upon. However the FV unit had a serious lack of manpower and the staff was unable to analyse the results of the activities

80.

81. Over the last two years much debate was held over the name of the activity, field validation implies that records are validated in the field, where in reality this only occurs in a small number of cases. The field activity is primarily to locate records in the field that cannot be found in the registry of deeds and where applicable advise the owner of the need to reconstitute. The reality is that field validation does not locate all records, even in formal subdivisions, and is only one strategy that can be employed, to date no other strategy has been attempted but these can be pursued in the extension phase.

One Stop Shop

82. The PIO2 activities also includes the establishment of an office known as the "One-Stop-Shop" (OSS). The OSS is a primary part of the institutional objectives of the Project and the need for an OSS has been accepted and endorsed by the agencies concerned. The OSS will be established through the co-location of staff from the relevant agencies – LRA, DENR, ROD, BIR and LGU.

83. The OSS has been plagued by problems with funding over the past two plus years. In August 2001 when the concept was ratified by the Local Advisory Group (LAG) there was a belief that the One Stop Shop would be started early in 2002. Unfortunately at the time of writing this report only some very basic functions that do not need any equipment, ie computers, faxes, photocopiers, have been introduced to the OSS. The official opening will not be until January 2004, providing funding has finally been made available. The first OSS TWG meeting was held in October 2001 and a workshop with the department heads was held in December 2001. Resulting from the agreements in the workshop a budget was prepared in January 2002. This budget was held up in PMO and the government approval process and was not approved until December 2002. Funds were even slower to be released the construction funds being made available in August 2003 and the first round of equipment, in the form of computers, was not provided until the end of September 2003. The budget for cabling, telephones, faxes, photocopiers, etc. have still not been provided. The result has been that the project has been unable to deliver an OSS where government could display government organisations working together in an effort to improve the service delivery to the public.

84. The OSS will contain combined activities from these agencies, starting with basic transactions, ie Transfer of Ownership, preliminary examination of plans and acceptance of documents for title reconstitution. As the project continues more activities will be analysed and where possible added to the functions of the OSS.

Staff from the agencies have been identified and have been undergoing an intensive training program in readiness for the opening of the OSS. To date the renovations for the OSS have been approved and the funds are available, the last requirement is to get approval for the renovations from LRA, so construction can begin.

Fake Titles, missing and lost titles

85. The main problem in the prototype area has been the ability of syndicates and unscrupulous individuals to take advantage of the confusion. With multiple agencies approving plans, many lost or burnt records and the ability to use the court system in their favour, they have been able to make large profits and sell properties that do not belong to them. PIO2 has used multiple strategies to try to protect the interest of the people in the area and help stamp out this problem. Some are deliberate strategies others have been the results of other prototype activities.

86. The first strategy was a public awareness campaign using CRS and field validation. The CRS approach was a deliberate attempt to educate the public and to attempt to answer their concerns. The field validation was not originally intended as a vehicle for this process, but this evolved over time as one of the methods that the project could employ to educate the public. CRS has used community dialogues, like Barangay Assemblies and Area Based Community Dialogues (ABCD) not only to get across the LAMP message, but to educate the public on what their rights are and where they can check the ownership of the land. It has also been able to identify community concerns on other matters (see the CRS section set out below) and help the community identify the true situation in their area. Through this campaign people are now checking the validity of land owner's claims, especially where land is informally settled, before paying out for settlement rights. Field Validation started as a campaign to locate missing records, but as it has progressed it has now become a major method of educating the public, especially in areas where the CRS campaign has not been able to reach all community members. Field validation has also been able to locate properties that have been double titled.

87. The CIM and office validation have also played a major role in locating lost and missing title records within the Registry of Deeds (ROD). For the first time a comprehensive map of the cadastre has been prepared, that is linked to the LGU Assessor's and the TCTs. From these records the gaps in the registry easily can be identified.

88. A major task of the prototype was also to bring together the various agencies involved in land and determine the procedures that they use in dealing with patently fake or spurious certificates of title. This process has been very slow moving, partly because of the large number of agencies involved and partly because of difficulties in getting a person from the prototype to take charge of the process. The first meeting was not held until the start of the third quarter of 2002, seven months into the time that had been allocated. This meeting brought together the various agencies, who presented the internal procedures used to detect and stop the use of patently fake or spurious certificates of title. These procedures have been documented by the national land title records adviser.

89. It wasn't until mid 2003 that a Technical Working Group (TWG) was formulated and that work was commenced on reviewing the procedures and developing the requirements for a national approach. This committee is still in its early stages and after some initial difficulties is beginning to make progress.

Patently fake or spurious certificates of title are those that have not gone through the process of registration or have not been duly issued and signed by the Register of Deeds. This includes the following:

- Certificates of title in fabricated or counterfeit title forms.
- Certificates of title in genuine title-forms but the signature of the Register of Deeds was forged.

- Certificates of title in genuine title-forms but issued and signed by an impostor or person not authorized by law.

- Fabricated or patently fake or spurious owner's duplicate certificates of title.

- Fabricated or spurious original of the certificates of title.

Fraudulently issued certificates of title are those issued and signed by the Register of Deeds but their issuances are tainted with fraud or irregularity. These include the following:

- Genuine certificate of title with spurious or falsified Patent of the LMB or DENR (Land Sector).

- Genuine certificate of title with spurious or falsified court decision or order for the issuance of decree.

- Genuine certificate of title with spurious or deed of conveyance of the LMB or DENR (Land Sector).

- Genuine certificate of title with spurious or falsified survey plan.

- Genuine certificate of title with un-authorized alteration of the entries on the title.

- Genuine certificates of title covering inalienable parcel of land, such as government reservations, timberland, mineral lands, seas, lakes, rivers, streams, bays and other similar areas.

- Genuine certificate of title with spurious or falsified deed of conveyance.

- Genuine certificate of title covering parcel of land previously titled in the name of another person.

- Genuine certificate of title in the name of a foreigner not qualified to acquire land in the Philippines.

- Genuine certificate of title with expanded area of land.

Monitoring and Evaluation

90. Monitoring and Evaluation (M&E) didn't start until late in the project. There was no M&E in the bridging period, although one of the detailed staff had been assigned as the M&E unit head. The first M&E work occurred early in 2002 when the international M&E adviser carried out the first of his assignments with the project. The unit head assigned to M&E had been transferred to Office/Field Validation and no one had really replaced him in PIO2. The international adviser worked with each unit trying to determine the indicators required. He then prepared a report and having completed his assignment returned to Australia. The plan was to have a national M&E adviser assigned to the project to give M&E some continuality to the process. Unfortunately the National Adviser only arrived in November 2002. In the mean time PIO2 had a large turnover of M&E staff with none staying long enough to put any programs into place.

What are the lessons

- The Monitoring and Evaluation system needs to be developed early in the project to enable the units to effectively measure their outputs and evaluate any methods trialled.

Issues

- The large staff turnover and the inability of the project to make available M&E counterparts when technical assistance is provided.

Recommendations

- The M&E tools and roles need to be supported by the project, M&E staff have to have a thorough

91. Late in 2002 the CRS transferred one of their staff to the M&E team, although other staff were still be hired and resigning this first stable M&E officer was able to provide the continuity required. With a full time National TA and a more stable M&E team at PMO, the PIO2 M&E team have been able to establish their objects and build a stable team. The International M&E adviser also returned in November 2002 and was able to work with the new team to develop performance indicators for PIO2. The structure of the PIO2 M&E team has been reasonably stable since and they have been able to assign members of the team to monitor and evaluate the separate units within PIO2. The reporting of the results has been a more consistent and the team has been able to develop formats that facilitate the evaluation of the methods tested by the other units. However the earlier work was never fully monitored and a lot of the evaluation is mainly from people's memories and assumptions rather than from facts gathered at the time of the process being carried out. This was compounded by the lack of appreciation of the need to monitor the work by the unit heads and the problem of TA's moving between prototypes or working on multiple areas at the same time, therefore not being able to devote the required effort to thoroughly monitor the activities. This created a result driven evaluation, often missing the important processing issues and not getting a comprehensive measurement of the effort undertaken.

What are the lessons

- The more stable the M&E team is the better the results that can be gained from both the monitoring and the evaluation side of their work.

Issues

- Unit heads still place a strong emphasis on the M&E team to monitor and evaluate their teams operations rather than taking on the responsibility themselves.

Recommendations

- The current prototype manager needs to be retained in some capacity. If LRA are prepared to release him in a full time capacity then this should be pursued, otherwise a manager should be appointed from outside government and the current prototype manager retained as a deputy/adviser.

92. There is still confusion over the role of M&E and the amount of documentation that they should produce. One group feel that M&E should be responsible for all documenting, meetings, user manuals, training modules, evaluation reports, etc. While the senior management, particularly at PMO, feel that they should only facilitate most of these processes and that the unit heads should take the responsibility for these roles. There is still a small staff turnover, the most significant being the National TA who has now been replaced by the National TA for organisational development. The reporting has become more structured and consistent, enabling the M&E team to produce informative evaluations of the methods tested.

What are the lessons

- The M&E roles need to be agreed upon and the M&E staff should only be responsible for the activities that assist in Monitoring and evaluation.

Issues

- Unit heads still place a strong emphasis on the M&E team to monitor and evaluate their teams operations rather than taking on the responsibility themselves.

Recommendations

- The current prototype manager needs to be retained in some capacity. If LRA are prepared to release him in a full time capacity then this should be pursued, otherwise a manager should be appointed from outside government and the current prototype manager retained as a deputy/adviser.

E: Benefits of the Project

Bureau of Internal Revenue

93. BIR was one of the first organisations to look at their internal operations to see what changes could be made to streamline them for the OSS. They received an immediate benefit from this change as they were able to create flexible smaller teams that could be rotated throughout BIR. While the project cannot take full responsibility for causing the change it was one of the driving factors that helped in the decision to carry out this reorganisation.

94. The prototype will be making available the Cadastral Index Maps and Cross Index for the agency staff to use within the OSS. This will allow the BIR staff to locate properties on the CIM and using the orthophoto as a back drop can make an assessment on whether any improvements have been made to the property (based on their last assessment record). Also the reference number of a Certificate Authorising Registration (CAR) can be recorded against the property and over time the BIR can check to see if the CAR being presented has already been used.

95. Working together with the Assessor's in the OSS the BIR staff will have the ability to compare the LGU assessed value for a property as opposed to their assessment. This will allow the assessed values to be more consistent between the agencies and in the short term the BIR and assessors may be able to carryout assessments together, prior to the introduction of the Nation Appraisal Authority (NAA).

96. The BIR will be able to use a layer in the GIS to map the tax zonale information to assist in the assessing process.

97. The BIR will also benefit from the efforts of the prototype in finding records and educating the public. As more people understand the process and can negotiate the purchase of the land they live on there will be increased revenues as sales now leave the informal market.

Department of Environment and Natural Resources

98. The prototype is planning to scan all plans at the DENR, in the short term all plans in the prototype area will be scanned, but the long term objective is to scan all DENR plans. This will provide a backup copy of the plan and will also allow the DENR representative in the OSS to access all current LRA and DENR plans.

99. The CIM will give the DENR the ability to view all subdivisions/consolidations in an area when registering plans and to determine what plans have already been registered at the LRA. This is far more information than their current projection maps which lack information about plans registered by the LRA. They will be able to project the new plan onto the CIM to determine if there is any overlap and with the use of the GIS hold an interim plotting of the map in the system.

100. The cross index allows the DENR to check that the applicant is the registered proprietor, as well as validate the land description and TCT reference of the parcel(s) in the plan.

101. Through the project DENR staff will be exposed to new technology, including GIS, scanning and digitising. As part of the National Land Records Management Strategy (NLRMS) they will have images of all plans available throughout the country, eliminating the problem of lost or stolen plans.

Land Registration Authority

102. Many of the benefits to the LRA have been already identified in the reports by the NLMS and the report from the International Land Law Adviser. These reports offer short and long term solutions to the operations of the RODs and the storage and maintenance of LRA records.

103. The prototype is also planning to scan all plans at the LRA, in the short term all plans in the prototype area will be scanned, but the long term objective is to scan all LRA plans. LRA already have a backup copy of the plans in microfilm, but this is only accessible were the plans are stored and where a microfilm reader is available. The LRA representative in the OSS will have access to all current LRA and DENR plans.

104. As with DENR the CIM will give the LRA the ability to view all subdivisions/consolidations in an area when registering plans and to determine what plans have already been registered at the DENR. This is far more information than their current projection maps which lack information about plans registered by the DENR. They will be able to project the new plan onto the CIM to determine if there is any overlap and with the use of the GIS hold an interim plotting of the map in the system.

105. The CIM and the cross index will fill in the gaps that will appear in the records captured in the LTCP. As the records captured by the LTCP are only from TCTs the project can displaying the Assessor's information where a TCT is not available and the parcel(s) will be shown on the CIM. The project will also be going into the field to locate the owners of the properties to assist them in reconstituting their TCTs, adding to the records that are held in the registry and that can be captured by the LTCP.

106. Through the project LRA staff will be exposed to new technology, including GIS, scanning and digitising.

Local Government Unit – Assessors and Treasures

107. Office validation is identifying gaps in the records held in the assessor's database. Part of the office validation process is to compare the records and produce a miss match report that will give the assessor's the ability to investigate the discrepancy and update their records. Where properties have been transferred or subdivided/consolidated and the owner has not informed the LGU the assessor's will be able to access the latest information and determine if they need to take further action. While the project is identifying these gaps it is also aware that the assessor's probably have a large unconverted file, given that 38% of parcels in the prototype area do not appear in the assessor's database records, these are now identified and the assessor's can use the information provided to accelerate any further conversion.

108. The Assessor's already possess a tax map; however this is a manual map that is not always up to date. Also it is not in the national standard and has not adopted PRS92. As the prototype maps more of Quezon City the benefits of the CIM will be realised by the Assessor's. As the CIM is already digitised the LGU will be able to develop their own layer of data and eliminate the need to keep a paper based mapping system.

109. Working together with the BIR in the OSS the Assessor's staff will have the ability to compare the BIR assessed value for a property as opposed to their assessment. This will allow the assessed values to be more consistent between the agencies and in the short term the BIR and assessors may be able to carryout assessments together, prior to the introduction of the Nation Appraisal Authority (NAA).

110. The prototype will be making available the Cadastral Index Maps and Cross Index for the agency staff to use within the OSS. This will allow the LGU staff to locate properties on the CIM and using the orthophoto as a back drop can make an assessment on whether any improvements have been made to the property (based on their last assessment record).

111. The LGU Treasures will also benefit from the efforts of the prototype in finding records and educating the public. As more people understand the process and can negotiate the purchase of the land they live on there will be increased revenues as sales now leave the informal market.

Registry of Deeds

112. Many of the benefits to the ROD have been already identified in the reports by the NLMS and the report from the International Land Law Adviser. These reports offer short and long term solutions to the operations of the RODs and the storage and maintenance of records.

113. For the first time the ROD staff will be able to use the CIM to see the spatial representation of the TCTs. This will assist in identifying gaps and overlaps in the records, especially where documents have been tampered with. In this way the CIM, together with the cross index will provide an effective method for detecting fake and spurious titles. It will allow the ROD staff to quickly identify the authenticity of records while providing links to other necessary data form the assessor's records.

114. As stated in the benefits for the LRA the CIM and the cross index will fill in the gaps that will appear in the records captured in the LTCP. As the records captured by the LTCP are only from TCTs the project can displaying the Assessor's information where a TCT is not available and the parcel(s) will be shown on the CIM. The project will also be going into the field to locate the owners of the properties to assist them in reconstituting their TCTs, adding to the records that are held in the registry and that can be captured by the LTCP.

115. As the prototype is scanning plans, these plans will be available to the ROD staff to validate the technical description on the TCT. In time the ROD will be able to dispense with Technical descriptions and make the plan part of any TCT search, as it will be linked via the land description on the TCT.

Benefits to customers

116. The biggest benefit will be the OSS where the customers will be able to access all the agencies in the one location. With the CIM to help them locate their property and the cross index to assist in locating the records of the agencies the customer service level will be vastly improved.

117. With all the agencies the one location some of the documentary requirements on the customer could be reviewed. For example when a case is formed the original TCT could be added to the case removing the requirement for the customer to supply certified copies of the plan to the agencies. For those agencies that are required to store certified copies they can make their own copy.

118. For many customers the information program provided by the prototype through CRS will provide them with invaluable information on how the process works and what their rights are. There is currently a great deal of misinformation and when the customers visit agencies they are only given a small portion of the information they need. This will no longer be the case with the OSS able to provide all the information that customers need to carry out their transactions.

Bureau of Internal Revenue

Benefit	Impact
The prototype will be making available the Cadastral Index Maps and Cross Index for the agency staff to use within the OSS	The BIR staff can locate properties on the CIM and using the orthophoto as a back drop can make an assessment on whether any improvements have been made to the property (based on their last assessment record).[3]
The BIR will be able to use a layer in the GIS to map the tax zonale information	The BIR staff can see the tax zone information easily and make their assessment.
The Certificate Authorising Registration (CAR) details and an image of the CAR can be stored against the parcel in the cross index.	This will help prevent the use of forged CARs which has been a problem in the current system.
Working together with the Assessor's in the OSS the BIR staff will have the ability to compare the LGU assessed value for a property as opposed to their assessment.	This will allow the assessed values to be more consistent between the agencies and in the short term the BIR and assessors may be able to carryout assessments together, prior to the introduction of the Nation Appraisal Authority (NAA).
The BIR will also benefit from the efforts of the prototype in finding records and educating the public.	As more people understand the process and can negotiate the purchase of the land they live on there will be increased revenues as sales now leave the informal market

Department of Environment and Natural Resources

Benefit	Impact
The prototype is scanning all plans at the DENR, in the short term all plans in the prototype area will be scanned, but the long term objective is to scan all DENR plans.	This will provide a backup copy of the plan and will also allow the DENR representative in the OSS to access all current LRA and DENR plans. As part of the National Land Records Management Strategy (NLRMS) they will have images of all plans available throughout the country, eliminating the problem of lost or stolen plans.
The CIM will give the DENR the ability to view	This is far more information than their current

[3] The Orthophotos are 2 years old and can only be used as a guide, for example if a customer claims no improvement yet there is a building on the property which was not there when the last assessment was made. In all cases a field inspection should still be carried out.

Benefit	Impact
all subdivisions/consolidations in an area when registering plans and to determine what plans have already been registered at the LRA.	projection maps which lack information about plans registered by the LRA. They will be able to project the new plan onto the CIM to determine if there is any overlap and with the use of the GIS hold an interim plotting of the map in the system
The cross index allows the DENR to check that the applicant is the registered proprietor, as well as validate the land description and TCT reference of the parcel(s) in the plan	This will help prevent people attempting to register plans over land that they do not own, using forged documentation.
Through the project DENR staff will be exposed to new technology, including GIS, scanning and digitising.	DENR will improve the skills base of their staff without having to outlay large sums of money to send them on courses.

Land Registration Authority

Benefit	Impact
Many of the benefits to the LRA have been already identified in the reports by the NLMS and the report from the International Land Law Adviser. These reports offer short and long term solutions to the operations of the RODs and the storage and maintenance of LRA records	
The prototype is also planning to scan all plans at the LRA, in the short term all plans in the prototype area will be scanned, but the long term objective is to scan all LRA plans.	LRA already have a backup copy of the plans in microfilm, but this is only accessible were the plans are stored and where a microfilm reader is available. The LRA representative in the OSS will have access to all current LRA and DENR plans
As with DENR the CIM will give the LRA the ability to view all subdivisions/consolidations in an area when registering plans and to determine what plans have already been registered at the DENR.	This is far more information than their current projection maps which lack information about plans registered by the DENR. They will be able to project the new plan onto the CIM to determine if there is any overlap and with the use of the GIS hold an interim plotting of the map in the system
Through the project LRA staff will be exposed to new technology, including GIS, scanning and digitising.	The LRA will improve the skills base of their staff without having to outlay large sums of money to send them on courses.
The CIM and the cross index will fill in the gaps	The LRA will have a complete record of the

Benefit	Impact
that will appear in the records captured in the LTCP. As the records captured by the LTCP are only from TCTs the project can displaying the Assessor's information where a TCT is not available and the parcel(s) will be shown on the CIM. The project will also be going into the field to locate the owners of the properties to assist them in reconstituting their TCTs, adding to the records that are held in the registry and that can be captured by the LTCP	properties and be able to easily identify which ones still need to be reconstituted. The additional properties encouraged to have their titles reconstituted from the field validation will increase the number of TCTs in the ROD.

E: Achievements of the Project

Cadastral Index Mapping

119. The role of the Cadastral Index Mapping (CIM) team has been to create CIM from existing map data in the offices of participating agencies, using survey information and orthophoto maps to control the mapping process. A set of preliminary CIMs were been created for the prototype area. Once office and field validation are completed and the CIMs have been adjusted final CIMs will be drawn for use in the OSS.

120. Over the past 6 month period the Survey and Mapping technical adviser has not been mobilised. However PIO2 has continued the production of CIM by plotting the survey plans held in DENR and LRA. Two methods have been fully tested the first was plotting the CIMs by hand the second was digitising the plan data, including the parcel boundaries, then the other information is hand plotted onto the CIM. Further details are available in the "Final report Land Parcel Mapping PIO2 Dec 2002" report compiled by the Survey and Mapping Technical Adviser.

121. A small group of Orthophotos have been delivered to the prototype and the International technical adviser for orthophotos was mobilised. He has tested the quality and of the orthophotos and compared them to the existing CIMs, his findings are reported in the "TA Report Orthophoto Mapping". Also preliminary development of Graphical Information System (GIS), using Map info, has been undertaken and a plan database which links the plans to the CIMs has been developed.

122. Accomplishments

Table 4: CIM production activities

Activity	Units	Target	Accomplishment
Retrieval of Plans DENR LRA	 Survey plans	 844 322	 844 322
CIM Prepared (semi-digitized) Holy Spirit Batasan Hills	CIM	 33 34	 33 40 (including blow-up)
Hand-Over to Office Validation Holy Spirit Batasan Hills	CIM	 33 34	 33 7*
Checking accuracy of hand drawn CIM	corners	56	55

*the hand over of hand drawn CIM from Batasan Hills was suspended as the CIMs did not adjoin with the other digitized CIMs created for Holy Spirit.

Table 5: Outputs for the CIM development

Step by step procedures	Resources	Time	Manpower	Output
1. Retrieval of Survey Plans	- own money used for travelling - *Monetary Resources:* Payment of LRA plans and printing - Vehicle - Computer/database	LRA: 2 weeks DENR: 1 survey plan/mo	- One focal person	Per Month: LRA:>100 plans DENR: 1 plan
2. CIM Preparation	- Low end PC - Digitizer - Plotter - 8 cartographers - two drafting tables - three lettering sets - tracing paper - mylar - scanner	33 hours	- Seven Cartographers doing hand drawn CIM - One AutoCAD operator	Per Month: **AutoCAD Operator:** >20 CIM/mo. **Cartographers**:>50 CIM/mo
3. QA	- Blueprint of CIM - Highlight marker - Pens - Pencils - Print-out of survey plans	1 hour	Three staff - GE I - DENR GE - Supervising Cartographer	>50 CIM/mo.

Office Validation

Background

123. The role of the Office validation team has been to consolidate the land parcel records from various sources to create a single set of land records within a cross index. The information is gathered from the Registry of Deeds (ROD) the City Assessors/Treasurers (LGU), the Land Registration Authority (LRA) and the Department of Environment and Natural Resources (DENR).

124. The cross index has been designed to hold an index of information for a parcel. This index will be used to locate records within the different agencies by using the parcel shown on the CIM. The user can locate their parcel on the CIM and by entering the parcels unique identification number into the cross index they will be able to get:

- the TCT reference number for searching the record in the ROD
- the PSPIN and/or the tax declaration for searching the record in the Assessor's or Treasurer's offices
- the plan number for searching the plan at either the LRA or DENR

Unfortunately confidentiality sections of the BIR legislation do not allow the cross index to hold the TIN of the owner but their details can be searched at the BIR using the TCT number, the tax declaration number or the owner's name, which are all held in the cross index.

125. PIO2 developed a workflow in the production of Cadastral Index Maps and the cross index to be placed within the OSS. Office validation is the next step after the production of the preliminary CIM for a particular area. Once the preliminary CIM has been created and each parcel allocated a Unique Parcel Identifier (UPI) the parcel records are validated against the records of the ROD and the LGU. Office validation is given a copy of the CIM to work with that contains the UPI and the unique land description of each parcel, as each parcel is validated it is highlighted on the CIM to indicate that no further validation is required. Once a CIM has been through Office Validation it is passed to the field validation teams to investigate parcels that are not highlighted.

126. The basis for locating records within the prototype area has been the Quezon City LGU Assessor's database as they can be sorted into Barangays. Records held in the ROD are stored in TCT number order not by barangay and while the barangay information is held on the face of a TCT, is difficult to use without looking at every TCT in the ROD. The original assessor's data was supplied in November 2001, it contained the barangay code and TCT pulling lists could be made for each Barangay. Updates were not received until over 12 months later, now updates are supplied to the prototype at regular intervals from the Assessor's database.

The break up of data held in the cross index is shown below.

Table 6: TCT's captured

Barangay	No of Parcels	No of TCTs Captured
Holy Spirit	5,570	4,090 live (540 cancelled TCTs)
Bagong Silangan	7,723	4,682 live (1,017 cancelled TCTs)
Batasan Hills	9,392	5,988 live (1,670 cancelled TCTs)
Commonwealth	8686	2,030 live (497 cancelled TCTs)
Payatas	Unknown A combination of Commonwealth and Bagong Silangan	
Totals	**31,371**	**16,790 live** **3,724 cancelled**

The total number of parcels differs from the original estimate of 35,359 parcels, but is based upon current Assessor's database records. This is a large difference, 3988 parcels less than the original figure, however the final figure will be clearer once the CIMs are completed and the records have been office and field validated.

The figures for Holy Spirit have been based on actual findings from the CIM and office/field validation. The original estimate being fairly close 5,751 where actual was 5,570. For all barangays the number of TCTs entered is well below the number of parcels, this will vary from one barangay to the next and the final figures are only available for Holy Spirit as the other barangays are still be captured.

Evaluation of the Office Validation

Collection of TCT's from the Registry of Deeds

127. This has proven to be an extremely tedious process, wasting time and resources. Searching for records on a Barangay basis, and then capturing an area for matching with CIM production does sound ideal. But the reality is that it is not a workable method. There is a large co-ordination effort required to produce lists, pull titles and then represent a list for searching of titles that were unavailable the first time.

The copying of records was necessary as the original could not leave the ROD and the Prototype was situated originally at City Hall and later within the LRA compound.

Current Process

A list is taken to the registry and each Transfer Certificate of Title (TCT) located, once located the list is ticked, or if the TCT is not available crossed. Retrieved TCTs are then photocopied and a stamp placed on the TCT to indicate that it has been captured as part of LAMP. The TCT is then returned to the registry and stored back in the relevant book in page number order. The retrievers then checked the books of the ROD to locate where a TCT with a cross was and if possible copied the TCT. Where a TCT had been cancelled and a new one issued a photocopy of both the cancelled parent and new TCT(s) is produced.

Method 1

128. The first method used contained a list of all known TCTs for a Barangay, at the time of testing the TCTs were not stamped as being part of the prototype area. This method was not successful as it did not take into account the fact that titles shown on the Assessor's records could have been part of the file that was burnt in the fire at the Quezon City registry. A decision was made to renumber titles beginning at TCT No.1, rather than continuing the numbering from the last title issued prior to the fire. As a result the lists contained many titles that were not within the prototype area and a low % of the titles retrieved were relevant. For example in Holy Spirit approximately half the TCTs on the assessor's database were registered before the fire and, because of the renumbering have the potential to be in the wrong area. The majority of these were in the lower range TCT numbers and from pulling list of 40 titles it was not unusual to only have 2 or less titles that were relevant.

PIO2 had large stockpiles of useless TCT photocopies that were slowing down the process and the system was not efficient. This method was quickly ceased and evaluated as being detrimental to a streamlined, efficient process.

Method 2

129. To compensate for the problem identified in the first method, this method took advantage of the fact that the Assessor's records hold the date of registration of the TCT. This allowed the lists to be split into three categories as shown below:
    - TCTs that were registered before 1989
    - TCTs that were registered after 1989; and
    - TCTs that do not have a registration date

Table 7: Break up using registration date

Barangay	Bagong Silangan	Batasan Hills	Commonwealth	Holy Spirit
Before 1989	2736	2989	3190	2444
After 1989	4375	5774	4131	2777
No Date	309	311	282	167
No Date No TCT No.	303	318	1080	182
Total	7723	9392	8686	5570

Title retrievers were trained to look at the land description and owner shown on the TCT before taking it for photocopying, unless the TCT was on the "Registered after 1989" list. Otherwise the retrieval process was the same for the first method, with the following additional steps added. If the TCT was not over the same land, shown in the list, it was noted in the comments that the land description was incorrect. No photocopy of the TCT was made. The title reconstitution division was then referenced, to try and locate any reconstituted titles based on the TCT number supplied by the Assessor's database records.

The pulling lists are produced on a Barangay basis each list displays the information in TCT no order and contains:

- Lot Number
- Block Number
- Plan Number
- Area
- TCT Number
- Registration Date and
- Owner's Name

As shown below:

Some TCTs have been difficult to retrieve the two most prominent being:

- TCTs that have been lost/destroyed and have not yet been reconstituted.
- TCTs that are subject to a court case and cannot be viewed without the written approval of the court.

The overall result of this method was that only TCT's required by the project were retrieved and the data entry staff could capture the TCTs without having to keep referring back to the details on the original lists. While it is not the most efficient way to retrieve the TCT, it has been the best method available given the restrictions placed on the prototype.

The final cost to retrieve a single title, including photocopying is Php 37.53. This cost plus the cost of capture will be compared to the cost that LARES will charge to retrieve the data from their system and supply it to the project.

Copying of Records

130. Currently the copies of titles are obtained using a photocopier supplied by the project within the ROD. Before PIO2 could obtain it's own copier in the ROD scanning of TCTs was trialled. Various qualities of scanning were trialled to determine if the quality and the speed would be acceptable for capturing images to be data captured. The quality was excellent with the exception of Text and Image which rearranged the data to fit after the image. The times taken vary for the type of image to be stored as does the storage sizes. Interestingly enough the format with the lowest file size took the longest to scan, however this was a different program and was not the easiest to use.

The quickest time taken was with the photocopier (3 seconds) and although this does not produce a digital image that can be stored, this does not present a problem as the BOO project has already scanned all TCTs in the registry of deeds. For LAMP to duplicate the process would be a waste of resources, the results of the testing are set out in the table below:

Table 8: Comparison of Scanning Methods Tested

Scan Quality	Size of scanned file	Time taken	No of Sheets
Colour	2Mb	1 minute 40 seconds	1
Grey Scale	2.9Mb	1 minute 45 seconds (for 2 sheets)	2

Scan Quality	Size of scanned file	Time taken	No of Sheets
Black and White bitmap	89Kb	1 minute 5 seconds	1
Black and white scalable	289Kb	1 minute	1
Text and Image	223Kb	2 minutes 50 seconds (for 2 sheets)	2
Photocopy	N/A	3 seconds	1

Office Validation of records

131. Office Validation consists of two processes. The first is to create a parcel by the capture of the TCT information into the database and comparing it to the Assessor's records. The second is to tie the parcel to the CIM via the Unique Parcel Identifier. PIO2 also looked at scanning the image of the photocopied TCT to the cross index, as well as the type of software to be used for the cross index as part of the testing of different methods.

Capturing Images of Transfer Certificate of Titles.

132. Apart from the initial trial of imaging TCT's in the registry of deeds a trial group of photocopied TCT's were also scanned. While this method would not be seriously used for a registry where LARES had captured an image of the TCT, there may be times when LAMP is working in a registry not covered by LARES, ie if the two projects do not capture data from the same region at the same time. Also the document, which is scanned and held against the parcel, does not have to be the TCT it could be any other document that is relevant.

There are two options for storing the image each has their advantages and the final decision on which would be the preferred method would depend on wether any documents would be scanned and stored as part of a parcel record in the long term LAM program. The methods are:

- Holding the image as a separate file that is hyperlinked or attached file to the database, storing the link in a field against the parcel record, or

- Holding the image in a field on the database as an embedded picture.

The hyperlink option keeps the size of the database smaller but retrieval of the image is slower, the embedded option allows faster retrieval of the image but can affect the overall performance of the database as it is much larger. The PIO2 database is held on a normal desktop computer, rather than a dedicated server so the images were stored in a separate file, however this has other problems, if the file has been moved or the database placed in a different location all links have to be resaved. The overall conclusion is that if LAMP is intending to pursue storing imaged data it will need a dedicated server with more appropriate database software, before there is the need to select the better method. The last thing that needs to be considered is the strain an image places on a network, sending vast amounts of data slows the performance of other traffic on the network. For network traffic issues it would be easier to hold imaged document tables on computers that need them and deliver the images required for individual one stop shops.

Software selection for the Cross Index

133. Two formats were tested for holding the cross index the first was using a Microsoft Excel Spreadsheet the second was using a Microsoft Access Database. The design of the project had not budgeted for any database software so these two products were considered as the only viable alternatives. If the project is to be expanded and a central database is to be developed then the program will need to look at commercial database products that will handle large scale databases; however for the size of the prototype these two products are sufficient.

Excel Spreadsheet

The initial database was created in Microsoft Excel. While the data held was only the Assessor's records this was quite reasonable. Excel holds the data in a single row so by scanning across the row the required data can be found. But once additional information like TCT data, CIM UPI numbers, multiple owners are added the data becomes too complicated for the structure. Excel is an excellent product for writing data to be transferred into database tables but makes a very cumbersome database. It was quickly dismissed as an alternative.

Access Database

The cross index currently resides in an Access database. Access allows the capturing of data from multiple sources into individual tables that are linked to each other. Data can be entered using a form (data entry screen) and the users do not have to know where or how the data is stored. Through Access PIO2 have been able to hold data from the CIM, the ROD, the Assessor's and from field validation all linked together. Search screens are being developed to allow the searching of DENR, LRA, ROD, LGU and field validation data. Also tools can be created by the systems analyst to allow the checking of the data integrity and to report on discrepancies and gaps in the data. For office validation the forms used have created parcel records and allowed the user to quickly and easily create a new parcel, link it to the assessor's record; add the TCT data and compare the TCT data to the assessor's records. This is far quicker than the cumbersome excel system which was initially used. However Access does have limitations it will only hold around 3 million parcels, which is not an issue for the prototype, but makes it unsuitable for a national database system.

Office Validation capture methods

134. Office validation consists of two processes. The first is to create a parcel by the capture of the TCT information into the database and comparing it to the Assessor's records. Then second is to tie the parcel to the CIM via the Unique Parcel Identifier. Once a CIM has been linked to the cross index and it contains a validated title record the parcel on the CIM is then highlighted blue. This highlighted parcel will not be checked in the field, as PIO2 has all the details we require for it. Two methods have been trialled to date. The initial capture was very fragmented and has been ignored in the evaluation as it was part of the training process. The methods which were evaluated are:

- Combined capture of the capture of records, validation against the assessor's records and the tying of the record to the CIM in one step (Hybrid Method)

- The two step method of creating a parcel by the capture of the TCT information into the database and comparing it to the Assessor's records. Then tying the parcel to the CIM via the Unique Parcel Identifier on a CIM by CIM basis.

Hybrid Method

This method was named the Hybrid method as it was not the method intended to be trialled but a hybrid of it developed by the office validation data capture team in response to the needs at the time. The need at the time was to begin finalising CIM linkage on the database. As the data capture had when different types of CIM production were being trialled, there were already around 1,500 TCTs in the cross index. The need was to create completed CIMs for the field validation activities in Holy Spirit. The data entry staff went through the draws searching for any TCT's that were relevant to the CIM they were working on, this required going through the 10,000 TCTs that had been retrieved from the ROD to locate any that were stored there. This was very time consuming and removed the data entry operator from their computer slowing down the actual capture. At the end of the process there was a completed CIM where all TCT's know on it had been captured, however this came at a cost in time and effort. Cost estimates of the process showed that each CIM cost Php 3164.56, with an average of 214 parcels per CIM, of which on average 42% are captured the cost per parcel was Php 35.21.

Two Step Method

Under the two step method the linking of the CIM to the cross index does not occur until all the TCTs within the barangay have been captured. Then the CIM/UPI numbers are captured, under the figures shown for that period just over 4 times as many parcels where completed, this was because the data entry operators did not have to waste time looking through lists of TCTs to locate specific titles.

Entry of Records into the cross index Update of the CIM with the UPI number

135. Prior to the commencement of the field validation activities in Holy Spirit the following records had been captured into the cross index.

Table 9: Holy Spirit records in the Cross Index

CIM No	Parcels	Parcels in cross index	% of parcels captured	TCT in cross Index	% of TCTs captured
14402104130	24	0	0%	0	0%
14412104134	178	155	87%	157*	88%
14412104140	202	103	51%	94	47%
14412104143	11	10	91%	10	91%
14412104230	180	78	43%	81*	45%
14412104240	108	39	36%	30	28%
14412104241	46	0	0%	0	0%
14412104242	8	0	0%	0	0%
14412104243	212	0	0%	0	0%
14412104244	65	12	18%	12	18%
14412105130	34	90	265%	90	265%
14412105133	98	5	5%	5	5%
14412105310	23	1	4%	1	4%
14412105311	105	64	61%	64	61%
14412105313	279	172	62%	172	62%
14412104420	219	127	58%	91	42%
14412104422	162	0	0%	0	0%
14412104424	194	62	32%	62	32%
14412104410	344	316	92%	226	66%
14412104320	334	273	82%	198	59%
14412104310	176	145	82%	89	51%
14412104330	238	212	89%	116	49%
14412104340	393	235	60%	212	54%
14412104430	312	222	71%	153	49%
14412104431	36	34	94%	34	94%
14412104440	295	253	86%	169	57%
14412104442	223	1	0%	1	0%
14412105330	22	8	36%	8	36%
14412105331	23	0	0%	0	0%
14402104220	119	127	107%	110	92%
14402104210	269	122	45%	122	45%
14402104120	330	134	41%	130	39%
14402104110	76	20	26%	16	21%
14402104130	24	0	0%	0	0%
14402104140	45	6	13%	6	13%
14402104230	137	63	46%	65	47%
14402104240	18	20	113%	20	113%
14402104410	8	6	75%	6	75%
Totals	**5570**	**3115**	**56%**	**2312**	**42%**

1395 TCTs in HS are not attached to CIMs, while 145 TCTs are duplicated against the same preliminary CIM number (including 35 that are attached to CIMs that need to be drawn at a smaller scale and haven't been drawn yet).

While all endeavours were made to get the majority of TCT's into the system to cut down the

amount of field validation work it was not possible to complete all the work, as shown by the 1395 TCT's that didn't get attached to their CIM Unique Parcel Identifier (UPI).

The average time to capture a new parcel, TCT and compare the record to the assessor's record is 12 minutes, while the time to enter the UPI and highlight the parcel on the CIM is 4 minutes. At the average pay rate for a Data entry operator this equates to Php 21.57 per parcel.

Comparison of methods

Table 10: Comparison of the Methods trialled in Office Validation

	Averages			
Method	Cost per Parcel	Time per parcel	Cost per CIM	Time per CIM
Hybrid	Php 35.21	26 mins	Php 7534.94	11 days 4 hours & 44 minutes
Two step	Php 21.57	16 mins	Php 4615.98	7 days 1 hour and 4 minutes

CIM costs and times are based on the average CIM size of 214 parcels. Calculations are operator's times only any other costs equipment floor space etc. would be the same for each method. These additional costs will be added to the final evaluation report in December 2003.

Current Capture Details

136. The current process is to capture all the TCTs for a Barangay then attach the TCTs to the parcels for a particular CIM.

Table 11: Break up of TCTs and Parcels captured in the Cross Index

Barangay	No of TCTs (live & Canc.)	No of Parcels	Attached to CIM	Not Attached to CIM
Holy Spirit	4630	5029	3169	1860
Bagong Silangan	5699	4751	113	4638
Batasan Hills	7658	6116	1888	4228
Commonwealth	2527	2249	0	2249

The registration of new ownership in the ROD requires the production of a new TCT this would account for the higher number of TCTs captured than parcels created for Bagong Silangan, Batasan Hills and Commonwealth. In these areas many of the parcels will contain more than one TCT.

Matching of the Assessor's records

137. Currently 20,514 TCTs have been captured and have been attached to 18,113 parcels in the Cross index, the difference includes 3,724 cancelled TCTs 2,384 which have been superseded in the parcel record by the new (live) TCT, of these:
    - 15,791 don't match against assessors records; while
    - 4707 match the assessors records;

PIO2 received an update of the records from the assessor's database in November 2002 and are negotiating to have regular updates provided. The table below shows the breakup of mismatch reasons.

Table 12: Mismatches between TCTs and LGU records

Mismatch reason	Number	Live	Cancelled
N in Assessor's but not on TCT	1386	1283	103
Area Different	212	206	6
Date of Registration different	33	33	0
Et al	231	227	5
Land Description Different	781	768	13

Mismatch reason	Number	Live	Cancelled
LRA Reference Not Keyed	72	72	0
N Not Keyed	3277	3277	0
Names Different	84	84	0
No Assessor Record	703	649	54
No/Different Reg. Date	76	75	1
No/Wrong TCT#	67	63	4
Reconstituted	2689	2629	60
Subdivided/Consolidated	31	21	10
Transferred	6149	2709	3440

While these figures are high they are still be investigated, as much of the TCT data has been compared against the original copy of the assessor's database, rather than against the latest data. As each CIM is finalised and signed off the records will be rechecked and a report will be prepared, for that CIM, to be sent to the Assessor's.

Field Validation

138. The initial field validation activity was three pilot studies carried out in November 2001 and the first half of 2002. These pilots were used to develop the approaches to be used in the full scale field validation, incorporating the lessons learnt and recommendations. An operational manual was then developed to be used in the field validation activities.

Results of the three Pilots

139. It was determined that field validation will use a separate approach depending on the area that is being validated. For established areas a base camp will be setup and field team will only go to properties that have a dwelling on them and have not been office validated. For informal areas all properties will be field validated, even if they have been office validated. Again a base camp will be used but the field team will collect as much information about the parcels as possible. Prior to any field validation the CIM and the office validation must be completed. No field validation will commence until a field inspection has been carried out with the local barangay representatives and a field inspection report completed. The field inspection report is shown below:

CIM Number: _____ Number of Parcels _____

Type of Settlement: Informal ☐ Established ☐ Both ☐ Other ☐ (see below)

Number of Parcels: Informal _____
Formal _____
Vacant _____

Other Important information, Include Common Land Related Issues present in the Area.

_____
_____
_____
_____
_____
_____

140. Prior to field validation the CRS team will have worked in the area informing the residence of why the project team will be there. They will also have distributed documentation about LAMP and why the field validation is being carried out. All arrangements with local authorities, barangay officials, barangay security people, NGO's etc will have been completed.

141. The filed validation teams will work from a copy of the CIM that has highlighted the parcels office validated. As a parcel is correctly field validated it will also be highlighted, building up a pictorial representation of the validation effort. Once field validation is complete, the information will be added to the database, including the scanned documents from the field. Included in the scanned documents will be all field validation survey forms. In this way, a complete picture of the area will be documented.

Field Validation of Holy Spirit

142. A full field validation has been undertaken in Barangay Holy Spirit. Field enumerators used for the field validation were all employed from the Barangay and they contained a core group who had worked in the 2nd and 3rd pilot field validations. The approach to the full scale field validation was more structured than in the pilots, no area was validated without the Cadastral Index Map for that area being presented. Prior to the field validation activities the CIM had undergone Office Validation and all parcels that could be office validated had been highlighted on the field validation copy of the CIM. If any CIM or part of a CIM had been subject to field validation in the pilot studies and information had already been gather, the affected parcels were also highlighted. Finally a field inspection had been carried out to locate any parcels which did not have dwellings on them, ie were vacant. The field validation CIM was highlighted in the field as any TCT information was collected and the break up of colours on the CIM were:

- Office validated parcels highlighted blue
- Previously field validated parcels highlighted orange
- Vacant parcels highlighted yellow
- Parcels were TCT information was located during the filed validation highlighted purple

Any parcels where office and field validation had not been able to locate the data were not highlighted on the CIM. Green was used to highlight a yellow (vacant) highlighted parcel that had been office validated, the yellow and green to blue but the colours did not always mix properly.

143. A base camp was established at the Barangay Office in Holy Spirit. The area was donated by the Barangay for the length of the field validation and two computers, the TA laptop and the Planning unit PC were placed in the base camp to capture the data when it was returned from the field. Two operators were trained in data capture and worked during the entire field validation capturing 2123 forms returned from the field.

144. After discussions with the M & E unit and the international M & E adviser the finally format of the interview form to be used in office validation was agreed upon. The questions to be asked were translated into Tagalog to make the enumerator's task easier, a copy of the forms are held in the field validation user's manual. To facilitate the capture of the data the following data entry screen was developed.

The only records that have been entered are those where the owner/dweller was able to supply some details regarding the ownership of the parcel. If the document could be presented it was scanned and returned to the owner otherwise it was noted as seen by the enumerator and the details transcribed onto the form. Scanned documents have been linked to the database via a scanned image field.

145. Each morning the field enumerators assembled at the Barangay centre to discuss problems and confirm what had been accomplished. The work for the day was then allocated and the teams taken to the area where they would be working. At the end of the day the teams returned to the Barangay centre and dropped off completed work, ready for data entry the next day.

146. The field validation activities carried out in the Pilot Studies returned the following:

- 167 TCTs that where found in the possession of the property owners
- 38 of the TCT's located did not have matching records in the Assessor's data.
- 63 of the TCT's located did not have a TCT record held in the cross index.

From the overall field validation carried out after the pilots the following was found:

- 1472 TCTs that where found in the possession of the property owners
- 676 of the TCT's located did not have matching records in the Assessor's data.
- 134 had different TCT numbers to those held by the Assessor's office.
- 784 of the TCT's located did not have a TCT record held in the cross index.

147. Pulling lists for the TCT's not held in the cross index were produced and sent to the Registry of Deeds. Until the TCTs are pulled and investigated it is difficult to estimate how many TCTs held by the owners need to be reconstituted, but potentially a majority of the 784 TCTs not held in the cross index could be in need of reconstitution.

148. From the field validation an additional area covering 5 CIMs was identified. This required a further one week field validation activity to visit the 110 parcels.

Analysis of the field validation data

149. A full analysis has not been carried out on the field validation data as the cross index does not contain all the parcels for Holy Spirit yet. Once all parcels have been captured the data can properly

be analysed and gaps identified. To see if the field validation was successful three CIMs have been manually analysed, but the process is very time consuming, it will be much quicker and easier using the data from the cross index. One of the CIMs analysed is CIM 14412104140 which covers part of the BF homes estate and only contains established parcels (ie no informal settlers). Therefore the parcel structure on the ground is the same as the registered plans shown on the CIM. BF Homes is a walled subdivision with guards on any roads which have access to the subdivision. There are two initial plans of subdivision on which the area is based (LRC)PSD 133230 and (LRC)PSD16317

BF Homes was the area where the 1st and 2nd Field Validation pilot activities took place. The Pilot studies occurred before office validation was carried out so that in many instances the parcels being field validated did not return any additional information. Because the pilots were designed to help refine the field validation data collection technique there was less emphasis on having the office validation completed at that time.

As the area in this CIM had been part of the pilots it had already yielded 5 TCTs from the field that were not yet captured in the cross index, of these only 1 TCT found contained information which was not known to the Assessors.

Seven folios were found in the latest field validation, 4 contained later TCT numbers that had been reconstituted, while the other three were already known.

There are 110 lot parcels and 16 road parcels which have no TCT information held in the database. When the assessor's data was captured it appears that a default value of 1996 was added to the evaluation year. From their data the following have been found:

- 31 parcels have no assessor's records
- 4 Parcels have Names held against them but no TCT data
- 70 parcels only show 1996 as the evaluation year
    - 9 with no registration date
    - 53 registered before the fire at the ROD
    - 8 registered after the fire at the ROD
- 4 parcels show 1997 as the evaluation year
- 3 parcels show 1999 as the evaluation year
- 1 parcel shows 2000 as the evaluation year
- 2 parcels show 2003 as the evaluation year

150. The following table below shows the all the TCT's for which there is no TCT record and the known Assessor's records from the data supplied by the assessor's.

151. When we add the results of the field validation to the keying from office validation a clearer picture of the area is shown. However what these statistics do not show is the break up between formal and informal areas. Also no TCTs had been captured for three new subdivisions that required the production of the smaller scale CIMs 14412104241, 14412104242 and 14412104243. This lowers the percentage of TCTs captured; however the table accurately reflects the situation at the time field validation was carried out.

Table 14: Analysis of Field Validation results

CIM No	Parcels	Parcels in cross index	TCT in cross Index	% of TCTs captured	Held in assessor's records only	No TCT or LGU records	Actual new records found in FV	Records found from FV database
14412104130	8	0	0	0%			4	5
14412104134	178	155	157	88%				7
14412104140	202	103	94	47%	36	32	12	8
14412104143	11	10	10	91%	0	0	1	1
14412104230	180	78	81	45%				16
14412104240	108	39	30	28%				0
14412104241	46	0	0	0%				0
14412104242	8	0	0	0%				0
14412104243	212	0	0	0%				0
14412104244	65	12	12	18%				5
14412105130	34	90	90	265%*				46
14412105133	98	5	5	5%				70
14412105310	23	1	1	4%				0
14412105311	105	64	64	61%				49
14412105313	279	172	172	62%				191
14412104420	219	127	91	42%				18
14412104422	162	0	0	0%				126
14412104424	194	62	62	32%				161
14412104410	344	316	226	66%	84	31	28	9
14412104320	334	273	198	59%				27
14412104310	176	145	89	51%				17
14412104330	238	212	116	49%				6
14412104340	393	235	212	54%				12
14412104430	312	222	153	49%	105	35	42	91
14412104431	36	34	34	94%				0
14412104440	295	253	169	57%				170
14412104442	223	1	1	0%				206
14412105330	22	8	8	36%				1
14412105331	23	0	0	0%			23	23
14402104220	119	127	110	92%				0
14402104210	269	122	122	45%				0
14402104120	330	134	130	39%				0
14402104110	76	20	16	21%				0
14402104130	24	0	0	0%				46
14402104140	45	6	6	13%				0
14402104230	137	63	65	47%				0
14402104240	18	20	20	113%*				0
14402104410	8	6	6	75%				0
Totals	**5570**	**3115**	**2312**	**42%**				**1311**

* These CIMs are having sections redrawn at a smaller scale, but the new CIM has not been completed and supplied, in the interim the parcels have been tied to the original CIM.

152. Office validation has located approximately 42% of the TCTs in the Barangay, if all the TCTs located can be added the percentage builds to 65%. Clearly further strategies will need to be looked at to increase this percentage. From the Assessor's records we have around 10% that do not have an assessor's record. For the other TCTs that make up the 90% the next step will be to contact the last person who paid the LGU rates for the property, by using the address from the assessor's records. Other options are newspaper advertisements, banks/financial institutions, real estate brokers, NGO's and other organisations who store records. Then finally supplying a list of delinquent rate payers to the LGU to encourage them to take over the properties and sell them.

Field Validation using an NGO

153. PIO2 has been negotiating with an NGO to carry out the field validation for the rest of the

prototype area. Several meetings have been held and the contract approved and signed. The NGO will follow the procedures set out in the Field Validation procedure manual, while PIO2 will supply the CIMs and have office validated the TCTs that have been collected from the assessor's records. CRS and field validation activities will begin in mid July 2003 after a 3 day training/orientation workshop has been conducted.

One Stop Shop

154. The site for the OSS next to the new ROD in the LRA compound is anticipated to be renovated early in the next quarter (3rd Quarter) 2003. A plan of the site was been prepared and approval has been gained from LRA and PMO. The funding has also been approved, however work will not commence until the LRA give approval to the contractors to enter the site.

    The OSS is to be located next to the ROD in the LRA compound. The area, previously used by LARES, has been available since June 2002. The existing building will house the OSS representatives from the LGUs, LRA, BIR, DENR and ROD. The customer area and the reception area will be added to the existing building.

155. The One Stop Shop (OSS) was included in the original design of the project. Since August 2001, when the prototype approached the Local Advisory Group (LAG) to seek there assistance in forming a Technical Working Group (TWG) there have been many activities. These are summarised in the table below, all the documented activities have occurred, with the exception of the last step which, although planned for June, has not occurred yet.

Table 15: PIO2 One Stop Shop development Schedule

156. The technical working group for the One Stop Shop (OSS-TWG) was formed in November 2001. The TWG is made up of representatives from the Bureau of Internal Revenue (BIR), the Department of Environment and Natural Resources– National Capital Region (DENR-NCR), Quezon City Local Government Group (LGU) Assessor's and Treasurer's offices, the Registry of Deeds (ROD) and the Land Registration Authority (LRA). Regular monthly meetings have been held with the TWG and numerous meetings with the agency heads to get agreement on the services to be provided in the One Stop Shop. The TWG were able to finalise the operations for the OSS and agreement has been reached with the agencies involved. A memorandum of agreement has been drafted and is awaiting sign off. Each agency has named the staff to be assigned to the OSS and they have been involved in the series of training workshops which have been held.

157. The initial OSS workshop was held in December 2001 to get agreement in principle to the process that the agencies would trial in the OSS. In June 2002 symposiums where held with, LRA, DENR-NCR, BIR and LGU Assessor's and Treasurer's offices. The symposiums where to educate senior staff, of the agencies, about LAMP and the role their agency will be performing in the OSS. Since that time the agency heads have been regularly updated with the progress of the OSS development.

158. The first workshop, for the staff who will man the OSS, was on the expectations of the OSS from the public and to gather their expectations. This was held in September 2002 and this was followed up by a Change Management workshop in November of that year. A change management consultant was hired to facilitate the 2 day workshop and at the end of the process the staff had made a commitment to work towards making the OSS successful.

The Change Management workshop held in November 2002.

159. As PIO1 had been operating their OSS since early 2002 there was then a Cross visit study tour by the OSS-TWG to Leyte to look at its operations. The TWG looked at the lessons learnt in PIO1 and how it operated. After evaluating these they were able to come up with a set of recommendations not only for the OSS in Quezon City, but for a national strategy for setting up OSS.

160. In January 2003 the staff to be detailed to the OSS held their first simulation workshop. The workshop included all agency staff involved in the OSS, PIO2 staff and members from the NGOs involved in the prototype area. The processes were modified as a result of this workshop and a second simulation workshop was held in May 2003. This workshop trialled the amended procedures and was attended by the same participants as the first workshop plus the managers of the agencies who had supplied the staff for the OSS.

OSS Simulation workshops

161. In February 2003 a basic computer skills workshop was held for the staff detailed to the OSS. These staff will be using the Cross Index to locate the record within their agency and must be able to use a computer.

Study Tour

162. In Late March early April 2003 a study tour to Australia and Thailand, attended by Managers and OSS TWG members. A study tour report was prepared with recommendations for long and short term that could be adopted.

Fake Title Investigation

163. Three workshops have been held with government and the private sector involved in the identifying and investigating fake and spurious titles have been carried out. The first workshop in July 2002 was held with the government agencies involved and included

- Land Registration Authority
- Registry of Deeds
- Land Management Bureau
- Philippines National Police; and
- Solicitor Generals Office.

164. The second workshop was held with the private sector and included Banks, NGO's, Estate Agents and members of the community.

165. The third workshop was held in Tagaytay in April 2003 to review the documentation of the current procedures and to look at recommendations for improving the detection of fake and spurious titles.

166. From the first two workshops information was gathered to put together a discussion document covering the existing procedures, which formed the basis of the third workshop. Agreement has been reached on who will be involved in a Technical Working Group (TWG) for Fake Title Procedures.

167. The technical working group will look to consolidate the procedures used in the various agencies into a national strategy. In the current system it is the usual practice to confiscate the fraudulent documents and to warn the offender that their activities are illegal. Often the case ends up in the draw of a registration officer and is not passed onto the PNP or the office of the solicitor general. When a combined strategy has been developed it will ensure that once a fraudulent title is found that all the appropriate agencies are informed and that steps are taken to apprehend and prosecute the offender.

168. Fake records have also been identified in the field. The type of title produced and the degree of change made to a record depends on the skill of the forger and relies on either the ignorance of the buyer or a helper in the registry. TCTs are produced on a judicial form, over the years these have become more sophisticated to make the copying more difficult. Earlier judicial forms, as shown on the left in the example below, are far easier to forge than the later forms as shown on the right. The later forms are printed at the Central Bank of the Philippines the paper has many features that make it difficult to copy including a serial number that matches the number of the original record held in the ROD. However where the public are ignorant of the land transaction process and where records are held the selling of fake records is made much easier. When a title can be sold or used to obtain payment for the right to live on the land without the buyer/occupier checking the original it makes it much easier to commit the fraud.

The TCT on the left is a fake, collected in the field, the fake title has had the ownership changed all other details are the same as the original..

169. In many informal areas owners are also issued rights certificates which they mistake for a right to live on the parcel. Many people are paying a monthly premium to a syndicate who have no mandate

to issue the rights and use the ignorance of the land owner to their own benefit.

Other documents produced from the field to provide proof of ownership are shown below:

F. ISSUES AND CONSTRAINTS

170. Many of the issues have been reported already in the monthly reports from each of the technical assistants. Some of those reported have since been addressed and this section only deals with outstanding issues.

Table 16: Office Validation Issues and Constraints

Issue/Constraint	Strategic response
Lack of equipment and staff has restricted the number of TCTs that can be added to the Cross Index.	With the proper equipment and staff the number of office validated TCT's held in the database could have been significantly higher. While this equipment was defined in the budget prepared in January 2002 it is still awaiting processing. Any further projects need to address these types of problems where equipment cannot be supplied to operational staff within a reasonable time.
There is not enough balances and checks on the data captured. The database contains duplicate TCT records.	The types of reports required to check the consistency of the records are being added to the cross index to enable the managers to check the records.
Final Quality assurance needs to be carried out on all the CIMs created for Holy Spirit. Where a parcel on a CIM does not have a TCT in the ROD, a parcel was not created in the cross index. This causes difficulty in using the cross index to analyse data. Analysis requires manual counting of records locating assessor's records etc. which wastes time and effort.	Once final CIMs are passed to the OV team they will do a final Quality Assurance, which will include creating a parcel record in the cross index for all parcels shown on the CIM. For CIMs being entered for the other Parishes it has been agreed that all parcels will be captured, irrespective of whether they have a TCT or not.
Office validation activity is merely replicating what LARES has done in the TCT capture. This is a waste of resources the real validation should only have to concentrate on validating the ROD and Assessor's records.	The long term strategy needs to address this problem and ensure that there is a data sharing arrangement between LARES and LAMP.
The database is structured differently to the PIO1 database and serves a different purpose. The PIO2 database exists in an environment where the agencies have their own databases and will be an index to hold the access keys to other agencies records. The PIO1 database exists in an environment where none of the agencies have computerised records and is capturing and holding the data for these agencies.	There will have to be a consolidation of these databases at some stage and a common structure agreed on. The problem is affecting how the trial GIS can be constructed and the Mapping and Survey adviser will investigate the problem and make recommendations.
The high number of mismatches with the assessor's data. Over ¾ of the TCTs entered have a mismatch of some kind with the assessor's data the largest numbers being reconstituted or transferred and the assessor's records yet to be updated.	The data has been checked against old copies of the assessor's database and may no longer be accurate. As each CIM is finished off it will have a final QA and the mismatch checked against the latest data. Upon completion of the QA, a report of the mismatches for that CIM will be produced and sent to the assessor's office.

Table 17: Field Validation Issues and Constraints

Issue/Constraint	Strategic response
The low number of residents who can supply documentation about the properties. The field validation activities while useful in collecting information about properties are not returning a large number of verified property owners. Other methods of locating owners will need to be investigated as the percentage of validated parcels is still too low. In areas of established subdivisions that have well defined boundaries and are enclosed by walls and guard stations, the concern is more on locating parcels that need to be reconstituted. The difficulties are in locating: (i) owners who live outside of the area and have not had their title reconstituted; and (ii) the owner of a vacant parcel.	Many parcels still only have an assessor's record that is over 14 years old, or will have no details about it known. Current legislation allows the LGU to sell the property to recover unpaid land tax, however to date the LGU has been hesitant to follow this course. Informal settlers who have taken over the land cannot claim it by adverse possession. The informal settlers are also preyed upon by land syndicates who take advantage of the confusion to make money for themselves. Where possible the Assessor's records will be used to locate property owners. Then reports will be returned to the assessor's of parcels where owners cannot be found.
Field validation lacks the staff, funding and equipment to properly analyse the field results.	Only one person has been assigned to field validation, when the field validation is occurring they are supported by CRS and M&E staff. However once the activity is completed no one is left to analyse the results.
Field validation is reliant on CIM production and office validation. This will require a backlog of work being held. Without a backlog the field validation teams will be sitting around waiting for work.	The proper planning of the entire prototypes activities will ensure that the workflow between units is maintained at the required rate.
In the informal areas the problem will be identifying the owner of the land. With the buildings constructed without any regard to the formal subdivision of the land, the first difficulty is establishing the boundaries, then attempting to locate an owner who has the owner's copy of the TCT. Also there are community concerns that have to be faced, "Is the project there to remove informal settlers from their homes?" or "Is the project here to award title to their properties", etc.	For the field validation of holy spirit new forms were designed that allowed the flexibility to gather details from formal or informal areas. Staff training was modified to strengthen the enumerators ability to explain the projects objectives and answer the enquiries of people they interact with in the field.
The operations of the NGO to carry out the field validation activities needs to be managed to get the maximum results. While the contract is for 30,000 parcels this is based on the registered parcels and does not take into account the fact that some parcels can contain up to 6 or more properties in informal areas. The NGO will sub-contract other NGOs to allow it to work in 4 Barangays at the same time and an even distribution of work across the whole area is required.	The initial design was to look at the number of CIMs that the NGO would operate over but this is not a good way to measure progress or monitor workload. All units of the prototype will be working together to ensure that the NGO is managed correctly. Approaches to the specific areas will be selected to get the maximum benefits and the work flows within PIO2 have been adjusted to ensure that there will be sufficient work available for the NGOs in all Barangays.

Table 18: OSS issues and constraints

Issue/Constraint	Strategic response
The renovations for the OSS have been delayed. The construction still has not started although the funds have been approved. Also there is a danger that equipment for the OSS will not be approved and delivered before the OSS is ready to be opened.	The OSS is now well accepted by the agencies that will be involved within it. The setting up of the OSS building now looks to be going ahead, but there is now limited time to test the OSS. This may not be Alternative options have been investigated and it is possible that the Mayor of Quezon City will provide funding to equip the OSS if the funds are not available through the project.
With the OSS being in only 5 of the Barangays within Quezon City, the public will be confused as to when they can and can't use the OSS.	While signage will be displayed in the OSS and the ROD, people will still be confused. At this stage a community education program and the signage are planned to assist the public. But once the OSS becomes operational this will be reviewed to determine the effectiveness.
Field Validation will not be completed when the OSS begins operation, in some cases it will be difficult to verify a property.	This will also be a problem were there are no records from the Assessor's and the ROD. Where no details are held, the staff should be prepared to initially search the mother units' records for details, but there is still going to be properties where no information is available..
With the delay to the renovations to the OSS site the OSS Memorandum of Agreement (MOA) sign off has slipped and is still not finalised.	The MOA sign off needs to be prioritised within PIO2 activities.

Table 19: Fake Title Investigation issues and constraints

Issue/Constraint	Strategic response
The main issue is the inability of the prototype to supply a counterpart for this activity.	It has been proposed to supply a focal person as has been implemented in the OSS. This person will be responsible for organising workshops, etc. The work can then be the responsibility of the TWG as in the OSS model.
Fragmented approaches by the different agencies. All agencies have separate approaches to the problem, each is effective but there is little co-ordination between the agencies. A unified approach has been attempted before but has not be followed through.	The formation of the TWG will be a good start but the process needs to be driven by the prototype and recommendations developed, then actioned. The first meeting will be in mid July and this needs to be followed up by regular meetings.

G. EVALUATION OF METHODS

171. The PIO2 M& E team have been holding a series of workshops with the staff from each of the units to evaluate the methods trialled. These workshops have been followed up by interviews with team leaders and staff from the units.

Cadastral Index Mapping

172. Cadastral Index Mapping is defined in Activities 3.1.2 and 3.1.4 in the project Log frame which states:

> **Activity 3.1.2:** Collect and collate all existing land records from different agencies and identify inconsistencies and anomalies, and develop a database for the purpose.
>
> **Activity 3.1.4**: Develop a comprehensive set of cadastral index maps for the prototype area, evaluating various procedures (including the use of orthophoto).

173. The CIM activities have been continuing without any main TA support the International Mapping and Survey adviser was not mobilized during the first two quarters of 2003. Any assistance has been through the Land Title Records Adviser and more recently from the Orthophoto Adviser. As a result the main operations have been to complete the production of the CIMs for the prototype area rather than to test any new methods.

Table 20: Evaluation of CIM activities

Activity	Strengths	Weaknesses	Constraints	Overall Recommendation
Plan retrieval				
Retrieval of Survey Plans	• The paying of bills on survey plans for LRA to fast track the retrieving	• Only one retriever from DENR-NCR retrieves plans for PIO2 • Project is forced to pay for copies from the partner agencies	• Survey plans from DENR are hard to locate thus, slowing the retrieval process.	In future the payment situation needs to be sorted out in project design. If the agencies are partners the copies should be supplied to the project without charge as the TCTs are.
Plan database				
Encoding of Plans	• Existence of the database	• The absence of link between the database of Office Validation and CIM • Unable to detect LRA/DENR plans	• Unclear entries in the survey plans retrieved (reported missing or no record available).	The cross index should incorporate the plan database to ensure linkage. Enquires need to be developed to locate LRA and DENR plans.
CIM Production				
Hand Drawn CIMs	• No need for any expensive computer equipment, digitising board extra. • Only drafting skills required, do not need to know how to digitise	• Slower more expensive method • Difficulty in updating, many times the whole CIM has to be redrawn. • Not feasible without control.	• CIM are not produced correctly due to the lack of technical descriptions • No proper drafting tables	While this method is slower it does not rely on any complex technology. If the overall aim is to develop a GIS these CIMs could be used for digitising at a later date.
Digitising of CIMs	• Digitized CIM: venue for committing erasures are limited • Availability of plotter and CIM manual	• Wrong calibration at times • Requires control of some description; • AutoCAD works on a plane system; • Highly qualified operators	• Incorrect technical descriptions on plans. • Low memory of the computer. • Lack of manpower	Fast cheaper method but with a large initial outlay. The data is ready to be placed in a GIS and linked to the textual data.
QA	• The presence of a standard. • Familiarity with the survey plans • Development of a colour coding scheme in the correction of	• The lack of survey plans (missing or lost) • Lack of storage facility • Extensive filling out of the survey sheets	• No survey plans to counter check the CIM developed	

Activity	Strengths	Weaknesses	Constraints	Overall Recommendation
	CIM			

174. Cadastral Index Mapping Lessons Learnt

- The projection maps from LRA and DENR and the Assessors tax map are useful as alternative sources for the identification of survey plans.
- In the case of PIO2 the use of the hybrid method (digitizing and hand drawn) in the preliminary CIM avoids errors such as non-adjoining of two CIM.
- The institution of QA in the production of CIM limited the errors experienced in CIM production.
- A synchronization plan for all the outputs should be established.
- The institution of QA in the production of CIM limited the errors experienced in CIM production.
- Photocopying plans (eg for scaling) distort the real projections and should not be undertaken.
- Different Land Agencies have different methods of storage. It is essential that methods for land records storage should be identified to aid in identifying the methodology to be utilized for retrieving the plans.
- Proper adherence to the manual minimizes confusion and ensures proper understanding of the method and procedures in CIM production.
- Training such as Advance cartography and GIS has improved the capability of staff in CIM production.
- In the case of PIO2 the use of the hybrid method (digitizing and hand drawn) in the preliminary CIM avoids errors such as non-adjoining of two CIM.

175. Cadastral Index Mapping Recommendations

176. The following are the recommendations for the PA LAMP;

- With the provision of computers (with the ratio of 1 computer for every cartographer), the digitized method for preparing the final CIM is recommended since it is highly efficient and the CIM would have been investigated through GPS and is converted to PRS ’92.
- The list of survey plans required should be prepared as quickly as possible.
- The funds required for plan retrieval be made available and can be accessed quickly when needed.
- LARES records and updates are required to fast-track the retrieval of survey plans.
- The CIM database should be incorporated within the cross index.
- The use of projection maps for the creation of CIM should be trialled.

- The lack of computers in the CIM unit needs to be address especially for accessing the CIM database.

- Capacity building for the CIM unit is needed **prior** to the development of CIM.

177. The following are the recommendations for the LAM Program

- Considering the limited capacity of NAMRIA and the failure to adhere to contractual deadlines, it should be considered that for the LAM Program, international tenders be obtained for both the GPS and orthophoto map production;

- The way in which the metes and bound are presented in any documentation and survey plans be changed to the international convention, ie 265^{o}35' not N85 35E for modern equipment read 265^{o}35'and N85 35E needs to be calculated. This is a left over from the period early last century where some horizontal circles in the instrument (transits) were by quadrant;

- CIM should not be produced manually if there has not been any formal cadastral project performed in the urban situation. Survey control needs to be available. It is recommended that manual methods are done jointly with the orthophoto maps and survey plans.

Office Validation

178. Office Validation is defined in Activity 3.1.2 in the project Log frame which states:

Activity 3.1.2: Collect and collate all existing land records from different agencies and identify inconsistencies and anomalies, develop a database for the purpose.

179. There are three main activities carried out in the process by the Titles Validation and Reconstitution Unit (TRVU). These activities are:

- Retrieval of TCT's from the ROD, including producing lists of TCTs from the assessors records
- Capture of the TCT record and comparison to the record held by the Assessor's
- Linking of the CIM parcel to the cross Index

Table 21: Evaluation of Office Validation activities

Activity	Strengths	Weaknesses	Constraints	Overall Recommendation
Cross Index				
Use of Excel spreadsheet for the cross Index	• Ease of setup no knowledge of databases required. • Rows and Columns are similar to those held in databases	• Fields that can contain multiple records • Cannot set up data entry formats • Difficult to develop reports from • Difficult to analyse the data.	• There was a lack of equipment available for office validation. There is only one computer between four operators, no printers and only one scanner, shared with field validation	Excel is not an effective tool for holding data that requires quick access, reporting, analysis etc. However the structure is excellent for creating transfer files from one system to another, as in sending data from the assessor's database to the cross index.
Use of the Access database for the cross index	• Can use separate linked tables for fields that can contain multiple records • Easy to set up data entry formats, create reports and analyse the data. • Can hold large amounts of related data which can be easily linked. • Users can be quickly trained to use the forms and become productive. • Inexpensive comes packaged with Microsoft office professional.	• Requires a programmer /analyst to develop the database and the forms/ reports.	• Size of the database Access becomes unwieldy when it holds over 1 million records. • PIO2 budget did not allow for the purchase of expensive database software.	For the size of the area Access is more than capable of holding the data required. If moving to a fully integrated national system a larger application may be considered, but for small stand alone OSS this is more than adequate.
Retrieval of TCTs from the ROD				
Retrieval form the lists no sorting (except in TCT order)	• Lists were quick to produce	• Wrong TCT numbers for TCTs with dates shown before the registry was burnt. • Large waste of effort by retrievers and OV staff.	• Assumed that the registry would have continued numbering not gone back to TCT no. 1.	If this method is used again TCTs would be sorted into categories before and after the fire.

Activity	Strengths	Weaknesses	Constraints	Overall Recommendation
Sorting of lists into categories, ie registered before the fire, registered after the fire, no registration date, with no training of title retrievers	• OV staff do not have to go through the TCTs in the lists created from a registration date after the fire, to determine if the TCT is relevant or not.	• No different to the previous method for TCTs registered before the fire or with no registration date.	• As Above	Staff must be trained to locate the correct record instead of just retrieving what is on a list.
Sorting of lists into categories, ie registered before the fire, registered after the fire, no registration date, with training of title retrievers	• Lists for TCTs registered after the fire only require the TCT to be retrieved • TCTs on lists before the fire, or with no registration date are checked against the land description of the TCT before being retrieved, if they do not match the TCT is not retrieved. • OV staff do not need to sort through retrieved TCTs to determine if they are within the prototype area.	• Requires a programmer /analyst to develop the separate lists. • Lack of supplies, such as toner for photocopiers that slow down the retrieval.	• Assessor's records do not have 100% coverage of the prototype area and are reliant on the owner update the tax records after a sale.	An entire registry should be captured rather than segments that rely on outside sources for the data (eg by Barangay). However if the methods are to be used again this is the preferred method.
Imaging TCT records				
Capturing images of Transfer Certificate of Titles.	• Permanent record of the TCT • Can be attached to the titles database record. • Less physical storage space required.	• Time consuming to image the TCT can take 5 minutes or longer • Duplication of effort where LARES have already scanned the TCT • If the folder holding the Scanned images is moved or renamed (even to the same name) the hyperlink is lost. • Or if the image is added to	• Scanning equipment and computer to hold the image. • Cannot remove the originals from ROD.	This method may be required in areas where the TCT is still in paper form, ie LAMP is ahead of LARES. Otherwise the LARES images should be used and LAMP not get involved in scanning.

Activity	Strengths	Weaknesses	Constraints	Overall Recommendation
		the database as an embedded image the database file gets too large quickly.		
Office Validation Data Capture				
Capture of all records by CIM and comparing to the Assessor's records (Hybrid Method)	• CIM completed at the end of the process.	• TCTs are not retrieved in CIM order requiring the OV staff to go through three different sets of lists to locate the records. • Parcel record was not created for a parcel that did not have a TCT • Extremely slow method, 7 CIMs took three months. • Complex inventory of what has and has not been captured from a list.	• Lack of equipment of a team of 5 only 3-4 can use the equipment at any time.	This is not a method that will produce the results at a rate that would be able to keep pace with CIM production or FV.
Capture of TCTs, comparing to the assessor's records. Then when all TCTs for a Barangay are captured records or linked to the CIM.	• Faster method, cost per title cheaper. • All TCTs are captured for a retrieval list inventory easier • When attaching CIM/UPI number no lists have to be searched through TCT's are already captured.	• Parcel record was not created for a parcel that did not have a TCT • Double handling of records 1st time to create the parcel then later to add the CIM/UPI number	• Lack of equipment of a team of 5 only 3-4 can use the equipment at any time.	The preferred method easy to administrate and allows flexibility. TCTs can be captured as they are retrieved. Once all TCTs are captured linking to the CIM is a quick process.
Capture of cancelled TCTs				
Where a TCT has been	• Historical trail built up in	• Waste of time and	• Not a requirement of	The cross index has the capability

Activity	Strengths	Weaknesses	Constraints	Overall Recommendation
cancelled the cancelled TCT is also retrieved and copied, at data entry these have been captured.	the Cross index.	resources that could be finishing records needed for field validation. • The index only needs current information and is only duplicating what LARES holds for historical data.	the project to capture and store this data.	to provide this information if the retrievers are trained to enter the data. This is quicker and much more cost effective as the report can be run from the database.
Inventory of titles				
Manual inventory of the TCTs that have been delivered compared to the TCTs requested	• Unit knows which TCTs have to be re-requested. • Work on hand for data entry operators is known.	• Time consuming uses up one resources time. • Difficulties in determining what TCTs had not been captured or pulled • Results are not validated.	• Lack of staff to carry out inventory.	The cross index has the capability to provide this information if the retrievers are trained to enter the data. This is quicker and much more cost effective as the report can be run from the database.

180. Office Validation Lessons Learnt

- Without access to the LARES-LTCP, LAMP is merely spending resources to duplicate what LARES has accomplished. Office Validation should only begin when a whole registry has been converted.

- A full analysis of the requirements and the structure of the database should be carried out before any data is captured. The initial database left no facility for capturing TCT data and only had a single field to indicate if the data matched the Assessor's records or had been changed by transfer. This system then relied on the Assessor's data being correct instead of the TCT being the base document.

- Microsoft Excel is not a suitable product for producing a cross index database.

- Too much time was wasted in manually getting the Assessor's data correct. Also important fields and data that could be used in the cross index where removed from the data structure. The Assessor's data is now 7 months old and arrangements are required to get an up to date copy of it.

- The Systems Analyst should have been introduced into the project at the start, not after 6 months. Full analysis should have been carried out on the PIO1 and PIO2 data to get a uniformed data structure. However, without a full time analyst, both systems were developed independently.

- The equipment for office validation should have been properly specified, including a separate server and delivered at the start of the project. Staff cannot be expected to carry out their work without the proper equipment and training.

- Attempting to capture data on stand alone equipment then trying to consolidate the data leads to poor quality records. A proper network to a central database is the only way to ensure data integrity.

- A separate office validation manual should have been created at the start of the project, rather than making it a subsection of field validation. Once created it must be reviewed and updated regularly to keep it relevant.

- Arrangements should have been made at the start of the project to obtain copies of TCTs or to obtain the data from LARES.

- Office validation requires following strict guidelines and proper management. All information captured should be independently captured and mechanisms put in place that allow monitoring of the quality of the work. Without these measures the old saying is correct "Garbage in Garbage out".

- The CIM is not a satisfactory basis for data collection if CIM production is much slower than data collection. In this method using the CIM number as the primary key to hold information against was not practical. Also once the CIMs are adjusted the CIM numbers for many parcels will change. If the CIM number is to be used as the primary key, then Office Validation should not occur until the CIMs have been completed. However in a

situation where other agencies hold land data on there systems it is too difficult to use the CIM number as a link to those systems. A key based on the land description (lot, block, plan) is the most effective method as all systems hold the land description.

- Once the office validation network is setup it cannot be easily relocated. Any movement of staff and equipment must be made with the consultation of the systems people so that it can be moved without causing disruptions to the network and stopping the office validation.

- The two step method, ie data capture of all the TCTs for a Barangay then attaching the records to the UPI, is far more efficient than the Hybrid method, ie trying to find all the records for a single CIM amongst multiple TCT retrieval lists then capturing the whole record (TCT, UPI and comparison) in one step.

- When the Assessor's send updates it is important that they only send the updates since the last set of records were delivered. Updating large data files with data that is already held in them causes many problems and uses too many resources.

181. Office Validation Recommendations

182. The following are the recommendations for the PA LAMP;

- Office validation must be better supported with computer equipment that they do not have to share with the rest of the PIO2 staff.

- The prototype office does not have the storage capacity to hold a copy of the registry. Photocopies of TCTs should be culled from the draws once a CIM is completed.

- A system is required to monitor completed CIMs and to identify when one is being updated in the office validation unit.

183. The following are the recommendations for the LAM Program;

- Databases were developed without a national strategy being considered and rework will be required in the future. A proper data management system will be required for a more extensive development. The equipment and the structures will need to be fully specified, as well as more work being carried out on transaction rates, file sizes, etc. to determine the database capacity required.

- In an urban context the UPI is limited as a key to combine records from other agencies. For the UPI to work as the key for the database systems, CIMs must be fully completed before Office Validation begins. Also, the entire registry should have been captured to facilitate the comparison of records between agencies. However this does not resolve the problem of the UPI not being known and maintained in other databases that the cross index links to. PIO2 have used a separate field combining the Lot/Block and Plan number as these fields are held in all systems and are easily combined to get a match between records. A satisfactory link must be agreed upon for a national system that can be used by all database systems.

- A separate strategy will need to be looked at for areas were the Assessor's/Treasurer's data is not

data converted. In the national strategy the decision has to be made whether an Office Validation is required for areas where the ROD records are intact.

- Proper linkages to other systems are required with a system that updates the Cross index with the latest information from the agencies, this can form part of the duties of staff from the various agencies working within the OSS.

- Capture of TCTs must be carried out in each Registry in a systematic manner and if the data is to be used by BOO and LAMP then a sharing arrangement must be in place. TCTs must only be captured once and the updates transmitted to the appropriate system(s).

Field Validation

184. Field Validation is defined in Activity 3.1.5 in the project Log frame which states:

Activity 3.1.5: Develop and test procedures for field verification of land records.

185. There were three pilot studies carried out in the process by the Titles Validation and Reconstitution Unit (TRVU). These pilots were used to develop the methodology used for the full scale field validation. These procedures were tested in the field validation for Holy Spirit and will be used by the NGO in the field validation of the remaining 4 barangays.

Table 22: Evaluation of Field Validation activities

Activity	Strengths	Weaknesses	Constraints	Overall Recommendation
Pilot Field Validation Activities				
Field Validation Pilot Activity 1 Base Station Method – Established subdivision. The activity involved establishing a base station	• Easy to arrange. • Only 4 staff required full time plus one or 2 support with supplies. • Low overhead costs	• Very low rate of return for time spent. • Reason why low number could only be speculated no real evidence. • Unproductive, staff spent large amount of time sitting around doing nothing.	• Carried out between 9am and 4:30pm when most people were at work. • Office Validation was not carried out prior to the field validation.	It is recommended that this method not be used as a stand alone method. Too much time is wasted with staff sitting around waiting for property owners and the rate of return is far too low.
Field Validation Pilot Activity 2 Door to Door Method – Established Subdivision. A base station was still provided with this method, however the base station contained only one or at the most two people. The rest of the field enumerators went door to door gathering information	• All properties are covered. • Able to collect survey results to determine why people did not participate in first activity. • Improves public relations and allows information dissemination. • People who want to drop off results don't have to wait for field enumerators to return, they can drop them at the base station.	• Reliant on person living there being the owner. • Still do not get 100% responses and have only 50% of properties validated against known records. • Time wasted going to properties that would have been office validated.	• Only a three day activity did not allow for following up on information. • Lack of support staff for enumerators and as a result much needed feedback could not be supplied. • Office Validation was not carried out prior to the field validation.	This method is far more effective but should only be used on properties that have not been office validated.
Field Validation Pilot	• Improves public	• Very low return for the	• Only a three day	Should only be used on

Activity	Strengths	Weaknesses	Constraints	Overall Recommendation
Activity 3 Door to Door Method – Informally settled area. A base station was still provided with this method, however the base station contained only one or at the most two people. The rest of the field enumerators went door to door gathering information	relations and allows information dissemination. • People who want to drop off results don't have to wait for field enumerators to return, they can drop them at the base station.	number of properties visited • High cost of visiting every property. • More an extended CRS program than a useful tool for gathering the required land records.	activity did not allow for following up on information. • Lack of support staff for enumerators and as a result much needed feedback could not be supplied	properties that have not been office validated and where multiple dwellings are on a property only the first one should be visited
Field Validation of Records				
PIO2 organising the Field validation of individual barangays	• Training program followed as specified. • Able to assist with enquiries. • Staff only paid for work carried out. • No complex contract to negotiate.	• Need to keep a management team in the field. • Need to supply support equipment to the field. •	• Ability of PIO2 to get the funding approved and to be able to pay the enumerators. • Insufficient support staff to monitor all operations and to analyse the results.	Success rate will need to be measured against the NGO run project to determine the cost effective method.
An NGO being employed to carry out the field validation of multiple barangays. **(This activity is yet to start)**	• Support equipment supplied by the NGO, eg computers.	• Support staff from PIO2 is the same size as it is for PIO2 running the operation.	•	

186. Field Validation Lessons Learnt

Pilot Field validation activity 1 – Voluntary approach.

- Field Validation cannot be carried out without a CIM record to join it to.
- The setting up of a base station where people come to deliver their documents does not work. With only 99 respondents from 800 parcels, the voluntary approach of field validation results in a very low response rate.
- Five people sitting in a base station waiting for respondents is a waste of time, productivity and money.
- Parcels that do not have buildings on them need to be identified as part of, or prior to the field validation activity. With no letterbox or occupant it is nearly impossible to notify of the owner of the activity.
- Safety of the staff should be paramount. The injury to the staff member that occurred as part of the motorcade should have been prevented by following basic safety procedures and ensuring that all staff had been on board before the vehicle began moving. Also, the drivers should take off slowly and smoothly not quickly accelerating.
- The selection of time to conduct field validation in established areas should be identified appropriately. Weekdays generated a small number of respondents since majority are at work.
- Other means of informing the public should be utilized through homeowners association meetings, or church announcements through the parish priest since the CRS campaigns cannot be relied upon solely to inform everyone in the area.
- The "selling" of the project to stakeholders from established subdivision should be identified and developed to generate more public support and participation in the activity.
- Conducting field validation without office validation is more tedious and time consuming which should have not been the case. The very purpose of conducting pilot field validation is to identify and implement a more streamlined process rather than a tedious one.
- The manual for conducting field validation should have been read and reviewed before conducting the pilot field validation.
- A document should have been prepared prior the conduct of the pilot field validation, highlighting the objectives of the activity and expected outputs.

Pilot Field validation activity 2 – Door to Door approach in Established Subdivision.

- The door-to-door approach proved to be more time-efficient and more productive. The questionnaires allowed the prototype to gain an appreciation of the reasons why information cannot be gathered from all sources.
- The three days allocated to this activity did not allow sufficient time for any follow up activities making it difficult to determine if the rate of response should have been higher.

- Communication between the base station, enumerators and drivers are required for field validation. Time was lost waiting for people who were late, people waiting in the wrong place, people who had gone on ahead and not told the others, and people who were still in the field when the others had finished, but could not be located as they were within occupancies. Also they would be able to request assistance rather than having to walk back to the base station, get the assistance, then go back to the property.

- Where an area has had some activity carried out and further field validation activities are being carried out the letter drop should not include any property that is not to be included. This caused a lot of confusion in the field validation pilot area when the second field validation was carried out. People who had responded to the first field validation returned with their documents even though they were not required and they were confused as to why they needed to present their documents.

- The results should be documented each night or early the next day to identify any problems with the collected information. Many of the enumerators had not filled in the CRS survey, but this was not picked up until the activity was finished. Earlier analysis of the results would have identified this problem earlier and the importance of the activity could be re-enforced to the enumerators.

- Collection forms were not properly proof read before printing and they contained two questions with the same wording. Also the field validation jackets were printed with a spelling mistake. Careful proof reading is required before any printing or acceptance of materials.

- Security arrangements need to be finalised well in advance of any activities. Any payments required should have been negotiated and agreed to long before hand, not charges added at the last minute and nearly stopping the activity. Also the times and days that security teams are to be ready should also be known, rather than having the enumerators hanging around waiting for the security people to arrive.

- Bottled water should be provided for the enumerators as part of their kit and should be catered for in the budget. The enumerators cover large distances in the hot sun and water replacement is very important.

- The process should have been documented thoroughly. All results should have been analysed as collected to allow for modifications of the process that would have increased the efficiency of the results.

- An analysis design/framework should have been developed to streamline the analysis and interpretation of results.

Pilot Field Validation 3 -Door to Door Approach in Informal Areas

- The manual should have been updated and reviewed by the field validation team before the conduct of the third pilot of field validation.

- The gathering of issues during the Area Specific Community Dialogue conducted by the Community Relations and Services (CRS) unit equipped the field validation team with knowledge on prevailing land related issues in the area. Therefore, the gathering of basic knowledge on land related issues present in the area is vital in facilitating field validation.

- Field Validation is a means to directly communicate with the stakeholders of the project. This activity is a venue to inform and create an amicable relationship with the stakeholders.

- A specific criterion for the selection of field enumerators was established that enables a better facilitation for data gathering. The field enumerators in the third pilot were residents of the area making them more adept in communicating with the residents of Villar-Maloles particularly the land related issues present in the area.

- Different approaches should be implemented in different areas within the prototype; specifically in established areas and informal settlements. The approach should include a means to capture information on "rights" particularly in informal settlements; and a different design for data analysis.

- The conduct of an assembly between the field validation team and residents as well as homeowners' organizations assisted in the acceptance of and participation in field validation activities in the area.

- A brief brochure highlighting PIO2's activities particularly Field Validation and objectives should be distributed during the actual conduct of Field Validation. The brochure should contain illustrations to gain the attention the respondent and encourage them to read the material.

- A strategy to identify parcel boundaries needs to be developed and integrated in the training design of field enumerators.

- The presence of too many foreigners during the conduct of field validation alarmed residents from the field validation area. The following concern was raised: the Villar Maloles area is being sold to the foreigners which would lead to a demolition would be conducted.

- Conducting a three day field validation is insufficient to cover the whole area.

- Proper identification of field enumerators should be provided. These include identification cards, t-shirts, vests, and caps.

- More equipment is required in the field. The single TA laptop only has a three hour battery life and needs to be supplemented with a second battery pack and a car charger. The printer needs to be looked at and a model purchased that works from a battery pack. At least one more laptop is needed, this was identified in the PIO2 budget, to support the operations.

- The results need to be analysed quicker and more PIO2 staff support are required in the field to assist in the capture of the data.

Field Validation Holy Spirit

- If the details collected from the field are not analysed and acted upon the field validation is a waste of time. Information was only captured for parcels which yielded a TCT or tax declaration. Without details of why no information could be gathered strategies for the next step are difficult to formulate.

- All parcels need to be captured in the cross index to allow the field validation data and documents to be tied to the parcel record.

187. Field Validation Recommendations

188. The following are the recommendations for the PA LAMP;

- A work plan incorporating the CIM, office validation and field validation activities needs to be developed by PIO2 to ensure that there is sufficient work available for the NGO carrying out the field validation activities.
- A standard training program should be designed for all field enumerators working in the prototype. This training should include highlighting the LAM project-its activities and objectives; basic public relations skills that provides different approaches in dealing with respondents from different socio-economic classes; relevant information on laws/policies related to land; and conflict resolution.
- Other methods need to be tested to try and locate the owners of parcels that do not have any TCT records located in the ROD.

189. The following are the recommendations for the LAM Program;

- Field validation will not be required in all areas, only where the records have been lost or destroyed and/or there is a high incidence of informal settlement.
- Adequate funding must be available for the activity and the funding must be easy to access.
- A separate approach has been established subdivisions and informal areas. The informal areas will incorporate a CRS information program that helps the residents understand how they can access the ownership records for the land they are residing on. In the established areas the information to be gathered will focus on establishing ownership and assisting those owners who need to reconstitute their titles. These procedures need to be tested by analysing the results from the NGO and then it can be determined if they are sufficient for the long term program
- Alternate government strategies will be required for properties where owners have abandoned their rights and no longer pay land tax or had their titles reconstituted.

One Stop Shop

190. The One Stop Shop is defined in Activity 3.2.2, 3.2.3and 3.2.4 in the project Log frame which states:

Activity 3.2.2: Establish a multi-agency TWG to oversee the planning and implementation for an OSS, and to coordinate between agencies.

Activity 3.2.3: Develop the OSS model and its mode of operation, and formulate a workplan for its establishment, with associated agency roles and responsibilities.

Activity 3.2.4: Develop and document systems and procedures for the initial OSS operation.

191. While all of these activities have taken place the actual OSS building has not been started so the operations cannot be tested yet.

C: Pilot Study Location

192. Various sites were considered for the 2nd Prototype to be carried out and although a Rural Site was preferred, Quezon City was selected after insistence from the Land Registration Authority (LRA). After the burning of the Quezon City Registry of Deeds in late 1988, a title reconstitution program was carried out. Before the beginning of the project 90-95% of the reconstitution had been carried out; the area which had the majority of the titles not reconstituted was the Barangays selected. These Barangays are set out in the table below.

The break up of parcels in these Barangays is displayed in the table below:

Table 2: Break up of the Barangays

Barangay	Land Area (ha)	Population	No of Registered Parcels (Assessor's Database)
Bagong Silangan	507	35,385	8,411
Batasan Hills	576	86,037	9,479
Commonwealth	471	129,354	11,718
Holy Spirit	329	87,615	5,751
Payatas	494	87,253	Parcels not officially recognised forms part of Commonwealth and Bagong Silangan
TOTAL	**2377**	**425,644**	**35,359**

Table 23: Evaluation of One Stop Shop activities

Activity	Strengths	Weaknesses	Constraints	Overall Recommendations
Partner Agencies Support				
monthly meetings with TWG meetings workshops meetings with department heads Study Tour	• The agencies are able to provide inputs into the development of the OSS operations. • Meetings with agency heads allows the prototype to gain strong support at the agency head level • The study tour allowed exposure to working examples and to talk with people involved in setting up the process.	• Some TWG members did not have the authority to make decisions. • Some TWG representatives could not provide adequate feedback to their department heads • inadequate meetings with agencies/ conflict of schedules	• Some TWG members were not sure of the level of decision making they were authorized for. • Unavailability of agency heads (schedule conflicts	The project needs to ensure that the feedback to managers is carried through.
Administrative Support (finance procurement)				
OSS construction procurement of equipment Hiring of staff	• None	• Delayed approval of the reprogrammed budget. • Problems in getting the plan prepared by LRA. Weak compliance with procurement requirements	• dependency on the PMO to provide the support for the approval process. • Lack of knowledge of the procurement process. • lack of procurement officer • Frequent changes in PIO2 management	There should be a specialized unit that can handle all procurement for the project.
OSS Systems development				

Activity	Strengths	Weaknesses	Constraints	Overall Recommendations
Training of Staff Manual Development Simulation workshops Database (cross index) networking	• Strong inputs from the TWG and OSS staff. • Parallel streamlining efforts from the partner agencies. • Enthusiasm and strong interest of the OSS staff • Conduct of the simulation workshops to pretest the OSS operations	• Lack of mechanism to share information with the BOO project.	• Possible conflict with the LARES project.	The involvement of staff that will operate the OSS will ensure that they take ownership of the processes and assist in its successful operations.

193. OSS Lessons Learnt

- Securing of the site for the OSS needs to be one of the first activities carried out. Once this is secured any plans and building works need to be followed up as these activities take the longest period of time to complete.

- Lack of understanding on procurement and administrative requirements delayed the construction of OSS.

- It is essential that a MOA should be signed by all the participating agencies which shall highlight the specific roles of each agency in the OSS.

- Seeing the benefit of OSS-TWG workshop in getting the full attention and cooperation of the members, future discussions on critical/important aspects of OSS development should be undertaken in a workshop environment.

- The OSS development demands full focus from the DPM person assigned to the task. Interventions on concerns of administrative and other components (CIM and OV-FV) have undermined his effectiveness on the assigned task.

- More emphasis should be placed on assigning additional staff to work on OSS improved coordination and documentation of meetings.

- The equipment requirements for the OSS must be worked out and the request included in the budget as early as possible.

- Development of OSS computer linkage with other agencies should take into consideration expenses other than the computers (ie. software, leased line, network connections, etc.).

- A smooth interfacing of the PIO2 database and its use in the OSS which will be linked to other existing systems of other agencies, should be carefully considered as this will likely form part of proposal for national strategy.

- Need to open lines of communication between the technical and decision-making people.

194. One Stop Shop recommendations

195. The following are the recommendations for the PA LAMP;

- The OSS must be started as soon as the staff can be detailed and the training completed. The MOA and the procedure manual must be completed.

- All efforts must be exerted to get the equipment required for the OSS and to fund the CRS campaign for its opening.

196. The following are the recommendations for the LAM Program;

- The management of any future OSS needs to be reviewed and a decision made as to whether it will be independently managed or managed by one of the agencies.

- Rural and Urban OSS deal with different agencies and have unique problems relating to their

areas. The National strategy will need to take these factors into account.

- The involvement of staff that will operate the OSS will ensure that they take ownership of the processes and assist in its successful operations.

- There should be a specialized unit that can handle all procurement for the needs of the one stop shops and also organises the building and relocation processes.

Fake Title Investigation

197. Fake Title Investigation is defined in Activity 3.1.1 in the project Log frame which states:

> **Activity 3.1.1:** Evaluate existing procedures to detect fake, duplicate and missing titles, records or plans and to resolve anomalies.

198. This was expanded to forming a TWG that would look at adopting a national strategy that would

Table 24: Evaluation of Fake Title Investigation activities

Activity	Strengths	Weaknesses	Constraints	Overall Recommendations
Current Activities	• Each agency has developed their own procedures and is aware of the problems.	• Lack of a unified plan between agencies. • Separate systems used cause duplication of effort. • Criminals are only warned by some agencies (including the ROD) rather than a police investigation being carried out.	• Lack of permanent assistant from PIO2	

199. Fake Title Investigation Lessons Learnt

- Fake title investigation cannot be affective if it does not have a GOP counterpart. If the TAs investigate the procedures and learn the issues, constraints and requirements, this knowledge is lost when they leave at the end of the project, with no benefit to the GOP.

- There are many types of fake and spurious titles/rights held in the community.

- There is not a clear strategic action plan for the passing of information of fake records and attempts to register fake records in the Philippines.

200. Fake Title Investigation Recommendations

201. The following are the recommendations for the PA LAMP;

- A PIO2 counterpart must be appointed to this activity.

- The fake title workshops can no longer be delayed; the first one scheduled for July 1st must be carried out.

- As quickly as possible a TWG needs to be established, with members from the agencies that are involved in fake title investigation and a set of counterparts elected.

202. The following are the recommendations for the LAM Program;

At this stage no long term recommendations can be made as the activity has not been carried out in any detail

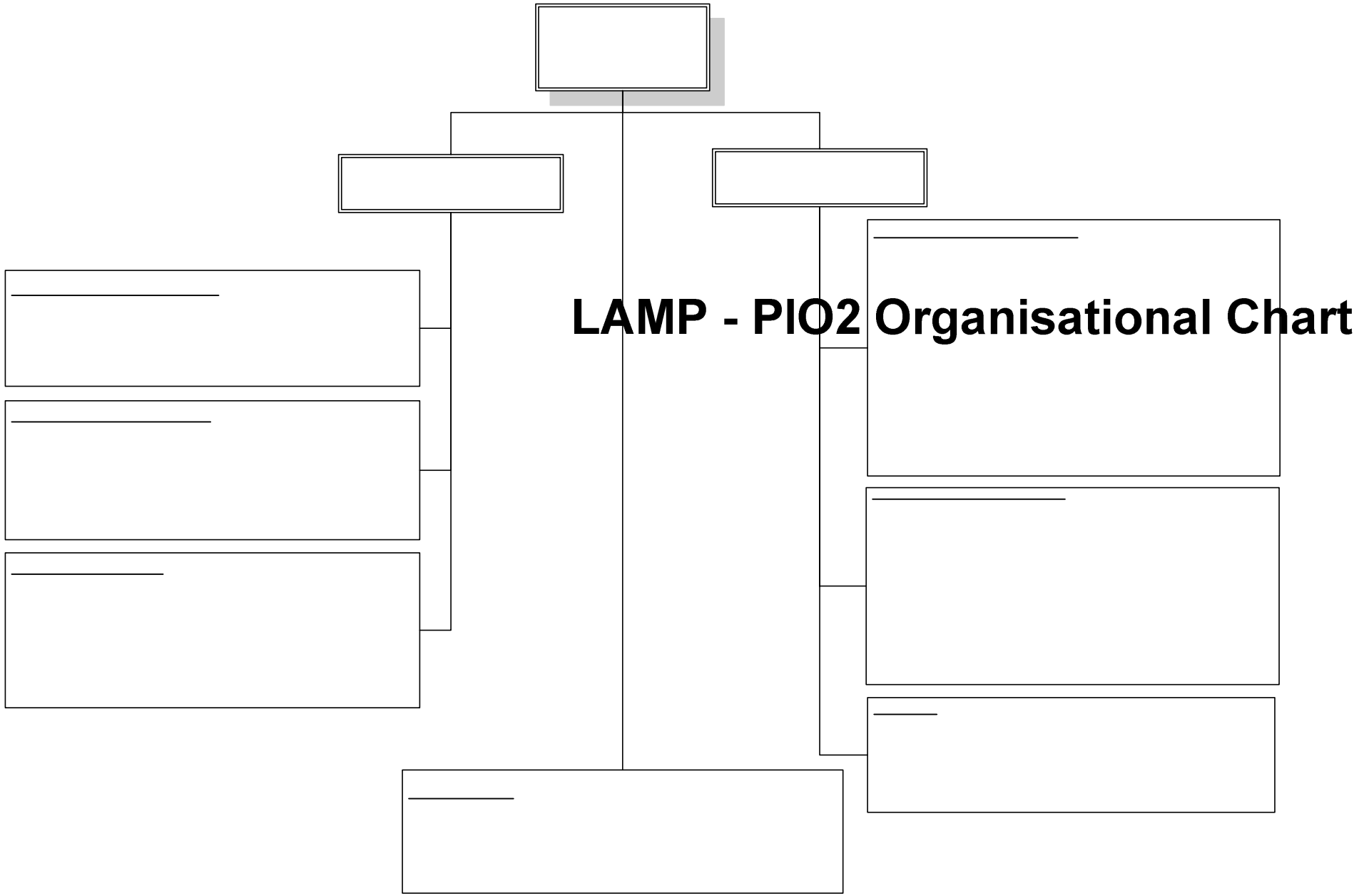

LAMP - PIO2 Organisational Chart

Table 25: PIO2 Log frame
LAND ADMINISTRATION AND MANAGEMENT PROJECT
PROTOTYPE IMPLEMENTATION OFFICE 2
QUEZON CITY

TARGET BASED ACTIVITIES
CY 2003

	Key Result Areas	Activities	Sub-Activities	UWM	Target											
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
3.1	Improved land re***cords*** management systems ***and*** procedures developed, ***tested*** and documented			***no.***												
3.1.1	Evaluate existing procedures to detect fake, duplicate and missing titles, records or plans and to resolve anomalies	Establish TWG to improve coordination mechanism and test proposals to improve detection outside the system	Identify representatives		12	-	-	-	-	-	-	-	-	-	-	-
			Conduct workshop		-	1	-	-	-	-	-	-	-	-	-	-
			Establish TWG		-	1	-	-	-	-	-	-	-	-	-	-
			Conduct of TWG meetings		-	-	1	-	1	-	1	-	1	-	-	-
		Evaluate feasibility of recommendations on the detection of fake and duplicate and in resolving anomalies	Conduct regular meetings			x	x	x	x	x	x	x	x	x	x	x
			Identify mechanism to implement recommendations													
		Implement recommendations in coordination with agencies	Meetings with agency heads			x		x		x		x		x		x
			Prepare MOA													
			Monitor implementation													

	Key Result Areas	Activities	Sub-Activities	UWM	Target											
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
		Generate awareness on the part of the community on the detection of questionable titles	c/o CRS													
		Information drive conducted with the courts to improve basis decisions relative to land cases (present findings to court)	Conduct meetings held with courts			x		x		x		x		x		x
			Implement recommendations													
			Monitor implementation of agreed proposals													
		Review policy studies reports and provide inputs on policy and legislative proposals	Prepare report and discuss with policy studies team with PMO			x	x	x								
3.1.2	Collect and collate all existing land records from different agencies and inconsistencies and anomalies, and develop a database for the purpose	Complete retrieval of titles and development of database and office validation systems	Retrieval/evaluation of title records from the ROD	no. of titles												
			Bagong Silangan		3000	3380	-	-	-	-	-	-	-	-	-	-
			Commonwealth		-	620	4000	3316	-	-	-	-	-	-	-	-
		Creation of database on land information (survey, title, tax information)	Encoding of title information	no. of titles												
			Holy Spirit		1341	-	-	-	-	-	-	-	-	-	-	-
			Batasan Hills		-	2326	2326	598	-	-	-	-	-	-	-	-
			Bagong Silangan		-	-	-	172	232	232	631	-	-	-	-	-

	Key Result Areas	Activities	Sub-Activities	UWM	Target											
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
								8	6	6						
			Commonwealth		-	-	-	-	-	-	1695	2326	2326	1589	-	-
			Updating database with UPI from CIM	no. of CIMs												
			Holy Spirit		16	16	18	-	-	-	-	-	-	-	-	-
			Batasan Hills		-	-	-	16	16	-	-	-	-	-	-	-
			Bagong Silangan		-	-	-	-	-	16	16	16	-	-	-	-
			Commonwealth		-	-	-	-	-	-	-	17	16	16	-	-
		Explore other sources of records to ensure accuracy and completeness of database and establish mechanism for updating	Meetings held with private offices to retrieve plans not in the records of government land agencies													
			Establish mechanisms for automatic updating of titles and Assessor's database	Mechanism developed	1	-	-	-	-	-	-	-	-	-	-	-
		Integrate the cross index into the OSS	Examine options for OV utilization by the public through linking to OSS						x	x	x					
		Update of cross index with new titles/ transfers etc. based on OSS operations	Update cross-index with new titles					x	x	x	x	x	x	x	x	x

	Key Result Areas	Activities	Sub-Activities	UWM	Target											
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
3.1.3	Conduct control surveys in the prototype area where required	Conduct investigation of control points	Follow-up with NAMRIA on completion of GPS control points	Meetings conducted	1	-	-	-	-	-	-	-	-	-	-	-
			Check accuracy of CIM using survey control points		1	-	-	-	-	-	-	-	-	-	-	-
3.1.4	Develop a comprehensive set of cadastral index map for the prototype area, evaluating various procedures (including the use of orthophotos)	Complete retrieval of survey plans for DENR, LRA	Retrieve new survey plans													
			DENR		450	-	-	-	-	-	-	-	-	-	-	-
			LRA		158	-	-	-	-	-	-	-	-	-	-	-
			Establish mechanism for updating of new survey plans	Written Mechanism in place	2	-	-	-	-	-	-	-	-	-	-	-
			LRA		1	-	-	-	-	-	-	-	-	-	-	-
			DENR		1											
		Preliminary CIM completed using methods for the prototype area different procedures (including the use of orthophotos)	Use of semi-digitized method in the production of preliminary CIM	no.	50	40	39	-	-	-	-	-	-	-	-	-
			Batasan Hills		17	8	7	-	-	-	-	-	-	-	-	-
			Commonwealth		17	16	16	-	-	-	-	-	-	-	-	-
			Bagong Silangan		16	16	16	-	-	-	-	-	-	-	-	-
			CIM completion Sheet preparation Assigning of UPI/Parcel	no.	50	40	39	-	-	-	-	-	-	-	-	-

	Key Result Areas	Activities	Sub-Activities	UWM	Target											
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
			numbering Quality assurance Prepare final CIMs after OV in Holy Spirit Updating of new survey plans Complete digitization Plotting of draft output Quality assurance Final plotting on drafting film Continuous updating Test other procedures Scanning and heads up digitizing Training on the use of scanner Set-up scanner at DENR-NCR Records Section	no.	-	-	-	22	22	-	-	-	-	-	-	-
						x	x	x	x	x						
						x										
						x										
			Scan identified survey plans within the prototype area Conduct heads-up digitizing at PIO2 Use of orthophotos Training/orientation Produce CIM using orthophotos	no. of plans no.		x x	x x	x x	x x	x x						
					-	-	1	-	-	-	-	-	-	-	-	-
							x	x								

	Key Result Areas	Activities	Sub-Activities	UWM	Target											
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
			Geographic Information Systems Development													
			Conduct of advance course on GIS	Training conducted	-	1	-	-	-	-	-	-	-	-	-	-
			GIS Development					x	x	x	x	x	x	x	x	x
			Review and evaluate procedures tested													
			Documentation/preparation of report	Reports generated							x	x	x			
			Communication of findings to different stakeholders	no. of agencies							x	x	x			
3.1.5	Develop and test procedures for field verification of land records field phase of records validation)	Completion of FV in Bgy. Holy Spirit	CIMs field validated	no. of CIM	-	44	-	-	-	-	-	-	-	-	-	-
			Processing/report on FV results	Reports processed	-	1	-	-	-	-	-	-	-	-	-	-
		FV for the remaining four (4) barangays (to be contracted with an NGO)	Final CIMs produced	no.	-	-	19	19	19	18	18	18	18	-	-	-
			CIMs field validated	no.	-	-	17	17	17	17	16	16	15	14	-	-
		Testing of other methods of field validation	Other methods explored													

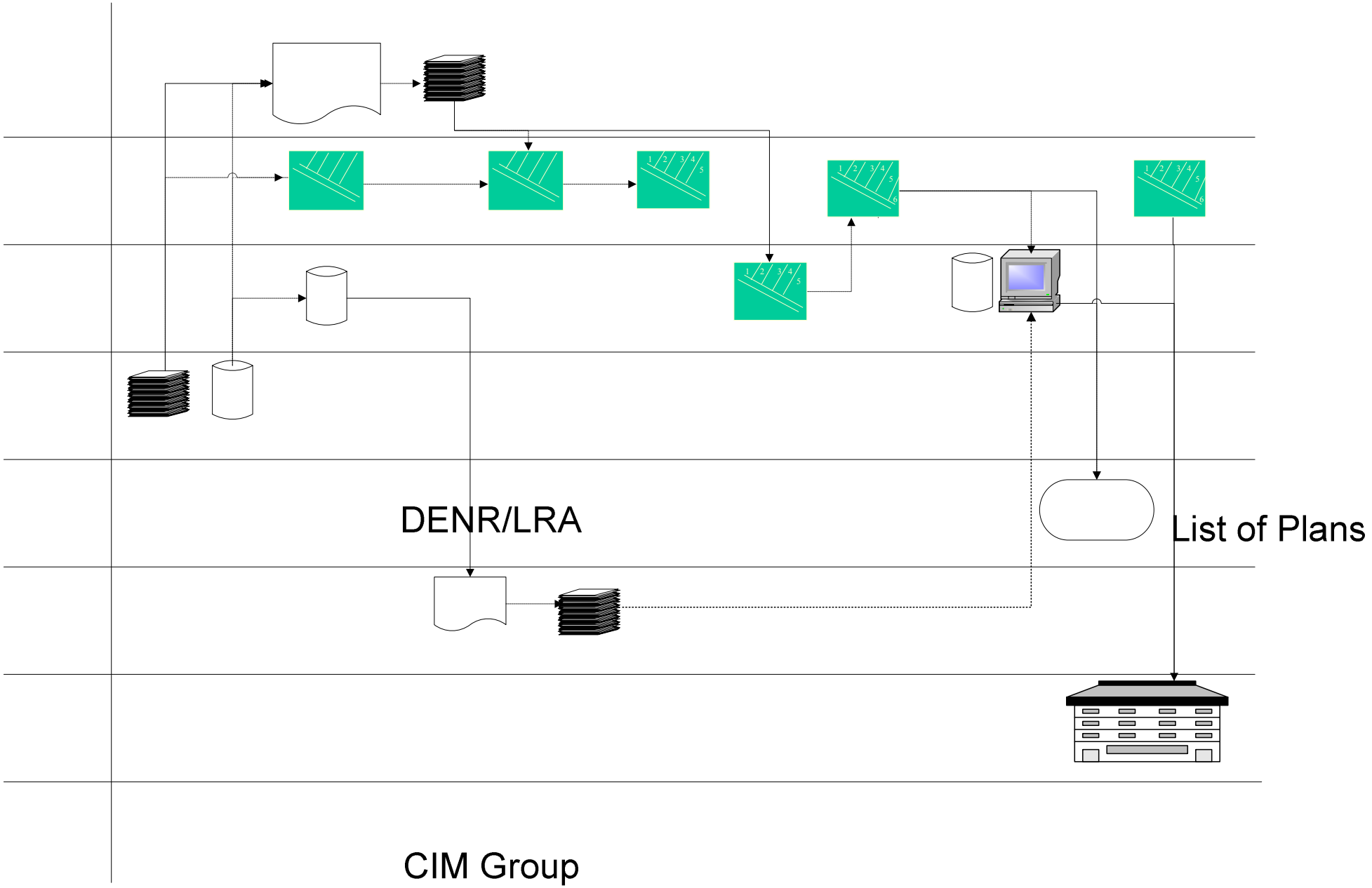
	Key Result Areas	Activities	Sub-Activities	UWM	Target											
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
3..1.6	Identify and document the range of problems, issues and anomalies encountered, propose and where possible) test options to resolve them	Evaluation of findings and identification of possible mechanisms to resolve anomalies	Feedbacking results to owners													
			Evaluate/document findings	Report generated/	-	-	-	-	-	-	-	-	-	-	1	-
			Communicate findings to partner agencies and discuss options to resolve them	Workshop conducted	-	-	-	-	-	-	-	-	-	-	1	-
			Test proposed resolution	Sample areas tested	-	-	-	-	-	-	-	-	-	-	1	-
3.1.7	Assess, document and communicate the outcomes of the improved systems and procedures that have been tested (see also Output 3.3), and provide recommendations for the policy studies and longer-term LAM Program	Conduct additional workshops and dialogues with practitioners to communicate the lessons of PIO2	Organize workshops and dialogues with practitioners to communicate the lessons of PIO2	Workshops conducted	-	-	-	-	-	-	-	-	-	-	1	-
3.2	Systems and institut***ional*** arrangements for stream***l****ined,* efficient and cost-eff***ective*** delivery of land trans***action***				-	-	-	-	-	-	-	-	-	-	1	-

	Key Result Areas	Activities	Sub-Activities	UWM	Target											
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
	services and associated infor***ma*tion** developed and tested															
3.2.2	Establish a multi-agency TWG to oversee the planning and implementation for a OSS, and to coordinate between agencies	Continuous OSS-TWG regular meetings	Organize regular OSS-TWG meetings	no.	1	1	1	1	1	1	1	1	1	1	1	1
3.2.3	Develop the OSS model and its mode of operation, and formulate a workplan for its establishment, with associated agency roles and responsibilities	Finalization of OSS model and securing of agencies' commitment on the agreed roles and responsibilities	Conduct integration workshop	no.	1	-	-	-	-	-	-	-	-	-	-	-
			- Finalize draft MOA		-	1	-	-	-	-	-	-	-	-	-	-
3.2.4	Develop and document systems and procedures for the initial OSS operation	Finalize systems and procedures for initial OSS operations	Update manual	no.	-	-	1	-	-	-	-	-	-	-	-	-
			Finalize TOR of staff		1	-	-	-	-	-	-	-	-	-	-	
			Present draft manual transactions to TWG members	no.	-	1	-	-	-	-	-	-	-	-	-	-
			Organize workshop to review results on OSS operations	no.	1	-	-	-	-	-	-	-	-	-	-	-
			Revise transaction manual			1										
			Meeting with agencies on issues/ revisions			1										
			Conduct 2nd OSS				1									

	Key Result Areas	Activities	Sub-Activities	UWM	Target											
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
3.2.5	Train OSS staff in the systems and procedures	Conduct of trainings for OSS staff	simulation workshop													
			Finalize manual/dry run					1								
			Secure Special Order of staff to work on OSS	no.	-	1	-	-	-	-	-	-	-	-	-	-
			Conduct of trainings on:	no.												
			- OSS TWG Training		1	-	-	-	-	-	-	-	-	-	-	-
			- Basic computer operations		1	1		-	-	-	-	-	-	-	-	-
			- Team building for OSS staff		-	-	1	-	-	-	-	-	-	-	-	-
			- Communications skills/handling conflict management		-	-	1	-	-	-	-	-	-	-	-	-
3.2.6	Establish the OSS appropriately staffed and equipped with all the necessary systems and procedures in place	Establishment of OSS office	Renovation of site	no.		x										
			- Approval of job order													
			- Secure necessary permits													
			- Actual renovation													
			Procurement/installation of modular partitions for the OSS	no.			x									
			- Approval of job order													
			Installation of equipment	no.			x									
			- Design computer for system/ setup for OSS operation													

	Key Result Areas	Activities	Sub-Activities	UWM	Target											
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
3.2.7	Review the performance and operation of the OSS and modify the systems and procedures of continuous	Evaluate initial OSS operations and apply necessary improvement with the concurrence of partner agencies	- Install equipment Launching of OSS - Preparation of invitations - Arrangement for launching - Launch OSS - Sign MOA Conduct quarterly assessment workshops Review of OSS operations/transactions - Request for Certified true copy of titles - Processing of the Request for the Issuance of Transfer Certificate of Title (TCT) based on Deeds of Sale lots - Processing of the Request for the Issuance of Condominium Certificate of the Title (CCT) based on Deeds of Sale	no. no. no. of transactions	- - -	- 1 -	x 1 1 - -	- - 1 -	- - - -	- - - 1	- - - -	- - - -	- - - 1	- - - -	- - - -	- - - 1

	Key Result Areas	Activities	Sub-Activities	UWM	Target											
					Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
			Condominiums													


DENR/LRA
List of Plans
CIM Group

end of report.