

## Chapter 1

### INTRODUCTION

#### 1.1 Introduction

Land is a background of life that has characteristic of location fixity, limited space, and unlimited time. It is not only a natural life environment and life condition but also plays an important role of capital goods for man in agricultural production. Hence, specific characteristics of land and continuous development of society plus overpopulation and economic and social growth cause strong pressures on land. Christian and Stewart (1968) and Brinkman and Smyth (1973) defined land as a parcel of the earth surface with relative stable attributes and dynamic characteristics due to the biosphere above, inside, and under it such as air, soil, geological condition, climate, hydrography, creatures or human's previous activities. Land use always exists and causes many conflicts between man and man in land use right, between man and land in matching benefit and efficiency. To solve and reconcile these conflicts, land evaluation and distribution are considered as prime task. In Vietnam, Land Law 1993 stipulated "Land belongs to ownership of all people; government unites to manage in regulation and law to warranty using land direct purposes and be effective". In localities, land use types are diverse but they are still pictures that need to consider their longevity (scenario) in future. In another word, land use types should be evaluated for their suitability when people want to use land for any decision to ensure that it meets scientific principles, goal policy and efficiency.

Dinhquan, a midhill district located from latitudes  $11^{\circ} 00'30''$  N–  $11^{\circ} 25'00''$  N and longitudes  $107^{\circ} 07'30''$  E–  $107^{\circ} 30'00''$  E belongs to Dongnai province in east - south of Vietnam. It covers an area of 96,650 ha and has population of 231,100 people representing more 30 ethnic groups distributed in 13 communes and a town. Its economic strength lies in agriculture with more than 80% of labor force involved in agricultural production. Rate of average economic growth is consistently about 4.3% (People Committee of Dinhquan, 2002). Economic growth demand is also putting a

violent pressure on land resource. The increasing demand for intensifying cultivation as well as opening up new areas of land in the Dinhquan district may be possible to meet without causing damage to the environment, but only if the land is properly classified according to its suitability for different types of use. Evaluating and planning this important resource from a scientific premise of suitable, efficient, sustainable land uses are very necessary.

Land evaluation provides information and recommendations for deciding which crops or land use type should be grown, where they would be cultivated and related questions. Land evaluation is the selection of suitable land, and suitable cropping, irrigation and management alternatives that are physically and financially practical and economically viable.

The Dinhquan district has land that could potentially be developed for agriculture and forestry, but these lands have not been evaluated. Consequently, the need to compare and evaluate land use type for the district has become quite urgent. In doing so, land suitability analysis should be conducted to support making decision for land use planning.

## **1.2 Rationale**

Land is the most precious property and a critical production input in agricultural and livings. There are many ways to use land efficiently if productivity of land use types can match the supply for the increasing demand. In Vietnam, twenty years ago, farmers could plant whatever crop they liked and followed their own producing patterns without considering land suitability for crops and the yield is just enough for their subsidies. Nowadays, in a situation where land pressure is high, land must be used and assessed so that land use planning can be made specific goals and policy.

The need for optimum use of land has never been greater than at present, when rapid population growth and urban expansion are turning land into a relatively scarce commodity for agriculture. Sustainable productivity of lands in Vietnam can be only achieved by implementing appropriate land use system that minimizes adverse

environmental impacts. In order to assess the impact of above-mentioned problem, land evaluation and comparison of different existing and potential land use types is necessary.

Land evaluation is being done in the whole country to serve for land use planning and detail planning for every administrative class (Center, city or province, district and commune). However, some regions at local level are still in difficult condition about expanding land evaluation (technique, target) and contradicting methods and details. There is no standard process. As Dinhquan is a remote region the contradiction cannot be avoided.

Dinhquan experiences crop transformation in recent years. In 1999, most of area was annual crops occupying about 58% (20,108 ha) of agricultural area but in 2002, 9,2% (18,428 ha) of the annual crop was replaced by perennial crop area (People Committee of Dinhquan, 2002). Are changes of land use types suitable? This is a critical question that is bringing forward by local land users and administrators who need to have a scientific basis to support their decision for the future land use system.

Selection of suitable land use types and efficient methods to use land are always the interest of local administrators and people. At the same time, land use planning is also an urgent requirement to serve local development demand and relates to decision for issuing land use right certificate following Land Law, 1993.

### **1.3 Objective**

The objectives of the study are as follows:

1. To describe land use types currently practiced and the socio-economic settings in the study area.
2. To evaluate current and potential suitability of land use types to support land use planning.