

CHAPTER 9

FORESTRY AND LAND-USE PLANNING

9.1 Introduction

In discussing the integration of forestry into a land-use planning system, it must not be forgotten that Sri Lanka had, for a long time, an extensive forest cover which provided good environmental conditions for healthy and prosperous living. In short, the country had what could be termed a “forest culture” of its own. At that time, man was closely linked with forests and the environment in general with which he lived in relative harmony, whilst practising agriculture. Also, it should be remembered that today, Sri Lanka is a developing country with a drastically-reduced forest cover, the greater part of it not in the most suitable places and poorly stocked. There is also a growing population and economy moving towards a newly-industrialised status. It is in this scenario that planners are trying to devise a land-use planning system for the whole country.

Before the arrival of the British in 1815, the central montane massif was covered with natural forests and Kandyan home gardens that simulated natural forests. They provided clear water to rivers and reservoirs in the plains below where the rich rice fields and other agricultural lands were situated. Nearly 90% of these montane forests were cut down to make room for large coffee estates and later tea. Other forests in the lowlands were cut for rubber, some coconut, and for other purposes. Home gardens were also acquired and converted to these crops. So today, the situation is reversed. Most of the forests are secondary and found in the dry zone, while the central massif, mostly covered by shrubby tea, could be considered an eroding disaster area, from an environmental point of view. Eighty-seven per cent of the country's forests are now located in the plains of the dry zone.

9.2 The historical development of land-use planning

The colonial period and from Independence to the early 1980s: early experiments in land-use planning

Ad hoc land-use plans have been prepared in the past for individual districts, but these have not been able to get off the ground because of their rigidity and the presence of too many details on paper, details which could not be implemented on the ground because of socio-economic factors and political meddling.

Since the 1970s, land-use planning has been introduced into the agenda of government ministries. This was thought necessary in view of the growth of population, expansion of agriculture, and the conflict between traditional uses and new developments like export agriculture, industries and tourism. A need, therefore, arose to implement a scientific land-use plan for the whole country. Assumptions made were that land-use should be optimised to make it mandatory to allocate land on the basis of land-use characteristics, and that lands should be managed in the most appropriate manner, not only to sustain, but also to improve their desirable qualities (CEA, 1988). This was only ever really valid in theory, especially the assumption regarding land allocation. Many conflicting situations arise in the course of trying to implement such a scheme of land allocation in a complex society.

The 1980s: the emergence of a national land-use policy planning division

There is severe competition for land by the major land-using sectors, such as agriculture, forestry, wildlife, animal husbandry, social use, tourist hotels and other structures. The losers are nearly always the forestry and wildlife sectors. Some politicians, and bureaucrats who want to please them, adopt a short-sighted policy, thereby serving interests other than forestry or wildlife. For example, in 1988 the *chena* cultivation system, based on permits issued by Government Agents of Districts, was officially terminated because there was a much-shortened fallow period between cropping cycles. Soils were becoming badly degraded and exposed. This old agroforestry system was becoming destructive, but the ban on this type of land-use did not have the desired effect because of the lack of political will. Politicians did not want to

lose favour with those people who were continuing to practise this form of destructive land-use. So illegal *chena* cultivation continued. There are many examples like this to demonstrate why standard scientific land-use planning on the developed country model is still difficult in Sri Lanka.

Box 9.1 plots the development of active scientific land-use planning at the country level in the 1980s (Jayasinghe, 1995).

The 1990s: finalising the national land-use planning guidelines, and the emergence of land-use planning committees

In 1991, National Land-Use Planning guidelines were finalised. From 1991 to 1993 there was a lull in the work of the LUPPD, but since 1993, LUPPD work has been expedited to frame a National Land-Use Policy and to prepare a Plan. Provincial, divisional (old assistant government agent), and village-level plans are also being prepared.

In 1994, a programme and criteria for the preparation of Indicative Land-Use Maps were drawn up. This is a very useful step as good indicative plans are really what are needed as they have the characteristic of being flexible. Characteristics to be indicated are several land-use categories under the following sub-divisions:

- (i) intensively-used land;
- (ii) semi-intensively-used land;
- (iii) sparsely-used land;
- (iv) conservation land.

Forest as a land-use category is provided for under categories (ii) to (iv).

Box 9.1
Steps in the development of scientific land-use planning
in Sri Lanka in the 1980s

- 1982 – establishment of a Land-use Planning Division in the Ministry in charge of the subject of Lands as a result of the recommendation of the Conference on Land and Water Resources Development held in 1979.
- 1983 – UNDP and FAO assistance was obtained to set up a natural resources data bank and to advise the Government on land-use planning. The idea was to adopt a comprehensive approach to land-use planning, based on scientific criteria (Ridgeway, 1988).
- 1987 – AsDB assistance was obtained to strengthen the LUPPD already started and for the establishment of District Land-use Planning Committees (FAO, 1988).
- 1989 – Assistance to the Survey and Irrigation Departments to increase their capability to provide data and information needed for scientific land-use planning.

In a new approach, the basic objectives of the LUPPD are to *formulate land-use policies and prepare plans to rationally allocate the land resources among competing needs of the country for optimal and sustainable use while maintaining an environmental balance* (Jayasinghe, 1995). As a result, LUPPD activities have expanded to include:

- (i) Preparation of Land-use Plans at National, Provincial, Divisional, Local and Plot Levels, based on formulated guidelines and procedures.
- (ii) Establishment of Land-use Planning Committees at national, provincial, division and village levels, and accompanying plans and maps and a GIS/LIS section (Legg, 1995).
- (iii) Establishment of Land-use Planning Units at the provincial and district (cluster) levels, resulting in specific land-use studies.

Although a rational scientific approach is now being adopted to prepare land-use plans for the whole country, the end results may face the same problems as the *ad hoc* plans prepared in the earlier years for districts because of social, economic and political pressures. For instance, with so many development

schemes implemented and protected areas established, it has been found most difficult to translocate people on a large scale. On a small scale it is possible. In this context, it may be better to plan taking the existing land status picture into consideration as a starting point. This approach would be more practical and acceptable, although it might not look good on paper.

Under this emerging land-use planning system, the key instrument in a decentralised situation would be the Divisional Land-Use Planning Committee. The divisions referred to are the former assistant government agent divisions, which are sub-divisions of the 25 districts of Sri Lanka. Two hundred and twenty such Committees have already been established, including three in the northern Jaffna district. Once the troubles in the north are settled, the full complement of Committees will be set up. The established Committees are already functioning.

The Land-Use Planning Committees at the different levels are multi-disciplinary bodies for decision-making, co-ordinating, implementation and monitoring land-use planning activities. Forestry interests will be represented on all these Committees. The stated objective is to devolve the land-use planning process as far as possible at each level.

Land-use priorities and the need for changes would be decided by the different Committees, taking into account the baseline Indicative Land-Use Plans prepared at each level. Any matter that cannot be resolved would be referred to the Committee at the next level above. Training of staff is now going ahead to set the process in motion.

However, this type of exercise is going to be expensive in terms of infrastructure; it will need many staff; it will be time-consuming, and very complex. Many socio-economic and political problems will emerge, considering the high political consciousness in the different parliamentary electorates. Thus, the progress of this system, especially regarding its approach to forestry, should be watched with interest. Imposing modern scientific land-use systems to replace the traditional is not going to be easy, although it has to be the ultimate goal.

9.3 The next stage: development of a national land-use policy

A National Land-Use Policy is being prepared for the government approval, but it will have to be placed before the people at public sittings in order to obtain their views. Some element of a participatory approach may give a Land-Use System more flexibility, thereby making it easier to implement.

Thirty-three government agencies and organisations have links with the LUPPD, indicating further the complexity and difficulty of smooth land-use planning in the country. Chief among these are the Forest Department, Agrarian Services Department, Agriculture Department, Coast Conservation Department, Land Commissioner's Department, Geological Survey Department, Department of Wild Life Conservation, Central Environmental Authority, District Administrations and the Mahaweli Authority.

Land-use planning cells are to be set up in all other ministries concerned with land-use, apart from the present ministry (the Ministry of Agriculture, Lands and Forests) under which the LUPPD functions. The fact that many ministries are to be involved means that land-use activities have to be co-ordinated at a very high administrative level.

A Land-Use Planning Act is to be prepared to give statutory legal effect to land-use planning decisions. In the interim period, close co-ordination between the Divisional Land-Use Planning Committees and other Committees, like the Divisional Agricultural Committees and Divisional Co-ordinating Committees, has been suggested. Passing legislation needs to be done with great care in order to prevent reactions against it. In any case, the laws thus passed have to be tested and, if necessary, amended later. Too rigid a land-use system will never work in a country like Sri Lanka which is mainly agricultural but which is fast developing into a mixed economy. Rigid land-use laws could slow down this development. Flexibility should therefore be the key word in a new land-use management system.

Land-use legislation will also have to take into consideration already existing laws, especially the Forest Ordinance and the Fauna and Flora Protection Ordinance with which it should be complementary.

9.4 How the Land-Use Policy Planning Division might work

Creating awareness of land-use planning

Suggestions have been made by the LUPPD to create awareness of land-use planning among all staff, and, more importantly, at grassroots level amongst the land-users. The latter is to be done by establishing demonstrations of suitable and sustainable land-use. This is crucial and needs to be undertaken immediately, and well before the system becomes wholly operative. In general, in most projects, the first year or so is always problematical and slow-moving because of the lack of awareness of the issues at hand, lack of infrastructure and lack of adequate staff.

The Land-Use Policy Planning Division and Forestry

As a land-use planning system is to be introduced to facilitate overall systematic development in a scientific manner in the country, forestry should not be considered an obstacle but rather as supportive of development. Considering the poor forestry situation today, more space will need to be found for forestry. Village or rural people, especially farmers, are unhappy to see forests being planted near their fields or even near their villages, although these forests are essential to the community. Therefore the awareness programmes of the Forest Department should run together, in parallel with those of the LUPPD at grassroots-level seminars, workshops and rural gatherings.

However, the establishment of forests on watersheds, catchments, hilly areas, windswept lands, and as line plantings, amenity plantings, timber stands, fuelwood plantations, and so on are of paramount importance. So is the establishment of protected areas for wildlife, conservation forests, stream forest reservations and so on. Awareness programmes, therefore, have to be launched for land-users on the importance of all these types of plantings and forests in general.

The classic example of unsuitable land-use – the planting of tea – should be given wide publicity. Six years' of research, conducted by the Irrigation Department, has revealed that an average of 300,000 tons of soil had been eroded every year from one section of the Mahaweli river's montane catchment

which was in degraded, uneconomic tea. Even normal forestry management operations in areas such as the selective felling of trees have had adverse effects on the hydrology of wet zone forest catchments, indicating the need for foresters to pull back from such land-degrading practices (Ponnadurai, 1982). Forestry representatives could take this up in the land-use committees.

Another classic case of improper land-use was when a unilateral political decision was taken by a Government to plant potatoes on a large scale after mechanised soil working on the Horton Plains Reserve. This is a unique forest/grassland ecosystem located on a plateau in the wet montane zone at an elevation of over 2,200 metres. The result was an environmental disaster. Mounting public pressure brought this ill-conceived land-use practice to a halt. This could have been prevented if foresters and naturalists could have gone to a powerful land-use committee. Therefore, similar problems which are bound to arise, could be solved if foresters and naturalists had a voice within a Divisional Land-Use Committee with statutory powers. Hence the importance of a continuous dialogue with the LUPPD Committee.

Other noteworthy examples where forests have been adversely affected by improper land-use are the establishment of sporting complexes, sporting grounds and hotel projects in or near critical forest reserves, mainly for the benefit of tourists. Shrimp farming has damaged the mangroves in many places. Forestry interventions through land-use committees can play an important part in saving remaining forests from being put to further inappropriate uses. For this reason, forestry representation on these new committees by the Forest Department should come from the higher ranks so that forestry interests have a stronger say.

Fortunately, the importance of forest conservation has been taught in schools for some years now and at least school children are aware of this importance. These are the men and women of tomorrow who will have a say in future land-use policies.

The success of the integration of forestry and land-use systems would promote valuable interaction and give-and-take between the Forestry and Wild Life authorities and the LUPPD. The *give-and-take* policy would be most meaningful in relation to the lowland, dry zone where most of Sri Lanka's

forests are located, and in relation to the tea estates on the eroding central montane region.

With emphasis on participatory agroforestry development, there is also the indication that forestry and agriculture in certain situations will move closer together. The land-use planning system will therefore have to recognise this trend in order to ensure the smooth complementarity of these two disciplines in such situations.

The land/man ratio as at 1991 was 0.36 ha and the projection for the year 2000 is 0.33 ha. This is a reflection of the belief among most decision-makers that all farming people have to be given land. As population increases therefore, more land is required and politicians look at the forest as a land bank to meet this requirement. This belief is now being broadly criticised and plans are being drawn up to replace sprawling, low-rise settlements with higher-rise ones. This is the right approach which would, if adopted, provide still more land for new forests to meet the country's goals, both of scientific and economic development and of environmental balance.

Land-use planners in Sri Lanka must recognise that forestry is the answer wherever amelioration of the climate; stabilisation of the soil; provision of timber and fuelwood; conservation of genetic resources and endangered species; provision of habitats for wildlife; improvement of hydrology; and increased employment opportunities for people are concerned.

The LUPPD and other agencies

Forestry Land-use Mapping Project (FORLUMP)

Land-use planning activities are also undertaken by the Mahaweli Authority and land-use maps for forestry in the montane areas are prepared in the ODA-assisted FORLUMP project. Other agencies concerned with the preparation of land-use maps of specific nature are the Survey Department and the Irrigation Department. Unfortunately, close co-ordination of all these activities is lacking and it is felt that the LUPPD should play a pivotal role in this connection in the future, when land-use planning becomes established in the field.

Maps of available sites in the montane region are being prepared for the Forest Department's annual afforestation programmes. These maps, which promise to be of great and long-lasting use, are accepted and passed by the district administrations so that the Forest Department's afforestation drive can be carried out smoothly, without having to face any objections by other competing interests.

The Mahaweli Authority of Sri Lanka (MASL)

MASL continues one of its original tasks of land-use planning for the Mahaweli Authority Command Area. The purpose is to plan human settlements in the Mahaweli scheme where social, amenity and doorstep agroforestry tree and crop planting is practised, with support from the Forest Department's Extension Branch. Also, technical advice is provided by the Forest Department as well as some planting material. The tree and agroforestry woodlots planted are owned by the settlers. In this case, therefore, there is integration of social forestry and agroforestry in the land-use system that prevails in the Mahaweli Area. This specialist agency has an enormous task not only to plant trees on settlements but also to regenerate large areas of forest land which were unnecessarily cleared ahead of development in the mistaken belief that forests are an impediment to development.

The German agency, GTZ is funding part of a new afforestation drive along with local NGOs in the Mahaweli Area of Authority, but results are not completely satisfactory. The Forest Department's independent afforestation of sites in the upper catchment of the Mahaweli Area are on schedule. The problem has been the absence of a proper infrastructure in the Mahaweli Authority to implement forestry activities in the field. It may be advisable for Government to negotiate for GTZ funding to go direct to the Forest Department, as the latter has the infrastructure and staff to implement afforestation projects (although planting and tending targets were behind schedule in 1993). Earlier, an NGO referred to as the "Nation Builders" also failed in its attempts to reafforest the Mahaweli river's montane catchments.

The Irrigation Department

Land-use planning activities are also carried out countrywide by another specialised agency, the Irrigation Department, but these are now restricted to soil surveys in connection with numerous irrigation development projects in the country. Some reorganisation is needed here as the Forestry authorities have repeatedly pointed out the need to closely integrate forestry with irrigation land-use systems for better regulated water yields and sustainable irrigated agriculture. The country's dry zone is dotted with networks of small irrigation reservoirs called tanks and an interconnected system of larger reservoirs, but most of their catchments are bare or with only scattered trees or shrubs. Afforestation of these catchments will therefore improve environmental conditions in the dry zone. When these bare individual extents are totalled up, they will amount to a sizeable area. This is one of the priority areas in the dry zone which will require the active involvement of foresters and irrigation engineers, and financial assistance from donors because the total area involved is very large. These large areas should, without hesitation, be included in a land-use plan and dedicated to catchment forestry.

The Survey Department

The Survey Department, in addition to its normal tasks, is also called upon to undertake sporadic surveys to prepare plans for the Forest Department to carry out urgent or new afforestation programmes requiring quick implementation. It is also required to prepare legally acceptable plans for the granting of title deeds to rural beneficiaries living near forest reserves and to settle disputes regarding land tenurial rights. This Department has therefore an important supportive role to play in the legal aspects of land tenure in a land-use planning system. From the point of view of the Forest Department, only plans surveyed by the Survey Department are upheld in courts of law.

9.5 For the future: a national land-use authority

The ideal land-use policy, from the point of view of forestry, is to reforest the mountains, if necessary at the expense of neglecting the conservation of some dry zone lowland forests. In practical terms, however, even with hard bargaining, with politicians with influence in the montane tea zone it would

take a century or more to do so. Then again, clearing the secondary dry zone forests and forests in the wet zone to make way for other land-use options such as settlements, export agriculture, tourism, irrigation/hydro projects and so on (as provided for in district land-use plans) could eventually leave the country without a forest cover.

Hence, a land-use planning system has to take account of the fact that the existing natural forests have to be conserved and other land-use activities integrated with these forests in a scientific manner, with the emphasis on increasing forest cover in the critical central montane zone. In a developed country, everything is laid out quite clearly and land for forests, cities, agriculture, industries, roads and so on are already committed and accepted, to a large degree, by planners and the public.

Sri Lanka, which is trying to achieve a developed economic status, needs to adopt a disciplined and thoughtful approach in evolving a land-use system peculiar to and suited to the country, instead of borrowing one from another country. For instance, a land-use planning system taken from a long-developed country cannot be foisted on Sri Lanka at the present stage of its development.

This argument diverges from the traditional view which assumes that forestry should be just one component of a land-use system, as in many developed countries in the North. For Sri Lanka, at present, agriculture and forestry considered as an integrated land-use is a better approach.

Although there is no proper statutory scientific land-use system being applied in the country as yet, many specified agencies are concerned with land-use activities, involving a need for closer integration of land-use activities and forestry. As the linkages between these grow, it may be necessary to streamline the operations of the LUPPD, giving it a more powerful status, which could lead to the formation of an independent National Land-Use Authority. The LUPPD is presently only a division within the Ministry of Agriculture, Lands and Forests. In future, it is also hoped that the awareness of a need for integrated land-use planning, with forestry included, will influence decision-makers and result in a more balanced land-use policy. The LUPPD or the National Land-Use Authority will then be the centre point, with

other specialised agencies playing supportive roles in a changed, but acceptable and national, land-use approach.

Already the LUPPD has established a rapport with rural people through its local-level activities and is on the way to establishing large-scale demonstration plots involving all types of land-use practices, including watershed/catchment forests, stream reservation forests, block forest plantations, agroforests and social forestry.

A National Land-Use Authority responsible for a countrywide land-use planning system augurs well for forestry development without socio-politico-economic problems, and the foresters' and environmentalists' dream of expediting reafforestation of the eroding massif of central Sri Lanka could be fulfilled. This in turn would bring back the environmental stability of old, and enable the wise and thoughtful management of the country's forests.