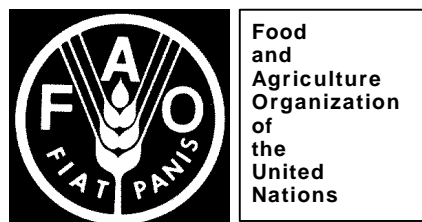


**PLANNING SUSTAINABLE
MANAGEMENT OF LAND
RESOURCES:
THE SRI LANKAN EXAMPLE**



PLANNING SUSTAINABLE MANAGEMENT OF LAND RESOURCES: THE SRI LANKAN EXAMPLE

Soil Resources Management and Conservation Service
Land and Water Development Division

Foreword

This publication contains a country study of Sri Lanka which was executed by the Land and Water Development Division (AGL) of FAO within the framework of its normative project on “National Policies and Strategies for Land, Water and Plant Nutrition“ in linkage with project SPPD-SRL/97/016 on ”Sustainable Management of Land Resources in Sri Lanka”.

The SPPD project was financed by UNDP and Project duration was February-May 1998. The project objective was to review the land use policy and land use planning situation in Sri Lanka in the face of increasing land degradation and formulate a proposal for intervention to improve the situation.

The publication was prepared based on the reports of the multi-disciplinary team who carried out the project activities. The team included two international consultants: one land use planner and one GIS/Land Resource Information System consultant, and five national consultants: a land use planner, a legal consultant, a land evaluation specialist, a land tenure specialist and an institutional specialist.

The publication presents an outline of land use policy issues, and of the constraints and perspectives of land use planning for the sustainable land resources management in Sri Lanka. It presents the proposed approach to a participatory land use planning in the light of the FAO's integrated approach to planning and management of land resources management and the profile of a comprehensive programme for Government interventions to implement the approach to assist in finding solutions to the problems of sustainable land resource management.

It is intended as an illustrative example of how the FAO approach of integrated land resources management can be applied in sustainable land management programmes, integrating national, provincial, district and local level strategies and policies. It is hoped that the Sri Lanka example featured in this publication will be used by Government policy makers and administrators, land resources managers and land use planners, and public interest groups, as they participate in the formulation of land use policy options and the preparation of land use planning proposals to manage increasingly degraded land resources, across a variety of local agro-ecological and socio-economic conditions.

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Contents

	Page
FOREWORD	iii
ACKNOWLEDGEMENTS	iv
1. PRESENT SITUATION OF LAND RESOURCES MANAGEMENT	1
Background: the land problem in Sri Lanka	1
Review of land use issues	2
At the national level	2
At the sub-national level	2
At all levels	2
Institutional framework and constraints	3
Institutions	3
Institutional constraints	5
Land use policy and land use planning applications and constraints	5
Policy objective	5
Policy statements	5
Strategies	6
Application levels	6
Provincial and divisional land use plans	8
Village land use plans	8
Constraints	9
Land resource information and constraints	10
Supply of basic data	10
Data gaps	10
Data use and analysis related problems	11
Information management problems	11
Data standards and documentation issues	11
Computer-based information issues	11
Land information problems	11
2. PROPOSED INTEGRATED APPROACH TO LAND RESOURCE MANAGEMENT	13
Similarities of the Sri Lanka System and the FAO approach	13
Contribution of the FAO approach: integration and interaction	14
Initiating the approach	14

	Page
Proposed activities	15
Guide for land use policy review	15
Developing and testing a methodology of participatory planning of land resources management	17
Developing the methodology	17
The steps of the methodology	17
Testing the methodology	20
3. COMPREHENSIVE PROGRAMME OF LAND RESOURCES MANAGEMENT	21
Key issues to be addressed and outputs to be provided	21
Programme strategy	23
Intervention levels	23
Land Resources Information Systems	24
Institutional arrangements	24
Terms of reference for responsible agencies	26
Law Commission - Rationalization of legal statues relating to land tenure and land resources	26
Sri Lanka Institute of Development Administration - Institutional rationalization	26
Registrar-General's Department - Feasibility of abstracting title deeds	27
Urban Development Authority - :Land use conversion and establishment of a protected area network	27
Upper Mahaweli Environment and Forest Conservation Division - Development of strategy for land information production and dissemination	27
Land Use Policy Planning Division - National land use policy (via working groups)	27
Survey Department - Mapping land parcels	27
Natural Resources Management Centre - Identification and evaluation of unutilized state lands	27
Natural Resources Management Centre - Encroachment study, preparation of early warning system for reporting on possible encroachments and the development of a set of guidelines for identification of landless persons to be settled	28
4. CONCLUSIONS	29
ANNEX - LIST OF REPORTS	31

List of tables

- | | |
|---|---|
| 1. Sri Lanka general land balance sheet as at 1996, in hectares | 1 |
|---|---|

List of figures

- | | |
|---|----|
| 1. Links between planning at different levels | 7 |
| 2. The participatory Planning Methodology (iterative process) | 18 |
| 3. Proposed activities for improved information handling | 25 |

List of abbreviations

ADB	Asian Development bank
AGL	Land and Water Development Division
DLUPO	District Land Use Planning Office
DLUPOO	District Land Use Planning Officer
FAO	Food and Agriculture Organization of the United Nations
GIS	Geographic Information System
LRIS	Land Resources Information System
MAL	Ministry of Agriculture and Lands
SPPD	Support Services for Policy and Programme Development
UNDP	United Nations Development Programme

Chapter 1

Present situation of land resources management

BACKGROUND: THE LAND PROBLEM IN SRI LANKA

Sri Lanka has a total land area of 6 552 500 hectares and a population of about 18 million of which nearly 80 percent is rural-based. It is currently the 19th most densely settled country in the world. The man:land ratio is about 0.36 hectares, though net per caput land availability is only about 0.15 hectares. The remaining 0.21 hectares per person is not readily available, because it is either designated for conservation or has topographical or ecological constraints. Approximately 35 percent of the country is under agricultural usage and about 31 percent under forest or wildlife conservation areas. The remaining 34 percent is under tea cultivation, pasture, patana grass and urban uses.

TABLE 1
Sri Lanka general land balance sheet as at 1996, in hectares

Utilized land (agricultural and urban)	2 635 000
Forests, wildlife and catchment areas	2 000 000
Sparsely utilized land (under tea, patana, etc.)	728 800
Reserved land (reservoirs, streams, roads etc.)	585 300
Steep land (sloping to excess for agriculture)	380 000
Barren land (rock, sand, poor vegetation cover)	77 000
Land over 5000 feet/1500 m altitude	76 400
Mangroves and marshes	70 000
Total land area	6 552 500

These figures reveal that growing pressure is being placed by people on the land resources. This has caused increasing land degradation which remains a critical constraint on sustainable development of the land resources of the country. Current evidence indicates that increasing areas are subject to land degradation and poor management, lessening the land available for agricultural uses. Apart from areas under shifting cultivation, it is estimated that 46 percent of the agricultural land is affected by water erosion and 61 percent by declining soil fertility. Large losses of soil and declining soil fertility continue to result in reduced crop yields, increased production costs and lower incomes for many land users.

There is a wide range of socio-political, economic and technical reasons for this situation. The Government is aware of these as it continues to address the problem within its limited resources. Measures it has adopted include the enactment of legislation to guide the use of land resources, the formulation of policies and the generation of some of the information required in support of the sustainable management of land resources, the increase of the number of

government agencies and line departments dealing with land issues and investments in a wide variety of development projects in the field of land resources management.

Despite continuing efforts the problem remains unresolved. With the Government retaining overall control of about 80 percent of the land, it has found difficulty in loosening its top-down approach to land management. How to incorporate the needs and skills of land users working the land at the local level is another problem requiring an answer. What is required is that viable methods of participatory management of land resources are devised and accepted, whereby platforms for negotiation are built between Government and an enabled population.

In summary, the priority issue is to devise and implement programmes such that rational land uses can continue, through the application of sustainable management practices that are supported by the full range of stakeholders. Prime responsibility for addressing this issue must continue to be with the Government, at least whilst state ownership remains at about 80 percent of the total land area, which is a remarkably high proportion in comparison with most countries of the world.

REVIEW OF LAND USE ISSUES

The project carried out a series of investigations which covered the following activities:

At the national level

- 1 Review of national land use policies, including:
 - Review of the existing tenurial arrangements pertaining to both state lands and private lands and examination of the consequences of these arrangements on the sustainable management of land resources.
 - Examination of the present institutional set-up for land resource management.
 - Examination of the existing legislative provisions pertaining to the management of land resources. Identification of the deficiencies and shortcomings in the legislation and propose measures for overcoming these deficiencies so as to make them more effective and easier to coordinate.

At the sub-national level

2. Evaluation of land use planning activities that have been undertaken at the district level, including the process of land use conversion to assess its magnitude and the magnitude of the encroachment problem.
3. Recommendation of a modality for operationalizing an appropriate land use planning methodology at the district level, including a strategy that will enable farmers/land users to practise good husbandry and on training needs of selected staff in key institutions as well as farmer training.

At all levels

4. Evaluation of the databases and information systems that have been built by different institutions and projects in support of land resources management and proposal for a comprehensive land information system for the management of land resources in the country.

5. Proposal for an improved approach to land resources management and preparation of a comprehensive three-year programme for Government intervention to test and apply it through a project.

INSTITUTIONAL FRAMEWORK AND CONSTRAINTS

Institutions

There are eight key government institutions involved with land related activities in Sri Lanka. They include four agencies of the Ministry of Agriculture and Lands (MAL) and four agencies outside the MAL, as follows:

Survey Department. Responsible for land surveying and mapping of country. General work programme includes contour surveys for irrigation and other purposes, block and topographical preliminary plan surveys and settlement demarcation surveys, town surveys, forest surveys, sporadic surveys including acquisitions, aerial surveys.

Land Commissioner's Department. Responsible for the protection, development, management and distribution of state-owned land, including the distribution of lands under various schemes, issue of permits, grants and leases under principal acts and laws relevant to administration of lands. Land distribution programmes predominate and concern relieving landlessness and unemployment. The Department is also involved with the alienation of state land.

Natural Resources Management Centre (NRMC), of the Department of Agriculture. The Centre optimizes land and water resources use on a scientific basis for excellence in agriculture. To achieve this the NRMC is engaged in:

- development and dissemination of land conservation and water management techniques for sustainable agriculture;
- development and maintenance of a database on land and water resources;
- soil survey, land suitability evaluation and land use planning;
- technical assistance for watershed management, land use planning and farm development;
- implementation of the Soil Conservation Act of 1951, amended in 1996 and training trainers in soil and water conservation.

Land Use Policy Planning Division (LUPPD). This Division of the Ministry of Agriculture and Lands has the responsibility for introducing systematic land use planning throughout the country, based on scientific criteria. Its objective is to ensure the utilization of natural resources to the maximum benefit of society, by the formulation of land use policies and the preparation of land use plans. These should allocate land resources among competing users on a rational basis, so that optimal and sustainable land uses are maintained.

Strategies adopted by the LUPPD in achieving these objectives include:

- preparation of land use plans at national and sub-national levels;
- preparation of a national land use policy;
- establishment of a land information system and a land data bank;
- conduct training and awareness programmes on land use planning for agencies.

The National Land Commission under the LUPPD formulates national policy statements regarding the use of land in the country. To achieve this a Technical Secretariat attached to the Commission is required to evaluate physical and socio-economic factors relevant to natural resources management.

Urban Development Authority (UDA). The Authority is expected to promote integrated planning and implementation of economic and physical development of areas declared by the Minister to be Urban Development Areas. In any area declared as an Urban Development Area, the UDA is expected to:

- carry out integrated planning and physical development;
- prepare a development plan;
- implement programmes of development consistent with integrated planning;
- formulate and implement an urban land use policy;
- develop environmental standards and prepare schemes for environmental improvement.

Upper Mahaweli Environment and Forestry Conservation Division (EFCD). Within the Mahaweli Authority of Sri Lanka, this Division promotes the protection and scientific management of the Upper Mahaweli catchment area, through watershed management methods. The strategy adopted by EFCD is to provide Government institutions, non-governmental organizations (NGOs), private sector agencies, groups and individuals operational in the area with information, technical expertise and initial material inputs so that they can successfully implement watershed conservation measures. The Division operates in three teams:

- Conservation - soil, water, forest conservation activities and techniques, etc.
- Participation - human resources development - awareness, training, mobilization.
- Information - collation of database, analysis and sharing of data - mapping, land use planning, GIS, economics, hydrological monitoring.

Registrar General's Department. The supervision of notaries and verification of stamp duty on deeds, the registration and custody of notarial deeds and other documents affecting property and the preservation of records and issue of copies from such records are responsibilities of this Department.

Law Commission. The Law Commission was established under Act No 3 of 1969 for the promotion of the reform of the law. The functions of the Commission include keeping under review both substantive and procedural law, with a view to its systematic development and reform, including the codification of the law, the elimination of anomalies, the repeal of obsolete and unnecessary enactments, the reduction of the number of separate enactments and generally the simplification and modernization of the law. The Commission is empowered to receive and consider proposals for the reform of the law.

Civil society is also increasingly involved in land-related activities, through NGOs, special interest and advocacy groups and community-based organizations. At the local level these groupings are involved in a wide range of activities supporting stakeholders in sustainable management of the land resources on which they depend.

Institutional constraints

- Various government agencies and line departments have responsibilities for the full range of land issues confronting the state. Each tends to focus on a sectoral approach in its activities, but such a concentration of attention can become a limiting issue in itself, as cross-fertilization of knowledge becomes constrained. There is a lack of coordination and cross-sectoral interventions resulting in unnecessary duplication of efforts.
- There is a growing imperative to incorporate social and tenurial aspects in land assistance programmes, particularly in the field of land registration. The institutional support to be given at the grassroots level to land users in resolving land tenure questions is still deficient.

LAND USE POLICY AND LAND USE PLANNING APPLICATIONS AND CONSTRAINTS

The National Land Commission has formulated the Sri Lanka land use policy which has recently been revised in a draft national land use policy document. The document consists of a set of statements on policy guidelines.

Policy objective

The national objective of the Government is to:

- protect, preserve and improve the environment for the benefit of the community and it is the duty of every person in Sri Lanka to protect and conserve its riches.

The mission statement of the Ministry of Agriculture and Lands, as the responsible agent of the Government, is to promote:

- the sustainable use of land, water and human resources for local food production;
- land management with care and efficiency, so that the benefits accrue not only to the present generation but also to future generations.

Whereas there are currently no *de jure* land use policies in Sri Lanka, three common strands of *de facto* land use policy within the Government are recognized:

- land settlement to meet the needs of a growing population that is applying increasing pressure on the land;
- reform of the clouded land tenure structure, towards greater equity and freedom to utilize it as an economic resource; and
- the growing recognition of the need for sustainability in managing land as the prime non-renewable natural resource.

Policy statements

The national land use policy statements are divided into two broad categories, covering:

- protection, conservation and sustainable use of the land resources of the country and management of bio-diversity; and

- development, which is subdivided into ten sub-categories of land allocation, agriculture, forestry, tourism, industry, coastal zone, urban areas, housing, institutions and planning.

Strategies

Various strategies have been devised in support of the national objective of sustainable land management:

- In 1984 the National Agricultural, Food and Nutrition Strategy assessed the state of agriculture and food supply and established priorities for future sectoral development.
- In 1988 the National Conservation Strategy provided the objectives of conservation and outlined the strategic principles to be followed in conserving the land resources. It also proposed the rationalization of laws through the drafting of a single comprehensive Land Use, Soil and Water Conservation Act.
- In 1992 this strategy was developed into a National Environmental Action Plan, which identified the main environmental issues and different Government sectors with responsibilities for them.
- In 1995 a National Policy Framework was prepared by the Ministry of Agriculture, Lands and Forestry. It proposed the development of a National Land Use Policy and of systematic methods and techniques of land use planning and a lessening of the haphazard allocation of state land.

Application levels

Land use policies have applications at national and sub-national (district to local) levels corresponding to the political, administrative divisions of the country, as follows:

- Provinces (9);
- Districts (25);
- Pradeshiya Sabhas (PS) divisions (parliamentary districts) (280);
- Divisional Secretariats (DS) divisions (300);
- Grama Niladhari (GN) divisions (14 000).

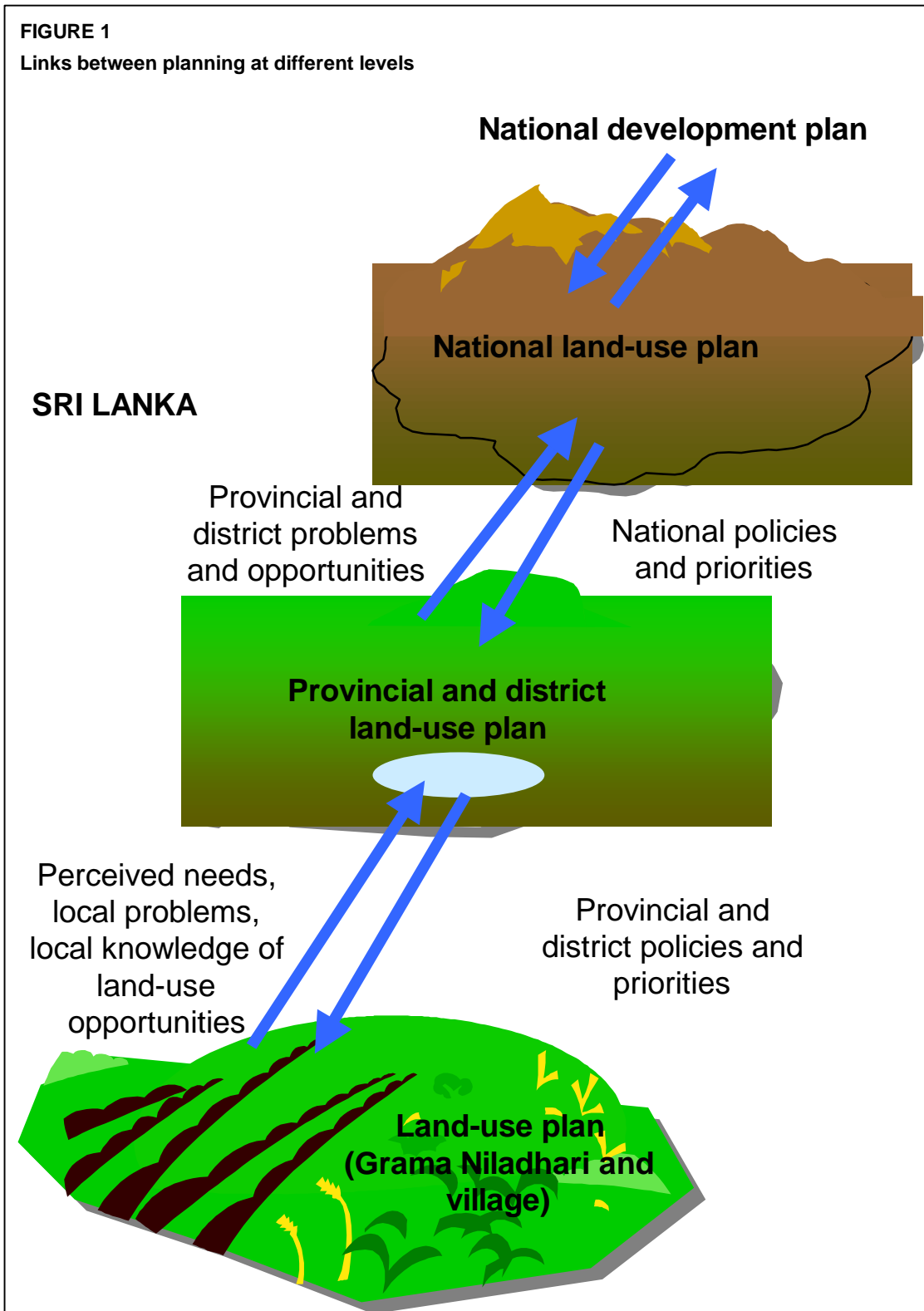
There are also different levels of stakeholder management and operational status of the land:

- state-held land and privately-held land.
- utilized land and legally unutilized land.

At each level the policies are transferred to ground level through methods and techniques of land use planning that address priority issues of the land.

The mapping scales used for the different levels of land use planning are:

- provincial level 1:63 360 (combination of district maps)
- district level 1:63 360
- divisional level 1:20 000
- Grama Niladhari level 1:5 000



Provincial and divisional land use plans*Stated aim*

To provide a basic framework and principles in the rational allocation of the land resources of a province among competing demands, in such a way as to maintain the ecological balance and sustainable use of this resource.

Land-use planning committees

There are divisional land use planning committees in all 21 divisions, chaired by divisional secretaries and including colonization officers and staff from environmental, planning, forestry, irrigation and District Land Use Planning Office (DLUPO) departments. The DLUPOs give technical advice to these committees.

Land-use planning activities

The priority work involves the preparation of divisional level land use plans. The steps taken in this level of planning are:

- preparation of land use base maps from available maps and air photos;
- training of Grama Niladhari and other staff in land use mapping;
- updating land use maps in the field;
- preparation of slope maps from topographical maps;
- preparation of indicative land use plan;
- preparation of land capability map;
- preparation of draft land use planning proposals;
- discussion with planning committee;
- writing of final land use planning report.

The outputs consist of reports which present:

- resources influencing land use: climate, soil, geology, water, humans, institutions;
- present land use: patterns and trends, ownership, land tenure, constraints;
- proposals to improve land use: basis, lands intensively used, lands sparsely used, other land;
- next steps: agencies responsible for plan implementation, more detailed plans at lower levels;
- divisional indicative land use maps;
- divisional atlases.

Village land use plans

Village level planning has been introduced in some districts. The steps in village level planning are:

- selection of village;
- preparation of maps;
- discussion with villagers;
- land use and socio-economic survey;

- preparation of draft village land use plan;
- discussion with village land use planning committee;
- preparation of final land use planning report.

There is a proposal to plan at a yet lower level, i.e. the demonstration plot within a village. Activities here will involve site selection, plan preparation and identification of activities within the plot, implementation of activities and monitoring and evaluation.

Constraints

Land managers most directly confront the limitations of the land through the requirements of the land users in land settlements as Government seeks to settle the greatest number of smallholders on any state land. The problems are as follows:

- Institutionalized procedures for assessment of the needs of the people, evaluation of land potential, alienation of land parcels and administration of its effective use are too cumbersome and involve an ever growing array of Government departments and agencies. One result has been a proliferation of enactments, programmes and goals which too frequently have lacked coherence and rationality.
- The formalized planning strategy has developed insufficient lines of communication between Government and land users, which should facilitate effective negotiations when land use changes are imminent.
- The absence of an effective land management strategy is also apparent in private land. Here the Government objective of protecting and preserving the environment goes unheeded, in the seeming absence of any effective controls on land use conversion of valuable agricultural land to housing in the environs of big cities.
- Land use planning has become a rigid mapping exercise and a series of legalistic controls on land management, such as those formally restricting land sales or sub-divisions of alienated land. These controls are regulated sets of laws, some of which are obsolete and conflicting legal instruments that rarely embody modern concepts of environmental management. Laws with petty penalties for infringements are frequently flouted, causing a widening gap between the official land use strategy that is promulgated and the actual land use practices that are applied by land users.
- Predominantly top-down approach with no stakeholder participation in the land use planning exercise is unable to address the concern of over-exploitation and unsustainable land uses which affect a wide range of land resources. No participation by the villagers in village level land use planning, which has been created as part of increasing scale of planning activities that started at the provincial level.
- There is a lack of continuity in land use planning activities at the provincial level. Provincial level land use planning committees were established in 1994, with no follow-up action.
- The DLUPOs are hampered by a lack of any legal authority to implement land use plans or enforce any sound land use practice recommended.
- The present systematic land use planning at divisional level and below is unnecessary and wasteful of scarce resources. It does not provide what is required in the districts and work that should address real issues is being left largely untouched. It is considered that a decentralization of DLUPO activities is required to at least the provincial level, such that the DLUPOs and their staff can better respond to local needs and issues and set the agenda for their work at their level.

- The indicative land use plans are often inadequate: they should identify critical areas for focussed work; eroded, encroached, deforested, peri-urban areas needing priority attention; for instance maps showing abandoned paddy lands due to the infiltration of saline water combined with increasing fragmentation of the land holdings, rendering them uneconomic to cultivate.
- Too little account has been taken to date of soils or climatic factors in the compilation of indicative land use maps. There is a noted lack of soils information at the local level and a simple expert system developed with farmers would be a considerable asset in local level land use planning work.
- There is little technical guidance from the central offices concerning how to address key land use issues. They often do not know why they are doing land use planning work. There is a lack of agronomic skills to enable the offices to give agricultural advice to farming communities.
- Map production is centralized and consequently very few copies of freehand maps are ever produced. Since this is the majority of the output of the DLUPOs over several years, the district land use planning information is held in a non-durable and unsatisfactory format.
- The district land use planning maps have become wall posters and have not been put to other use. Rarely have other agencies approached the offices for information.

LAND RESOURCE INFORMATION AND CONSTRAINTS

The current situation regarding the status of land information in Sri Lanka is as follows:

Supply of basic data

- Good coverage of entire country by 1:63 360 and 1:50 000 scale topographic maps.
- Topographic basemaps at a scale of 1:10 000 available for much of the central portion of the country.
- District land use maps and natural vegetation maps.
- Aerial photography at various scales: much of the country covered by 1:20 000 photographs.
- High resolution satellite imagery becoming available as a new source of land information.
- Agro-ecological zones at 1:250 000 scale.
- Geologic maps.
- Soils maps.
- Erosion Hazard maps.
- Landslide Hazard maps.
- Forest map of reserves and plantations and forest/land use maps.
- Indicative land use and land capability maps.

Data gaps

- Lack of data on land jurisdiction, administrative divisions and land parcels for a given location.
- Absence of data archives with complete listing of available information.
- Prevalently outdated systematic mapping or inappropriate scales of data for localized land resource management, i.e outdated aerial photography and inaccessibility of users to recent satellite imagery.

Data use and analysis related problems

- Lack of knowledge of methods for analysing and compiling information.
- Cumbersome procedures of land evaluations, due to lack of modern computerized tools of map data storage and retrieval and spatial analysis.
- Sharing of information is severely constrained by lack of facilities to reproduce and disseminate information stored on individual maps or reports.

Information management problems

- Increasing difficulty in manual organization and management of large quantities of data listings and paper maps even in sub-national land resources offices.
- No backup of maps and data lists to overcome accidental loss of valuable information.
- Constant updates to a given map or data listing resulting in confusion and difficulty in tracking information and evaluations over time.

Data standards and documentation issues

Redundancy in information due to duplicated efforts resulting in:

- Non-standard information and un-documented classification/coding scheme: examples: classification and coding schemes for land use maps and soil maps vary from one agency to another.
- Disparate data/information difficult to aggregate at regional and national levels.
- Reduced ability to share data among agencies.

Computer-based information issues

- Establishment of computer-based information systems (like GIS/LIS) in an un-coordinated manner without much thought towards the realistic needs of users and the existing capabilities within the country has led to varying degrees of success.
- Tendency of donor-funded projects to establish expensive computer systems producing computer-based information not practical for most people involved in land resources management, particularly for those at the sub-district level.
- Satellite image systems are being introduced and may provide some promise for updating and compiling land resource information at a reasonable and useful scale.

Land information problems

- There are gaps in information about the critical areas of concern in each district and what are the critical lands issues affecting those areas, in particular on land use changes, often as a result of a lack of communication between the district and the land users who operate at more local levels. At the local level land users are well aware of their immediate land, its extent, ownership patterns, the portions of it affected by degradation and other critical issues hindering sustainability of use.
- Information is lacking on which to base recommendations concerning the advisability of land conversion schemes; i.e. land suitability maps required to identify suitable areas, which

should be retained under specific land use types. For instance, land suitability data are needed by the national NGOs which participate with local people in the improved management of their lands. Using this type of information, some NGOs have encouraged the villagers through an awareness programme to manage the land as recommended by the DLUPOs.

- No participation of local people in the compilation of village level land use plans resulting in reduced acceptance and implementation of plans.
- Deficiency in accuracy timeliness and details in land information by the main users of information which remain Government institutions and donor-funded projects..
- Unavailability of land information in the form of operational status maps, of practical use by land use planners and land managers. Operational status maps are used in rapid rural appraisals to identify priority areas in which urgent action is necessary to solve land use problems confronting the district staff, such as encroachments, deforestation, soil erosion, clouded land tenure, poorly planned settlements and undesirable alienation.

Chapter 2

Proposed integrated approach to land resources management

SIMILARITIES OF THE SRI LANKA SYSTEM AND THE FAO APPROACH

The FAO integrated approach to land use planning was proposed as an appropriate framework for the improvement of the system in place in order to better address the circumstances faced today by land use planners at all levels in the country. There is a great deal of harmony between the approach to land use policy formulation and land use planning adopted by Sri Lanka and the global approach promulgated by FAO.

Similarly to the Sri Lanka approach the objectives of the FAO integrated approach are:

“To facilitate allocation of land to the uses that provide the greatest sustainable benefits and to promote the transition to a sustainable and integrated management of land resources. In doing so, environmental, social and economic issues should be taken into consideration. Protected areas, private property rights, the rights of indigenous peoples and their communities and other local communities and the economic role of women in agriculture and rural development, among other issues, should also be taken into account”.

Both the approaches address the following specific needs:

- the need to develop policies which will result in the best use and sustainable management of land;
- the need to improve and strengthen planning, management and evaluation systems;
- the need to strengthen institutions and coordinating mechanisms;
- the need to create mechanisms to facilitate the active involvement and participation of communities and people at local level;
- the need to integrate the different sets of knowledge and information held about the land by the different stakeholders as they interact one with another from different levels.

Both approaches consider a multi-level structure of land use policy and planning with links between national, sub-national and local levels.

CONTRIBUTION OF THE FAO APPROACH: INTEGRATION AND INTERACTION

The FAO approach to planning for sustainable management of land resources is both integrated and interactive.

Integration helps to:

- combine elements of both the bottom-up approach, based on grass-roots participation and traditionally top-down aspects of land resources assessment and evaluation options;
- take into account the complex biophysical and socio-economic variables which determine the land use system;
- consider the legal and institutional aspects which influence the implementation of the land use plan.

Interaction promotes:

- land use planning as a negotiation process, in which land users interact both with each other and with the specialists and technicians who are involved in the planning process;
- the interactive relationship between institutions at national, provincial, divisional and village level.

The Sri Lankan system lacks *integration* and *interaction*. Introducing the FAO integrated approach will provide these two key elements and contribute to help overcome the present constraints by linking the community, information and policy settings to successfully achieve integrated land management.

INITIATING THE APPROACH

The improved approach proposed for Sri Lanka identifies six major tasks:

- creating an enabling policy and regulatory environment;
- removing constraints, providing incentives and developing improved technology;
- creating institutional arrangements for involving stakeholders in management;
- improve effectiveness of land resources institutions at national, district and village level;
- creating information systems which are accessible to all;
- providing revised planning procedures and technical support for decision making.

The approach requires that the key measures, which are the outworking of the land use policies, must be:

- simple;
- accessible to marginalized people;
- have low risks attached to their implementation;
- easily replicable.

Two conditions are considered essential in Sri Lanka if the land use planning is to be useful:

- the need for changes in land use, or action to prevent some unwanted change, must be accepted by the people involved;
- there must be the political will and ability to put plans into effect.

PROPOSED ACTIVITIES

The six tasks are regrouped into two main activities:

- 1) review of land use policies (task 1)
- 2) development and testing of a methodology of participatory planning of land resource management (tasks 2, 3, 4, 5 and 6).

Guide for land use policy review

In essence the review is to ensure the provision of an enabling environment for sustainable land use and management. Platforms for negotiation between land users are to be built, to bridge conflicts of interest between them as to how the land resources are best utilized. The main principles of a Guide proposed to be used in a review were set as follows:

- 1 National land use policies should evolve from:
 - sound assessments of the problems and issues facing sustainable management of land resources;
 - technical information that is competently acquired and analysed;
 - comprehensive participatory involvement with the land users in their development.
- 2 The underlying principles of effective land use policies are that they should be advisory and enabling and so meeting the aspirations of the people as far as is feasible. The policies should:
 - support negotiations between conflicting land use interests;
 - provide the means for integration of effort among the full range of stakeholders: government and other land users, NGOs, farmer groups, commercial developers and investors in land development;
 - be flexible and adaptive to changing circumstances in the country and take advantage of new methods and techniques of land management as they arise.
- 3 The overall objectives of land use policies are that they should:
 - result in the best use and sustainable management of the land;
 - improve and strengthen land use planning and management systems;
 - strengthen land use institutions and coordinating mechanisms;
 - facilitate the active involvement and participation of land using communities and people;
 - create a policy environment in which government and people work together.

To achieve these objectives the land use policies must support and strengthen an enabling policy environment. This is one in which:

- government and people are working together towards sustainable land management;
- appropriate information is delivered in support of decision makers;
- there are real commitments to institutions that strengthen the process of sustainability.

- 4 All the land use policy statements that are devised should indicate how they link with related government policies, legislative instruments, monitoring and implementing agencies and funding sources. This ensures that they are integrated into the existing government strategy of management of its land resources. The policies should also be drafted in harmony with the ability of government to implement them within a realistic timeframe.
- 5 The formulation process for these policies is not a time-bound single exercise, producing a blueprint of statements. Regular reviews and revisions of the policy framework are necessary, as Sri Lanka's land development continues and different priorities emerge for land uses. Currently insecurity of tenure and alienation of state land require much attention by the policy makers, but in future environmental management or commercial agriculture, for example, may become priorities.
- 6 Where land use policies do need to be prescriptive rather than advisory, it is suggested that they require land users to:
 - be alert to the benefits of conservation methods;
 - participate in community and national sustainable management schemes;
 - be aware of environmental legislation that imposes substantial penalties on non-compliance.

Penalties imposed on malpractising land users should be larger than the anticipated private gains that the land users could make from non-compliance.

- 7 A practical step is to divide the policy statements into two streams:
 - those that set broad principles, goals and objectives and set the framework for sustainable management of land resources;
 - those that provide specific policies, policy objectives and provisions.
- 8 The national land use policy goal having been defined the objectives of policies should be given more specificity. For example, specifications could be developed for:
 - encouragements to private sector investments in state land;
 - land suitability evaluation criteria for conversion of agricultural into non-agricultural land;
 - means of discouraging fragmentation of private land;
 - which are the relevant authorities, in all cases;
 - the financial and economic aspects of land uses covered by the policies.
- 9 Land use policy specifications should also be developed, to provide:
 - norms and standards of land use practices where appropriate;
 - targets and indicators of achievement in reaching policy goals by the government linking statements to legislation, to programmes intended for their development, to resources needed for implementation and to means for monitoring and evaluating their success.
- 10 The MAL through its Land Use Policy Planning Committee should hold public meetings on the Land Use Policy Document to arrive at a final set of national land use policies approved by all concerned.

Developing and testing a methodology of participatory planning of land resources management

Developing the methodology

There are three key parts of the interactive approach to land use planning that together will form an appropriate methodology:

1. The natural resources users need to be empowered to have personal responsibility for their management and personal benefits gained from their sustainable management.
2. There is the requirement for the means of negotiation between stakeholders to be provided, through institutional arrangements that permit the full range of stakeholders to contribute and gain.
3. Stakeholder groups at district level and below need to be incorporated into networking groups, through which land information can be passed to support them in their land management roles.

This social and institutional linkage forms the base from which land resource management methods and techniques can be sustained, because it is through direct involvement in the process by the stakeholders themselves. In their work the stakeholders will continue to require the local level technical support of agencies and individuals, access to relevant information and inputs and an enabling national level environment of policy, legislation and institutions.

The steps of the methodology

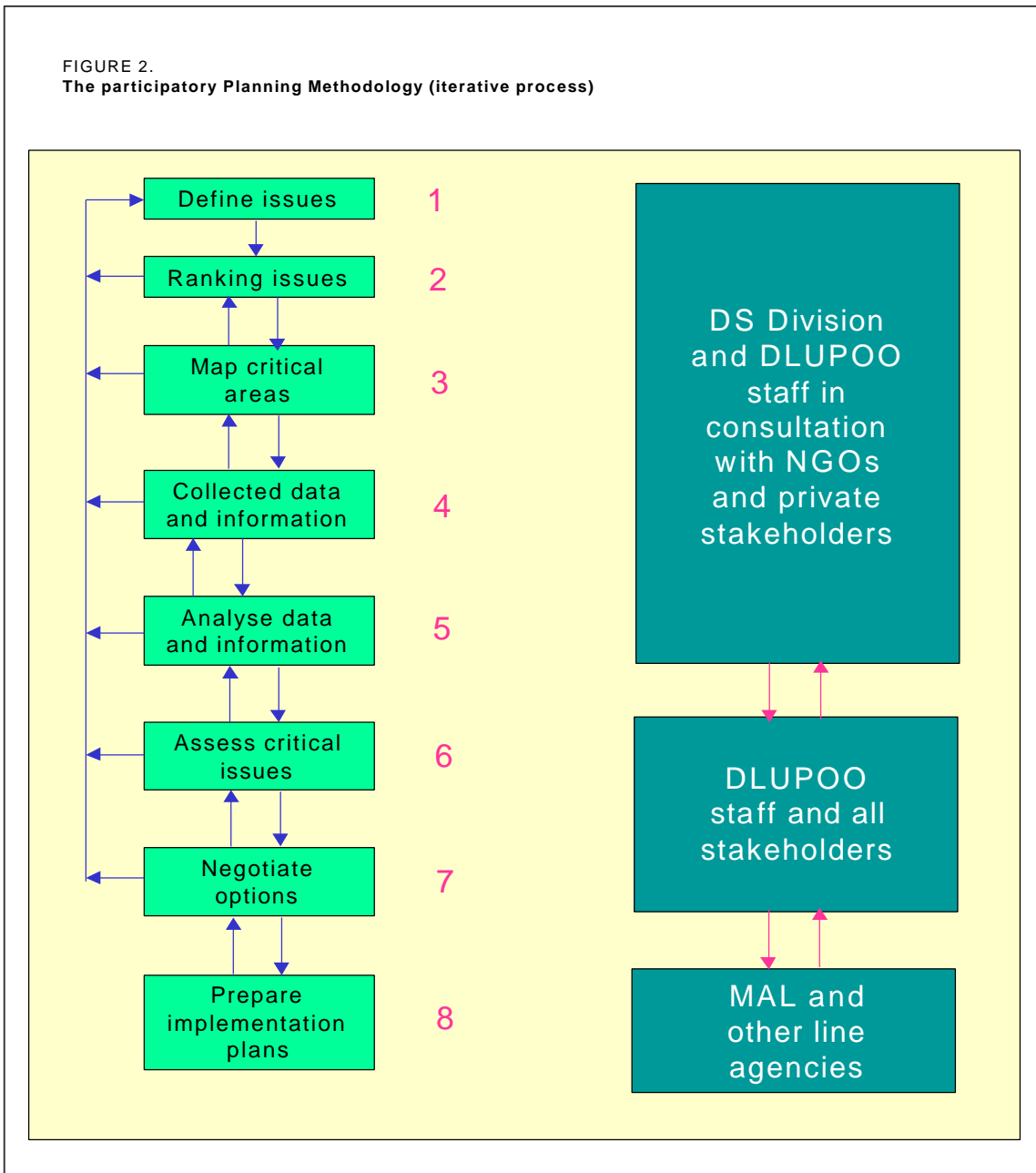
The methodology involves eight steps (Figure 2). The steps should not be considered as having to be followed rigidly as though they were a blueprint strategy. Rather the whole is an iterative process of gradually coming to an agreed position about what can be done about critical issues that have been identified in specific areas, with plenty of opportunity for revisiting earlier steps, putting aside others for a time or focussing on only a few of them that seem particularly relevant. A progression can, however, be recognized in the steps, from reconnaissance surveys and surmises made with a few people, to detailed and accurate maps of the situation and supporting technical reports that result from intense participation.

The key end result is a greater awareness on the part of the stakeholders of their land, its specific limitations, the means available to them in confronting the issues and methods of moving towards sustainable land management. Mapping will be used as a main method of addressing the issues, because by this means they can be related to specific areas of land. The best scale of map to use will probably be such that a whole Division can be fitted onto one map sheet. Geographic Information Systems (GIS) techniques will be incorporated to assist the process.

1. *Production of a first outline set of issues affecting sustainability of the land resources.* This is done by sifting through all available strategies, project reports, plans, maps, air photos, etc., and talking with people who are familiar with planning methods, in particular the DLUPO staff. Examples of issues in the Division may include the near abandonment of poor quality tea estates, the growing pressure from increasing population, the uncertainty of operational status for different state land areas, the scattered severe soil erosion occurring on

poorly managed steep land and sites where there are unresolved conflicts of interest between people or agencies as to what should be done with specific areas of land affected by critical issues. Background material available will include maps of land under different settlement schemes, final village plans, land use maps and indicative land use plans produced by the DLUPO.

FIGURE 2.
The participatory Planning Methodology (iterative process)



2. *Ranking of the issues.* The issues can be ranked in a simple manner. For example issues can be placed according to those considered more critical or less critical, those about which something can be done in the near future and with available resources, those that are likely to change for the worse over time and those that are not and specific issues that affect different groups of people, or different land use practices, but not others. Then attention and resources can be focussed on the issues and the areas most needing resources and human resources that will be available.
3. *Mapping critical areas.* Very preliminary outline maps of current critical areas affected by these issues can be compiled, using, for example, basic principles set down by the LUPPD. These place any area of land into one of four categories, based on decreasing levels of sensitivity to change and need for protection:
 - areas that are fully protected, if any, by national park status or equivalent;
 - areas known to contain critically sensitive environments - very steep slopes, remaining natural rainforest, areas needing river bank protection;
 - areas in which care should be taken with land uses practised - so avoiding tobacco on steeper slopes, vegetables alongside watercourses etc.;
 - areas for which there is no special concern, on account of there not being undue land use pressure on them and where the environment is benign, the slopes gentle, soils deep, vegetation cover adequate, etc.
4. *Data collection.* With the DLUPO staff, Division-based staff on land matters, any NGOs, other project staff, private stakeholders in the land, etc., collect as much relevant data as possible on the key issues affecting the critical areas that have been identified in the Division. Field surveys are to be carried out only where there is a big gap in existing data and information about these areas. Data should be location-specific and could include information from other projects that have been functioning, with information such as:
 - current land use;
 - land suitability for major kinds of land use, as determined both by technical staff and the land users themselves;
 - the different types of operational status of state land - forest reserve, permit holding settled land, stream banks, transport routes, etc.;
 - availability, if any, of unutilized state land;
 - critical environmental areas that are most sensitive to change;
 - areas of deprived land users, where making a living is most difficult.
5. *Data analysis and interpretation.* The collected data and information should be analysed and the results synthesized, by accurately placing on maps the consolidated information about the critical issues and the areas they affect. Taking one issue at a time, grade the Division, area by area, by the intensity of the issue affecting it and draw the results on one map. If abandonment of tea estates causing rapid soil degradation is an issue, mark on the map where it is most affecting, less affecting, etc. this land resource. This is an issues-zoning map, in terms of its importance, degree of intensity, priority in terms of current plans for sustainable land management, likelihood of occurrence in the area, etc. A short written description of the method used to produce the maps and the results obtained, will help the stakeholders in better understanding the importance of addressing the issues. GIS techniques can help here, in overlaying maps showing the spatial layouts of different issues, to see how they interact one with another.
6. *Assessment of critical issues.* Working over the maps and descriptions, the DLUPOO and similar personnel now have to analyse and assess the implications of the critical issues and

areas where they are found. Points to remember are how the issues came about, who are the people affected, where are the areas most sensitively affected by the issue in the Division, which agencies and institutions have been involved in addressing them, what conflicts are there that have made them worse, how reliable are all the data on which the analyses are being made.

7. *Negotiating land management options.* The background material and assessment results are used in more detailed discussions with the stakeholders who have to manage or live off the land. The need is to agree what they understand are the critical issues and the areas and people that are most affected by them and start thinking together of options for overcoming them. New ideas may well emerge at this step, requiring some of the work to recommence at step 1 or step 3. In particular stakeholders should be encouraged to share their indigenous knowledge about how they would tackle the issues. At this point the FAO interactive land use planning methods that include participatory techniques, setting up stakeholders' negotiating groups, raising awareness are well utilized. The personnel who prepared the material over which discussions take place have to make sure it is in user-friendly formats. This is to enable the decision-makers at all levels to understand the issues in their own contexts and assist them in developing rational responses to the issues. Government agencies' staff at district and divisional levels will play prominent roles in these participatory discussions, as they will have been involved with preparing the material.
8. *Reaching a consensus.* When some sort of consensus has been reached as to ways forward for tackling the issues in different locations, there is then the need to analyse the available options. The end result will be a general level of agreement amongst the stakeholders as to what should be done about the critical issues, so that implementation plans can be drawn up with the line agencies for tackling them on the ground, within specific timeframes.

Testing the methodology

The participatory land use planning approach will be tested using a pilot division as a field laboratory and case study area. A division is to be selected where there are a number of critical lands issues that are representative of those found generally in the country, including poorly managed state land, clouded tenurial status of private land, degradation on steep land under little used tea estates and a multiplicity of agencies with a history of attempts at improving the situation. The approach will be tested against the need for sustainable management of the land resources that are affected by these critical issues and in critical parts of that area.

Survey and mapping work will be undertaken of the current land use of the area, its suitability for major kinds of land use and of identified critical areas within it. Participatory consultations will be held with various stakeholders, to elicit their concern about critical areas and critical issues that they face in managing the land resources and the findings will be included in the maps and reports.

This study will support the ongoing field work in other pilot areas and will address similar issues to those being covered elsewhere. Particular emphasis will be placed on seeking ways of linking communities, land information and policies in the field. Institutional arrangements will be devised for involving the full range of stakeholders in land resource management, integrating indigenous and technical knowledge of the land, creating information systems from this knowledge that are accessible to all and providing the technical support needed by decision-makers in user-friendly formats.

Chapter 3

Comprehensive programme of land resources management

A comprehensive three-year programme provides the framework to test the proposed method previously discussed of addressing critical issues and their locations within a selected pilot DS Division and with the participation of the stakeholders who stand to benefit from their management. The programme is to be implemented through a project. The project profile follows:

KEY ISSUES TO BE ADDRESSED AND OUTPUTS TO BE PROVIDED

Issues addressed	Expected outputs
NATIONAL LEVEL	
Absence of a national land use policy covering all state and private land	Finalized national land use policy, agreed with all major stakeholders
Insufficient security of land tenure in state land to encourage sustainable land management	Tested system for improving tenurial status of permit holdings with insecure title
Ineffective use of existing legislation relating to natural resource management in state and private land; in utilized land, legal statutes that are overlapping, obsolete or require updating to take account of modern approaches to land resource management	Documented strategy for rationalization of legal statutes relating to natural resource management
Multiplicity of institutions involved in the management of state land, with overlapping roles and ineffective support provided to stakeholders	Effective strategy outlined for overcoming institutional constraints, with focus on local level institutions, on the sustainable management of land
Absence of a comprehensive land information system; inadequacy of relevant, pertinent and reliable information about the land and its usage	Tested method of land information production and dissemination that is applicable to stakeholders
SUB-NATIONAL LEVEL	
Insufficiency of institutional support for marginalized and female land users; widening gap between them and more powerful holders of vested interests in land use and exploitation	Positive and specific ways and means developed for empowering marginalized and female land users
Incorrect utilization of legally unutilized state land and unsystematic selection of unutilized areas for natural resource management interventions	Tested procedure for categorizing state land that is currently legally unutilized
Illegal encroachments by squatters on to state land	Proven strategy for managing encroachments on state land
Unsustainable pressures on valuable agricultural land; indiscriminate conversion of land use with total absence of guidance	Proven strategy for guiding land use conversion on private land
Absence of any effective land use planning	Updated methods and techniques of land use planning developed and tested at the sub-national level

Government will have access to policy, legislative and institutional recommendations and technical methods and techniques that together are able to increase its effectiveness in managing its land resources on a sustainable basis, at both the national and sub-national levels. They will enable it to address critical cross-cutting issues relating to the long-term productivity and

sustainable utilization of the land. The result will amount to a decision-support system being available, that will show how information on land resources and land use is put into the hands of people, managers and institutions who can use it in a timely manner.

The main elements of the programme are:

At national level:

- development of a national land use policy;
- improved security of land tenure;
- rationalization of legal statutes relating to natural resource management;
- freedom from institutional constraints on the sustainable management of land.

At sub-national level:

- specific ways and means for empowering marginal and female stakeholders in land use;
- accepted categorization of land that is legally unutilized;
- proven means of managing illegal encroachments on to state land;
- proven means of guiding land use conversion on privately owned land.

For state land:

- verifiable improvement in the tenorial status of permit holders;
- identified and mapped operational status of each parcel of land, according to the institutions or agencies with responsibility for its sustainable management;
- tested procedure for categorizing land that is currently legally unutilized;
- updated methods and techniques of appropriate land use planning and its application.

For private land:

- effective strategy for supporting civil society in its management of land at local level;
- tested method of production and dissemination of timely and appropriate information on land and its management;
- guidance on the suitable uses of agricultural land to avoid unsuitable conversions to urban uses.

With utilized land:

- removal of overlapping and obsolete legal statutes that take scant account of modern approaches to land resource management;
- marked improvement of institutional support for marginal and women land users;
- positive control on the indiscriminate conversion of prime agricultural land to non-agricultural uses, including to housing and other urban development;
- improvement in the quality and availability of information about what land is utilized, where, by whom and for which purposes.

With unutilized land:

- reduction in the size of the threat on these rapidly decreasing areas;
- increase in the information about the extent and potential uses of unutilized land;
- positive control on the illegal encroachment on to unutilized land by otherwise landless persons and by speculative entrepreneurs.

PROGRAMME STRATEGY

The strategy is to provide institutions and people with user-friendly methods for the sustainable management of the land resources on which they depend. It takes into account the fact that land resource issues are most effectively addressed in as holistic a manner as possible. The effects of interventions to overcome constraints in sustainable land management in one sector are felt in others. In order to be effective within the limitations of the programme, it will focus on a few key issues that reveal poor land management and that are amenable to alleviation using the skills of people that are mostly available in-country.

Intervention levels

Interventions are to be made at two levels, the sub-national and the national level.

- a. *Sub-national level.* In the field the testing of the programme strategy will be undertaken through a phased approach in a selected pilot area within a DS Division. The pilot area will be selected in such a way that it contains land issues that are representative of those found in other areas. Hence findings with more generic applications from the pilot area can be replicated into wider areas.

An encroachment study will be undertaken to cover entire districts. This is because larger areas are required to ensure that all types of encroachers are included in the encroachment study.

The focus of interactive planning and land assessment training activities will be in representative locations where there are critical issues of degradation resulting from poor land management and where good databases exist, resulting from previous work. Conceptual initiatives for sustainable management of land resources, which are tested and developed pilot areas up to practical recommendations for land managers, will also be available for replication by them in wider areas.

One key output of the programme will be the identification of critical areas and issues by project staff and local people working together, where methods and techniques similar to those developed by the project could be carried out to good effect after project completion.

- b. *National level.* The programme strategy recognizes the need for local level interventions to be supported by an enabling environment at national level. A national land use policy will provide the policy framework that is required; support will be given by the programme to complete the present draft policy statement. Legal commitment to sustainable land management will be strengthened, through advice being provided on the need for amalgamation or repeal of enactments that conflict or do not embody modern concepts of land management. Methods of land use planning will be developed further, which involve increased participation with the stakeholders negotiating together for the goal of sustainable land management. Training will also be given in modern methods and techniques of land assessment that are applicable at the sub-national level.

National level interventions will be disseminated to stakeholders through national level workshops.

Land Resources Information System

A methodology to provide enhanced information related capabilities through limited GIS/LRIS (Land Resources Information System) technology will be introduced. Figure 3 illustrates the overall development of the proposed LRIS and implementation process. The key elements are:

- Basic low-technology LRIS capabilities provided at the local resource management level, using the strong support of an existing GIS centre of expertise. PC-based LRIS systems will be procured and used to develop preliminary LRIS capabilities within the provinces targeted by the project. These PC-based access points shall be made available at a location within the respective Province, where the system can be properly maintained and free access provided to the various stakeholders.
- In addition to the local planning focus, the LRIS implementation will address the key issue of supplying timely information to national-level land resource managers.
- A meta database to provide information about the availability of national level land resources-related information and describe what information is available for any particular area. Proper documentation including updated data dictionary and metadata. System metadata and the data dictionary shall be kept up-to-date and provided to the various information users so they are clear with regards to the content of the system.
- Demand-driven land use planning-related GIS analysis to answer specific questions leading to creation of new GIS layers. Example: characterization of land use in alienated State lands involves the GIS-based overlay of alienated lands (derived from operational status) and land use. Another example is the identification of alienated lands on steep slopes.
- Trained Staff capable of maintaining and further developing the LRIS.

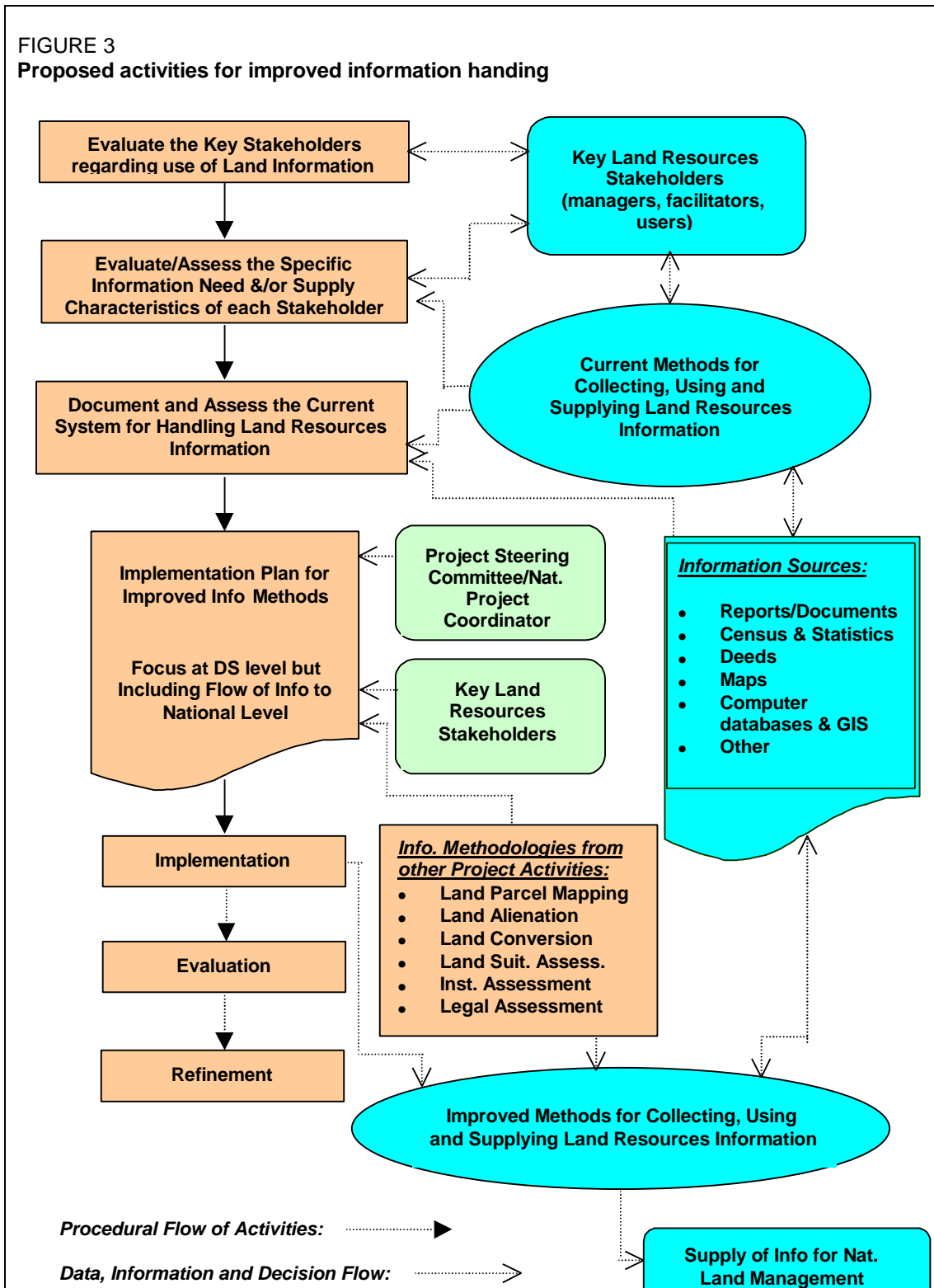
LRIS work will best be placed with a government-related agency with broad experience in the field of land resources information and which has a proven knowledge in the issues affecting land resource stakeholders at the sub-national and local level.

It will include a detailed assessment of the various users and suppliers of land resources information with a focus on the DS and GN level, but also including a plan to integrate required information to decision makers at the national level. Real information needs will be assessed down to the level of the individual farmer (land user) and an enhanced system for supplying appropriate information at the local, sub-national and the national levels (facilitators and managers) will be defined. The application and assessment of the enhanced system within the project areas will further refine this approach and should provide valuable guidance to the broader issues of land resources information in the country.

Institutional arrangements

The Ministry of Agriculture and Lands (MAL) will implement the programme under the supervision of a Programme Steering Committee (PSC). The PSC will create a network of nine agencies acting as implementing agencies for the different technical activities of the programme placed in two categories:

FIGURE 3
Proposed activities for improved information handling



- a. Implementing agencies outside the Government executing agency of the Ministry of Agriculture and Lands:

1. Upper Mahaweli Environment and Forest Conservation Division;
2. Urban Development Authority;
3. Sri Lanka Institute of Development Administration;
4. Law Commission;
5. Registrar General's Department.

These agencies will be directly responsible for undertaking relevant project activities. They will enter into contracts directly with the Ministry of Agriculture and Lands.

- b. Implementing agencies within the Ministry of Agriculture and Lands:

1. Land Commissioner's Department;
2. Survey Department;
3. Land Use Policy Planning Division;
4. Natural Resources Management Centre.

These agencies will function as supervisory agencies.

TERMS OF REFERENCE FOR RESPONSIBLE AGENCIES

Law Commission - Rationalization of legal statutes relating to land tenure and land resources

1. Conduct detailed study of reasons why laws fail to address issues relating to land use; why laws remain unimplemented; the reasons for proliferation of statutes relating to land use.
2. Identify means of addressing shortcomings in legislation.
3. Determine options for streamlining legislation, taking into account provisions of the 13th amendment, the mandate of the Land Commissioner, new international provisions in sustainable development and national obligations to international treaties.
4. Draft outline of necessary legislation, containing provisions on alienation, encroachments, land use policy formulation, land assessment, etc.

Sri Lanka Institute of Development Administration - Institutional rationalization

1. Identify relevant national level government institutions concerned with land management and specify each of their main responsibilities that support sustainable management and land use planning.
2. Identify overlapping and conflicting responsibilities that hinder land management at national level.
3. Recommend options for overcoming overlaps and conflicts by rationalization of institutional responsibilities.
4. Assess present roles and responsibilities of Agricultural Committees at District and Divisional Secretaries' levels.
5. Develop ways and means for expanding these Committees' functions to include land management and to institutionalize them.
6. Identify types of 'marginal land users'.
7. Develop methods for empowering these types of land users, to enable them better to manage the land resources on which they have to survive.

8. Identify specific constraints faced by women in utilizing land resources
9. Develop ways and means of overcoming these constraints, so that women are supported and empowered in their land management activities.

Registrar-General's Department - Feasibility of abstracting title deeds

1. Identify Land Registry titles corresponding to land parcels.
2. Prepare abstract of title for each land parcel mapped.

Urban Development Authority - Land use conversion and establishment of a protected area network

1. Determine nature, extent and reasons for converting agricultural land to non-agricultural uses.
2. Determine the range of major crops in the selected areas to be included in the Protected Area Network (PAN).
3. Classify land under these crops according to suitability classes.
4. Select most suitable land to be included in the PAN.
5. Establish a PAN in selected areas.

Upper Mahaweli Environment and Forest Conservation Division - Development of strategy for land information production and dissemination

1. Identify stakeholders of land resource information in the project pilot areas.
2. Evaluate information sources and needs of each stakeholder.
3. Assess current information handling system.
4. Develop strategy for improved information production and dissemination.
5. Demonstrate feasibility of production of GIS-produced cartographic output, taking material from the pilot areas.

Land Use Policy Planning Division - National land use policy (via working groups)

1. Determine personnel to be appointed to working group on land use policy.
2. Develop structured policy statements within sustainable land management strategy.
3. Test policies in forum/workshop of policy specialists.
4. Develop strategies to implement agreed policy statements.
5. Prepare agreed finalized national land use policy.

Survey Department - Mapping land parcels

1. Prepare land parcels maps, showing all land parcels in the selected pilot areas..
2. Prepare an accompanying list using the information taken from the list maintained by the GN, in addition to information collected in the field.
3. Train persons undertaking the mapping activity to use the existing topographical map base or orthophotographs or rectified photo enlargements in the field with other data in their mapping work.

Natural Resources Management Centre - Identification and evaluation of unutilized state lands

1. Map the boundaries of the unutilized state lands (USLs) in the pilot areas.
2. Map the operational status of the USLs in the areas.
3. Demarcate the areas suitable for conservation and forestry purposes.
4. Map land units and characterize in detail each land unit in pilot areas.

5. Identify land suitable for non-forestry development and classify these lands into use categories.

Natural Resources Management Centre - Encroachment study, preparation of early warning system for reporting on possible encroachments and the development of a set of guidelines for identification of landless persons to be settled

1. Review the existing literature on encroachments.
2. Conduct a study to determine the reasons for encroachment; the types of land on which encroachments take place; the productivity of the regularized lands; the current use of regularized land; the problems faced by officials in evicting encroachers; the effectiveness of re-locational procedures adopted to date; the policy measures to deal with encroachers; and alternative means of sustenance available to encroachers.
3. Evaluate the present system of detecting and reporting encroachments.
4. Develop a participatory early warning system of imminent encroachments.
5. Evaluate the present criteria for selecting landless persons.
6. Prepare a set of guidelines for selecting landless persons.

Chapter 4

Conclusions

The programme strategy, in addressing issues of poor land management, accepts that they will be overcome through a concerted approach that uses existing skills and knowledge. The sustainability of institutional arrangements can likewise be assured through demonstrating how the existing resources of all stakeholders can more effectively be employed. In implementing the strategy, the programme will concentrate on both utilized and unutilized land, on state land and private land. It will likewise focus on issues facing managers, facilitators and users of that land and on practical methods available for land conservation and development that are central to all decisions taken in support of sustainable land use.

By focusing the design and implementation at the sub-district level of planning, improved information handling approaches will be developed that have direct relevance and application value to land resource management activities at the grass roots GN and DS levels. Although the evaluation and implementation process will be focused at this localized level, it will include an implementation strategy that also addresses district, regional and national information issues that are directly related to the local use and supply of information. In this way, it will be possible to develop large scale information methods that are useful at the grass roots planning level and, simultaneously, aggregate the relevant information for regional and national resource management.

In summary the main strength of the improved approach is that it incorporates a grass roots level design, as opposed to the typical top-down design of many such systems. The end results of an interactive land use planning exercise within the project area would be the common understanding by the stakeholders of what needs to be done by them, where, for what purpose and with what end in mind. This is in order that critical issues can be tackled and overcome by themselves in specific areas, when supported by key government personnel. This understanding would be based on appropriate information being presented to the stakeholders in the form of maps and supporting short reports and based most fundamentally on their having participated as fully as possible in this type of planning process as a whole.

Annex

List of reports

- 1996 Our Land Our Future, a New Approach to Land Use Planning and Management, FAO, Rome.
- 1997 Negotiating a Sustainable Future for the Land, Structural and Institutional Guidelines on Natural Resources Management in the 21st Century, FAO, Rome.
- 1998 Atapattu, S. Report of Consultancy on Statutes Relating to Land Use in Sri Lanka, FAO, Colombo, Sri Lanka.
- 1998 Broten, M. Report of Consultancy on GIS and Land Resources Information, FAO, Colombo, Sri Lanka.
- 1998 Berugoda S. Report of Consultancy on Land Tenure Aspects of Sustainable Management of Land Resources, FAO, Colombo, Sri Lanka.
- 1998 Ridgway R.B. Report of Consultancy on Land Use Planning in Sri Lanka, FAO, Colombo, Sri Lanka.
- 1998 Silva P. Report of Consultancy on Conservation of Agriculture Land into Non-Agricultural Uses in the Colombo Metropolitan Region, FAO, Colombo, Sri Lanka.
- 1998 Silva P. Report of Consultancy on Encroachment on State Lands, FAO, Colombo, Sri Lanka.
- 1998 Somasiri S. Report of Consultancy on Development of a Methodology for the Identification of Unutilized State Land and on Land Evaluation, FAO, Colombo, Sri Lanka.
- 1998 Weerawardene I.K. Report of Consultancy on Institutional Aspects of Sustainable Land Management, FAO, Colombo, Sri Lanka.
- 1999 The Future of Our Land: Facing the Challenge, Guidelines for Integrated Planning for Sustainable Management of Land Resources, FAO, Rome (in press).

The Sri Lanka study outlined in this document is an illustrative example of how FAO's integrated approach to planning and management of land resources can be applied in sustainable land management programmes, integrating national, provincial, district and local level strategies and policies. It is intended for use by government policy-makers and administrators, land-resources managers, land-use planners, and public interest groups, as they participate in the formulation of land-use policy options and the preparation of land-use planning proposals to manage increasingly degraded land resources, across a variety of local agro-ecological and socio-economic conditions.