INTRODUCTION

Development is a concept to which people may give different definitions according to their various value-orientations. In this paper the concept refers to certain economic and non-economic processes leading toward a modern industrialized society. The aim of this paper is to present these basic economic and non-economic changes underlying the modernization and industrialization of a society, and to specify forestry's special features and potential contribution to social change from the standpoint of rural development. The role of forestry is considered in both a traditional society and a modern rural environment. It is assumed that the forest industries are also covered by the term forestry.

SOCIAL CHANGE: THEORETICAL FRAMEWORK

Economic changes

Today's society is often called a changing society, with the processes of change being described by such concepts as industrialization or modernization. These concepts naturally refer to the background factors which are seen as embodying the essence of the change processes.

Industrialization, broadly defined, refers to the fact that industrial processing and the services in a given society or in a region develop faster than primary production. It manifests itself in the increasing application of divided labour, large-scale production and modern technology to production and the utilization of natural resources.

Industrialization often involves deep-going changes in the economic and social structure of the society concerned. The economic changes associated with industrialization can, in a general way, be described by the theory of cumulative growth. This theory emphasizes the cumulative nature of economic growth and regional differentiation specifically where no economic cooperative policy means are used to influence the development.

According to the theory of cumulative growth, industrialization is characterized by regional differentiation of economic activity. On the one hand, strong economic growth areas are developed, with back-wash areas characterized by weakening pre-conditions for economic activity, on the other. However, regional differentiation does not proceed in a linear manner. Apart from growth and back-wash areas, areas with spread effect develop. These are areas to which the stimulating influences from the growth areas spread.

The process of cumulative growth and regional differentiation thus means a distribution of scarce resources in such a way that economic expansion in one area is accompanied by at least a relative contraction in some other areas. Among the essential mechanisms transmitting this kind of expansion of economic activity are three factors: (1) Migration brings about an accumulation of, trained people, especially of those at the most productive age, in growth areas; (2) Good returns on investments characteristic of economically expanding areas tend to attract the available capital to these areas; (3) Growth areas with an expanding population and economy also offer a favourable opportunity for developing trade which, in turn, increasingly directs consumption into the growing population centres.

At the local community level, the cumulative development characterizes the industrialization of an area. Cumulative economic development usually starts from an expansion of industrial processing, which in practice means establishment of a modern industrial plant in an area. The establishment of such a plant brings about both primary and secondary changes in the area of its location. Essential primary changes are those in population density and the division of labour.
The employment effects of modern industrial plants in their locality become considerable. Hence the establishment of an industrial plant almost invariably brings about migration into the area, thus increasing the density of population and strengthening the formation of habitation centres (urbanization).

The industrial plant also brings to the area a considerable amount of people with vocational specialization, thus increasing the division of labour in the society as a whole. At the same time, the amount of people in the primary production decreases.

Primary changes are usually followed by a number of secondary changes which in turn result in a greater and greater population density and an increasing division of labour. Essential secondary changes are those in employment, level of income and in various public services:

- The establishment of an industrial plant results in an increase of income and employment in the area. Since this change increases the share of the vocationally specialized population it is likely that the level of income and education also rises. The growth of incomes, in turn, brings about an increasing demand especially for services.

- The cumulative economic development in the growth area often creates a diversity of economic, social and administrative institutions. Large population centres offer certain advantages for this kind of institutions, such as good traffic and communication channels. In fact many service industries and social activities require a certain amount and density of population in order that their activities in the area be profitable or indispensable with respect to local circumstances.

Non-economic changes

Industrialization is also accompanied by significant non-economic changes in the structure of society and in social values.

Industrialization manifests itself, in the first place, in an effort to organize the productive resources to serve higher objectives as efficiently as possible. In this sense, industrialization can be regarded as a social change brought about by efficiency aspirations.

The non-economic changes pertinent to industrialization can in a general way be described by comparing the characteristic features of traditional, non-industrialized and modern, industrialized social systems. In the structure and social values of traditional social systems the following properties are emphasized:

- A general lack of differentiation of social activities and of division of labour. For example, religious, political and economic activities are not differentiated as separate subsystems.

- A static nature of objectives, undeveloped technology and lack of economic rationality, which manifests itself in a low motivation for achievement and in a small willingness to adopt technological and organizational innovations making production more efficient.

- High birthrate, strong primary group relations (family, tribe) and a strong pressure toward conformity of social behaviour.

In the structure of modern, industrialized social systems, on the other hand, several structural features contradictory to the traditional system are found, which enable the resources of the society to be efficiently utilized. In the structure and social values of modern social systems the following aspects are pronounced:

- A well developed division of labour and a general differentiation of social activities into separate subsystems.

- The dynamic nature of both structural and social objectives, through which the selection of the most efficient means for attaining certain aims is ensured. A high motivation for achievement and the adoption of new methods and application of scientific findings in production are typical characteristics.

- A well developed communication system and a diversified interaction with those outside the social system.

- Decreasing birthrate, increasing significance of secondary group relations, of such as political, economic and labour organizations, and a weakening of the social control on the individual to conform socially.

FORESTRY AND RURAL DEVELOPMENT

Forestry’s special features and potential contribution

The impact of industrialization and modernization on the society as a whole usually manifests itself in an achievement of many of the welfare objectives considered universally desirable. This is in fact one of the very functions of industrialization and modernization and yet certain socially undesirables influences also tend to develop unless conscious measures are taken to avoid them. The political system and its traditions in a society largely determine what the social consequences of cumulative development will be.

There are, however, differences in the various industries or other economic activities with respect to their effect on the economic and social life of a society or region. In the case of forestry and the forest industries, one important feature is that they are more directly concerned with rural districts than most other economic pursuits. Some of the influences exerted by forestry and the forest industries are briefly specified below. The specification of these influences is made from the point of view of rural areas and rural development:

- The differentiation effect of forestry and the forest industries is not so pronounced as that of certain other industries or economic activities. Especially the backwash effects are somewhat weaker than those resulting from most other manufacturing industries. This is due to the fact that the forest industries extend their timber growing and procurement into the remote areas thus arresting the total decline of these areas and slowing the movements of labour, capital, goods and services or, in general, the natural tendency to regional differentiation and inequality.

- Forestry and the forest industries can play a valuable role in rural development by making additional income and jobs available to the local population. Revenue from woodland and new jobs in forestry and the forest industries may be one of the decisive factors preventing the disintegration of the local social structure or moderating the backwardness of the rural areas.

- The close interaction between forestry and agriculture has to be considered. In many parts of the world forestry and food production can be effectively combined. Both economically and ecologically, forestry can promote the development of agriculture or vice versa. Agricultural and forestry activities are seasonally complementary. Agro-forestry can also make the land more productive which will bring greater economic and social benefit to rural people.

- The establishment of forestry activities may facilitate certain social services and the development and maintenance of infrastructures in the rural areas. For example, the expansion of forestry activities usually requires the schooling of and health services for the forest workers, and the construction of new roads to the remote areas. Such forestry activities are likely to contribute to the dissemination of professional skills to rural districts; to raise the level of aspiration; to increase the general motives for achievement and to help the establishment of other industries or economic activities.
Forestry and rural development in a traditional society

A characteristic trait of traditional rural regions is an overall poverty which has its origin in the poor economic and natural conditions, and in the rapid rate of population increase. This is a social situation which does not easily lend itself to development. People living in the traditional rural areas have a lower productive efficiency than those living in a modern social environment. In traditional rural areas the inhabitants are usually believers in the ancient variants of religion with their attendant superstitions and lack of economic rationality. In fact, their entire systems of values take on such an imprint of poverty and backwardness that they become more and more reluctant to adopt the ambitious aspirations of a developing society.

In such situations the establishment of forestry activities and the introduction of sound forest management practices may have an important role in the beginning and maintenance of economic and social development which is rational from the point of view of the local communities as well as of the society as a whole, and which is based also on the ecologically sound natural resource use.

Rural poverty is reflected in low income, unemployment, inadequate diet, and lack of differentials. However, forestry and the forest industries can be effectively used to fight against these social handicaps. Additional income and new jobs can be created by establishing forestry activities in remote rural areas. The possibility of improving total production by combining silviculture with agriculture and livestock seems to be promising. The establishment of forestry activities facilitates certain social services and the development of infrastructures. Self-sufficiency and the local independence of the traditional rural regions can be promoted by intensifying forestry. Moreover, natural resource destruction can be arrested and an increased production of natural raw materials can be sustained by the appropriate forestry activities.

However, the establishment of forestry activities and the introduction of new forest management practices may have some influences which one can classify as socially undesirable as far as traditional rural societies are concerned. One basic problem is the almost unavoidable disintegration of ancient social institutions and structures. It must be borne in mind that economic change brings about or is conditioned by some deep-going non-economic changes in society. The process of development is a circular one where many economic and non-economic factors are operating simultaneously. Even when — and this is quite often the case — the local population wishes to retain its traditional way of life it is difficult to avoid certain qualitative changes in the structure of the society or local community and in its social values. However, the special role of forestry activities gives some possibilities to take into account the wishes of local population and to curb tendencies toward regional differentiation and inequality.

Forestry and rural development in an industrialized society

In a modern, industrialized society the rural areas have usually undergone rapid social change. The importance of primary production, especially in agriculture and forestry, have decreased. The dynamic forces of industrialization and modernization have led to the functional and regional differentiation of economic activities; specialization in production has increased, expansive growth centres, areas with spread effects and back-wash areas have developed. Especially in the remote rural areas, the whole structure of the social system is in danger of breaking up. This is because of the cumulative processes mainly generated by large-scale migration and capital movement.

In a modern, industrialized society one primary function of forestry and the forest industries seems to be to maintain and strengthen the social structure and to equalize the regional differences caused by cumulative development. Also in the modern rural areas the establishment of forestry activities makes the additional income and new or part-time jobs available to the rural population. The close interaction between forestry and agriculture is also of great importance although the specialization in farm husbandry is increasing. In addition to this, forestry activities can maintain infrastructures and collective services which are necessary prerequisites for the existence and functioning of the rural social systems.

The role of forestry in rural development may decrease when the industrialization and modernization goes further. One reason is the change in the ownership pattern of private forestry which usually follows industrialization. The change in the ownership pattern means that the number of non-farmer or urban (absentee) forest owners increases rapidly, and thus revenue from woodland no longer benefits the rural population. It is also likely that the increasing urban population will use the forests for purposes other than forestry, such as recreation, tourism or nature conservation which also may weaken the role of forestry and hence the forest industries in the rural development of a modern, industrialized society.

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SELOSTE:

METSÄTALOUS JA MAASEUDUN KEHITTÄMINEN

ENVIRONMENTAL CONTENT OF FORESTRY EDUCATION IN EUROPE

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I CLASSIC FORESTRY EDUCATION

Traditionally, European forestry education has strongly emphasized environmental conservation. In all European countries the first forest administrations primarily were established to protect forests against uncontrolled cutting, clearing, grazing and other destructive uses. Consequently, forestry professionals were trained for this task. The great pioneers of forest education, such as H. Cotta and G. L. Hartig in Germany, were silviculturists.

Silviculture, with its biological fundamentals, was the backbone of the first forestry curricula in European universities. Thus, when forestry education was started at the University of Helsinki in 1908, the two first professorships were in silviculture and forest mensuration and management, whereas professorships in forest economics and technology were established several years later. At many other universities forestry education developed in a similar manner.

Sustained yield as a governing principle of forest management has always been an axiom for foresters, and particularly for teachers at forestry schools. The forester's ethic condemns other kinds of management.

Forestry education reflects the needs of society. After the industrial revolution, rapidly growing forest industries needed ever increasing amounts of wood raw material. The satisfaction of this need was the responsibility of practising forestry and increasing emphasis in forestry education was thus laid on timber production, not only on the basis of sustained yield but also on efforts for progressively raising yields.

Consequently, from the late decades of the last century until the middle of this century forestry education in European universities, at least in heavily forested countries, has mainly contained subjects dealing with timber production. Silviculture, forest protection, and management aimed solely at production of raw material for wood-using industries; harvesting technology and economics of timber production have gained in importance during this time. Under these circumstances the other functions of the forest were, to a great extent, forgotten. Nevertheless, forestry education never forgot its conservation principles, i.e. sustained yield and preservation of soil productivity.