7.1. Introduction

The plantation crops enjoy an important position in the country. The country has a fascinating history in the cultivation of plantation crops. Labour utilization, financing pattern, marketing concepts, technology, equipment, cultivation methods etc., are quite different in plantation field from other industry. So plantation industry possesses some specialties.

The study titled the management practices followed in plantations in Kerala is conducted with object of analysing the present human resource management practices in plantations, financing pattern, marketing structure and crop management practices in plantations. The data required for the study were collected from Planters, Labours, Commodity Boards such as Rubber Board, Spices Board, Tea Board etc.

The present chapter depicts the findings of the study and covers the major management aspects in the plantations. It also includes some suggestions to improve the management practice and thereby increase the productivity.

7.2. Plantation crops-general nature

1. In all the three plantations, the forms of organization are found in four categories-individual, partnership, company and government sectors. Most of the large estates are in company sector and in the case of smallholdings, individuals own most of them. Most of the rubber plantations are individual form followed by company sector. In the case of tea estates, most of them are in company sector (40%) followed by individual and partnership. In the case of
cardamom, most of them are under company sector followed by individual form.

2. In Kerala, the complete rubber cultivation is only the variety-
_Hevea Brasiliensis/_natural rubber. **Assam type** is the main variety of tea cultivated in Kerala and in the case of cardamom, **Malabar type** is the main cultivated item followed by **Mysore type**. Besides this, **Vazhukka** is another variety of cardamom cultivated in Kerala.

3. The major area under cultivation of rubber is in Central – Travancore (especially in Kottayam, and Idukki districts) followed by Malabar region. In the case of tea, **Idukki** stands first followed by **Wayanad** and **Palaghat**. More than 70% of the total area of cardamom cultivation are in Idukki districts followed by Wayanad and Palghat.

4. All the estates / planters are member of any of the planters' association. 50% planters have membership in two or more associations at the same time. Most of the estates (both large and small) are members of **UPASI** followed by **APK** and **CTPA**.

7.3. Human Resource Management

1. The employment system (permanent-temporary employees) followed in rubber, tea and cardamom are different. In all the three plantations, permanent employees are more found in large sector estates. Compared to rubber and cardamom, tea estates employ large number of workers because the nature of work in tea plantations requires large number of employees.

2. In all the three plantations, women workers are more found in large size estates. Compared to rubber and cardamom, more women workers are worked with tea estates.

3. The nature of work in all the plantations is different. Skilled workers are more found in tea plantations followed by
Cardamom (both large and small estates) because the nature of Work in tea estates is highly skilled. Compared to tea and cardamom, there is less number of skilled workers in rubber Plantations.

4. In the case of rubber plantations some training facilities are adopted by Rubber Board and in the case of large cardamom estates, certain Cardamom Growers Associations provide some training. But in Tea plantations, there is no training facilities are now available (both large and small).

5. The number of supervisory staff depends on the size of the estates. Up to 50 hectares, the number of supervisory staff required in rubber estates is 1-3 persons and in tea estates, 1-9 persons are required and in cardamom estates, it is 1-5 persons. The number is increased according to the size of the estates. More number of supervisory staff is required in tea estates than rubber and cardamom.

6. The personnel department system followed by different plantations are different. Out of the three plantations, both personnel department and personnel manager are more found in Tea estates (both large and small). Most of the rubber estates (both large and small) have only personnel manager and in cardamom, both personnel manager and personnel department are more found only in large estates. Here most of the small estates have only personnel manager.

7. Incentives schemes are more found in large sector estates than smallholdings. Out of the various incentives schemes, bonus occupies first place that is paid in most of the large estates followed by annual increment and festival allowance. Besides this, other incentives, such as washing allowance, uniform, allowance etc. are
also found in large sector estates. All these incentives schemes are more found in tea estates than rubber and cardamom.

8. All the plantations, both in large and small estates provide medical facilities. Other facilities such as accommodation, recreations, education etc are more provided by large estates only than smallholdings and all these facilities are more provided by tea estates than rubber and cardamom.

9. Trade union influence is more found in large estates. Most of the employees in large estates are members of any of the trade union. Compared to rubber and cardamom, trade union influence is more found in tea estates.

10. For maintaining one-hectare tea estates, 2.5-3 persons are required; it is followed by Rubber estates. Here 1-2 persons maintain one hectare. But in Cardamom, one person maintains 2.21-hectare estates.

11. Local employees are more found in rubber plantations followed by cardamom estates. In tea estates, most of the workers are locally settled outstation employees. This is same for both large and small estates.

12. The percentage of strike/other disputes are less in plantations industry than other type of industry. In the case of plantations, large estates are more influenced with strike/other disputes. The strike/other dispute is more found in tea plantations than rubber and cardamom.

13. Scientific human resource management and productivity in rubber, tea and cardamom are positively correlated.

14. Scientific human resource management exist highly in rubber plantations than tea and cardamom.
15. Effect of human resource management on productivity is more in tea estates than rubber and cardamom.

7.4. Financial Management

1. Capital employed in plantations include owned and borrowed fund. The source of borrowed fund is mainly from various commodity boards such as Rubber Board, Tea Board, Spices Board and Government. The capital requirement in plantations varies according to the size of the estates. Large plantations require huge amount as their capital than smallholding. Compared to rubber and cardamom, tea plantations require huge amount as capital.

2. The working capital systems followed in plantations are different according to the size of the estates. Large plantations require huge amount as working capital. A good system of working capital management system exists only in tea estates than rubber and cardamom. Most of the smallholdings have no systematic working capital system.

3. The investment in plantations are mainly in land followed by machinery and building. There is less amount of investment in vehicles and other fixed asset. The investment pattern in large and small estates is same in all type of plantations. Compared to rubber and cardamom, investment in fixed asset is large in tea estates because it posses large area under cultivation, moreover in tea estate, factories and other assets are higher than rubber and cardamom estates.

4. All plantations get various types of assistance from various Commodity Boards and Government. Compared to smallholdings, large estates avail various subsidy schemes/assistances. In rubber plantations, new planting scheme and loan schemes (loan schemes include loan for nurseries, loan for smoke houses, loan for planting
etc) are more found. While in tea plantations and cardamom plantations, re-planting schemes are more found.

5. In plantations industry, major investments are in fixed asset, there are less transactions relating to current asset. So there is no systematic current asset management in all the plantations both in large and small estates. Compared to rubber and tea, current asset management is more in cardamom estates.

6. Both financial department and financial manager are more found in large tea estates followed by large estates of cardamoms and rubber. In the case of smallholdings of all the plantations, most of them have financial manager only.

7. Scientific financial management and productivity in rubber, tea and cardamom are positively correlated.

8. Scientific financial management exist highly in tea plantations than rubber and cardamom.

9. Effect of financial management on productivity is more in cardamom plantations.

7.5. Marketing Management

1. Most of the large estates (rubber, tea and cardamom) sell their produce in processed form and smallholdings sell their produce in un-processed form. Compared to tea and cardamom, processed forms are mainly found in rubber estates.

2. In large rubber and cardamom estates, the main selling pattern is direct sale to industry, but in large tea estates, sole buying agent is the main selling medium. In all the plantations, smallholdings sell their produce mainly to sole buying agent.

3. The quantity of annual sale is high in rubber and tea than cardamom. Up to 50ha. the annual sales of rubber varies from 25
4. All the large estates have their own advertisement system, but most of the smallholdings have no such facility, they mostly depend on advertisement agency. Compared to rubber and cardamom, more tea estates have their own advertisement system.

5. Both marketing department and marketing manager are mainly found in large estates. Both are mainly found in rubber estates than tea and cardamom. In smallholdings of all the plantations, most of them have marketing manager only.

6. Tea plantations are mainly engaged in international trade (export) than rubber and cardamom. In all the plantations, large sector estates are engaged in international trade. Here smallholdings have fewer roles.

7. Scientific marketing management and productivity in rubber, tea and cardamom are positively correlated.

8. Scientific marketing management exist highly in tea plantations than rubber and cardamom.

9. Effect of marketing management on productivity is more in rubber estates than tea and cardamom.

7.6. Crop Management

1. The productivity of plantation crops depends on the nature of area under cultivation proper management system. The productivity in large plantations is very high. In rubber plantations the productivity varies from 1.97 tons/ha. to 1.99 ton/ha depend on the nature of the area. This is same for both large and small estates. In the case of tea, the productivity varies from 1.85 tons/ha to 1.92 tons/ha. (both large and small). It is also depend on the area. The
productivity of cardamom is only 0.127 tons/ha. In large one, it is increased to 0.17 tons/ha.

2. Both large and small rubber estates have their own nurseries than tea and cardamom. In tea and cardamom, nurseries are more found mainly in large estates.

3. The life of the plant is high in tea plantations (48-80yrs) followed by rubber (18-24yrs). But there is short span of life for cardamom (16-20yrs).

4. In all the three plantations, new planting area are more found in large sector estates than smallholdings. Most of the rubber estates have new planting area followed by cardamom. While in the case of tea, there is little new planting area.

5. Shoot root and abnormal leaf fall are the main diseases found in rubber plantations. In tea plantations, black root and brown root are the major diseases found and in the case of cardamom katte (mosaic) disease, azhuckal disease and chenthal are the major diseases.

6. The soil suited for rubber cultivation is highly weathered soil and consist mostly of laterite and lateritic types. Red and alluvial soils are also seen in some areas. The PH index for rubber cultivation is 5-6.5. Red-clay soil is most suited for tea cultivation. The acid content of the soil (PH) is 4.5-8. Humus-rich soil holding a good evergreen forest is ideal for cardamom cultivation. The acid content of the soil is 4.5 to 5.5 suited for cardamom cultivation.

7. Poly bag planting is the main method of plantings in rubber plantations followed by stump planting and seed-at-stake planting. In tea plantations, poly bag planting is the main method of planting and in large cardamom estates, poly bag planting and in small holding seed-at-stake planting are commonly used panting method.
8. In rubber planting and cardamom plantation a good water management system exist mainly in large sector estates, but in tea plantations, in both large and small estates have good water management system. Compared to rubber and cardamom, a good and systematic water management exists in tea estates.

4. Most of the rubber and tea estates have good disease management system, but compared to them, in cardamom plantation, there is less disease management system. In all the three cases, large sector estates have more facility for disease management system than smallholdings.

5. Scientific crop management and productivity in rubber, tea and cardamom are positively correlated.

6. Scientific crop management exist highly in tea plantations than rubber and cardamom.

7. Effect of crop management on productivity is more in rubber plantations than tea and cardamom.

7.7. Suggestions

On the basis of the findings, the following suggestions are made with a view to increase the productivity of the crops.

1. Human Resource Management

1. The numbers of women workers are very few in rubber and cardamom estates than tea. So give more chances for women workers in rubber and cardamom estates.

2. At present no systematic training is available in all the plantations except some training in rubber plantations by Rubber Board and in certain cardamom estates by Cardamom Growers Associations. So various commodity boards and government arrange some training facilities to employees and supervisory staff in all plantations, it will
help to increase the efficiency of employees and thereby increase the production.

3. At present, both personnel department and personal managers are found only in large sector estates and some smallholdings have personnel manager only. So arrange some facilities to look after the affairs of the employees in all estates both large and small, it will increase the morale and attitude of the workers.

4. Now incentives schemes and allowance are found in large estates only. So adopt a systematic incentives scheme in smallholdings also, it will increase the attitude of the employees towards the plantations.

5. Provide more infrastructure facilities for increasing the good working conditions in estates.

6. Now local employees are more found in rubber and cardamom estates, in tea estates, locally settled outstation employees are more. So while recruiting personals, preferences may be given to local persons, it creates a feeling of security among workers and thereby increases the production.

2. Financial Management

1. Borrowed fund must be reduced as far as possible, to strengthen the financial position.

2. Now working capital management system exists in large sector estates only. So provide a good and systematic working capital management system in smallholding also and to give some arrangement for working capital for meeting annual development expenditure.

3. Provide investments for installing modern and up to date machinery and equipment. It increases the production efficiency.
4. The Government and other commodity boards may give their attention in providing subsidy schemes and other facilities to small growers also. It will help to increase the production.

5. At present, there is no systematic current asset management in all plantations. So give some arrangement for current asset management system such as maintaining cashbook and other records relating to cash transactions, inventory register, purchase register etc.

6. Presently a good finance department system exists only in large sector estates, so give some arrangement for look after the financial aspects in smallholdings also.

3. Marketing Management

Presently a good system of sale exist only in large sector estates, so more care must be given to sales activities such as auction, door to door sales etc. in smallholdings also.

Now systematic advertisement systems exist only in large estates, so the Commodity Board and Government provide some facilities for advertisement in smallholdings also.

A systematic Marketing Department system exist in large sector estates, so arrange some facilities for look after the marketing and sales activities in small holdings also.

4. Crop Management

Currently nurseries are found in both large and small estates in rubber and tea estates, but in cardamom, only large sector have its own nursery. So provide facilities for nurseries in small cardamom estates also.

A systematic water management system exists only in large estates, so arrange some facilities for irrigations in smallholding.
3. In cardamom estates, there is little system for disease management, so arrange facilities for disease management in cardamom plantations.

At planters level, there are certain suggestions regarding the production, employee relationship etc. they are.

a. To establish a good relation with the employees than the present one.
b. To make arrangements for more living facilities for employees.
c. To use modern factory equipments.
d. To develop a good fertilizer usage system in the plantations.
e. Use modern fertilizer techniques in plantations
f. Make arrangements for irrigation facilities and disease management systems.

7.9. Conclusion

India is an agriculture-based country. The national economy and per capita income of the country is entirely depending on the growth of agriculture. Plantation crops are one of the segments of total agriculture. So there is some need for studying the present management practices followed in plantations. The entire production of the plantation is depending on the management aspects. If there is a good and proper management system in the plantations, the production and productivity is will definitely increase.

The present study covers almost all management aspects in the plantations field. The study noticed the defaults of the present management practices and suggested some measures to improve the productivity. They may help the planters, workers and also the government to improve the management practices followed and thereby increase production and productivity.
The present study covers almost all management aspects in the plantations field. The study noticed the defaults of the present management practices and suggest some measures to improve the productivity.

Such an analysis of these management aspect helps the planters, workers and also the government to increase the present production pattern and then by national economy of the country.