

GUIDELINES FOR DIVISIONAL LEVEL LAND USE PLANNING

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**LAND USE POLICY PLANNING DEPARTMENT
31 PATHIBA ROAD
NARAHENPITA
COLOMBO 05.**

Tel. 011 2500338, Fax:- 011 2368718, E-mail:- landuse@slt.net.lk

FORWARD

Vision of the Land Use Policy Planning Department is “optimum and sustainable utilization of land resource in Sri Lanka”. In order to reach this, the Department has implemented several programs through out the country. Based on the significance and the magnitude of them, they are divided as Macro and Micro programs. Macro program mainly consisted of preparation of land use plans for D.S. divisions. Micro program has several components like village level land use planning, parcel level land use demonstrations and awareness creation activities. The methodology for divisional level land use planning has been developed by conducting number of discussions with head office staff and district level staff. These discussions took considerable time to prepare a suitable methodology. The divisional level planning process was started in 2009 using new methodology. The guidelines were given to the districts at two stages. Subsequently third stage has been prepared and introduced to the selected districts as a pilot programme in order to get the feedback.

The main objective of the preparation of this booklet is to guide the officers at the district and divisional level to prepare Divisional level land use plans using the new methodology. I hope these guidelines will help our officers as a “reference manual” in preparation of land use plans. The feedback from the officers is always welcome to improve the methodology.

I acknowledge Dr. P. Silva for his significant contribution by providing necessary consultation during the preparation of the methodology. I also thankful to Head Office staff and all district officers who have contributed to prepare this methodology.

The guideline has been prepared in Sinhala, Tamil and in English languages for the convenience of all the officers.

P. M. Shanthi Fernando

Director

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1. INTRODUCTION

Land Use Policy Planning Department has mainly focused in preparing land use plans for the D.S. divisions. The main objective of this activity is to utilize the land resource in the country in sustainable manner. Different methodologies can be used for the preparation of land use plans depending on the physical features, agro-ecology and socio-economic condition. However in Sri Lanka, majority of the lands in the D.S. divisions have been utilized for various purposes. Therefore, it is not an easy task to prepare and implement a new land use plan for a division. Hence, required change of the present land use should be identified and mapped as a part of the land use plan. In addition, land use plan should be guided to (1) demarcate the areas to be protected, (2) rationally allocate the unutilized lands for different uses, (3) improve the productivity of the underutilized lands, (4) prevent misuses and (5) minimize land use conflicts in any area.

After a series of discussions with district officers and other relevant officials a methodology has been drafted and it is divided into three main stages. The guidelines for stage I and II had been provided to the District officers to carry out the field level planning activities. The feedback of the districts was taken into consideration to rectify the methodology particularly for the stage I and II. The methodology described in stage III should be tested at the field level before any modification.

This guideline is prepared by compiling all the instructions provided to district officers earlier (since 2009), regarding the divisional level land use planning. The main aim of this compilation is to make the “easy reference manual” for divisional level land use planning.

2. LAND USE PLANNING - STAGE I

2.1 Identification and mapping of land use issues

At this stage the land use issues of the Divisional Secretary Division have to be identified and mapped. The tools that can be used to identify and mapping out the land use issues are shown below.

1. Consult field level officers, villagers and other key people to get the information.
2. Make use of field experience of the LUPOs, ALUPOs, LUPAs
3. Use available secondary data
4. GPS assisted field survey

The identified issues should be marked on the maps of 1:10,000 scale or 1:50,000 scale depend on the availability. When 1:10,000 scale maps are not available for a particular area, printed satellite images can be used as an alternative. However, computer generated final maps should be prepared in 1:10,000 scale.

During the field verification process all necessary data should be collected based on the formats given to you earlier.

2.1.1 Land Use Issues

The major land use issues of the country are classified as;

- 1) Some areas need to be protected (issue - presently they are not protected)
- 2) Presence of Unutilized areas (issue - lands are being kept idle)
- 3) Presence of Underutilized areas (issue - low productivity)
- 4) Some lands are being misused (issue - lead to land degradation)
- 5) Presence of Land use conflicts

Therefore, initially the above issues should be identified and mapped out in the Divisions in order to make recommendations to minimize the impact of these issues.

In addition, presently protected areas have to be marked on the map by using secondary data of different institutions. For example, forest reserves can be mapped using the forest boundary maps prepared by the Department of Forest Conservation.

Please use the data collection format and data table format given to you earlier to collect and tabulate the data.

On the final map, following areas should be demarcated.

2.1.1.1 Areas presently protected

- (a) Wild life reserves and corridors
- (b) Forest Reserves
- (c) Other state Forests
- (d) Grass Lands
- (e) Archaeological and Historical Reserves
- (f) Areas of Natural Beauty and Natural features of exceptional value
- (g) Water bodies/wetlands
- (h) Tourist Development areas
- (i) Coastal Natural Habitats
- (j) Urban Forests and Urban Parks
- (k) Areas gazetted as reservations by the CEB

Most of the above areas can be demarcated on the land use map by using secondary data prepared by relevant institutions (e.g. Forest Department, Wildlife Department, Tourist Board, Archaeological Department, CEB etc.). Even though the above areas are identified as presently protected areas, following issues may be available within the area. If so these issues should be noted if possible make some recommendations.

The issues that will have to be addressed within the protected areas.

- boundaries are not demarcated
- presence of encroachments
- over grazing

- improper uses
- pollution
- tenurial problems
- land use conflicts

Therefore the following data should be collected regarding the presently protected areas.

- Relevant G.N. Divisions
- Geo-coordinates of the protected area
- Name of the area (if available)
- Extent in ha.
- Existing issues within the protected area.

2.1.1.2 Additional areas recommended for protection/conservation

The following areas are considered as additional areas for protection/conservation.

- (a) Landslide prone areas*/** (Use Landslide Hazard Zonation Maps prepared by the NBRO)
- (b) Lands over 60% slope with temporary crops**
- (c) Reservation of streams**, tanks*, water spouts* and water sources* which are not presently protected.
- (d) Archaeological and historical sites which are not presently protected*
- (e) Areas of natural beauty and natural features of exceptional value which are not presently protected**
- (f) Estate Forests*
- (g) Wetlands presently not declared for protection*
- (h) Wild life corridors presently not declared for protection*
- (i) Sand dunes not declared for protection *

(* Areas recommended for protection/ ** Areas recommended for conservation)

The following data should be collected regarding the above areas;

- Name of the GND
- Geo-coordinates
- Name of the area (if available)
- Extent in ha.
- Ownership/Tenure
 - (a) Privately owned
 - (b) State owned - grants
 - (c) State owned - presently under Dist. Sec. or Div. Sec
 - (d) LRC
 - (e) Government Institutions
 - (f) Religious bodies
 - (g) Other
- Existing Land use/Land cover
 - (a) Cultivated (Permanent crops)
 - (b) Cultivated (Temporary crops)
 - (c) Vacant
 - (d) Forest/Scrubland
 - (e) Grass land
 - (f) Settlement
 - (g) Other
- Land use/Land cover of the adjacent areas (categories are same as above)

- Physical features-Slope
 - (a) Flat <2%
 - (b) Undulating 3-8%
 - (c) Gently sloping 9-16%
 - (d) Sloping 17-30%
 - (e) Moderately sloping 31-40%
 - (f) Steep 41-60%
 - (g) Very steep >60%)
- Previous Land use

- Other

-

Above data can be collected using following tools;

- Field observations
- Map analysis
- Consulting land owners
- Consulting land users
- Questionnaires/Check List
- Consulting Local Officers
- Consulting Key persons
- Secondary data
- GPS/Photographs
- Information from relevant agencies

2.1.1.3 Unutilized Areas

These areas are available for future development. Some of the unused areas had been encroached by people for different uses. These lands can be considered as “unused” since they are being used “illegally” and there is a legal provision to take them back for development (theoretically available for development). However some of these lands may not be “vacant” because they are encroached.

The following data should be collected about the unutilized lands using the provided formats.

- Extent in ha.
- Ownership/Tenure
 - (1) State owned
 - (2) Owned by Forest Department (OSF)
 - (3) Owned by LRC
 - (4) Owned by other Institutions
 - (5) Owned by Religious Institutions and
 - (6) Privately owned Lands.

- Existing use/Land Cover (categories are same as above)
- Previous land use/Land cover
- Existing use/ Land cover in adjacent areas
- Slope of the land (categories are same as above)
- Soil Type (locate the area on the soil map by using coordinates to identify the soil type)
- Soil Depth
 - (a) Very deep >120cm
 - (b) Deep 90-120cm
 - (c) Moderately deep 60-90 cm
 - (d) Shallow <60cm)
- Rockiness
 - (a) High >25%
 - (b) Moderate 10-25%
 - (c) Low <10%)
- Water availability
 - (a) Adequate
 1. Rainfed
 2. Ground Water available
 3. Stream nearby
 - (b) Inadequate
 1. Rainfall inadequate
 2. Lack of ground water
 3. No stream nearby
- Drainage
 - (a) Well drained
 - (b) Moderately well drained
 - (c) Imperfectly drained
 - (d) Poorly drained
- Soil texture
- Soil pH

- Salinity (if necessary)
- Erosion hazard (High, Moderate, Low)
- Accessibility
 - Distance to Motarabale road;
 1. <100m
 2. 100-500 m
 3. 500m -1 km
 4. Over 1 km
- Infrastructure availability - Availability of electricity
- Reasons for Land remaining unused
 - (a) Land degraded
 1. Eroded soil
 2. Poor nutrient status
 3. Other
 - (b) Lack of water
 - (c) Absentee land lord
 - (d) Lack of labour
 - (e) Lack of capital
 - (f) Threats from wild animals
 - (g) Natural hazards
 - (h) Tenurial problems
 - (i) Poor economic return
 - (j) Water logging
 - (k) Other
- If encroached, the period of encroachment
- Other relevant data

2.1.1.4 Underutilized Areas

The underutilized lands are either agricultural lands or non-agricultural lands. You have to collect data separately for these lands. The following data should be collected for agricultural lands which are considered as underutilized.

- GND Name
- Geo-Coordinates
- Name of the Land
- Ownership
 - (a) State owned
 - (b) Owned by other government agencies
 - (c) Owned by Forest department
 - (d) Owned by LRC
 - (e) Owned by Religious institutions
 - (f) Privately owned land
- Nature of use
 - (a) Fully used
 - (b) Occasionally used
 - (c) Partly used
 - (d) Other
- Extent in ha.
- Type of the crop
 - (a) Tea
 - (b) Rubber
 - (c) Coconut
 - (d) Paddy
 - (e) Other Field Crops
- Evidence of underutilization
 - (a) Low cropping density - by visual observation. Compare the density with standard crop densities provided by the relevant institutions.
 - (b) Low crop yield - Discuss with land user
 - (c) Other

- Reasons for underutilization
 - Physical Factors
 - (a) Steep slope
 - (b) Degraded Land
 - (c) Inadequate water
 - (d) Poor drainage
 - (e) Rockiness
 - (f) Other
 - Socio-economic factors
 - (g) Lack of capital
 - (h) Lack of Labour
 - (i) Tenurial problems
 - (j) Lack of know-how
 - (k) Other socio-economic factors
 - Other Factors
 - (l) Damage from wild animals

Following data should be collected for non-agricultural lands which are considered as underutilized. These lands were used to construct buildings for different uses. But the entire land may not be utilized. Considerable area remains idle.

- Name of the GND
- Geo-Coordinates
- Name of the land
- Ownership
- Total extent in ha.
- Nature of use
 - (a) Fully used
 - (b) Occasionally used
 - (c) Partly used
 - (d) Other
- Extent utilized - extent given over to buildings and other structures.
- Extent unutilized

2.1.1.5 Lands being misused

The following uses are considered as misuses and these uses should be changed to a proper use.

1. Development activities on reservoir catchments and stream reservations.
2. Cultivation of natural grasslands.
3. Use of highly erodible lands for cultivation.
4. Use of good agricultural lands for dumping of garbage.
5. Areas where improper activities leads to salinization and water logging.
6. Cultivate crops unsuited to the particular location.
7. Use of good agricultural lands for extraction of soil, clay, gravel, gem etc.

The following data should be collected regarding the above misuses.

- Name of the GND
- Geo-coordinates
- Name of the land
- Extent in ha.
- Ownership
 - (a) State owned
 - (b) Owned by other government agencies
 - (c) Owned by Forest department
 - (d) Owned by LRC
 - (e) Owned by Religious institutions
 - (f) Privately owned land
- Type of activity
- Type of cultivation
- Previous use
- Period of misuse
 - (a) Less than 1 year

- (b) 1-2 years
- (c) 2.1 - 5 years
- (d) Over 5 years
- Other relevant data

2.1.1.6 Land use conflicts

There are five significant land use conflicts available in the country. They are;

- a) Conflict between forest and agricultural uses (eg: penetration of tea cultivation into forests, penetration of other crops cultivation into forests etc.)
- b) Conflict between forest and human settlements
- c) Conflict between agricultural uses and urban expansion.
- d) Conflict between agricultural uses and human settlements (eg: good agricultural lands (coconut/rubber) use for housing)
- e) Conflict between agricultural uses and animal grazing

The exact boundaries of the conflict areas are difficult to demarcate on the map. Therefore, it is advisable to hatch the conflict zone (based on the separating line between two land uses) to show that the land use conflict is available. It may necessary to take national level policy decisions to resolve the above land use conflicts,. Therefore, it is sometime difficult to give recommendations at divisional level to minimize the impact of the land use conflicts. However, if some valuable recommendations come up at the stakeholder discussions to solve the conflicts, it should be welcome.

3. LAND USE PLANNING - STAGE II

In this stage land use recommendations should be formulated for identified land use issues. Initially, you can prepare recommendations by yourself considering technical and socio-economic factors. Subsequently, these recommendations should be presented to the all stakeholders at the stakeholder discussions to get their views. The issues and prepared recommendations can be presented at the stakeholder discussions using maps, tables,

graphs etc.. You have a freedom to decide the effective methodology for the presentation. However it is your responsibility to make a good presentation in order to get the sufficient feedback from stakeholders. If recommendations need to be amended, it can be done at the discussions.

The following guidelines will help you to organize the discussions effectively.

3.1 Recommendations for the land use issues

Table 1. Possible recommendations for land use issues

Land use issue	Possible recommendations
1. Areas presently protected	1. Areas that will be completely protected (100%) - However, within these areas settlements located in the zone adjacent to the boundary will be permitted to continue with the approval of the relevant authorities. 2. Areas where some uses will be permitted. 3. Areas where proper land uses will be recommended.
2. Additional areas recommended for protection	1. Areas that will be completely protected (100%) - However, within these areas settlements located in the zone adjacent to the boundary will be permitted to continue with the approval of the relevant authorities. 2. Areas where some uses will be permitted. 3. Areas where proper land uses will be recommended.
3. Unutilized areas	Do the suitability analysis to determine the future use. Then recommend for; <ol style="list-style-type: none"> 1. Agriculture (seasonal crops/perennial crops/seasonal + perennial crops) 2. Animal Husbandry 3. Housing/Settlements 4. Industries 5. Services 5. Other

	Reasons for Underutilization	Possible recommendations
4. Underutilized areas	1. Steep slope	Promote conservation farming
	2. Degraded lands	Promote conservation farming/ provide necessary inputs
	3. Inadequate water	Promote water conservation and attend to irrigation problems
	4. Poor drainage	Improve drainage condition/Introduce appropriate uses
	5. Rockiness	Introduce appropriate uses.
	6. Lack of capital	Awareness creation on agric. loans/subsidy systems.
	7. Lack of labour	Introduce labour saving crops/techniques and introduce machineries.
	8. Tennurial problems	Study the case and discuss the possible recommendations.
	9. Lack of know-how	Introduce awareness programs.
	10. damage from wild animals	study the case and discuss the possible recommendations
5. Lands being misused		Present use must be changed. Appropriate land use should be introduced considering technical factors. Discuss with stakeholders for a final decision.

3.2 Questions to be discussed at the stakeholder meetings.

At the stakeholder discussions the land use issues will be considered separately. The information regarding the issues can be shared with all stakeholders before come to an agreement on land use recommendations.

3.2.1. Questions to be discussed for the areas which are presently protected.

- (i) Type of protection required
- (ii) Identification of implementing agencies and implementation time frame

3.2.2. Questions to b discussed for the new areas recommended for protection.

- (i) Type of protection required
- (ii) Identification of implementing agencies and implementation time frame

3.2.3. Questions to be discussed for the unutilized areas

(i) Whether the identified unutilized areas can be allocated for the recommended use based on their physical suitability. Discuss other demands for the area and amend the recommendations if necessary.

3.2.4. Questions to be discussed for the underutilized areas

(i) Discuss the recommendations suggested for underutilized areas.

(ii) Discuss about the implementing agencies and implementing time frame.

3.2.5 Questions to be discussed for the lands that are being misused.

(i) Discuss the suggested uses.

(ii) Discuss the implementing agencies and implementing time frame.

3.2.6 Questions to be asked related to the land use conflicts

It is difficult to make viable recommendations for the land use conflicts. However, if it is possible to give recommendations for some issues, discuss them with stakeholders.

4. LAND USE PLANNING - STAGE III

When you have completed the stage I and II, you have planned the part of the division. The following areas of the division are planned now.

1. Areas to be protected / conserved
2. Unutilized areas with recommendations for different uses.
3. Underutilized areas with recommendations for improving their productivity.
4. Areas that are being misused with recommendations for proper use.
5. Areas of land use conflicts (may be with some viable recommendations)

In addition to the above areas most of the lands in the division falls into the area where above issues do not exist. At the stage III, this area should be planned. In this area following uses are available.

(a) Agricultural Areas

(b) Service centers

(c) Housing/Settlements

(d) Industries

(e) Tourism

(a) Agricultural Areas

The present agricultural areas can be demarcated into three broad categories considering technical factors and demand for other uses. They are;

- 1) Demarcate areas where present use can continue.
- 2) Demarcate areas with land use problems.
- 3) Demarcate areas where land use changes will be beneficial to the land users and approved by relevant agencies.

(b) Service Centers

The urban areas that are already declared/suggested for declaration by UDA should be excluded since these areas are being planned by UDA. Select other centers with the best growth potential based on your experience and knowledge. Confirm your decision by discussions with officials, local entrepreneurs and local residents. Once you identified the centers determine their direction of growth considering relevant factors. Identify lands that will be required to meet the expansion of the centers.

(c) Housing/Settlements

For the housing there are two categories of lands can be utilized.

- (1) Unutilized lands (if available)
- (2) Lands which are presently utilized for some other purposes. e.g. forest lands, lands marginal for coconut cultivation.

Determine the most suitable areas for the location of this activity based on your experience/ available plans and policies/current trends.

Similar procedure can be followed to determine the areas for industries and tourism.

5. DIVISIONAL LAND USE PLAN

When the three stages are completed, the following out puts are available in each stage.

- (1) Map showing the land use issues followed by set of tables giving the land extents comes under each issue (out put from stage I).
- (2) Land use issues and possible recommendations to address the issues (out put from Stage II)
- (3) Recommendations for the areas where there are no major land use issues are exist (out put from Stage III)

All above out put with relevant maps will be the “Land Use Plan for the Division”. Finally there will be a broad zoning plan as shown in the below diagram to facilitate the decision making of the divisional administration.

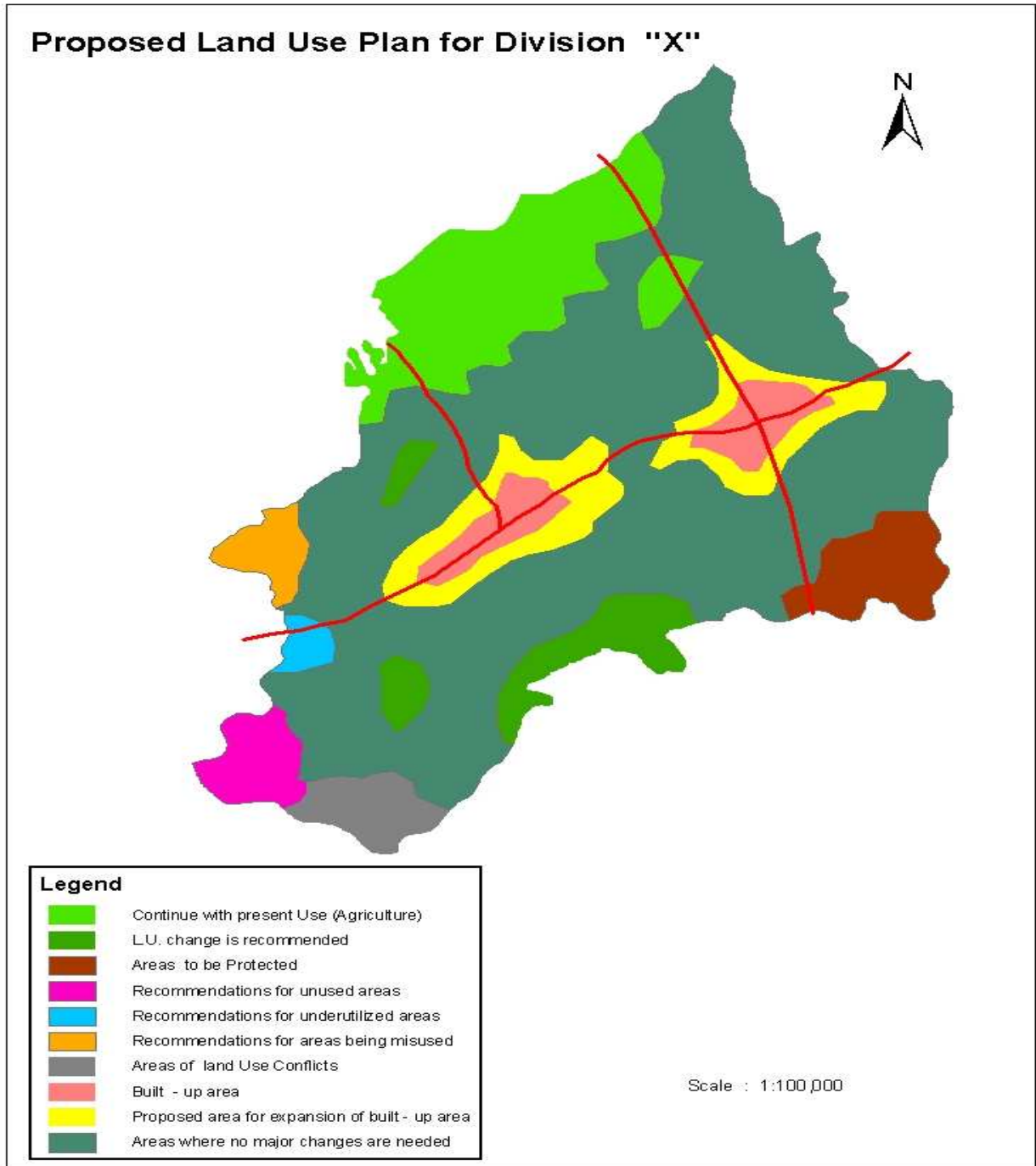


Fig 1. Proposed Land Use Plan for division "X"