

Sida Support to Dinageca in Mozambique 1991–1996

**An evaluation of Sida support to
national surveying and mapping**

**Sue Nichols
Clarissa Fourie
Margarita Mejias**

**Department for Natural
Resources and the
Environment**

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**Sida Evaluation 97/15
Department for Natural
Resources and the
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Sida Evaluations may be ordered from:

Biståndsforum, Sida
S-105 25 Stockholm
Phone: (+46) 8 698 5722
Fax: (+46) 8 698 56 38

Authors: Sue Nichols, Clarissa Fourie, Margarita Mejias

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SWEDISH INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
Address: S-105 25 Stockholm, Sweden. Office: Sveavägen 20, Stockholm
Telephone: +46 (0)8-698 50 00. Telefax: +46 (0)8-20 88 64
Telegram: sida stockholm. Telex: 11450 sida sthlm. Postgiro: 1 56 34-9
Homepage: <http://www.sida.se>

EXECUTIVE SUMMARY

The Programme

In July, 1991, Swedesurvey AB began a long term programme in Maputo with Mozambique's National Surveying and Mapping Department, the Direcção Nacional de Geografia e Cadastro (DINAGECA). The project was funded by Sida for approximately SEK 27,000,000 over the first five years. The goal of the programme was to strengthen DINAGECA's capacity to carry out cadastral activities and topographic mapping.

A Sida supported study in 1988 identified DINAGECA's need for training, modern surveying and mapping equipment, upgrading of Provincial Offices, and improved mapping and registration capabilities for land applications and titles. It was proposed that emphasis be placed on rural land, specifically family sector landholdings and that a pilot project be implemented to develop methodologies for systematically issuing titles to all land parcels in a geographic location.

The Swedesurvey programme had the following components:

- specialized training and education in surveying, mapping, management, English, etc.;
- support for the Machava Technical Training School in curriculum development, teacher training, materials, and equipment;
- upgrading of the Central Office of DINAGECA and one or more Provincial Offices through training and provision of modern surveying and mapping technology, computers, and vehicles for field work;
- development of a pilot project for cadastral surveys and titling of land to test various methodologies and to develop a national strategy for titling and land registration;
- development of a national land information system;
- introduction of new methods for topographic and orthophoto mapping;
- provision of consultancies and equipment to support these activities.

The Evaluation

The purpose of this review was to:

- evaluate the efficiency and effectiveness of the programme, and specifically the Pilot Project;
- evaluate special issues related to the Sida support;
- make recommendations for future support of DINAGECA.

The evaluation consisted of interviews in Sweden and Mozambique conducted over 5 weeks from May to July, 1996, as well as a review of the relevant documentation. In discussions with Sida, it was decided that the focus of the review should be on recommendations for Sida support, on the impact of the programme on the family sector farmholder, and on gender issues within the titling programme.

Summary of Findings

- The initial proposal and subsequent workplans underestimated the constraints and problems to be faced in the Pilot Project. Since everything was contingent upon the completion of the Project, many parts of the programme were delayed. In other respects, the programme delivered by Swedesurvey was generally effective, with some exceptions noted in the report.
- Human resource development through training, seminars, site visits, etc. was the most effective support in the programme, especially English language training.
- The identification and adjudication processes had insufficient procedures and guidelines and did not reflect an understanding of the customary tenure patterns and gender issues involved. The communication process, in which information on the titling project was disseminated to the community, was also very weak and applicants did not understand the significance of being a titleholder.
- While the number of titles issued was small, DINAGECA gained valuable experience in the Pilot Project. However, there was no comprehensive reevaluation of the project and no redesign for the national cadastral system as initially proposed.
- The benefits normally derived from titling, such as access to credit and more efficient land transactions, are not relevant in Mozambique at present. Since titles have only been issued in the Pilot Project area in 1996, it is too early to determine whether the programme will have any effect on agricultural production or reduction of disputes.
- The variety of land tenure patterns in Mozambique have to be better understood in order to ensure that rights are protected. The role of women in the land tenure system especially needs clarification if women's rights are to be protected and their capacity to participate equally in society is to be enhanced.
- There are some externally funded projects that have overlapping activities with the Swedesurvey project and in most cases these are complementary, but there is a danger that disparate cadastral approaches will develop through these projects. DINAGECA's present approach to titling will not be able to support the current proposals of the Land Commission nor many of the approaches proposed in these projects.
- DINAGECA's current approach to titling will not be able to protect the rural poor from land acquisition by private investors, nor is it a sustainable approach given the problems and needs in Mozambique.

Summary of Recommendations

It is recommended that Sida continue to support the Swedesurvey programme with DINAGECA at at least the past funding level and that the support be based on the following recommendations.

Development of a New Land Titling Strategy: It is recommended that DINAGECA reevaluate the experience gained in previous titling projects and develop a strategy that will be:

- more flexible (to meet any cadastral approach or land law provisions);
- more effective (protect the rights of the rural poor while enabling economic development to proceed);
- more sustainable (capable of being supported with DINAGECA's resources);

It is further recommended that such a strategy be based on the following principles:

- It should be application driven (i.e., sporadic rather than systematic) and therefore more appropriate to the resources available in DINAGECA and more capable of being self-financing;
- It should protect third party rights through public communication and rigorous adjudication;
- It should emphasize development of technical and administrative procedures and regulations;
- It should be based on improved knowledge and understanding of complex tenure arrangements, local tenure variations, gender issues, and the legal implications of technical procedures;
- It should be built upon an information base at the local level to support local administration and planning.

To support such a programme, it is recommended that DINAGECA also develop:

- a research programme to create a knowledge base within the organization on land tenure, gender issues, local protocols and power structures, and other issues related to the titling programme;
- a strong communications programme that will inform staff and the public about the titling process and its potential benefits and impacts;
- technical and administrative procedures that will enable the land law that is eventually adopted to be implemented effectively and efficiently;
- a programme for improving geodetic control and mapping to support the titling process;
- improved adjudication procedures, and mechanisms for dispute resolution;
- improved information systems to track applications and ensure more efficient titling.

To support DINAGECA in these activities, it is recommended that Sida continue to fund an expanded Swedesurvey programme, including the following:

• **Personnel and Consultancies:** For the duration of the programme, there should be long-term personnel resident in Mozambique. This should include administrative assistance, separate from the Cadastral Advisor's position. To ensure continuity of the programme and to enhance training, the Systems Analyst position should also be continued for at least one more year. Short term consultancies should be arranged to meet the goals of the strategic planning process (currently in progress) and consultants should be well briefed on how their activities fit in with other programme objectives. These consultancies should include specialists in land tenure, gender issues, adjudication and communication, and management.

• **Training and Education:** Continued support should be given to the Machava Training School, including further curriculum development for improved adjudication procedures and teacher training for the development of cadastral systems. Training support should also put as much emphasis on procedures and management practices as on the technology. Training should include the following:

- management skills, including project management, negotiation and communication skills, and conflict resolution skills;

- land tenure in Mozambique, including awareness of gender and local issues;
- land administration, including registration systems and procedures, and development of technical and administrative regulations;
- English language skills;
- technical skills in information management, computer use and applications, mapping, and surveying.

More emphasis should be given in the second agreement to long term education, as well as short term training. In all training programmes, the Machava Technical Training School should be considered the "11th" Provincial Office and be included in the programmes.

• ***Programme Support:*** This should include support of the strategic planning process now in progress within DINAGECA, further management training, and reevaluation of the Pilot Project experiences. Sida should continue to support the upgrading of the central and provincial offices, and also provide appropriate training for District Offices.

Depending on the results of the strategic planning process, additional support should now be considered for enhancing DINAGECA's capacity in geodetic control and topographic mapping. The procurement of equipment and materials, including transport and communications equipment should also continue at least at the current level.

SUMÁRIO EXECUTIVO

O Programa

Em Julho de 1991, a Swedesurvey iniciou um programa de apoio institucional de longa duração à Direcção Nacional de Geografia e Cadastro (DINAGECA) de Moçambique. O projecto, baseado em Maputo, foi financiado pela ASDI por aproximadamente 27,000,000 SEK durante os primeiros cinco anos. O programa tem como objectivo expandir a capacidade da DINAGECA para empreender actividades cadastrais e de produção de mapas topográficos.

Um estudo apoiado pela ASDI em 1988, identificou diversas áreas problemáticas que a DINAGECA teria necessidade de aperfeiçoar, tais como treino de pessoal, aquisição de equipamento moderno para levantamentos topográficos e elaboração de mapas, e melhor capacidade para registo de propriedade de terras e títulos. Foi proposto que se deveria acentuar a área referente às terras rurais, especialmente nos sectores de ocupações familiares. Foi implementado um Projecto - Piloto que serviu para desenvolver metodologias para distribuição sistemática de títulos, i.e. para todos os terrenos numa determinada localidade geográfica.

O programa de Swedesurvey incluía as componentes seguintes:

- Treino especializado e educação em levantamentos cadastrais e elaboração de mapas, administração, Inglês, etc;
- Apoio à Escola de Formação Técnica da Machava no desenvolvimento de currículos, reciclagem de professores, aquisição de materiais e equipamento.
- Capacitar a DINAGECA a nível central e um ou mais serviços provinciais de geografia e cadastro, computadores e veículos para trabalho local.
- Desenvolvimento de um Projecto - Piloto para inspecções cadastrais e titulação de terras, para examinar metodologias diversas e para fomentar uma estratégia a nível nacional para titulação e registo de terras.
- Desenvolvimento de um sistema nacional de informação sobre assuntos inerentes a terras.
- Introdução de novas tecnologias para delineação topográfica e ortofotográfica de mapas.
- Provisão de consultas e equipamento para apoio das actividades acima descritas.

Avaliação:

Os fins da revisão prévia foram os seguintes:

- Avaliar a eficiência e eficácia do Programa, especificamente do Projecto-Piloto.
- Avaliar os assuntos referentes a manutenção do apoio da ASDI
- Produzir recomendações para futuro apoio à DINAGECA.

A avaliação consistiu de entrevistas na Suécia e em Moçambique conduzidas durante um prazo de cinco semanas, de Maio a Julho 1996, assim como de uma revisão da documentação pertinente. Em discussões com a ASDI, sobre o impacto do programa no sector das famílias fazendeiras, e nos assuntos críticos relacionados com o género pessoal (femenino ou masculino) relevantes ao programa de titulação.

Resumo de Averiguações:

- A proposta inicial e os planos de trabalho subsequentes, subestimaram as restrições e os problemas diversos inerentes ao Projecto-Piloto. Como tudo dependia da finalização do projecto, muitas partes do programa foram adiadas. Noutros aspectos, o programa apresentado pela Swedesurvey foi, de modo geral, eficaz, salvo algumas excepções (notadas no relatório).
- Desenvolvimento do potencial humano, por meio de treinamento, siminário, visitas de estudo etc. foi o meio eficaz de apoio, especialmente o ensino de Inglês.
- Os processos de identificação e adjudicação não reflectiram uma compreensão apropriada dos modelos comuns de propriedade de terrenos ou dos pontos pertinentes aos assuntos do gênero (masculino e femenino).
- O pessoal técnico não teve acesso a guias regulamentares suficientes. O processo de comunicação, por meio do qual informação acerca do projecto de titulação foi distribuída à comunidade, provou-se também ser fraco e os visados não compreenderam o significado da posse de título.
- Embora relativamente poucos títulos tenham sido distribuídos, a DINAGECA ganhou experiência valiosa no Projecto-Piloto. Contudo, não se empreendeu a necessária reexaminação e nenhum esforço foi feito para redesenhar o sistema cadastral nacional como inicialmente fora proposto.
- Os benefícios normalmente derivados do processo de titulação, como por exemplo o acesso a crédito e transações agrárias, não têm relevância actualmente em Moçambique, pelo menos por agora. Como a distribuição de títulos na área do Projecto-Piloto só começou em 1996, ainda é muito cedo para se determinar se o programa terá algum efeito na produção agrícola ou na redução de disputas e conflitos.
- A variedade de modelos de propriedade de terras em Moçambique tem que ser compreendida mais profundamente para que os direitos de todos sejam protegidos adequadamente. Especialmente, o papel da Mulher no sistema de posse de terras precisa de ser esclarecido, para que os direitos das mulheres sejam assegurados e as suas oportunidades para participação social conduzidas em igualdade de circunstâncias.
- Existem vários projectos financiados por fontes externas que conduzem o mesmo tipo de actividades que o Projecto da Swedesurvey que na maior parte dos casos, lhe são complementares. Contudo, há sempre o perigo de que modelos cadastrais díspares sejam criados por esses projectos. A presente estratégia de DINAGECA em relação a titulação não pode suportar nem as propostas correntes da Comissão de Terras, nem estes outros projectos.
- A estratégia corrente da DINAGECA referente a titulação não tem o poder de proteger o trabalhador rural mais pobre contra a aquisição de terras por concessionários, não é apropriada nem eficaz, face aos problemas e das necessidades actuais Moçambique.

Resumo de Recomendações

Recomenda-se que ASDI continue a manter o programa da Swedesurvey em cooperação com DINAGECA a um nível de financiamento pelo menos como o que até agora é fornecido. Esta manutenção deverá ser baseada nas seguintes recomendações:

- **Desenvolvimento de uma Estratégia de titulação:** Recomenda-se que, a DINAGECA reexamine a experiência ganha nos projectos anteriores de titulação e que crie e desenvolva uma estratégia, a qual deverá ser:
 - Mais flexível (para se poder harmonizar com vários modelos de cadastro ou leis inerentes à propriedade de terras).
 - Mais eficaz (para proteger os direitos dos pobres rurais e ao mesmo tempo estimular o desenvolvimento económico)
 - Mais sustentável (capaz de ser mantido por recursos da DINAGECA)

Também se recomenda que esta estratégia seja baseada nos princípios seguintes:

- Deve acentuar aplicações práticas específicas (preferencialmente de natureza esporádica e não sistemática), mais apropriadas aos recursos da DINAGECA e mais capaz de autonomia financeira;
- Deve proteger os direitos de terceiros, por meio de comunicações públicas e de uma rigorosa adjudicação;
- Deve pôr ênfase ao desenvolvimento de processos de regulamentações técnicas e administrativas.
- Deve ser baseada em conhecimentos mais profundos e compreensão mais completa das complexidades inerentes aos modelos de propriedade de terras, variações em arranjos de posse locais, assuntos do género e implicações legais dos procedimentos técnicos. Deve ser fundada numa base de informação que opere ao nível local para apoiar os processos de administração e planeamento regionais.

Para manter um programa deste calibre, recomenda-se que a DINAGECA também desenvolva:

- Um programa de pesquisa que crie uma base de informação integrada na organização própria, sobre a propriedade de terras, assuntos do género, protocolos e estruturas de autoridade local, e outros assuntos relacionados com o programa de titulação;
- Um programa de *comunicação* sólido e eficaz que informe tanto o pessoal técnico como o público sobre o processo de titulação e os respectivos benefícios e impactos potenciais.
- Procedimentos técnicos e administrativos que ajudem a implementação eficaz das leis pertinentes, futuras e correntes.
- Um programa para melhorar o controlo de geodesia e mapeamento para apoio ao processo de titulação.
- Processos mais eficazes de adjudicação e mecanismos para resolução de disputas e conflitos.
- Sistemas de informação mais eficazes para localizar e identificar pedidos e assegurar um processo de titulação mais eficiente.

Para apoiar a DINAGECA nestas actividades, recomenda-se que ASDI continue a financiar uma versão maior e mais completa do programa de Swedesurvey, incluindo o seguinte:

- **Pessoal e Consultorias:** Durante o desenvolvimento do programa, deverá haver pessoal com residência permanente em Moçambique. Estarão incluídos assistentes administrativos, à parte o posto de Conselheiro Cadastral. Para assegurar a continuidade do programa e para melhorar o processo de treinamento, o posto de Analista de Sistemas de Informática deverá continuar por mais um ano, pelo menos. Consultorias de curta duração devem ser conduzidas para alcançar os objectivos do processo de planeamento estratégico (correntemente em processo). Os consultores devem estar devidamente informados e devem saber como adaptar as suas actividades aos objectivos práticos do programa. As consultorias

devem incluir especialistas em modelos de posse de terras, em assuntos sociais e do gênero, adjudicação em comunicações e administração.

- **Treino e Educação:** Deve-se continuar o apoio à Escola de Formação da Machava, incluindo o desenvolvimento adicional de currículos relacionados com novos processos de titulação e treino de professores para ensinar as dinâmicas do fomento de sistemas cadastrais. O treino de pessoal deverá incidir sobre métodos mais práticos de administração bem como em tecnologias. O treino também deverá incluir o seguinte:
 - Capacidade administrativa, incluindo gestão de projectos, habilidade para negociação e comunicação, familiarização na resolução de conflitos;
 - Propriedade de terras em Moçambique, familiarização com assuntos do gênero e outros locais;
 - Administração de terras, incluindo sistemas de registo e procedimentos respectivos, e desenvolvimento de regulamentação técnico-administrativa;
 - Familiarização com o Inglês;
 - Capacidade ao nível técnico de gestão de informação, uso de computadores e aplicação de informática, mapeamento de mapas e actividade cadastral.

O segundo acordo deverá acentuar a formação a longo prazo, e outra de curta duração, assim como estágios e reciclagens a termos mais imediatos, efectivo a todos os programas de treinamento. A Escola de Formação Técnica da Machava deverá ser considerada como a 11^a agência Provincial, e será incluída em todos os programas.

- **Manutenção do Programa:** Este processo deverá incluir apoio ao planeamento estratégico presentemente em curso na DINAGECA, adicional treino administrativo e reavaliação das experiências relativas ao Projecto-Piloto. A ASDI deverá continuar a apoiar o desenvolvimento dos Serviços Provinciais e Centrais e também deverá fornecer treino apropriado para Serviços Distritais.

Após consideração dos resultados do processo de planeamento estratégico, apoio adicional poderia ser agora delineado com o objectivo de melhorar a capacidade da DINAGECA nas áreas de controlo geodésico e mapeamento, procura de equipamentos e materiais (incluindo métodos de transporte e comunicação) também deveria ser continuada pelo menos ao nível corrente.

TABLE OF CONTENTS

Executive Summary	ii
1. Swedesurvey Programme Content	1
1.1 The Context for the Programme	1
1.2 The Programme	1
2. The Evaluation: Goals and Methodology	3
2.1 Objectives of the Evaluation	3
2.2 Methodology	3
2.3 Limitations of the Evaluation	4
3. Evaluation of the Swedesurvey Programme	5
3.1 Evaluation of the Programme Objectives and Deliverables	5
3.2 Efficiency and Cost-Effectiveness of Swedesurvey Services	6
3.2.1 Short term consultancies	7
3.2.2 Long term personnel	7
3.2.3 Procurement of materials and equipment	8
3.2.4 Central and Provincial Office upgrading	8
3.2.5 Professional advice, installations, training for computer installation	9
3.2.6 Human resource development-Machava Technical Training School	9
3.2.7 Human resource development - on-site training	9
3.2.8 Human resource development - foreign education and training	10
3.2.9 Human resource development - workshops and information dissemination	10
3.2.10 Workplans	10
3.3 Evaluation of Boane Pilot Project and Other Titling Efforts	11
3.3.1 Goals and objectives in Boane	11
3.3.2 Evaluation of methodology	12
3.3.3 Special considerations for female-headed households	13
3.3.4 Outputs	13
3.3.5 The 1993 evaluation	13
3.3.6 Experiences from other titling efforts	14
3.4 Efficiency of Surveying and Titling Methodology	14
3.4.1 Survey methodologies	14
3.4.2 Time and cost efficiency of surveying and titling procedures	14
3.5 Impact of Technology Transfer	15
3.5.1 Targets and achievements	15
3.5.2 Impact on institutional and human resource development	16

3.6 Progress in Institutional Development in DINAGECA	16
3.6.1 Targets and achievements	16
3.6.2 Progress in other areas	17
4. Evaluation of the Impact of Sida Support	18
4.1 Sida Support and DINAGECA's Activities	18
4.2 Impact of Sida Support on DINAGECA Services	19
4.3 Mozambique Support to DINAGECA	19
4.4 Benefits for Small Family Farm Holders	20
4.5 Gender Issues	21
4.5.1 The gender dimension of the land tenure system in Mozambique	21
4.5.2 Recommendations from past evaluations	21
4.5.3 Gender issues and the distribution of titles	22
4.5.4 Gender perspective of DINAGECA personnel in the field	22
4.6 Impact of Titling on Women's Access in Family Sector Farms	23
4.7 Assessment of Relationships with Other Externally Funded Projects	24
4.7.1 World Bank Rural Project	24
4.7.2 World Bank 5 Cities Project	24
4.7.3 FAO	25
4.7.4 Finnish Project in Nacala City	25
4.7.5 USAID	25
4.7.6 Helvetas	26
4.7.7 Italian projects	26
4.7.8 French	26
4.7.9 Other Projects	26
5. A Recommended Strategy for Future Sida Support and the Titling Programme	27
5.1 The Land Commission Proposals and Sida's Support to DINAGECA	27
5.1.1 Draft land law and related issues	27
5.1.2 Organizational change	28
5.1.3 Analysis of impact on DINAGECA	29
5.1.4 Appropriateness of Sida support	29
5.2 The Role of DINAGECA in the Land Commission	29
5.2.1 Past and current role	29
5.2.2 Consideration of gender issues	30
5.2.3 Potential role	30
5.3 Requirements for Surveying, Mapping, and Land Administration Services	30
5.3.1 Requirements in Mozambique	30
5.3.2 DINAGECA requirements	31

5.4 Strategy for Future Sustainability and Improvement of DINAGECA's Services	33
5.4.1 Sustainability of existing programme	33
5.4.2 An alternative strategy for land titling and land administration	34
5.4.3 Benefits of the strategy	36
5.5 Public Communication Strategy to Support the Titling Programme	37
5.6 Recommendations for Further Sida Support (1997-2001)	38
5.6.1 Training and education	38
5.6.2 Support personnel	39
5.6.3 Programme support	39
6. Summary Of Conclusions And Recommendations	42
6.1 Effectiveness of Sida Support	43
6.2 Effectiveness of the Systematic Titling Projects	43
6.3 Special Issues Related to Sida Support	44
6.4 Recommended Future Strategy for DINAGECA and Sida Support	46
7. Lessons Learned	48
7.1 Lessons Related to the Titling Programme	48
7.2 Project Planning and Management Issues	49
APPENDIX A: Terms of Reference for the Evaluation	51
APPENDIX B: List of People Interviewed	54
APPENDIX C: References	60
APPENDIX D: List of Skills	65

LIST OF FIGURES

FIGURE 5.1 Land Titling Process (First Registration	35
FIGURE 5.2 Recommended strategy for DINAGECA activities supported by Sida	41

1. SWEDESURVEY PROGRAMME CONTENT

1.1 The Context for the Programme

In July 1991, Swedesurvey AB began the first five year stage of a ten year proposed programme to assist in developing institutional capacity within Mozambique's National Surveying and Mapping Department, the Direcção Nacional de Geografia e Cadastro (DINAGECA). Among this organization's responsibilities, mainly for rural land, are:

- creation and maintenance of a national network of geodetic control;
- national mapping at various scales;
- aerial photography acquisition and processing;
- use of remote sensing imagery;
- activities related to processing and registering applications for rights in land.

DINAGECA is within the Ministry of Agriculture and Fisheries and has a Central Office in Maputo, 10 Provincial Offices, and approximately 128 District Offices. The Machava Technical Training Centre, in the outskirts of Maputo, is also associated with DINAGECA. Budgets for the organization and the Centre are allocated by the Ministry at the national, provincial, and district levels.

Mozambique gained independence from Portugal in 1978. There was an exodus of the Portuguese-Mozambicans, including government civil servants in DINAGECA. Over the next decade, DINAGECA relied heavily on expertise from socialist countries, including the Soviet Union, who in turn exited suddenly in 1991. In 1996, DINAGECA's staff had decreased to 326 from 477 in 1978. Mapping is several decades out of date and technical resources are limited.

With independence, the government had to address the need to provide security of tenure in a country characterized by colonial abandonment, civil war and mass resettlement, and urban migration. People were moved into state farms and communal villages and surveying was linked to agricultural land use. But by 1988, a study for Sida [Kalms, 1988] identified the need to protect family farmers and to support DINAGECA's Cadastral Department in responding to an increasing need for land for economic development (e.g., commercial farms). Therefore the main focus of the first stages of the Swedesurvey project was to increase DINAGECA's capacity to identify, document, and process titles for individual properties in order to provide more security for rural landholders. Under the law of Mozambique these "titles" or leaseholds are typically issued as 50 year exclusive rights of use.

The Swedesurvey project was therefore to address several main problems:

- the need to build a capacity in titling land parcels, with emphasis on the small family farm sector;
- the need to improve the surveying and mapping capacity within DINAGECA;
- the need to provide education, training, and equipment to accomplish the above.

1.2 The Programme

The goal of the first 5 year Sida programme in Mozambique was *to strengthen DINAGECA's capacity to carry out cadastral activities and topographic mapping*. Swedesurvey AB was awarded responsibility for delivering the programme, using staff from the National Land Survey of Sweden (LMV) and other experts as required from educational institutions, government, and the private sector. Most of the work was conducted through short term consultancies until 1994 when a long-term resident cadastral advisor was appointed.

The terms of reference defined by Swedesurvey are summarized below in 4 Phases for 1991-1996:

- **Phase I:** Originally scheduled for July 1991-July 1992, this phase would:
 - support the Machava Training School (e.g., curriculum, facilities, equipment, and teaching assistance);
 - provide special training (e.g., national seminar, international training, post graduate education, English language training, study visits to Sweden and Zambia);
 - to upgrade DINAGECA's Central Office (e.g., equipment for cadastral work, geodetic surveying, photogrammetry, and mapping; technical and management training);
 - upgrade the Maputo Provincial Office (technical resources);
 - conduct a pilot study for cadastral surveys and titling (including legislative review and testing of various methodologies);
 - provide short term support for procurement and evaluation;
 - evaluate the socio-economic impact of the Pilot Project on the family farms.
- **Phase II:** In this phase the objectives were to:
 - design and test a national computerized land registration and cadastral system based on the Pilot Project;
 - introduce new methods for topographic and orthophoto mapping.
- **Phase III:** The objectives were to:
 - begin data collection and other implementation activities;
 - to introduce modern surveying and map production methods.
- **Phase IV:** This Phase had the objectives to:
 - have the new land registration and cadastral system come into force;
 - develop new applications and related activities;
 - envelop surveying and mapping activities into a comprehensive land information system.

In the development of the programme, it soon became clear that the original objectives were unrealistic in terms of the time frames established. Most of the activities planned in Phase I have been carried out over the 5 year programme. Some activities in Phase II and Phase III have begun over the last year, primarily by DINAGECA staff. A major setback occurred in 1995 when Sida funding to DINAGECA was frozen for one year due to difficulties with the Ministry of Agriculture and Fisheries. This funding was reinstated in 1996, but in the meantime there was a loss of continuity, momentum, and morale. A new workplan has been drafted for the period ending December 1996, permitting some of the planned activities to go forward until new Terms of Reference can be drafted.

By June 1996 it was originally expected that a national titling programme would be underway and that the information collected would form the basis of a national land registration and information system. Capacity in terms of training, equipment, and facilities would be developed for surveying and mapping, as well as cadastral activities. In actual fact, the programme moved much more slowly and the major impacts to June, 1996 include the following:

- capacity building through short term training and related activities;
- capacity building through provision of equipment, facilities, and new technologies, mostly in support of the Pilot Project and systematic titling;
- capacity building at the Training School, the Central Office, and several Provincial Offices in terms of both training and equipment.

These achievements are not small given that most were achieved through short term consultancies and given that a severe budget cut for one year limited activities at a crucial stage. This report on the programme will provide more details in subsequent chapters on the impact of the Swedesurvey programme, its accomplishments, and the problems encountered.

2. THE EVALUATION: GOALS AND METHODOLOGY

This evaluation was conducted primarily for two reasons:

- to document and critique the Sida funded support to DINAGECA for the period July 1991 to June 1996;
- to provide input for a new Agreement for the period January, 1997 to December, 2001.

2.1 Objectives of the Evaluation

The Terms of Reference stated the objectives were to evaluate:

- the relevance of the project;
- goal attainment;
- gender implications;
- institutional development;
- human resources development;
- cost efficiency;
- present sustainability;
- sustainability and viability in 2001 if Sida support ceases.

A detailed list of the terms of reference is given in Appendix A. The following chapters (3, 4, and 5) address each of these Terms of Reference, although not in order. It was also agreed with Sida that emphasis in the evaluation would be given to making recommendations for the future Agreement and Terms of Reference for the 1997-2001 stage of the programme.

2.2 Methodology

The study was conducted by three consultants:

- Sue Nichols - an Associate Professor at the University of New Brunswick, Canada who specializes in land administration, land registration, and cadastral surveying;
- Clarissa Fourie - a Lecturer at the University of Natal, South Africa, an anthropologist specializing in African customary land tenure, land administration, and land titling;
- Margarita Mejias - an Associate of the Eduardo Mondlane University, Mozambique, and sociologist specializing in gender and development, with special emphasis on Mozambique.

The research was conducted in 3 phases:

- a preliminary set of interviews in Maputo in May 1996 to gather information from people who would be absent during the main study;
- collection of documentation and interviews with Swedesurvey staff in Gävle, Sweden in June 1996;
- three weeks of interviews and meetings in Mozambique during July 1996.

A detailed list of people interviewed is included in Appendix B. Appendix C is a list of reference materials examined during the evaluation. The focus of the literature review and the interviews was to examine the Swedesurvey programme and to evaluate the programme within the context of Mozambique's land law, land policy, and related projects.

The interviews also included visits to 3 rural areas where land titling activities were occurring. Group interviews were held with family sector farmers at these sites. These site visits provided valuable information on the field conditions, the capacity of the local level, the impact of the titling procedures, gender issues, and the understanding of the local community of the process.

Three presentations were made at the end of the site visits:

- a preliminary report to Sida on findings in the May, 1996 interviews;
- a presentation of findings to DINAGECA's Management Committee in July, 1996;
- a presentation of findings and recommendations to Sida in Maputo in July, 1996.

2.3 Limitations of the Evaluation

This evaluation of a five year programme was conducted over a relatively short period of time. The evaluators had to depend on the documentation available to them, supplemented with information obtained in interviews. It is understood that in a programme as long as this that there were historical decisions made that were not in the documentation, such as decisions regarding consultancies. In hindsight, the interviews in Sweden with those who had been involved at the early stages should have been conducted after the Mozambique interviews. In this manner certain facts might have been better understood. For example, the evaluation team may have relied too heavily on the initial Terms of Reference for the programme. These understandably had to change as the situation in Mozambique became better known. In saying the above, the evaluators have reported what they found in 1996 and have tried where possible to verify information with the participants.

It is also recognized that the criteria for the evaluation should have been known and understood by all parties at the outset of the programme and not introduced towards the end. For example, the emphasis on gender issues did not appear in the earliest documentation available to the evaluators.

3. EVALUATION OF THE SWEDESURVEY PROGRAMME

The first task of this review was to evaluate the 5 year programme delivered by Swedesurvey from July, 1991 to June 1996. In this chapter the following issues are addressed:

- the feasibility and achievement of the programme objectives and deliverables (Terms of Reference #1);
- the efficiency and effectiveness of the Swedesurvey programme (Terms of Reference #15);
- the Boane Pilot Project and related titling efforts (Terms of Reference #13);
- the efficiency of surveying and titling methodology (Terms of Reference # 11);
- the impact of technology transfer (Terms of Reference #9);
- progress in institutional development in DINAGECA (Terms of Reference #12).

3.1 Evaluation of the Programme Objectives and Deliverables

The original objectives of the programme are summarized in Chapter 1. No complete list of planned deliverables is available, but from the objectives the following can be identified:

- improved curriculum, teaching, facilities, and equipment at the Machava Training School;
- training, education, and seminars in various aspects of surveying, mapping, management, and cadastral activities;
- a Pilot Project to test various methodologies that would be used to develop a national programme of land titling;
- upgrading of the Central Office and provincial offices in terms of equipment, computer technology, and facilities;
- design and development of a computerized national land information system;
- increased capacity in topographic mapping and geodetic control;
- provision of short-term consultancy support and equipment to achieve the above.

The objectives and deliverables were relevant to the problems in Mozambique and DINAGECA, with 4 exceptions:

- An assumption was made from the outset that a national titling programme for individual family farms was necessary or desirable and that DINAGECA would have the capacity within 10 years to carry out such a programme. In fact, this report will demonstrate that other means may be necessary to protect the rural poor.
- An assumption was made that the titling and registration methodologies developed during the programme would be adopted as law. Although DINAGECA plays an important role in the Land Commission (see Chapter 5), it is recognized that any regulations, procedures, and methodologies will be dictated by the Land Code that is eventually adopted by the government.

- An assumption was made that DINAGECA could support computer technology in various offices and the Technical School with some training. The level of training and system support required was underestimated. During the first years, more emphasis should have been placed on developing procedures than on technology.
- A decision was made by the partners involved that short term consultancies could support such a far-reaching programme as this one in a country which has limited resources and within an organization that was expected to undergo major technological and programme changes. This decision was challenged in the evaluation of the proposal [Larsson, et al., 1989] but no action was taken until 1994.

In discussions with Swedesurvey staff involved early in the programme, there is general agreement that these objectives and deliverables were unrealistic in terms of the time frame given. Some of the reasons why they were not feasible include the general lack of facilities in DINAGECA and the Technical School in 1991, the poor state of information available for the Pilot Project, lack of productivity within DINAGECA (and Mozambique government in general), and difficulties in obtaining a Pilot Project area due to lack of security. Furthermore, the objectives addressed the entire range of activities within DINAGECA and therefore would have required much more support to have achieved the goals of national mapping and land information system development.

As noted in Chapter 1, most of the objectives and deliverables in Phase I have either been achieved, albeit sometimes to a limited extent, or some progress has been made. Since the deliverables for Phases II to IV were not quantified, there is no objective measure of achievement, even in the amount of training.

One consequence of the breadth and pace of the proposed programme was that the project focus had to be narrowed during the 5 year period, with most of the Sida support being directed to the land titling and registration projects. This is consistent with Sida's objective of increasing agricultural production on family farms, given the assumption that titling would achieve this goal (while mapping, photogrammetry, and other surveying activities would not directly increase agricultural production).

In fact, this evaluation has found (through interviews and through on-site visits) that the titling exercise has had little impact on family sector farming to date in terms of agricultural production. The Swedesurvey support of equipment and transportation has allowed some Provincial Offices to better respond to land applications for commercial farmers. The major conclusion of this evaluation, however, is that the current titling process is a technical one and does not adequately adjudicate the land rights during the titling process.

3.2 Efficiency and Cost-Effectiveness of Swedesurvey Services

The information for this section was collected from workplans, reports, and budgets. In many cases, cost estimates were not available at the time of the evaluation. Initially 20% of budget was on goods and 80% on consultancies, supervision, procurement and back up services. In the intended budget for the period July-December, 1996 only about 35% of the total budget is to be spent on consultancies, advisors, supervision and procurement. This change in allocation reflects both the increase in the overall budget as well as the development of local capacity in areas where none existed at the outset of the project. The following summarizes and evaluates some of the major services provided.

3.2.1 Short term consultancies:

A large portion of the budget, especially in the first part of the programme, was allocated to short term consultancies. Approximately 35 short term consultancies were undertaken by Swedish personnel. These ranged from training and system development to evaluations and project management. No overall plan for these consultancies was available; the information was gathered from individual workplans and reports. The consultants were specialized and could address specific problems. However, a more effective and probably cost-effective strategy would have been to provide some of these skills through a longer-term advisor. Furthermore, given the nonsustainability of some of the computer equipment (due to insufficient training and maintenance capability), it can be concluded that too much emphasis was placed on these consultancies early in the project.

Many of these consultancies provided useful skills to the Mozambicans so that they could improve their existing productivity, such as production of the textbook for the Training School, training in field work, surveying, instrument control, geodesy, and photogrammetry. The initial cadastral consultancies motivated DINAGECA and put the initial conceptual plan for titling in place. However, they did not make a sufficiently detailed input with respect to field procedures, adjudication, and administrative procedures, aspects were to cause some of the biggest problems in the Pilot Project.

The results were not as good in a number of other consultancies, in part because they were not intimately co-ordinated with other parts of the programme. The development of a new cadastral approach, which was a core goal of the entire programme, has not happened to the extent set up in the original project goals. Although this was largely a result of external factors, when the evaluation of the Boane pilot project was undertaken the consultants should have realized that the project was not delivering this goal. Other consultancy issues include:

- The creation of the land information system does not reflect all of the linkages necessary to the land register (Conservatoria);
- Basic procedures in updating and data quality management needed as much emphasis as computer technology in these consultancies;
- No micro filming has taken place, so there was little benefit from the micro-filming consultancy;
- Although DINAGECA management learned some useful lessons from the management consultancies, more management skills should have been imparted via a training programme;
- The Boane Pilot Project socio-economic study [Mozambique, 1992] occurred later in the project than planned and was therefore of little benefit to the initial communication and adjudication process. It also did not address many of the central issues (e.g., customary tenure patterns in the area) that would have been more useful for the titling process.

3.2.2 Long term personnel

Only two long term personnel have been resident in Mozambique, the first hired in 1994 and the second in 1996. Both the Cadastral Advisor and the Systems Analyst play important roles within the programme. The Advisor provided nearly the only continuity during the financial cutbacks and has achieved success in helping to increase management capacity within DINAGECA. Daily administrative responsibilities have however limited the amount of time available for cadastral system development.

The Systems Analyst plays dual roles in training and in development of the computerized application tracking/land registration system. The detailed training programme the Analyst is developing for all offices and the continuity he can provide when the other advisor is replaced makes this position critical over the next 12-15 months. A major lack in long term

personnel is someone with skills to train in, evaluate, support, and develop the computerized mapping software (AutoKa) that has been provided throughout the programme.

Expenditure on short-term consultancies has dropped dramatically since the first long term Advisor has taken up the position, but overall expenditure on consultants and advisors has remained constant. However, DINAGECA staff prefer a long term adviser as they see tangible benefits from this role, especially in project administration. This means that the role of the long term Advisor in regard to the central intention of the programme, i.e. cadastral reform, is not being given as high a priority by DINAGECA staff as was originally intended.

In fact, this is not surprising as much of the long term Advisor's function to date has been dominated by the administrative side of the project. The long term Advisor needs to play two completely different roles, namely, that of Cadastral Advisor to help adapt and upgrade the system and that of administrator in relation to the disbursement of money and the coordination of procurement and other administration. This role should be split and that the services of a medium level administrator be used for the day to day activities. The economist recently appointed in this administrative capacity should accomplish this goal.

3.2.3 Procurement of materials and equipment

A list of equipment procured was provided during the evaluation and this was used to determine general trends. Gaps in this list existed due to theft, transfer of equipment between offices, and some uncertainty of dates (planned and purchased). The "equipment" consisted of computers and peripherals, survey instruments, calculators, field camping equipment, office supplies, communications systems, school facilities, photogrammetric technology, and microfilming equipment, etc.

Those interviewed in Mozambique identified that one problem that occurred during the programme was that many of the computers (and some of the telephones) provided in the early stages were out-of-date and other equipment was manufactured in Sweden and could not be repaired in Mozambique. This problem was remedied by the long term advisor who began purchasing more equipment locally.

A second problem involved providing sufficient security, especially as equipment is disbursed to Provincial Offices and the Technical School. Again these problems are recognized and are in the process of being resolved.

A third issue is the emphasis within the project on computerized mapping. There are primary needs for field equipment, communications systems, and transportation in the 10 Provincial Offices to improve capacity significantly. Given these needs and the fact that there is insufficient support for these systems, the expenditures on computer mapping were not effective.

One area where procurement has been very effective and cost-efficient has been in transportation. Of special note, is the fact that employee attendance increased with the provision of a minibus to transport employees who live out of town. A second effective procurement has been in field equipment and transportation for the Training School field work.

3.2.4 Central and Provincial Office upgrading

Upgrading has consisted of equipment, facilities, vehicles, and training. Most of the focus in the beginning of the project was on developing the capacity of the Central Office. Maputo Provincial Office was also upgraded, but for the first several years of the Pilot Project the equipment remained in the Central Office. Since 1993, Gaza Province has been receiving training and equipment, and more recently this has begun to be extended to other offices.

This is an effective strategy – to share resource development between headquarters and regions, and to gradually build capacity region by region (i.e., rather than trying to provide all offices with an insignificant amount of assistance at one time). Where upgrading has not been effective or cost-efficient has been when technology has been provided with insufficient training, support, and/or security provisions. There have also been minor problems in systems and equipment that have not been solved because DINAGECA has not notified Swedesurvey.

Initially, communication systems were not thought as important as transportation. In the latter part of the 5 year period, the communication capacity of the organization has been extensively developed. Also the management requirements, in terms of equipment, of the central office departments were given a lower priority initially and have been raised in terms of priority in the latter part of the project. These aspects largely account for the increased expenditure patterns in the central office. This management and communication capacity should be used to extend the change management process with respect to the new land policies of the country rather than just the management of routine application procedures.

3.2.5 Professional advice, installation, training for computer installation

Although training in general computer skills was successful, DINAGECA staff noted that the training in AutoKa was often unsuccessful. The package was found to be complex and introductory training was not sufficient to give people a basis to build from on their own. The package was not initially in Portuguese, and the manuals were reported to be in Swedish or incomplete. Often after a course in AutoKa, staff had no further access to the package and therefore lost their newly acquired skills. It must be noted that because the AutoKa component was not part of the normal titling process but was in fact a separate office process undertaken for the project, that there was less incentive for the package to become widely known and used.

In addition, little training in data quality and maintenance seems to have been provided to date for most computer databases that are being built. Thus, system demonstrations at various offices showed out-of-date databases and information from unknown sources and with unknown reliability.

3.2.6 Human resource development - Machava Technical Training School

The most effective support to the Training School was: upgrading of school facilities; provision of transportation and field equipment; teacher upgrading; and curriculum development. The provision of computers and other equipment to the school had been ineffective due to theft, damage, and lack of appropriate support. These problems are now being remedied.

While the curriculum development was an important component of upgrading programme, there is a need to review the curriculum once again in light of the recommendations for titling in the present report, i.e., the need to develop adjudication procedures.

3.2.7 Human resource development – on-site training

On-site training included: English language; basic computer applications; management; field equipment; photogrammetric operations and maintenance; computer graphics. The most effective training appears to be that provided in Mozambique, such as language, computer applications, and the training by long-term personnel. The least effective was the training in computer graphics as more time and support was required. In most cases training was

available to staff at the Central Office and Maputo and Gaza Provincial Offices. A programme is now being developed to include all provincial offices.

English language training has been important in opening up a new world of ideas through literature, dialogue, and correspondence. The information gained through this part of the programme will be essential in helping DINAGECA redesign their cadastral system.

3.2.8 Human resource development - foreign training and education

Foreign training included 12 sessions for DINAGECA staff in Sweden in cadastral systems, cartography, photogrammetry, and field surveying. In addition, staff visited Kenya, Botswana, Swaziland, and Canada for short term training, site visits, and conferences. The staff indicated to the study team that all of these foreign visits were extremely useful in developing contacts, sharing experiences and ideas, and gaining information about systems. With regard to the training in Sweden, one participant noted that the time was insufficient to gain an in-depth understanding of the process and that longer term training or training that was directed towards one subject only would be more effective.

Only one staff member has been supported for post-graduate education and this was delayed by the funding freeze until 1996. This student is now completing a Masters at the University of Natal, in lieu of studies in Europe or North America. This has been very effective and cost-efficient because:

- the programme is concentrated on African issues;
- fieldwork is being carried out in Mozambique;
- there is better contact with DINAGECA;
- the costs (especially transportation and living) are much less.

3.2.9 Human resource development - workshops and information dissemination

Since 1991, two national seminars have been held specifically to disseminate information among DINAGECA staff in the provinces and to discuss issues with representatives of other organizations. Although the Nampula national seminar was cancelled in 1994/95, a regional seminar with approximately 70 participants was held in Gaza. These seminars and workshops were very productive and gave DINAGECA an opportunity to review the results of the Boane Pilot Project and related issues. This information was circulated within DINAGECA in a written report. More support from DINAGECA and Swedesurvey was needed, however, to ensure that the recommendations of the workshop were reviewed and acted upon.

DINAGECA has been steadily increasing its public information programme about titling over the last few years, largely in the form of the national seminars. DINAGECA recognizes the need to expand its information dissemination further and plans are in place for material to be produced before the end of 1996. A number of NGOs, such as ORAM, have also been involved in civic education and informing the family sector about what a title means, what benefits can be obtained from titling, and why it is useful. They have also been involved in organizing the rural communities, creating and registering associations, assisting in applying for land, and financing the titling process.

3.2.10 Workplans

The following workplans were reviewed: July 1991-92; 1992-93; 1993-94; 1994-96; and July-Dec. 1996. as were the reports that corresponded to these workplans. Most of the activities that were planned have been achieved or are in progress. The main problem was that the initial workplans were too optimistic; they did not reflect a good understanding of the constraints and they did not have sufficient alternative approaches (i.e., most activities were dependent on completion of the pilot project in the first year). Also plans did not take into

account delays and changes in the law, nor the fact that many activities depended upon decisions made outside DINAGECA (e.g, Ministry of Agriculture, Land Commission, World Bank).

Training, equipment procurement, consultancies, and other activities were carried out reasonably well as scheduled. Decentralization to the provinces has been carried out very successfully to date. Some exceptions to achievement of the workplan goals include:

- the Boane Pilot Project did not proceed in the time frame planned for many reasons (e.g., site selection, survey and mapping problems, delays in issuing titles) and this delayed or prevented many of the other actions planned;
- the Boane Project did not compare alternative methodologies as originally planned;
- the cadastral system lessons from Boane were addressed in national seminars but the system was not reevaluated as thoroughly as planned before it was extended to 2 other provinces;
- the socio-economic study that was to follow the issuance of titles has not been done since the first titles were issued in 1996;
- the upgrading of national map production has begun but was largely superseded by the titling projects in the first 5 years;
- improvement of the geodetic network was begun but only approximately 16 of the 65 points established are within the existing network;
- post graduate education did not begin until 1996 and to date there has not been a training programme with the University of Zambia as planned;
- the need for legal and administrative service support was not adequately addressed until the long term personnel arrived;
- development of a national land information system (land registration system) has begun but there are many issues that have not been adequately addressed (e.g., day to day procedures independent of the computer system; system updating);
- implementation of an information campaign/material (now planned for Dec. 1996).

In conclusion, the early workplans were not realistic but most of the activities planned were eventually implemented or have started. A better understanding of conditions and constraints at the outset, and provision of alternative strategies would have made the planning more effective. More recent workplans and reports provide a clearer picture of the project and its achievements and this style should be followed for subsequent years.

3.3 Evaluation of Boane Pilot Project and Other Titling Efforts

3.3.1 Goals and objectives in Boane

Boane was set up as a pilot titling project in order to develop a new cadastral approach to title the family sector farmers in Mozambique. The work in Boane was to point the way to procedures which would make it possible to:

- legalize their existing land use;
- issue them with certificates for land rights;

- systematically record their land rights in registers and on maps.

In order to develop a system which would fulfill these objectives a number of specific steps were identified in terms of a critical path. These steps became the goals of the titling and registration exercise and consisted of:

- completion of the Boane pilot titling project;
- evaluation of the Boane titling project;
- socio-economic study of the Boane titling project (impact of titling);
- adaptation of cadastral methods for the family sector farmers based on lessons learned;
- development of national land information system based on the above;
- extension of this systematic titling approach to the other provinces;
- development of the topographic mapping capacity to support titling.

3.3.2 Evaluation of Methodology

• **Selection of pilot project area:** Initially a site near Marrucene was selected for the pilot titling programme, but because of the security situation the pilot was moved to Boane. Boane lay within the environs of Maputo and was considered to be secure. Boane was chosen as it had a variety of land tenure types, such as family sector, associations, and private farmers. It was felt that this would help to build knowledge about how to title the rural community and family sector in particular. In these respects, Boane was a good choice for the project.

• **Public consultation:** Discussions and meetings were held with the local people and the people who represented them in the administration. From interviews during the present evaluation, it is concluded that insufficient knowledge about the detailed processes and the implications of titling was disseminated (see below). As this was a pilot exercise, these aspects were not known from the outset even to the crews who did the work.

• **Mapping:** Control points were pre-marked and aerial photography was flown. Enlarged aerial photographs were used to delineate the property and as basic information for the inquiry and identification process. Orthophoto maps were produced but could not be used because of poor geodetic control. Attempts were made to improve the geodetic network in Boane but the problems were not resolved until a Swedesurvey consultant used GPS to resurvey the control points.

• **Identification and demarcation:** Two field crews were created, one to do the identification (who holds the rights to land and where) and one to do the surveying. No set of rules or regulations were given to the crews; they had to work out for themselves what was required. The lack of formal procedures, especially with respect to the adjudication of people's land rights for titling purposes, led to later problems in the project. Some knowledge of the complexity of family farmer land tenure systems and a range of potential adjudication approaches should have been developed prior to the teams entering Boane.

Identification progressed faster than demarcation. Although 2,065 applications were filled in, only about 257 were demarcated. It took 5 months to do these surveys which covered 849 hectares of land up to April, 1993. That only about 10% of the parcels have been demarcated is largely because of problems with the documentation required for the applications (ID cards) and delays in the approval process.

• **Applications for titles:** At the time of identification, applications for title were filled out. These required personal identification which many applicants have yet to provide. After 4 years (from initial identification) the existing information on the remaining applications cannot be presumed to be correct and a new adjudication exercise should be required before demarcation is completed in those areas.

- **Application approval:** The private titling application process has over 24 steps and takes many months. Initially the goal of the project had been to secure 'certificates' rather than 'registered titles' for the family sector farmers in Boane. Certificates follow the same initial application route but are awarded at the local level and have to go through far fewer steps and approvals. However, this approach was not taken by the project. By June 1996, only 69 titles had been approved and issued.

- **Information system update:** Information from the application forms, acquired during the identification process, was put in a computer data base of applications. This aspect was never part of the normal application process and no procedures have yet been implemented for keeping the information in the system up-to-date.

3.3.3 Special considerations to female-headed households

No special consideration was given to female-headed households in the titling project. For the field staff it was not the target group; the family sector was taken as being homogeneous. The field staff did not take into account the gender dimension of the family farm land rights. For example, they did not take into account that women, according with customary law in Boane, do not have access to land or control over the means of production.

3.3.4 Outputs

Sixty nine registered titles were awarded to people in Boane in April, 1996. The rest of the applications are still at different stages within the application process system. In addition, the geodetic control was improved and aerial photography was flown. Some attempts have been made to transform the data into the AutoKa digital mapping system, but only on an experimental basis. The project also developed capacity in the Maputo Provincial Office in terms of both equipment and skills. However, the pilot system was never successfully transformed into a daily case handling system at the Maputo office.

The exercise, although imperfect, was a valuable learning experience for the Mozambicans. They made some adaptations to the cadastral system which would make it more efficient, but insufficient adaptations to cope with the large number of family sector farms in the country.

3.3.5 The 1993 Evaluation

The pilot project evaluation [DINAGECA/Swedesurvey, 1993] addressed the technical problems that had arisen in the project very well. However, at this stage problems in the adjudication should have been identified (e.g., how the adjudication was conducted, gender issues) and the evaluation should have identified that those who participated in the scheme had received insufficient information about the titling process. These two factors would make it impossible for the system to be sustainable because:

- poor adjudication leads to the infringement of accepted rights and to disputes over land;
- people had a poor understanding of the titling system, it is likely that any transfers or subdivisions undertaken after the survey would be done outside of the formal registration procedures;
- consequently, the land records would quickly become out-of-date.

Although the evaluation in 1993 did cover the major issues, it did not critically examine the lack of procedures for adjudication, registration, subsequent dealings, etc.

3.3.6 Experiences from other titling efforts

A number of adaptations were made to the cadastral methods after Boane, based on discussions held in a regional seminar at Xai Xai. However, these were not thorough enough to address the issues raised above. So, the methods applied in Boane were largely applied in other titling efforts.

The only issue raised above which was dealt with to some extent was that subsequent projects, titling was focused on agriculturally planned areas rather than customary land use areas. This to some extent limited the issue of group rights in the parcels but did not exclude them entirely. Consequently the sustainability of these other titling efforts, at Laranjeiras and Inhamissa in Gaza, is also questionable.

3.4 Efficiency of Surveying and Titling Methodology

3.4.1 Survey methodologies

Standard surveying techniques have been used in most projects, as prescribed by the survey regulations. In some cases GPS (surveys using global positioning system satellites) has been used. All surveys must be tied to geodetic control and this is one area where there are problems. The control network is unreliable in many places (as for example, was discovered in Boane) and any co-ordinate values or azimuths derived from control monuments will have to be recalculated whenever a reliable co-ordinate system is established. Where control monuments do not exist rough co-ordinates are established from maps. Furthermore, the methods used in surveying are not rigorous because only one tie to control is made.

The result of these methodologies is that the co-ordinate information entered on plans, maps, and in digital databases is of questionable accuracy. This becomes an issue if decisions about subsequent applications are made from the information as plotted. A more reliable method for obtaining location information at this stage would be to rigorously establish a local control network that could be later adjusted to the national network.

3.4.2 Time and cost efficiency of surveying and titling procedures.

At the end of the 5 year period only 69 titles had been registered in the country under this programme by April, 1996. Compared to the project budget of SEK 27,000,000 it would appear as though the exercise had been enormously costly and was completely unsustainable. However, it is not possible to draw this conclusion for a number of reasons:

- Major objectives of the pilot project were experimentation and the development of a new cadastral system, rather than following an existing titling system. Therefore, much of the finance has gone into system development.
- It is impossible to separate the costs of surveying and demarcation on the one hand and titling on the other hand from that of general project costs and institutional development. Therefore it can be argued that any attempt to quantify financially the outcome of this project with respect to the actual number of titles awarded is a spurious exercise. The original project design of Swedesurvey was never intended to be evaluated in this fashion.

However, it is possible to draw some general conclusions about the time and cost-efficiency of the methods used:

- **Surveys:** Other forms of surveys, for example, using plane tables, could accomplish the end goal of locating parcels and boundaries more efficiently. However, the current methods are required by regulation. Any new regulations should allow for a variety of methodologies, including the use of GPS if such technology becomes feasible.
- **Use of maps:** A significant problem in this project was the lack of appropriate maps due to poor geodetic control. To be more efficient in each area the sequence of events should be: upgrading geodetic control, mapping, then titling. In this way it may also be possible in some cases (where demarcation is not essential) to substitute the delineated boundaries on a large scale map for field surveyed boundaries, further reducing costs.
- **Demarcation:** Marking each parcel with concrete monuments was identified as the most time consuming part of the titling process. Although this is currently required by regulations, other, cheaper forms of demarcation (e.g., fences or vegetation) should be considered for suitable areas in any new regulations.
- **Approval process:** In the titling process, the major barrier was the approval process. Most of this is beyond DINAGECA's control. However, the Land Commission should be addressing this situation with DINAGECA's assistance.
- **Systematic titling:** The goal of the Pilot Project was to test various methods but in general the work was accomplished through systematic titling in the area. An exception was the titling of several Associations. This systematic titling involved identifying, surveying, and demarcating every parcel, no matter how small. Since there are probably millions of such parcels in Mozambique, this does not appear to be a viable method to protect the rural poor given current and planned resources. An alternative approaches, where group rights are protected and where sporadic titling is used with a more effective adjudication procedure is presented in Chapter 5 of this report as being more effective and efficient.

In future titling efforts, alternative methods should be tested (as originally designed for the Boane project) and the time and costs should be tracked to give more objective results.

3.5 Impact of Technology Transfer

3.5.1 Targets and achievements

The technology transfer was one of the most beneficial parts of the programme. The following can be considered "targets" of the technology transfer to DINAGECA, together with achieved results:

- **Equipment:** A wide range of equipment was transferred to the project such as computers, graphic stations, some surveying equipment (including total stations and electronic distance measuring instruments or EDMs) photogrammetric equipment, calculators, printers, photocopiers, and microfilm equipment. Except for computers sent to the Training School which could not be implemented, the equipment has been well utilized. Two exceptions are the micro filming equipment and the graphic stations (due to lack of training).
- **Computer applications:** DINAGECA staff acquired a range of computer skills except for AutoKa. A number of short term consultancies were undertaken to teach AutoKa but few people had sufficient skills in this application to use it effectively.
- **Training in technology:** Where the staff found training a help in their existing jobs they tended to learn new skills fairly well. However, where training was in areas that they perceived as not being important to the job at hand (AutoKa was not part of the application

process) or was important to another department and not their own (micro filming was for the Tombo but had to be done in the photolab), the skills were either lost or were underutilized. The training in photogrammetry was seen by DINAGECA to be successful and staff were able to improve their productivity.

- **Upgrading the Training School:** The introduction of the medium level programme at the school was a major accomplishment and the effort that went into the production and review of textbooks and the training of teachers was worth the effort in terms of output. The only complaint that DINAGECA had about the students from the school was that their training was not practical enough. To remedy this DINAGECA was making it possible for the students to obtain field experience in the continuation of the Boane titling project.

3.5.2 Impact on institutional and human resource development

The transfer of technology over the last 5 years has made a major impact on DINAGECA in terms of what the organization can accomplish because it has the equipment to accomplish it, both for surveying and management. Having equipment available and trained personnel has allowed DINAGECA to increase productivity and increase capability at the Provincial level. As other related projects take place in Mozambique, it will be more important for DINAGECA to have modern equipment and capable employees in order to provide technical assistance and leadership.

3.6 Progress in Institutional Development in DINAGECA

3.6.1 Targets and achievements

The original goal of this programme was development of institutional capacity within DINAGECA, while the emphasis was on development of capacity in cadastral surveying and titling. The following can be identified as "targets" in institutional development and achievements under the Sida programme:

- **Improved management:** Management has improved over the last 5 years in a number of ways, many of which are related to the items below. There is an increased awareness of the need for planning and organization to co-ordinate tasks and to implement programmes. Weekly management meetings have been implemented and several management exercises were undertaken with consultants. Sida support and the Pilot Project has also contributed to the knowledge that staff members have when working with the Land Commission and other projects. Areas that still need to be addressed include: strategic planning, project management, and possibly organizational restructuring.
- **Human resource development:** As highlighted above, this is an area where the Sida programme has had significant results from English language and technical training to longer term education. Visits to other countries, national seminars, and development of the Machava Training School have all contributed to improving the capabilities and motivation of the staff.
- **Administrative capacity:** This was a weak area at the beginning of the programme in terms of delivering major national initiatives. Reliance in the last few years has been on Swedesurvey staff, but with the employment of a new economist, these tasks should be better accommodated within DINAGECA.
- **Organizational change:** While no reorganization has occurred, the Sida programme has contributed to a growing awareness of the strengths and weaknesses of the existing organization. A recent study by the management of DINAGECA investigated problem areas, strengths, and potential changes in organization structure. A major issue is financing, and

there is a move for DINAGECA to have more control of its budget, especially in receiving fees for services that can be reinvested in improving those services.

- **Programme delivery:** DINAGECA has been able to deliver basic services but has not, except for a few areas, been able to implement long term programmes for improving, for example, geodetic control and mapping. In cadastral activities, the national programme needs to be reevaluated, but current Sida support should be able to assist in starting a national programme during the next 5 years.

3.6.2 Progress in other areas

In other areas, DINAGECA has made some progress in institutional development. Of major benefit has been the educational programmes for management staff supported by various sources. During the past 5 years many of these staff members have been absent but they are now able to use their knowledge to benefit DINAGECA's programmes. These staff members have been distributed throughout the departments to maximize the benefit in all programmes.

DINAGECA has also developed institutional capacity from activities supported by Mozambique (e.g., the Land Commission), and projects supported by other funding agencies. These include: remote sensing and computer graphics (France); rapid mapping and GPS (World Bank); and geodetic control (Britain). The broadest and most sustainable assistance however has come from the Sida supported programme.

4. EVALUATION OF THE IMPACT OF SIDA SUPPORT

This chapter examines how Sida's support to DINAGECA has influenced the organization's activities and services and how this support relates to external factors and other projects in Mozambique. Specifically it addresses:

- how Sida's support complements DINAGECA's activities (Terms of Reference #6);
- what impact Sida's support has had and may have on DINAGECA's activities (Terms of Reference #8);
- what support has been provided by Mozambique in these activities (Terms of Reference #14);
- what the benefits are to small family farm holders (Terms of Reference #2)
- how gender issues have been addressed (Terms of Reference #3);
- what impact the titling had on women's access to land (Terms of Reference #4);
- how Sida's programme relates to other externally funded programmes in Mozambique (Terms of Reference # 19).

4.1 Sida Support and DINAGECA's Activities

DINAGECA has a wide range of mandated services including:

- maintenance of the national geodetic control network;
- maintenance of the national topographic mapping programme;
- production of specialized cartographic products;
- co-ordination of aerial photography for mapping;
- remote sensing and image analysis;
- maintenance of the cadastral survey system, including processing and registering applications for title;
- providing standards, licensing, and quality control for private surveys.

Sida's support complements DINAGECA's activities, but it currently emphasizes the cadastral system component. In interviews with DINAGECA staff, it was clear that the emphasis on systematic titling was driven by the Swedesurvey programme. Before 1991, DINAGECA was processing applications for title on a sporadic basis when an applicant requested and paid for the service. Systematic titling, on the other hand, produced a service to the rural poor, supported by Sida. While the projects have provided valuable experience for DINAGECA staff, it is important at this time for Sida, Swedesurvey and DINAGECA to reevaluate the direction of the cadastral programme.

One consequence of the emphasis on titling is that support to other areas in the project (e.g., mapping, photogrammetry, and geodetic control), as indicated by the initial terms of studies and workplans, has been minimal. This support was to be increased after the Boane Pilot Project but because the Project was delayed, so has the support for other activities. What is required at this stage is a comprehensive review of DINAGECA's priorities through a strategic planning process that will identify what initiatives can best build capacity for cadastral activities and for mapping, as initially outlined as the Sida programme's goal.

4.2 Impact of Sida Support on DINAGECA Services

As previously documented, the support over the past 5 years has been very successful in increasing the institutional capacity of DINAGECA. Specifically, support in terms of training and equipment has enabled the organization to be more productive and to begin developing a cadastral system that can support the emerging tenure arrangements. Today, DINAGECA has:

- well-qualified and motivated staff managing major departments;
- a cadre of junior staff that are beginning to use modern surveying and mapping methods;
- an understanding of the benefits and limitations of systematic titling and adjudication through the Boane Pilot Project experience;
- an improved Training School programme to support its activities;
- greater capacity at the Provincial Office level;
- improved transportation facilities and equipment that enable the organization to carry out its mandate.

In the short term, the Sida support and Swedesurvey programme have provided tangible benefits to the organization. However, these efforts need continued support if they are to continue to have a long term impact. Specifically, the following is needed:

- support to all Provincial Offices;
- improved communication as well as transportation facilities in order to carry out day-to-day tasks, planning, and co-ordination;
- continued long term education and short term training to maintain the development of human resources;
- continued support of the Training School, especially in teacher training;
- increased support in topographic mapping and geodetic control to provide the basis for reliable and efficient cadastral activities;
- reevaluation of the titling project to ensure its sustainability by 2001.

In many respects, whatever support is given will fall short of what is needed. The greatest impact, short and long term that Sida can continue to give the organization is the opportunity to become more self-sufficient. To gain self-sufficiency, DINAGECA needs additional help in training and education, logistical support in transportation and communications, and equipment support. But to make this support more effective over the next five years, the programme should also include an emphasis on management support (e.g. strategic planning and project management) and on development of procedures as well as technologies.

4.3 Mozambique Support to DINAGECA

There was little information available for the evaluation on the precise amount of Mozambique's support to DINAGECA, but the interviews and documentation highlighted several key areas:

• **Personnel support:** DINAGECA has mobilized many of its personnel, including key managers to support the Swedesurvey programme in the field and in the Central Office. While Sida has supporting some travelling expenses, DINAGECA has provided the labour in Boane and in other titling projects. The level of commitment indicates a key resolve within the organization to maximize the experience, training, and equipment gained through this programme.

• **Administrative support:** To date this has been a weak link in the organization, remedied in large part by the long term Cadastral Advisor. DINAGECA needs to build its administrative capacity to take on more of the administration of the projects, the procurement, and the project management. Steps have already been taken in this direction.

- **Funding support:** A major difficulty for the organization is the fact that it receives its budget from the Ministry of Agriculture and Fisheries. Thus, priorities and funding are set by the Ministry and not by the government in general. It was indicated that the current support is insufficient and that DINAGECA should have more control over its revenues, e.g., by becoming an autonomous agency. This problem is beyond the scope of this evaluation because it involves policies outside the organization.

It cannot be expected that there will be any great commitment of financial resources from Mozambique in the near future. For this reason it is important to emphasize the long term support in terms of training, education, and management and to develop a cadastral programme that can be supported without external funds by the year 2001.

4.4 Benefits for Small Family Farm Holders

The objectives of the titling project were among other things to improve agricultural production through increased levels of tenure security, more efficient transactions, and access to credit. Other benefits which could have been expected from these titling exercises include increased environmental sustainability, through more effective land use and occupancy, and a reduction in disputes. The titling exercises were also supposed to encourage the equitable distribution of land and the protection of women's land rights.

The socio-economic study [Mozambique, 1993] conducted shortly after the Boane evaluation [DINAGECA/Swedesurvey, 1993] looked at some of these aspects but no conclusions about titling could be drawn as no titles had been awarded. A second study was to take place once the titles were awarded to look at these aspects. The first 69 titles in the project were awarded in April, 1996, just two months before the present evaluation. In Gaza, the project had only been introduced to the people in May, 1996. This means that no socio-economic study had been done to look at these aspects for this evaluation. Aside from the gender issues discussed below (4.5 and 4.6) only a few broad statements can be made.

- **Protection of rights:** One of the greatest benefits of title as perceived by the applicants is protection of the rights they have established through occupation and use.

- **Women, titles, and production:** The titling of women in Mozambique's patrilineal areas has special significance for agricultural production. If titling is done in ancestral areas women are less likely to increase their production than if it is done in previously settler-owned areas, or previous state farms. In these latter areas their husband's families do not have first rights to the land and the women felt more comfortable about being the title holders there. If titles were granted they may move from maintenance (subsistence) production to commercial production.

- **Communicating the benefits:** Titling on its own will not deliver any of the benefits which were the objectives of the project unless an education and communication programme is done simultaneously with the titling. People in the project who had acquired titles, or were participating in titling programmes, either were not aware of what it meant to have a title, or they confused it with the type of cards that had been handed out by the previous state farms, which meant that they expected agricultural inputs to be a part of the titling programme.

If people do not understand what a title means they will not adjust their behavior in relation to production, disputes, land use and the transfer of their land rights. The expected benefits of the project will not materialize even where people have titles, unless information is communicated during the titling exercise.

- **Access to credit:** It appears that the banks in Mozambique tend to consider the socio-economic profile of the individual applying for a loan rather than the secure land rights supplied by a title. It is unclear what rights the banks would have in cases of foreclosure since the state owns the land and would therefore reclaim it. Consequently, poor family sector

farmers would be given a low priority by the banks even if they had a title to land. Local organizations advancing credit to small farmers did not necessarily require a title.

- **Efficient transactions:** The title holders and those who had applied for titles through the project, did not know how to register transfers, either sales or inheritance, or subdivisions. They had been given no information on this aspect. Therefore even though titles had been issued, in some cases, this would not have ensured efficient transactions. Again there is a complication because the state owns the land. Improvements can be bought and sold but a land transaction must go through the state.

4.5 Gender Issues

4.5.1 The gender dimension of the land tenure system in Mozambique

Mozambique has a number of special characteristics for the gender analysis of land tenure relationships with regard to access to land, security of tenure and control over the means of production, namely:

- the great diversity across the country in terms of social, cultural and environmental aspects;
- the impact of civil war which has left land tenure in transition and a range of political policies affecting land and land tenure diversity;
- the influence of the colonial period where policies, focused on natural and human resources exploitation, transformed the country's land tenure, as well as the gender roles linked to land use, access to land and control over the means of production
- the impact of independence and adoption of socialist policies to unify the country and limit diversity, including state ownership of land;
- mass migration of people due to civil war, including two thirds of the rural population, which divided families, caused migration to urban areas and other countries, and caused abandonment of traditional lands;
- the influence during reconstruction of the country since 1992 based on World Bank and IMF policies and resources, and with an emphasis on privatization and market economies;
- the effects of decentralization of government under a multi-party system;
- return of the population to the rural areas, including their places of origin, lands planned by the Portuguese for indigenous peoples, and lands reclaimed from Portuguese settlers as state owned farms,
- development of new land law to interpret this reality and to simultaneously develop tools for economic growth

4.5.2. Recommendations from past evaluations

In the initial terms of reference for the project there were no specific terms relating to the gender dimension. However, there was a communication from Sida Maputo (December 1991) to DINAGECA mentioning the need to undertake an analysis focusing on the gender aspects of the land tenure question. According to this Sida communication, the objectives of such a study would be to ensure that there was equality of access to land for both genders

when it was redistributed and registered. Sida set out some activities for DINAGECA to undertake in relation to this issue:

- increase the awareness among DINAGECA staff about gender issues;
- include gender issues in the school curriculum

When the evaluation of the Boane pilot study was undertaken in 1993, a number of issues were raised relating to women's access to land, customary law and alternative approaches which could improve women's inheritance rights. The evaluation team identified that these issues required research, especially in regard to women's rights to land.

In June, 1995 Sida sponsored a participative gender diagnosis of the agricultural sector institutions supported by them, in order to introduce the analysis of gender issues into their activities. The DINAGECA participant proposed that a socio-economic study be undertaken in Xai Xai, which should have a gender analysis component, in relation to access to land and control of the means of production. This recommendation was never implemented because of the freezing of Sida funds for the project.

4.5.3 Gender issues and the distribution of titles

In the conclusion of the Boane Pilot Study [DINAGECA, 1994] it was stated that the *"individualization of tenure should mean that rights holders such as women should be supported. We do believe that this modification of family sector tenure system should encourage economic development."* DINAGECA's primary objective, as far as the family sector was concerned, was to protect them from outside claims to their land. DINAGECA staff were not aware that titling, both individual and group, or association, would modify, the family sector tenure system. Some of the gender related issues are discussed further in 4.6.

4.5.4 Gender perspective of DINAGECA personnel in the field

Part of the identification and adjudication processes in Boane required that the title applicant supply an identity book to the field team. Because of the conditions described above, often the male head of household was working in town or out of the country. Only some of the women had identity documents. In order to speed up the identification and deal with the problem that the men were not there and many women had no identity documents, the local administrative structures (not the traditional authority), together with the DINAGECA personnel decided that:

- in the absence of men, the women should be the title applicants, as they are the ones that work the fields;
- in the absence of men, the woman could show her identity card;
- the objective of protecting the family sector was still achieved if the woman obtained the title.

Some conclusions can be drawn from the experience of the Pilot Project:

- An interdisciplinary approach should be introduced within DINAGECA so that the power relations, the modification of land tenure systems and gender roles are better understood during the titling process;
- If the new adjudication and communication processes discussed in Chapter 5 are adopted, then they must also take gender issues into account;
- Gender analysis should be undertaken simultaneously with any land tenure research undertaken by DINAGECA staff.

4.6 Impact of Titling on Women's Access in Family Sector Farms

Although Mozambique has a written constitution, the customary laws of the different ethnic groups (patrilineal and matrilineal) are very influential in the rules of inheritance, access to, and the control over land. However, these customary laws have been modified over time by the changes in power relations in regard to customary land tenure systems (see 4.5 above).

The Pilot Project took place in a patrilineal system area, where women only have access to the husband's family land. Here, as the main producers at the subsistence level in the family farmer sector, women control production with regard to feeding the family unit only, i.e., maintenance production.

In the project, because of technical, administrative and political reasons, 22 of the 69 titles were given to women, despite the prevailing customs of the area. When interviewed, the women indicated that they did not understand what it meant to hold a registered title. Consequently, although in law the women became the title holders rather than a person representing the husband's family, in reality the women did not assume the role of title holder. The women were also not aware that by assuming this role in law that this could lead to conflict in the family.

If subsequent conflict arises in the project area these women could either:

- ask for the title to be transferred to the husband's name;
- ask the Community Tribunal or District Tribunal to solve the problem.

Community Tribunals are at present not operating as extensively as they should and in some areas the old Popular Tribunals are still in place. The Community Tribunals were created to replace the traditional councils which solved local level conflicts. The person in charge of such a Community Tribunal should be someone respected by the community as a good advisor. The main tool for conflict resolution at this level is common sense and consensus decision making. Community Tribunals tend to follow customary law approaches rather than the national law of the land. The Community Tribunals presently have no administrative link with the District Tribunal, the lowest level Tribunal in the legal system. The new land law draft proposes that Community Tribunals solve conflicts over land tenure at the local level.

Some conclusions can be drawn from the experience in Boane and other titling projects:

- **Women and control of production:** The women were not prepared to confront their husbands' families and take control of the land, thereby assuming the control of the means of production. Rather they continued as maintenance producers.
- **Legal vs. actual title holder:** The project did not change the gender roles in the area in practice because the women did not understand the implications of their being awarded the titles and did not assume control of the land. However, given the legal reality, conflicts could develop within the family over the woman having become the title holder.
- **Increasing agricultural production:** Titling can protect the family sector from outsiders obtaining land, but it will not increase agriculture production within the sector unless women understand that titling gives them control of the means of production, and they accept this control, and are prepared to deal with the potential conflict with their husbands' family.
- **Group title:** The effect of individual titling on women's access and control over land is not the same when group titling is done, as was done when the associations were titled in Boane. Under these conditions it appears as though women's rights were not taken into account at all in customary areas. However, more research is required with respect to this aspect and only preliminary conclusions could be drawn. In-depth research is required into the whole area of the modification of customary tenure and women's access and control over land within rural communities which are in conflict.

- **Role of the Community Tribunals:** They will have a major part to play in the adaptation of customary law with respect to women's land rights. They have traditionally been male dominated institutions. It is necessary to undertake in-depth research to establish to what extent these Tribunals could solve conflicts and facilitate the establishment of a dialogue between customary tenure, the new land law and the requirements for gender equity stated in the constitution. Such research should also propose modifications to the Community Tribunal system so that they could become part of the legal system, thereby giving legal status to their decisions.

- **Changing customary law:** Civic education on human rights and the land law should be conducted, in order to support and guide the customary law process towards greater gender equity.

4.7 Assessment of Relationships with other Externally Funded Projects

4.7.1 World Bank Rural Project

This project is aimed at securing the land rights of the rural poor against the land claims of private individual entrepreneurs. Their approach is to use group titles rather than individual to secure these rights. Research in the north of the country has been done into the viability of this approach, with respect to the range of tenure types and what size and type of unit (clan, lineage, family, village, mutete, localidade) should be used as the area that is titled. A large amount of data has been collected and capacity built within DINAGECA, with respect to understanding the complexities of group tenure types and the implications for legal evidence in group registrations in particular, and the titling of customary areas in general.

The difference between this approach and that of Swedesurvey is that the latter has been focused to date on individual titling. If Swedesurvey adopts the strategy outlined in Chapter 5, it would dovetail well with the approach of this World Bank programme.

4.7.2 World Bank 5 Cities Project

The local government reform (PROL) project of the World Bank is an attempt to implement reform in 5 cities in Mozambique namely, Maputo, Beira, Pemba, Nampula and Quelimane. The programme covers the refinement of a range of legislation as well as institutional reforms, such as decentralization strategies and capacity building. Urban and environmental management and physical planning is included in the programme, as well as the mapping of the 5 cities.

The 5 cities will be mapped at 1:5,000 scale, funded by NORAD. The client department for the PROL project is the Department of State Administration and not DINAGECA, but DINAGECA is the counterpart agency for NORAD. The maps produced will ultimately go to DINAGECA, as will the equipment. It is hoped that DINAGECA, from this information, will be able to supply the 5 cities with data sets. Cadastral information will not initially be mapped and who will hold the urban cadastral information is still being discussed.

The Maputo project has made extensive progress with a data base on the physical information, an address for most houses, assessment of land use for taxes, and street maps having been finalized. With respect to the Maputo cadastre, an appropriate cadastral system has still to be developed, which includes the archiving of the documentation already in the system and a method of updating the system.

DINAGECA does not have responsibility for the cadastre in urban areas and the World Bank programme in these areas will be developing its own cadastral approaches. These approaches will ultimately affect DINAGECA as it is supposed to set the overall cadastral policy for the country. However, at this point DINAGECA does not have the capacity to do this for these World bank projects. The only viable approach for DINAGECA is to be kept abreast of developments and to point out problems it foresees in any cadastral reform initiatives undertaken for urban areas.

4.7.3 FAO

The FAO is closely involved with the development of the Land Commission's policies. To a large extent the policies of the Land Commission complement the aims of the FAO as far as the rural community is concerned. They have however some approaches which differ from that of the Land Commission, namely:

- The FAO supports the idea of a land market while the Land Commission does not see this as important for the rural community.
- The FAO supports the idea of two types of cadastre, one where the clan or lineage is registered as a group, and a second territorial one with a larger boundary which incorporates the entire ethnic group. They are worried that the smaller registered parcel will not include the vacant land, sacred sites and trees which the group uses over time and that the second territorial cadastre would be necessary to protect these rights.
- The FAO framework is largely based on customary tenure systems.
- The FAO would like to see local land commissions allocating land at the local level.

Finally, they have already done some work on the Conservatoria's systems but have not yet developed a programme to sort it out.

The strategy outlined in Chapter 5 would work with any FAO approach. It would also allow for more co-ordination in system development between DINAGECA and the Conservatoria, thus preventing duplication of effort.

4.7.4 Finnish project in Nacala City

A land management project is being undertaken in Nacala to formalize some of the informal settlements and relocate people in a way that limits the erosion that is taking place. The project does not have the capacity to build the cadastral system. Rather, they have created their own register for addresses, planning and land taxation purposes. The registry information is not updated unless the occupiers of the houses inform the city council of any changes. Titling under Nacala type conditions is not a priority, rather they have concluded that a structure plan is a priority, to be able to upgrade settlements, regularize individual houses and plan relocations.

4.7.5 USAID

USAID is sponsoring research projects at Eduardo Mondlane University on customary land tenure. This is also associated with but separate from an interdisciplinary research group at the university called "NET." USAID, through a Maputo Branch of the University of Wisconsin Land Tenure Centre, is currently sponsoring research on a survey of customary

laws in the country and an economic analysis of resettlement and redistribution of natural resources.

NET is involved in developing a larger, autonomous research centre on land tenure in Mozambique through:

- exchanges of researchers and courses with four South African Universities;
- a research programme on specific tenure issues related to natural resources with a South African/Mozambique interest;
- dissemination of information and development of a research library and database.

By establishing local research resources, these efforts can complement DINAGECA's efforts in developing appropriate titling methods. Local expertise should be available to provide more information on land tenure issues for the cadastral programme.

4.7.6 Helvetas

The Swiss programme through Helvetas is providing assistance at the local level to family farmers and associations. In some areas, they have provided credit assistance for farmers and title is not required. In other areas they have helped to organize associations and assist the associations in acquiring title. Again the approach in this project can be supported and assisted by the recommended strategy in Chapter 5.

4.7.7 Italian projects

Italy has many projects in the rural areas, primarily for development of infrastructure such as dams and irrigation to support agriculture. In Boane, for example, housing and other facilities were provided for resettled communities, close to a large recently completed dam. In Laranjeiras, an irrigation project by the Italian group was the part of the reason for requiring titles. In this case there were many parcels of land in the irrigation area and the Italian group wanted to have all claims adjudicated before they undertook further construction. DINAGECA has completed part of the area and plans to complete the irrigation area when funding is available. The Italians were not providing funding for titling.

4.7.8 French

Cenacarta is a group associated with DINAGECA and supported by the French. The objective of this long-term programme is to develop capabilities within the organization for remote sensing and geographic analysis for land use planning and management. Currently, the group is using existing maps (1:50,000 and 1:100,000) and remote sensing imagery to produce special purpose graphics for planning purposes. The difficulties include the fact that the maps are out of date and the scales are too small for detailed planning at the local or district level.

This project does complement Sida's programme, however because it is providing DINAGECA with new technologies and capabilities, especially in computer graphics.

4.7.9 Other Projects

Subsequent to the interviews in Mozambique, it has been drawn to the evaluation team's attention that there are at least two other related projects. These are:

- World Bank Land Cover Mapping funded by France and in which DINAGECA is the counterpart agency to develop a digital production line for small scale mapping;
- revision of the geodetic network by the British which has been interrupted and uncompleted.

5. A RECOMMENDED STRATEGY FOR FUTURE SIDA SUPPORT AND THE TITLING PROGRAMME

A main task of this evaluation was to make recommendations to Sida regarding future support to DINAGECA. To achieve this task, the following are addressed in this chapter:

- the degree to which Sida's support complements the activities and proposals of the Land Commission (Terms of Reference #17);
- the role of DINAGECA in the Land Commission (Terms of Reference #18);
- the current and future requirements for DINAGECA services in surveying, mapping, and land administration (Terms of Reference #7);
- a strategy for future sustainability of the Sida project activities (Terms of Reference #10);
- a strategy for an improved communications programme for land titling (Terms of Reference #5);
- recommendations for Sida Agreement (Terms of Reference #16 and #20);

5.1 The Land Commission Proposals and Sida's Support to DINAGECA

The land law in Mozambique has been in the process of being changed for years. Much of DINAGECA's role depends on what form the land law will finally take. The Land Commission within the Ministry of Agriculture and Fisheries is taking the lead in developing the new land law. The Land Commission's perspective on DINAGECA's role was investigated in interviews before and after the National Conference held in June 5-6, 1996. The strategies presented in this Chapter are partially based on this analysis because it is the best information presently available on the potential land law. It is recognized that the land policy and law is still subject to change.

5.1.2 Draft land law and related issues

A number of areas being addressed by the Land Commission affect DINAGECA's operations, such as:

- **Family sector:** The term "family sector" has been replaced by "rural communities"
- **Ownership of land:** The state will own the land, with citizens having only rights of occupancy and use. There will be no privatization of land; only improvements or investments can be bought and sold. This affects the content and structure of the registries;
- **Title as evidence:** Evidence in the form of a registered title currently overrides oral evidence of land use and occupancy. Under the proposed draft, oral evidence will be given equal weight in the courts. When a title is issued, DINAGECA will be expected to guarantee that the land was not occupied. This also changes the emphasis on titling, especially for small family farms.

- **Community rights:** The rights of the community will be protected; occupation gives the community a perpetual right in the land. A private title issued without a written agreement from the community will be invalid. DINAGECA is the responsible body for ensuring that community rights are not infringed upon and could be sued if there is an error;
- **Land titling vs. community tribunals:** The Land Commission has moved away from individual titling to protect rural communities. Rights will be protected instead through the courts and more specifically through community tribunals. Community tribunals will be able to resolve land disputes at the local level. The State Administration Authority is investigating how to combine customary law and existing public structures. This is important in relation to land because community tribunals are often based on customary land administration approaches. The dialogue between customary land tenure systems, which often discriminate against women, and constitutional rights of equality will take place at the level of the community tribunal. Whether these tribunals consist of elected officials or are part of the national court administration, DINAGECA's local staff should be members.
- **Group rights:** The Commission also gives priority to group titling rather than individual titling as a second option to protect rights. Title would be given in the name of a representative of the group, as it is believed that listing all the members of the group (and keeping that list updated) would be too difficult at this stage. (Private applicants could apply for such a co-title). The processes for registering associations and obtaining title will be simplified into one process. No decision has been made as to the size of groups or who should be included due to the variety of customs and historical experiences in the country.
- **Private titles:** These will still be valid for a 50 year period. Private titles issued in rural community areas (as yet undefined) will be 'partial' and 'temporary'.
- **Mortgaging:** The ability to gain credit through titling is generally inapplicable in rural land, since banks base their decisions on the socio-economic profile of the applicant.
- **Land regulations:** The regulations outlining the technical and administrative procedures to support the land law need to be written in parallel with the land law. DINAGECA needs to be involved in this process and needs to develop its own technical regulations. The Land Commission also supports the development of a private sector surveying profession, and DINAGECA needs evaluate their role in this effort.

5.1.2 Organizational change

The Land Commission is investigating a number of models for potential restructuring of DINAGECA, described briefly here:

- **Decentralization of cadastral work:** In this model, the Central Office would retain the mapping functions and all cadastral activities would be devolved to the provinces. The central mapping function would be taken over by Senecarta.
- **Independent budget:** In this model DINAGECA would remain in the Ministry of Agriculture and Fisheries but would have an independent budget.
- **Autonomous agency:** DINAGECA could become an autonomous agency with control of its budget and with restructuring at all levels.
- **Merger:** DINAGECA and the Conservatoria could become one autonomous organization.

5.1.3 Analysis of impact on DINAGECA

The changes in land policy and law and potential restructuring will have an impact on DINAGECA's role, especially in land titling. The most important impact is that DINAGECA will have to guarantee its work, including the fact rural community rights have been protected. In order to provide this guarantee, the adjudication component of the land titling process needs to be massively strengthened. Adjudication will have to be able to deal with private, group, and association approaches, as well as sporadic and systematic titling.

Before such guarantees can be offered, new regulations are required that outline administrative and technical procedures for the district and provincial levels. Issues such as evidence need to be addressed in these regulations and the variations in Mozambican land tenure need to be reflected in the regulations. Once adopted staff at all levels will need to be trained in the new procedures.

DINAGECA's present approach and capacity will not be able to support the Land Commission's envisaged programme. DINAGECA's role will have to be strengthened and adapted to serve the policies currently being debated.

5.1.4 Appropriateness of Sida support

The main emphasis of Sida's support to DINAGECA has been in equipment, training, and support of systematic land titling. The pilot project in Boane was initially designed to test various procedures for efficiently issuing titles to land. Training programs have included new technologies, English language, and management with the benefits and limitations given in Section 3.2. At the same time, provision of training materials, improved facilities, and equipment at the Machava Training Centre have begun to build long term institutional capacity. All of these measures complement the objectives of the Land Commission.

However systematic individual titling for the family farm sector is not a priority for the Land Commission. This has been the major thrust of the Sida supported programme to date. The Commission has chosen other methods of protecting rural communities. From the current evaluation, it is believed that these methods will bring more sustainable results in the short and long term. Therefore Sida's support should be adjusted to the new policies and strategies of the Land Commission. In fact, the new strategies outlined here are to a large extent appropriate for DINAGECA even prior to the adoption of a new Land Law.

5.2 The Role of DINAGECA in the Land Commission

5.2.1 Past and current role

DINAGECA has participated in the Land Commission from the outset. Through drafting of the Land Law, the Land Commission is providing the legal, and to some degree administrative, priorities for DINAGECA. As new legal issues are discussed, there are implications for administering the laws and providing technical cadastral support. DINAGECA's role in the Land Commission has been considered valuable by the Commission Members because of the knowledge DINAGECA has about local conditions and constraints, technical procedures, and existing laws and regulations affecting tenure.

DINAGECA has had an active role in the discussions leading up to the June, 1996 draft of the Land Law. DINAGECA staff participated actively at the June National Land Conference

in the discussion groups, the co-ordination of the debate, and in the production of the summary from the group reports.

5.2.2 Consideration of gender issues

Women's access to land was only mentioned in passing by the Land Commission members, with group titles (titles given to communities) being the only issue of significance being raised. One of the benefits of this approach is that it does not interfere with customary law, which has been given a prominent role with respect to land management in rural communities.

At the last National Land Commission Conference, the women present requested an amendment to the effect that customary law would only be used to the extent that it does not contradict constitutional principles. This amendment was accepted. Mozambique's constitution enshrines the equality of women and men before the law.

5.2.3 Potential role

It is crucial that DINAGECA assumes a leadership position during the formulation of the land law to ensure that the policies and laws are practical. Once a law has been accepted, DINAGECA should be well-prepared to draft the necessary cadastral regulations and procedures required to implement the laws. A third role for DINAGECA is in assisting legal authorities in developing rules of evidence and procedures for resolving disputes. And through further development of a communications programme to support land adjudication (see Section 5.5 below), DINAGECA will also have greater opportunities to help disseminate information about the new laws and regulations at the community level, enabling the rural population to protect their rights.

5.3 Requirements for Surveying, Mapping, and Land Administration Services

In this section the external requirements for DINAGECA's services are evaluated based on an assessment of priorities within the country, current and planned programmes, and long-term sustainability. This analysis, together with the analysis of current capabilities in Chapters 3 and 4, provide an overview of the requirements within the organization over the next 5 years.

5.3.1 Requirements in Mozambique

Mozambique has several priority needs that have direct implications for the services and information provided by DINAGECA. These include the following (in no specific order):

- **Security of tenure for the rural poor:** There is a need to provide mechanisms through adjudication and formalization of tenure (individual or group tenure) to ensure that established rights can be protected and that land can be brought into productive use under more stable conditions. Such adjudication and formalization processes also require knowledge of where tenure units are in relation to other tenure and physical features, such as roads. Large scale maps, in either paper or computer format provide the framework to plot this information and to prevent overlapping land applications.
- **Management and formalization of urban tenure:** There is a need for large-scale (e.g., 1:20,000 to 1:1,000) information about the growing urban areas to ensure that growth can be channeled to the best suited areas. Provision of basic services such as transportation and

water also require information about topography and settlement. Again maps are the basis for identifying and recording tenure, infrastructure, and other data. New techniques using point positioning can provide approximate locations in some cases, but without aerial photographs, maps, and rigorous geodetic control, such positional information soon loses its value.

- **Managing the urban/rural fringe:** As urban areas grow and as stability encourages investment by urban dwellers in surrounding rural areas, there will be an increasing need to have compatible information and administrative procedures in the transitional areas. This includes compatible laws and procedures for issuing titles and compatible surveying and mapping regulations.

- **Development of the economy:** Investment in agriculture and other sectors requires knowledge that the developer's rights are secure and surrounding rights are protected, as well as depending on information on the resources and physical infrastructure available. Again surveying and mapping are the basis for this information. Another requirement for investment is development of more efficient bureaucratic procedures.

- **Information for planning:** There is a need for a good information base to support land use planning in the provinces, for example, to identify new areas of and for development, new areas for industry, tourism, etc. Current "planning" processes are often driven by applications from developers or local authorities. DINAGECA has a role to play in providing a standard mapping base for planning purposes in all government sectors.

- **Minimizing government costs:** To reduce government costs and to make more effective use of human and technical resources, there is a need for more intergovernmental co-ordination and streamlining of procedures (e.g., for title applications). Examples of where this could occur in land administration include development of common "registries" or databases of title information for the Conservatoria and DINAGECA and/or changing the application process which now may take an applicant as long as five years to navigate the various checks and formalities in government offices.

- **Maximizing benefits from externally funded projects:** Many donor projects have components related to titling, mapping, or collecting locational information on features or activities of interest. Today these projects usually include satellite positioning technologies, computer mapping and analysis tools, and data collection programmes. Because these tools are usually put in place with insufficient training or support and with a lack of understanding of the limitations of the data collected, the systems and products developed are often of little value beyond the life of the project. What is required, especially in Mozambique where donor projects are so essential, is a national policy to co-ordinate the acquisition and use of the technology and to co-ordinate the project-based surveying and mapping efforts.

5.3.2 DINAGECA requirements

Based on the general national needs above and the evaluation of DINAGECA's current status, the following policy, management, technical, and training requirements have been identified as being priorities for the next 5 years:

- **Policy and organizational requirements:** Among the priority issues that need to be addressed are:

- more control of the revenue generated by DINAGECA activities, so that this revenue can be channeled into sustaining long term national programmes;

- increased support for provincial and district offices to respond to decentralization of the national administration (this is especially important in terms of transportation, communications, and knowledge rather than conventional technical aspects);
 - a greater role in urban areas, especially in terms of setting appropriate national standards and regulations to support titling;
 - evaluation of the internal organization of DINAGECA to ensure that the structure best meets the needs of increasingly project based, computerized, and decentralized activities;
 - maintenance of a leadership role on cadastral and technical matters within the Land Commission, including the development of appropriate regulations and procedures under the Land Law;
 - development of a public communications strategy, including closer co-ordination with NGOs working at the local level, to support land titling efforts and protect third party rights;
 - development of common standards and databases with the Provincial Conservatoria, and other agencies as required, to minimize duplication and to maximize efficiency;
 - development of the revenue earning capacity of DINAGECA;
 - provision of support and quality control for the development of private sector surveying and mapping firms and the development of professional associations.
- **Management requirements:** These include the following:
- development and implementation of a strategic plan for the organization and for all of its programmes;
 - the capability to seek funds within other projects and programmes to support surveying and mapping activities;
 - improved communications systems among various offices in the organization;
 - evaluation and streamlining of all processes involved in land titling;
 - drafting of regulations and administrative procedures;
 - continuation of internal and external forums and workshops to exchange information and ideas on surveying, mapping, and land administration issues;
 - support for long term education, as well as short term training, for staff members.

• **Programme and technical requirements:** These include:

- the capability to respond to a variety of title applications and projects more effectively and efficiently;
- the capability to provide geodetic control, surveying, mapping, and title application services on both a case-by-case basis to meet immediate needs and in a co-ordinated national approach to meet long-term needs;
- improved capacity in geodetic surveying to accommodate GPS and controlled photogrammetry in all project areas;
- improved capacity in map production, for both paper and digital environments;
- logistical equipment including transportation, communications, and field support so that DINAGECA can carry out field work for all services, including field adjudication and quality control programmes in land titling;
- development of a long term technology and data acquisition plan that can be used to co-ordinate donor projects and to ensure that technology is appropriate and supported;
- development of national technical standards and procedures to maximize the acquisition and use of digital data in any government project.

• **Training and educational requirements:** These include the following:

- enhancement of project management, negotiation, change management, conflict resolution, and other skills in the Central Office and other levels;
- improved knowledge of tenure complexity and issues in Mozambique to support land titling processes, including gender issues;
- better access to technical training for Provincial staff;
- increased support of the Machava Technical School through expanded curriculum development for adjudication and titling and through sharing equipment and providing lectures and project training with the Central Office.

5.4 Strategy for Future Sustainability and Improvement of DINAGECA's Services

The goal of this evaluation was to develop a set of recommendations to improve the Sida support to DINAGECA and to ensure that the capacity developed in Mozambique will be sustainable by 2001. The recommendations are presented as:

- a strategy for the titling process (5.4)
- a strategy for a communications programme (5.5)
- recommendations for future Sida support (5.6)

These strategies and separate recommendations are based on the above priority requirements and the assessments of DINAGECA's current capacity and the progress of the Swedesurvey project in previous chapters.

5.4.1 Sustainability of the existing programme

Some of the major limitations of the current systematic land titling process include the facts that:

- it is very slow and without a massive infusion of resources could only be extended to priority areas;
- the public communication and adjudication processes did not adequately protect third party rights and did not address gender issues;
- there was a lack of technical support in terms of geodetic control and mapping to support the development of an accurate computerized information system, including parcel mapping;
- in many cases, it did not appear to have the potential of improving agricultural production significantly because most units were small family farmholdings and these are largely ineligible for credit and are often self-sufficient at best.

Therefore, the systematic titling process undertaken by DINAGECA would still not be sustainable by Mozambique by 2001 due to the lack of basic resources, the size of the country, and the fact that it is not self-financing.

What was accomplished from the Boane project and other Sida supported initiatives were:

- increased management and technical capacity within DINAGECA;
- experience in titling and an appreciation for some of the requirements and constraints involved;
- basic logistical support for the Central Office, the Technical School, and several Provincial Offices.

All of the above are sustainable now and with additional support over the next five years should greatly improve the institutional capacity within DINAGECA.

5.4.2 An alternative strategy for land titling and land administration

Given the above the major change in Sida support should be in the land titling programme. Figure 5.1 illustrates a typical land titling or first registration process. In Boane and subsequent systematic projects, the technical part of the process (e.g., identification of landholders and boundaries, survey and demarcation, and collection of information on landholders and parcel boundaries) was sufficient. The major problems lie in ensuring that all parts of process are carried out as well.

It is therefore recommended that, over the next five year agreement, Sida support the development of the following with regard to land titling within DINAGECA:

- a process of land titling that is application driven (e.g., sporadic) rather than systematic and is therefore more sustainable (exceptions may be priority areas subject to land disputes or development);
- a process where public communication and rigorous adjudication ensure that third-party rights are protected whenever a land application is considered (i.e., the adjudication of a private application would include proving that no other rights exist in that area);

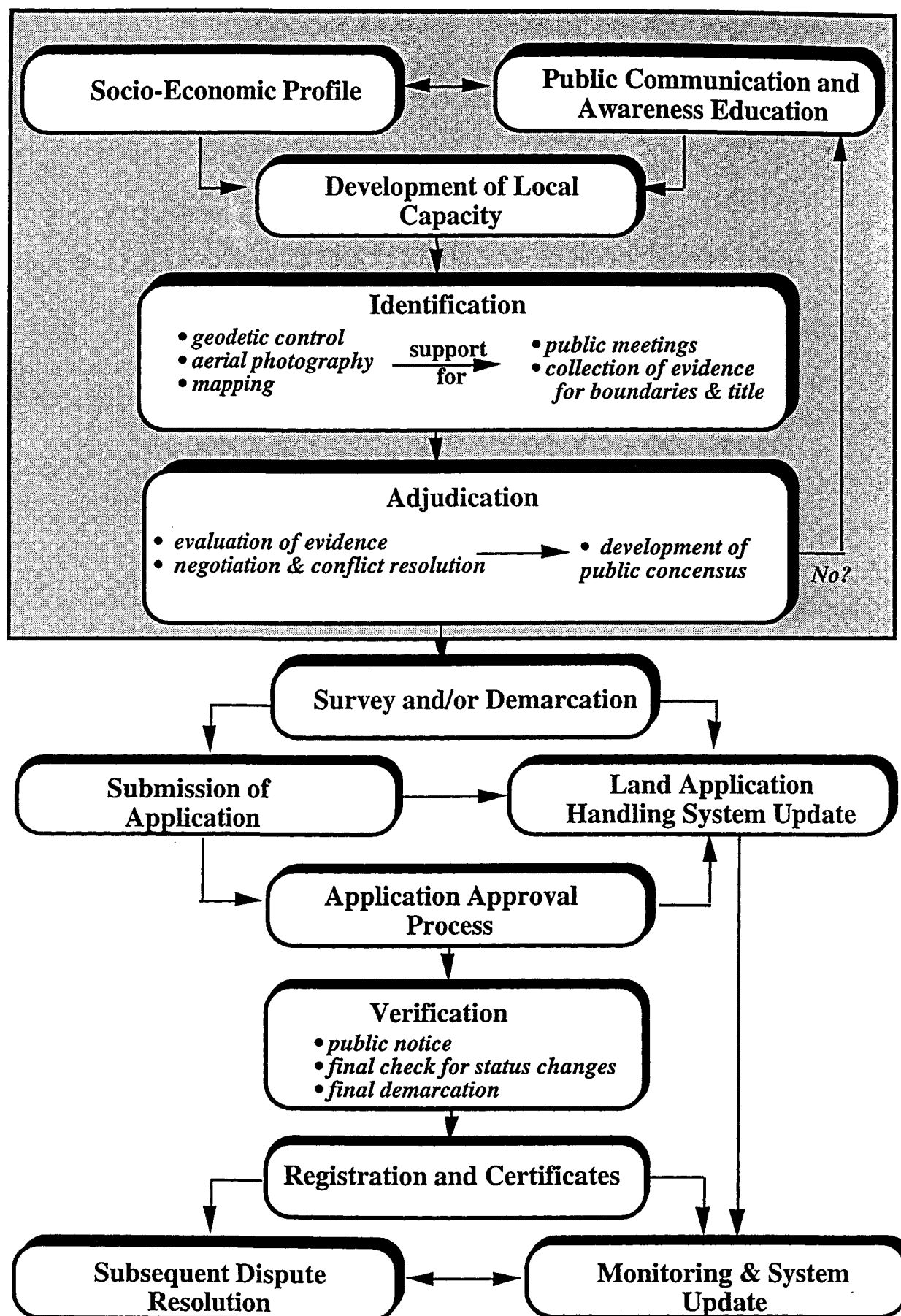


Figure 5.1: Land Titling Process (First Registration)

- a process whereby emphasis is given to developing technical and administrative procedures and regulations to support the eventual Land Law;
- a process based on improved knowledge and understanding of the complex land tenure situation, its local variations, and the legal implications of technical procedures;
- a process based on building an information base (mapping, tenure, etc.) at the local level to support local administration, land allocation by community tribunals, and land use planning (this local information base in paper format would be linked to and provide information for provincial computer systems).

5.4.3 Benefits of the strategy

The benefits include the following:

- it is a flexible approach that builds capacity in titling for any subsequent Land Law requirements (e.g., co-titling or community titles; systematic or sporadic titling; general or specific boundaries; urban and rural environments; existing World Bank and FAO approaches, etc.);
- it is sustainable and in five additional years should be capable of supporting titling on a demand basis in most provinces because it is knowledge-based rather than technology-based;
- it is sustainable for DINAGECA in that titles that are issued could be guaranteed with little risk;
- it is sustainable because applicants would pay for titling procedures, including the adjudication of (and therefore protection of) third party rights;
- it allows DINAGECA to direct more resources to fulfilling its mandate in other programmes (e.g., mapping) and this, in turn, will support the titling efforts;
- it helps to achieve the Mozambique objectives of increased community level involvement, transparency of bureaucratic processes, equity, and democracy;
- it provides opportunities to improve government management, reduce corruption (through local level involvement and regulated procedures), and provide more reliable, quality services;
- most of the recommendations are not dependent on particular laws and can therefore be implemented by DINAGECA immediately;
- It facilitates land investment while still protecting the rights of the poor.

5.5 Public Communication Strategy to Support the Titling Program

In order to implement the strategy outlined above, a range of communications activities should take place in the future. These would ensure that adjudication and processing of title applications are as transparent as possible and capable of protecting the land rights of the family sector farmers, women, and other groups. The following should improve the government staff's knowledge of tenure conditions and the community's knowledge of the titling process and its implications.

- **Information campaign:** Through supported research, DINAGECA should develop information about the land law issues, gender issues, steps in the title application process, and the aims and implications of any titling project. This information should be supplied to all levels of its staff and be made available to the all officials involved in land allocations, NGOs, local structures, and the general public. The information should be simple and easy to read and should explain DINAGECA's role in the process.
- **Staff training:** DINAGECA staff should be trained not only in what to communicate to the public and government authorities, but also in how to communicate the information.
- **Guidelines for community programmes:** A set of guidelines should be drawn up for field staff for communication with rural communities during the initial investigation and in the adjudication processes. Field staff should, for example, work through the District Administrator, hold a series of meetings with the communities, explain the project objectives and its implications, and explain the steps that need to be taken by applicants and neighbours.
- **Understanding local protocol:** The staff guidelines should also detail any protocols for working with local officials and for keeping offices involved with the project well informed to ensure that consensus is reached and transparency is encouraged.
- **Understanding third party rights:** Field technicians should have special training in how to protect the third party rights of the family sector and women when they adjudicate titles. They need special training in how to identify a range of rights which can be found in the family sector (patrilineal, matrilineal, intense cultivation, shifting cultivation, historical occupancy rights, newcomer's rights, rights of families as against individual rights, women, men and children).
- **Socio-economic studies:** Where necessary, a socio-economic study of the tenure in the area should be conducted. Field staff should be informed of the study findings.
- **Broadening school education:** If students at the Technical School are to also be prepared for involvement in the titling process, then information on titling processes, laws, and potential impacts on land tenure systems needs to be presented within the curriculum. The curriculum should also include more communication skills and social knowledge, including gender issues, so that graduates will be able to carry out their technical functions in a professional manner.

5.6 Recommendations for Further Sida Support (1997-2001)

Based on the arguments above, the Sida support for DINAGECA for the period January 1997-2001 should focus on the following areas.

5.6.1 Training and education

This should be continued at the present level or higher since it provides the most tangible and sustainable benefit in both the short term and long term. Priority areas for training and education include:

- management skills, including project management, strategic planning, change management, negotiation and communication skills, and conflict resolution skills;
- land tenure in Mozambique, including awareness of gender and local issues;
- land administration, including registration systems and procedures, and development of technical and administrative regulations;
- English language skills;
- technical skills in information management, computer use and applications, mapping, and surveying.

More emphasis should be given in the second agreement to long term education, as well as short term training. This may require additional funding within the Sida budget for the entire five year programme and should include Instructors at the Training School in addition to DINAGECA staff.

Short term training should be provided at all levels of the organization. Any equipment (e.g., computers or computer applications) should be supported by a more adequate training period than in the past. User friendly software for computer graphics and mapping that is likely to be used by a variety of future employers (e.g., MAPINFO, SPANS, ARCVIEW) should be introduced as learning tools.

In areas where expertise is available locally (especially in Mozambique land tenure), then instructors should be recruited from Mozambique. In particular, the resources available at the University and government officials should be used when appropriate.

In all programs, the Training School should be considered the "11th" provincial office. Where possible, greater co-operation and sharing of staff and facilities should be developed between the School and the Central Office of DINAGECA. In addition, Sida should continue to support upgrading of facilities, equipment, and computer software at the School. Once a strategic plan has been adopted by DINAGECA, the School curriculum should be reevaluated to ensure it meets any requirements for an expanded land titling and adjudication programme.

5.6.2 Support personnel

At least one long-term position should be assigned to Mozambique during five year period. When there is a change of personnel, care should be given to ensure overlap for continuity. For the first two year period, it is recommended that the personnel be supported by Sida with the following responsibilities:

- **Long term land administration advisor:** This person should be responsible for advising in strategic planning and management; assisting in the organization and presentation of training and education programmes; and assisting in the development of an appropriate strategy for land titling, including the development of land regulations and procedures.
- **Long term systems development advisor:** This person should be responsible for assisting in the development of information systems, including computer mapping, and developing and delivering training courses at all levels. It is recommended that the current advisor either be supported to gain more knowledge in computer mapping or be supported by short term consultants for training courses.
- **Administrative assistant:** This may be a Mozambique resident who can provide support to the Swedesurvey project team in terms of financial, administrative, and logistical matters.
- **Short term specialists (from Mozambique if available) in:**
 - land tenure issues and land law in Mozambique
 - management and communication skills
 - gender issues
 - land administration and registration
 - computer mapping and quality control of computer data
 - curriculum development re gender, land tenure, law, and adjudication procedures
 - mapping, photogrammetry, and surveying as required

These people should be providing on-going support as required and short term training programs as organized by DINAGECA and Swedesurvey.

5.6.3 Programme support

It is recommended that the following be priorities for the second phase of the support program. It should be noted that this is a preliminary list of activities and should actually result from the strategic planning process (Sept.-Dec. 1996). Figure 5.2 illustrates some of the activities that DINAGECA might begin examine and further develop with Sida's support. Sida's support approach should be to:

- **Continue to support strategic planning and change management processes:** This should be an on-going activity and should be supported by education and training as well as advice.
- **Support development of appropriate adjudication and titling procedures:** This includes supporting research and training on specific issues related to land tenure and administration in Mozambique, gender issues, and cost analysis. A communications programme and appropriate materials should be developed for distribution within the organization and government, and to the general public. Assistance, as required, in development of administrative and technical regulations to support the new Land Law should also be a priority.
- **Enhance the education and training programme:** Topics for short term training should include management skills and land tenure, as well as technical skills. These courses should be available throughout the provinces and the Technical School. At least two students per year should be funded for appropriate studies at Universities within Africa or abroad.

- **Continue building provincial and local level capacity:** Equipment should be limited to provincial offices in the short term, but district officers should have an opportunity to be involved in the training and professional development activities.
- **Continue co-operation with other projects to enhance support in surveying, mapping, and land information management.** DINAGECA should have the capacity to assume a technical leadership role in projects requiring the acquisition and use of land related data. This includes building a rigorous geodetic reference system, in developing mapping capacity at 1:50,000 and larger as required for land use planning and administration, and supporting new technologies such as satellite positioning (e.g., GPS) and geographic information systems (GIS). Assistance should also be given as required in developing national standards for such digital data.
- **Provide transportation, communication, and other equipment/materials as required:** The level of funding should be at least as high as in the previous program and major items should be prioritized after the development of the strategic plan. Communications should include at least one linkage at the Central Office to the Internet for research and communications purposes. Updated materials for libraries in the Central Office and in the Technical School should be purchased, developed, and/or translated during the span of the agreement. Publication of all conference, workshop, and training materials for distribution within DINAGECA should also be supported.
- **Continue to emphasize long term vs. short term personnel support and employ local expertise where appropriate:** Long term personnel are required for continuity and co-ordination of the various Sida supported efforts. Where short term personnel are required, local expertise should be used wherever possible to ensure continuing support and to ensure that activities reflect an adequate understanding of the local conditions. This is especially important in addressing land law and land tenure issues.

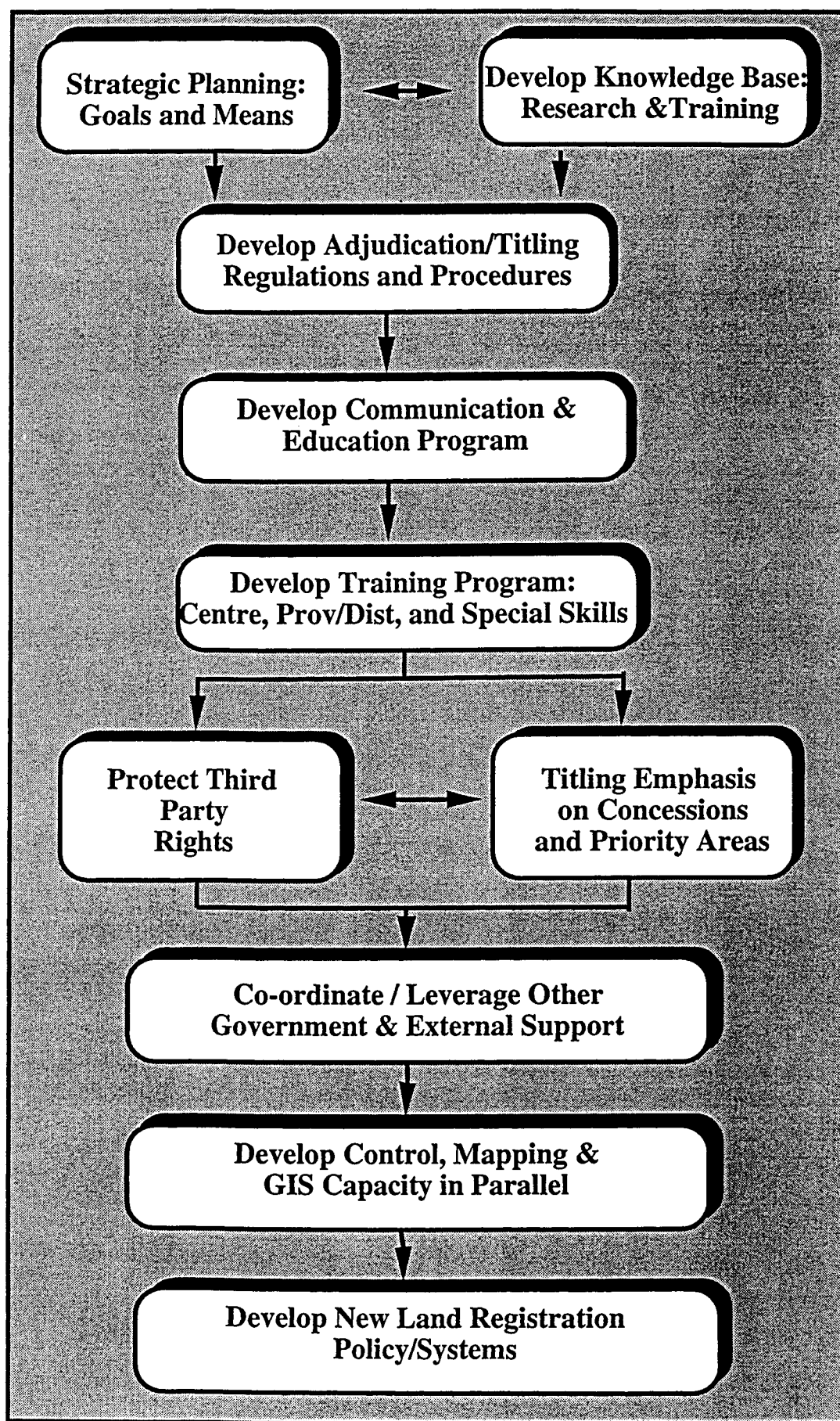


Figure 5.2: Recommended Strategy for DINAGECA activities supported by Sida

6. SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS

This evaluation had three overall objectives encompassed in the 20 terms of reference given in Appendix A:

- to evaluate Sida's support to DINAGECA from (1991-1996) - Chapter 3;
- to evaluate the impact of Sida's support (1991-1996) - Chapter 4;
- to make recommendations for future Sida support (1997-2001) - Chapter 5.

The analyses, together with specific conclusions and recommendations, are given in the body of this report. In this chapter only the main conclusions and recommendations are summarized under the following categories:

- the effectiveness of the Sida support 1991-1996;
- the effectiveness of the systematic titling effort 1991-1996;
- special issues related to Sida support 1997-2001;
- requirements for future development and support.

6.1 Effectiveness of Sida Support

In 1991, Sida began a 10 year programme through Swedesurvey AB to develop institutional capacity within DINAGECA. The evaluation came to the following conclusions with regard to that support:

- The goals and objectives of the original proposal were relevant to the needs in Mozambique;
- The proposal and subsequent workplans underestimated the constraints and problems to be faced in the Pilot Project and thus the programme was delayed;
- For the most part, the programme delivered by Swedesurvey was efficient and effective, with exceptions being:
 - lack of long term personnel to co-ordinate activities until 1994;
 - some short term consultancies that were unco-ordinated or insufficient;
 - provision of some technology that was inappropriate for Mozambique in the early stages;
 - lack of long term educational programmes until recently.
- Human resource development through training, seminars, site visits, etc. was the most effective support in the programme, including English language training.
- Other effective support included provision of transportation facilities and equipment;
- Sida's support complements DINAGECA's activities and mandate in general;
- Sida's support has had a significant positive impact on DINAGECA as an organization and in providing services.

The following recommendations are made to continue and improve the programme:

- 6.1.1** *For the duration of the project there should be long-term personnel resident in Mozambique. This should include administrative assistance, separate from the Cadastral Advisor's position .*
- 6.1.2** *To ensure continuity of the programme and to enhance training, the Systems Analyst position should be continued for at least 1 more year.*
- 6.1.3** *Short term consultancies should be arranged to meet the goals of the strategic planning process and should be briefed on how their activities fit in with other programme objectives.*
- 6.1.4** *Support in long-term education should be increased in the next Phase of the programme.*
- 6.1.5** *Training support should put as much emphasis on procedures and management practices as on technology to ensure technology transfer is sustainable.*
- 6.1.6** *Equipment should continue to be purchased locally whenever possible.*
- 6.1.7** *Continued support should be given to the Machava Training School, including support in further curriculum development and teacher training to support the development of cadastral systems.*
- 6.1.8** *Swedesurvey should reevaluate the AutoKa system and the development of a national land information system to ensure that the technologies are relevant, that the systems become more co-ordinated with other systems and activities, and that sufficient training is provided to make the systems useful.*
- 6.1.9** *Sida's support to 2001 should ensure that sustainable results will be possible, without depending on additional support from the Mozambican government.*

6.2 Effectiveness of the Systematic Titling Projects

The Boane Pilot Project was originally conceived to test various methodologies for titling so that a national programme based on the results of the project could be developed. The evaluation has made the following conclusions with regard to the Pilot Project:

- an early assumption seems to have been made that systematic titling of individual plots would be the most effective method, although this was not the original goal of the pilot project;
- poor geodetic control prevented the effective use of maps, delayed the project, and prevented various methods from being tested;

- the communication process with the local community was not effective;
- the identification and adjudication processes had insufficient procedures and guidelines;
- the identification and adjudication processes did not reflect an understanding of the customary tenure patterns and gender issues involved;
- the delays caused by the approval process (e.g., 4-5 years) would necessitate a further adjudication and information up-date to reflect status changes before the title is issued;
- while the number of titles issue was small, DINAGECA gained valuable experience in the process;
- although some evaluation of the process took place at seminars, there was no comprehensive reevaluation and no redesign for the national cadastral system.

To capitalize on the lessons of the Pilot Project, the following recommendations are made:

- 6.2.1 *The results of the Pilot Project should be rigorously reviewed in designing further strategies for cadastral activities.*
- 6.2.2 *Future titling efforts should improve the communication and adjudication processes, and should be based on better knowledge of local land tenure patterns and gender issues.*
- 6.2.3 *Efforts should be made to support improved geodetic control or use of a rigorous local control system in future titling activities, before other field work or photography commences.*
- 6.2.4 *The national land information system or registry should be kept up-to-date for all status changes, including those that occur during the approval process..*
- 6.2.5 *Future titling projects should track all costs (time and resources) for comparison and analysis.*

6.3 Special Issues Related to Sida Support

There were a number of special issues identified in the evaluation that were either impacted upon or affected the Sida support programme. Some of the major conclusions from examining these issues are the following:

- The benefits normally derived from titling such as access to credit and more efficient land transactions are not relevant in Mozambique at present;

- Since titles have only been issued in the Pilot Project area in 1996, it is too early to determine whether the programme will have any effect on agricultural production or reduction of disputes.
- Unless the benefits and significance of titling are communicated clearly to those involved in the process, they will probably not take advantage of these benefits.
- The variety of land tenure patterns in Mozambique have to be better understood in order to ensure that rights are protected.
- The role of women and the changing role of women in the land tenure system especially needs clarification if women's rights are to be protected and their capacity to participate equally in society is to be enhanced.
- The role of Community Tribunals and local authorities in adjudicating title and rights needs to be better understood, especially with a new policy of decentralization of government powers.
- There are many externally funded projects that have overlapping activities with the Swedesurvey project and in most cases these are complementary, but there is a danger that disparate cadastral approaches will develop through these projects.
- DINAGECA is playing an active role in the Land Commission but will eventually be subject to the laws adopted by the government.
- DINAGECA has an important role to play in developing the administrative and technical procedures that will be needed to implement the eventual law.
- DINAGECA's present approach to titling will not be able to support the current proposals of the Land Commission nor many of the approaches proposed in externally funded projects.
- DINAGECA's current approach to titling will not be able to protect the rural poor from land acquisition by concessionaires nor is it a sustainable approach given the problems and needs in Mozambique.

The following recommendations can be made with regard to special issues related to Sida support:

- 6.3.1** *An evaluation of the impact of titling in the pilot areas should be conducted within 1997 to determine whether any of the expected benefits were achieved.*
- 6.3.2** *DINAGECA should commission research on land tenure issues affecting title, including research on gender issues and the role of Community Tribunals.*
- 6.3.3** *Since it is clear that other cadastral approaches will be developed in other projects and through the activities of the Land Commission, and that these have a high probability of being incompatible with the approach taken in Boane, DINAGECA, with the assistance of Swedesurvey, should ensure that:*
 - it can provide technical and administrative advice as these procedures and laws are developed;

- it develops internal procedures that can support the system or systems eventually adopted.

6.4 Recommended Future Strategy for DINAGECA and Sida Support

Chapter 5 presented a detailed strategy for DINAGECA's cadastral programme and for Sida's support from January 1997 to December 2001. This section highlights the recommendations made in Chapter 5.

6.4.1 *DINAGECA should develop a new strategy for titling based on the following principles:*

- it is application driven (sporadic) and therefore more sustainable;
- it protects third party rights through public communication and rigorous adjudication;
- it emphasizes development of technical and administrative procedures and regulations;
- it is based on improved knowledge and understanding of complex tenure arrangements, local variations, gender issues, and the legal implications of technical procedures;
- it is built upon an information base at the local level to support local administration and planning.

By developing such a strategy, DINAGECA will have a flexible, sustainable cadastral programme that is capable of meeting the current and future needs of Mozambique efficiently and effectively. Other considerations include the following:

6.4.2 *DINAGECA should develop a communication and public education programme to support the new approach in which the following should be considered:*

- an information campaign on titling and tenure issues;
- staff training in these new approaches, including the District Offices;
- guidelines for community programmes;
- knowledge of local protocol
- knowledge of the complexity of tenure and third party rights;
- broadening the curriculum of the Technical Training School.

Based on the recommendations above, the *Sida support for DINAGECA for the period January 1997-2001 should focus on the following areas.*

6.4.3 *Training and education - This should be continued at the present level or higher with priority areas , including:*

- management skills, including project management, negotiation and communication skills, and conflict resolution skills;
- land tenure in Mozambique, including awareness of gender and local issues;
- land administration, including registration systems and procedures, and development of technical and administrative regulations;

- English language skills;
- technical skills in information management, computer use and applications, mapping, and surveying.

More emphasis should be given in the second agreement to long term education, as well as short term training. In all programmes, the Training School should be considered the "11th" Provincial Office.

6.4.4 *Support personnel - For the first two year period, the following personnel should be supported:*

- Long term land administration advisor responsible for developing strategies to support the objectives of the strategic planning process;
- Long term systems development advisor responsible for assisting in the development of information systems;
- Administrative assistant to provide support to the Swedesurvey project team in terms of financial, administrative, and logistical matters.
- Short term specialists (from Mozambique if available) in:
 - land tenure issues and land law in Mozambique
 - management and communication skills
 - gender issues
 - land administration and registration
 - computer mapping and quality control of computer data
 - curriculum development re gender, land tenure, law, and adjudication procedures
 - mapping, photogrammetry, and surveying as required

6.4.5 *Programme support - It is recommended that the following be priorities for the second phase of the support program:*

- Continue to support strategic planning and change management processes;
- Support development of appropriate adjudication and titling procedures;
- Enhance the education and training programme;
- Continue building provincial and local level capacity;
- Enhance support to the development of capacity in surveying, mapping, and land information management;
- Provide transportation, communication, and other equipment/materials as required;
- Continue to emphasize long term vs. short term personnel support and employ local expertise where appropriate.

7. LESSONS LEARNED

7.1 Lessons Related to the Titling Programme

• ***Titling of customary tenure requires special adjudication procedures.*** Titling of customary tenure areas is extremely complex because of the myriad rights that can exist. These traditional rights vary from group to group, and from area to area. Also so-called "traditional" rights are themselves in transition. Therefore, titling approaches must emphasize extensive adjudication based on in-depth knowledge of the local tenure issues.

• ***Titling of customary tenure requires a comprehensive communications programme.*** If the land registration programme is not well-understood by the community, then it will not be sustainable. The titling of customary tenure areas has to be accompanied by a comprehensive communications programme informing people about

- the potential impact of the processes;
- the steps in the titling process, including the need for final registration; and
- how subsequent transactions will be administered in the registration system.

• ***Titles should not necessarily be given to women.*** In this project, women were issued titles as well as men, but this may not be in accordance with local custom. The titles may therefore not be recognized in the community and may cause problems within the family. Women should not be given titles in their husband's family land unless:

- a thorough adjudication process and information programme has been undertaken;
- the women awarded these titles are aware of the implications of their being the title holder; and
- they make a well-informed, conscious decision to this effect.

• ***Individual titling does not necessarily lead to increased agricultural production or improved access to credit.*** Many other factors may be more significant than registered titles in improving agricultural production for the small family farming sector. These factors include transportation of goods to market and loans for seed and equipment. In this project, the main benefit of receiving titles was protection of occupied farm plots from outsiders. Banks are not recognizing titles to small family farms as collateral and community projects that did provide agricultural loans to this sector did not necessarily require titles.

• ***Individual titling may not be the best way to protect the interests of the rural poor.*** The systematic titling of the rural community or family sector farmer is not going to prevent most of the land grabbing that is taking place in Mozambique. There are hundreds of thousands of parcels occupied by the family sector and it has taken the project 5 years to produce 69 titles. Even if the process can be speeded up dramatically, it will not be possible to register enough family sector farms to protect them from allocations to larger private investors. Efficiency and effectiveness depends on improving the adjudication system and streamlining the application process. In the short term, group titling and protecting traditional claims in the Land Code may provide better results faster.

7.2 Project Planning and Management Lessons

- ***Need for funding continuity:*** For political reasons, project funding was cut drastically in the fifth year and was just recently reinstated. The cuts occurred just as the results of the pilot project were being assessed and the expanded program was being designed. The impact of the cuts was a loss of continuity, momentum, and morale. The cuts also affected education and training activities and therefore some of the potential benefits of introducing new technologies were lost. Whenever possible, once a commitment is made, funding should be maintained at a level to adequately support key activities.
- ***Need for long term advisors:*** An extended project such as this one should always have at least one long term resident advisor/project manager to provide continuity and co-ordination. During the project, the long term advisor position was only filled in 1994. Before this time, a number of short term experts carried out very specific tasks with little documentation of an overall strategy. For example, the project tended to become driven by the pilot project's technical needs rather than by the requirements for long-term capacity building. Without a resident manager, there was also less opportunity to evaluate the impact of these short-term consultancies and to alter the long term programme to meet new needs and constraints.
- ***Programme vs. administrative assistance:*** When a country has low capacity, the long term programme adviser can be drawn into the financial and administrative aspects of the project rather than directing energies to meeting the original project goals. In such cases, special administrative assistance (either local or expatriate) should be provided by the funding agency.
- ***Appropriateness of programme:*** Short term consultants can only marginally help develop an appropriate cadastral system, especially when the legal framework is in transition, because there is insufficient understanding of the real requirements and constraints. When only short term consultancies are used, the majority of support should be directed to areas that will have the most benefit, e.g., training, facilities, equipment, and developing the in-house capacity for system development.
- ***Needs and capacity assessment:*** In this project expectations on both sides were too high at the outset. A study was conducted in 1988 (3 years before the project began) but the main objectives of the report were to document processes and the law and to propose a long-term programme. A base line study of local capacity and requirements should have been conducted before the terms of reference were finalized. Such a study should have taken into account, for example:
 - prevailing corporate culture;
 - working conditions and conditions in the country;
 - quality of information available to support the project;
 - management structure, including middle level management and project management skills available;
 - technical and general education.
- ***Having alternative strategies:*** Pilot projects which have a critical path, where all steps are contingent on the previous steps, can lead to problems with overall project output. In the Boane pilot project, many activities were contingent upon having reliable orthophoto maps to use for the systematic titling. When difficulties arose in obtaining these due to poor geodetic control, the entire project was delayed and different methodologies could not be tested as originally planned.

• **Adequate training for sophisticated technology:** Technological transfers must be accompanied by adequate training and the technology must be seen as relevant to the work undertaken. This is especially important when the technology uses sophisticated software programs, such as digital mapping and geographic information systems (e.g., AUTOKA). This training needs to include on-site system support for a period after the initial training, as well as manuals and procedures in the user's language.

• **Compatible computer technology:** When making decisions on what computer hardware and software to purchase, factors beyond cost and capability need to be considered. Consideration should especially be given to having computer technology that is compatible with systems in use in the organization and in other related organizations, as well as systems acquired from other funding sources. In this respect geographic information system software is a major issue because it is expensive and involves extensive training and maintenance support. Compatibility will increase the flexibility of the organization and maximize the effectiveness of its limited resources.

• **Technology support:** Wherever possible, technologies and equipment (including vehicles) should be capable of being supported in the recipient country. If users have to depend on importing parts and assistance (using scarce foreign currency), then dysfunctional systems and equipment will be abandoned rather than repaired. One solution is to buy locally; another is to provide a budget within the project (and beyond) for system and equipment support.

• **English language training and education:** Two of the more valuable, sustainable benefits from this programme have been language training and university education. English language training has enabled many employees to:

- exchange information with neighbouring countries;
- access information and contacts internationally;
- participate in international conferences, training, and educational programmes.

In short it has opened up a wider world of knowledge and ideas to a host of employees. Long term education was also seen as essential to building institutional capacity.

• **Education from local institutions:** Local educational programmes, when available, offer some of the following advantages over programmes overseas;

- reduced costs and less disruption of family life;
- programmes that are more sensitive to local issues, constraints, and needs;
- opportunities to research problems of direct benefit to the employee's organization.

• **Documenting results:** In a long term programme with many objectives and activities, it is important to systematically document what has happened and to track the impact of those activities against objectives. This includes documentation of benefits, problems, and costs. It is only from such documentation that a true picture of the lessons learned can be gained by the donor, the recipient, and others.

APPENDIX A

TERMS OF REFERENCE FOR THE EVALUATION

TERMS OF REFERENCE

The evaluation shall cover the period from inception in July 1991 to the end of the present agreement period in June 1996.

The evaluation shall comprise of but not necessarily be limited to the following aspects:

1. assessment of the relevance and realism of the objectives/targets as outlined in the project document in relation to the actual progress of the project. Special consideration should be given to the impact of the project activities so far on land registration/titling on: i) the family sector and ii) the modern or private sector;
2. if the intended target group, primarily small farm holders, have benefited/are benefiting from the project activities;
3. evaluation of how the gender issues have been addressed so far by the project on all levels, from the distribution of land titles, how gender perspective is formulated by DINAGECA personnel in the field, to the gender structure of DINAGECA;
4. special consideration should be given the impact and implications of traditional marriage laws with respect to possibilities and/or restrictions in women's inheritance of land and the consequences for women's adjudication of land. It is of interest for Sida to obtain information whether the project, due to customary traditions, may be counteracting women's possibilities to secure land rights;
5. assessment of the techniques and channels used or planned to be used by DINAGECA for dissemination of relevant information to the public regarding procedures for obtaining titling rights. Special attention should be given to the gender issue regarding information addressed to single headed female householders;
6. assessment of the extent to which Sida support has formed a complement to Mozambique's own efforts in improving production of maps and surveys and land administration in DINAGECA;
7. review of the on-going needs for survey, mapping and land administration services in Mozambique and for DINAGECA in particular. This review should also cover how technical procedures may support women's access to land;
8. evaluation of the impact of the Sida support on the provision of these services, both in the short and long term;
9. evaluation of the technology transfer together with compliance of targets and achieved impacts on institutional as well as human resources development and skill training;
10. recommendation of ways in which the services provided by DINAGECA (i.e., production of maps, surveys and land administration) can be sustained and further effectively improved upon, especially in the event of Sida's withdrawal of support from year 2001;
11. evaluation of the efficiency in time as well as costs of the methods for surveying and titling presently used by DINAGECA and, if possible, propose alternative, less costly, methods that may be applied;
12. evaluation of the progress and achievements in the institutional development of DINAGECA in the areas financed by Sida. This assessment should be made in relation to the need for global institutional development of DINAGECA, including areas presently not subject to Swedish financing;

13. evaluation of the land surveying and titling experiences from the pilot project in the Boane region;

14. evaluation of the impact of the efforts made by Mozambique to provide the services in terms of national personnel and administrative support in general and specifically in terms of the amounts for provision of the national financial contributions to the projects;

15. critical review of the overall project efficiency and cost-effectiveness of project services provided by Swedesurvey with respect to:

- i) long term personnel;
- ii) procurement of material and equipment;
- iii) short term consultancy work in Mozambique;
- iv) professional advice, installation and training for computerized systems; and
- v) human resources and skills development of the DINAGECA staff - special attention shall be given to DINAGECA's Technical Training School apart from attendance of regional or international courses, meetings, conferences, etc. funded wholly or partly by Sida;
- vi) follow-up of agreed work-plans for the consultant;

16. recommendations of measures, if any, to be taken within the scope and limits of support given in the Specific Agreement, to amend the Sida support budget to DINAGECA, its disbursement and nature and extent of the services provided by Swedesurvey AB, in order to make further use of Sida funds in improving survey and land administration services;

17. assessment of the complementarity of a continued Swedish support as well as its comparative advantages in relation to the proposal by the Mozambican Land Commission regarding a future organizational set-up for DINAGECA;

18. evaluation of the role of DINAGECA in including the gender dimension in the land commission;

19. review other donors present support to DINAGECA. their future plans and possible implications for the Swedish financing of activities;

20. recommendations on all necessary considerations that should be given Sida to the support of DINAGECA as part of a new agreement for 1997-2001 after the termination of the present support at the end of 1996.

APPENDIX B

LIST OF PEOPLE INTERVIEWED

MAPUTO, MOZAMBIQUE
May 27-29 , 1996
(Clarissa Fourie and Margarita Mejias)

MAPUTO - DINAGECA

DINAGECA Central Office, Maputo

- Management Committee, Central Office
debrief on Land Commission policies and impact on DINAGECA
- Mucombo, Mr. Elias, Head of Cadastral Department
project overview
- Mussá, Jafar D., Director
project and organization overview

MAPUTO - Sida/ Swedesurvey

Chohan, Mr. Soheil, Senior Systems Analyst, Swedesurvey, Maputo
long-term consultant for DINAGECA

Myles, Ms. Ann Katrina, Cadastral Advisor, Swedesurvey, Maputo
long-term advisor and contract administrator for DINAGECA

Sundberg, Mr. Johan, Programme Officer, Sida
Sida contact in Maputo for evaluation

MAPUTO - General

Battino, Ms. Liana, Architect, Finnish Project Nacala City, Nampula Province
land management advisor to the Finnish Project

Berg, Ms. Nina, Lawyer, Norwegian Refugee Council
Council funding of titling activities

City of Göteborg (on local visit to Maputo)

- Mr. Pedro Brito
 - Mr. Ingvar Petersson
 - Mr. Leif Wennball
- municipal twinning program between Göteborg and Beira: cadastre and GIS*

Garvey, Ms. Jennifer, Lawyer, Ministry of Mines
re Land Commission and land titling

Monnerat, Mr. João Bososco, FAO Consultant to the Land Commission
institutional development of DINAGECA and Conservatoria

Quadros, Ms. Conceção, Director, Executive Secretariat of the Land Commission
Technical Chairperson of the Land Commission

Tanner, Mr. Chris, Project Team Leader, FAO Support to the Land Commission
cadastre/land management/legal implications and policies of the Land Commission

GÄVLE, SWEDEN
June 25-June 30, 1996
(Sue Nichols)

GÄVLE - Sida / Swedesurvey

Ericsson, Ms. Agneta, Vice President, Swedesurvey
Sida-Swedesurvey project management

Herculias, Mr. Peter, former Mozambique Project Officer, Sida
history and issues related to project and evaluation

Lundqvist, Mr. Sören, Mozambique-DINAGECA Project Manager, Swedesurvey
development of and documentation on Swedesurvey-DINAGECA project

Österberg, Mr. Tommy, Planning Department, Lantmäteriverket
short term advisor to Swedesurvey- DINAGECA

Persson, Mr. Thord, Lantmäteriverket
short term consultant on information system development to DINAGECA

MOZAMBIQUE
July 1-26, 1996
(Sue Nichols, Clarissa Fourie, Margarita Mejias)

MAPUTO - DINAGECA

Central Office, DINAGECA, Maputo

- Amade, Junaide Bin, Head, Cadastre Division
- Cambaco, Mr. Simeão V., Head, Dept. of Geodesy and Photogrammetry
geodetic control network, DINAGECA requirements, NORAD project
- Cenacarta - French sponsored remote sensing project for land use mapping
- Junior, Mr. Cuna, World Bank Rural Project Co-ordinator
World Bank Project, DINAGECA requirements
- Mbanze, Mr. Azarias, Sida Project Co-ordinator and Head, Division of Surveying
Swedesurvey Project; Boane pilot project
- Mucombo, Mr. José Elias, Head, Dept. of Surveying and Cadastre
Swedesurvey support, evaluation of DINAGECA capacity and requirements
- Mussá, Mr. Jafar D., Director, DINAGECA
DINAGECA environment, priorities, titling approaches, training, gender issues
- Management Committee
initial overview and final presentation of results
- Nhatave, Mr. Belgiarro Marimane, Staff Member Tombo
examination.registration of land applications
- Rovicene, Mr. Samuel, Member of DINAGECA Project Team in Boane
Boane Project - adjudication process

Machava Technical School

facilities, progress, curriculum, field work, professional issues

- Muhai, Mr. Denis, Acting Administrator
- Sultane, Mr. Isidro, Head, Pedagogy
- Financial Administration
- Lecturers in the field training programme (Boane)
- Students in the field training programme (Boane)

MAPUTO - Sida/Swed survey

Chohan, Mr. Soheil, Senior Systems Analyst, SWEDESURVEY, Maputo
long-term consultant - computer training programme and development of Land Application Handling System

Myles, Ms. Ann Katrina, Cadastral Advisor, Swedesurvey, Maputo
long-term advisor and contract administrator for DINAGECA

Sundberg, Mr. Johan, Programme Officer, Sida
Sida contact in Maputo for evaluation, financial and programme information

MAPUTO- General

Allen, Ms. Charlotte, Architect and Advisor to the PROL Project
project for decentralization for local authorities, including Maputo cadastre

Berg, Ms. Nina, Lawyer, Norwegian Refugee Council
funding of titling activities; communal tribunals

Hagmann, Mr. B., Helvetas Programme, Director
Swiss aid programme involving titling in Boane using private surveyors

Joaquim, Ms. Maria Leonor, President of the Women in Law Association (AMMCJ)
women and titling issues

Negrao, Mr. José, Director, Núcleo de Estudos da Terra (NET), Eduardo Mondlane University
USAID funded and other research for customary tenure and group titling

ORAM, Associação Rural de Ajuda Mútua
organization that helps family farmers to form associations and apply for titles

- Figueiredo, Ms. Isabel, *gender issues*
- Langa, Ms. Valente, *education, training, and communication*
- Muthombene, Mr. João David, Director
- Farmer's Associations (Boane and Marracuene)
difficulties in titling process and formation of associations

Quadros, Ms. Maria Conceição de, Director of the Executive Secretariat of the Land Commission
Technical Chairperson of the Land Commission

Sitoe, Mr. Salvador, Head, Land Registry (Conservatoria do Registo Predial)
land titling and registration process

UNAC, National Union of Small Farmers

benefits of titling, gender issues, group rights, and associations

- Chambone, Mr. Elias Matate, President, Union of Marrawene Associations
- Cossa, Ms. Celina, President of the National Peasants Union (UNAC)
- João, Mr. Reinaldo Chengore, Vice-President
- Lima, João Rodriguez, Field Worker
- Osumane, Mr. Ismael, Executive Co-ordinator

White, Ms. Rosa, Deputy Head, Supreme Court of Mozambique

member of the Legal Group working with the revision of the Land Law - adjudication procedures; gender and customary tenure issues; community tribunals and family law

MAPUTO PROVINCE

Maputo Provincial Office of DINAGECA (SPGC)

- Chambala, Ms. Palmira, Field Staff Member
Boane Pilot Project - adjudication procedures
- Chemone, Mr. Manuel Faustino, Field Staff Member
Boane Pilot Project - demarcation
- Cossa, Mr., Field Staff member
Boane Pilot Project - adjudication procedures
- Mungai, Mr. Garciso Antonio, Field Party Chief
Boane Pilot Project - adjudication procedures
- Sousa, Mr. Caetano Victorinono de, Head of SPGC
Boane Pilot Project adjudication and upgrading/operations of SPGC

Boane District - Pilot Project Area

- Cau, Mr. Armand Macheoane, District Director, Ministry of Agriculture and Fisheries - *overview of titling activities and process*
- Mussenone, Mr. Eliado Jossias, District Administrator, Boane
overview of titling activities and process
- Local Structure Representative
pilot project titling activities
- Local Representative of Helvetas
family sector support activities including loans for farmers
- Local Farmers (two groups)
men and women, primarily from family sector, who have received or plan to receive titles as a result of the pilot project; land tenure and gender issues; one short interview with family-sector commercial farmer

GAZA PROVINCE

Gaza Provincial Administration, Xai Xai

- Langa, Mr. Joaquim Sidonio, Ofiço, Director of Agriculture and Fisheries
- Mause, Mr., Director of Planning and Finance
- District Administrator of Xai Xai District

Provincial DINAGECA Office, Gaza Province, Xai Xai (SPGC)

- Cumbana, Mr. Antonio Fafitine, Head of SPGC
review of titling procedures and Provincial Office operations and upgrading
- staff members

- Laranjeiras village
review of titling project, procedures, and tenure/gender issues
 - Village Elder
 - two groups of farmers from Laranjeiras village and surrounding villages
 - Molive (Italian) irrigation project engineer

Xai Xai District, Gaza Province

- Inhamissa village, - interviews with male farmers
comments on titling for former state farm and surroundings in irrigated area

APPENDIX C

REFERENCES

REFERENCES

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APPENDIX D

LIST OF SKILLS

The following is a list of required skills that may be appropriate as a checklist for training and human resource development to support an expanded communications and adjudication process.

A. PRACTISE ADMINISTRATIVE SKILLS

- A1. Operate and maintain database
- A2. Operate computer system
- A3. Exercise supervisory skills
- A4 Plan and schedule work effectively
- A5. Work proactively
- A6. Work independently
- A7. Organise workspace
- A8. Uphold principles of participative management.
- A9. Conduct operations in an ethical manner

B. FACILITATE COMMUNICATION BETWEEN COMMUNITY AND LOCAL GOVERNMENT

- B1. Be fluent in predominant local language
- B2. Be fluent in Portuguese
- B3. Conduct meetings
- B4. Demonstrate cultural sensitivity
- B5. Take minutes
- B6. Produce reports
- B7. Demonstrate listening skills
- B8. Clearly verbalise ideas and concepts
- B9. Convey technical terms into ordinary language
- B10. Identify stakeholder
- B11. Facilitate links between stakeholders
- B12. Apply the principles of adult education
- B13. Educate and inform officials on principles of integrated planning
- B14. Demystify jargon

C. GATHER AND ANALYSE INFORMATION

- C1. Know various information gathering techniques
- C2. Select appropriate information gathering technique
- C3. Conduct needs assessment using various techniques, including PRAs, RRAs, etc.
- C4. Evaluate and interpret information gathered.
- C5. Make recommendations in information gathered C6. Keep and maintain a "resource file".

D. ACQUIRE, MAINTAIN AND UPDATE MAPS OF THE AREA

- D1. Identify maps and know where to acquire them.
- D2. Interpret aerial photographs
- D3. Read maps
- D4. Convey map information to community
- D5. Identify need for spatial information
- D6. Draw sketch maps
- D7. Identify changes to existing maps
- D8. Update maps according to identified changes
- D9 Assist cartographer in annotating maps
- D10. Reproduce maps and aerial photographs on appropriate media.

E. RECORD INFORMAL LAND RIGHTS

- E1. Keep and maintain local register
- E2. Acknowledge local custom and practice with respect to land rights
- E3. Reconcile Statute and Common Law with respect to land rights
- E4. Relate local register to a map or aerial photograph
- E5. Interpret a developmental map.
- E6. Demarcate relative positions on ground (from developmental map)

F. FACILITATE REGISTRATION OF FORMAL LAND RIGHTS

- F1. Identify the need for upgrading in the community
- F2. Liaise between community and professionals
- F3. Advise community on legal issues of land rights

G. INTERPRET LAND LAWS AND POLICIES

- G1. Interpret town planning schemes
- G2. Interpret Municipal by-laws
- G3. Recommend different forms of land tenure
- G4. Advise on different forms of family law relating to land.
- G5. Reinforce gender rights with regard to Land Laws
- G6. Identify and work with relative land development laws
- G7. Keep abreast about relevant Land Policy and Land Law
- G8. Inform community of Land Law, Land Policy and changes thereto

H. DEMONSTRATE LEADERSHIP IN CONFLICT SITUATIONS

- H1. Preempt conflict situations
- H2. Determine the core problem in a conflict situation
- H3. Identify possible alternative solutions
- H4. Initiate negotiations between dissenting parties
- H5. Facilitate negotiations between dissenting parties
- H6. Recommend a mediator to resolve conflicts
- H7. Communicate outcome of the mediation process
- H8. Remain impartial

I. UNDERSTAND AND EXPLAIN STRUCTURES AND FUNCTIONS OF GOVERNMENT

- I1. Identify all service providers to community.
- I2. Identify the "function" of each service provider
- I3. Inform community of function of each service provider
- I4. Understand the legislative and executive functions of Government

J. PROMOTE AND ENCOURAGE USAGE OF LAND AS A SCARCE ECONOMIC RESOURCE

- J1. Advise on appropriate land use (urban and rural)
- J2. Identify and act on land use transgressions
- J3. Educate on economic value of land

K. ADVISE AND INFORM COMMUNITY ON TECHNICAL AND ENVIRONMENTAL ISSUES

- K1/K2. Understand the role and responsibility of Land Surveyors, Town Planners and other developmental practitioners
- K3. Understand and advise on the cost of provision and maintenance of various levels of services.
- K4. Promote environmental awareness and conservation issues
- K5. Educate on the value of land and water as natural resources
- K6. Facilitate links between community and environmental groups
- K7. Advise on the principles of incremental development planning

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