CHAPTER- 6
SUMMARY AND CONCLUSIONS

Among the agro – industries, rice processing industry is the biggest industry in India. Rice is one of the important agricultural commodities. It is obtained by processing paddy. In Kerala rice is the staple food. Paddy processing industries are one of the traditional industries in Kerala. So an attempt has been made to study about the growth and development of rice trading in Kerala especially in and around Kalady where more than 43 percent of the modern rice mills are located.

The study is presented in six chapters. The first chapter is introduction which explain the conceptual frame work, importance of the study, review of the earlier studies, theoretical frame work, objectives, hypothesis, methodology, data source, limitations and design of the study.

Two types of data have been used in this study:
1. Primary data
2. Secondary data

The primary data for the study were collected from the rice traders, Rice mill owners association, Kalady rice miller’s consortium (KRMC) field survey among 42 rice mill units, marginfreeshops etc. Data collected from employees of rice mills, brokers and commission agents, by the interview method. The selections of respondents were based on 42 modern rice mills in and around Kalady out of 80 mills in Ernakulam district. Only 120 units are functioning in the state of Kerala. The sample units percentage is 35 percent of the total modern rice mills in the state of Kerala and 52.5 percent in Ernakulam District. 20 modern rice mills functioning in and around Kalady are selected for financial performance analysis on the basis of their market share in rice trading in the
state of Kerala. This totals 16.6 percent of the total rice mills in the state and 25 percent of the total rice mills in Ernakulam district. Audited financial statements (Trading and Profit and loss account and Balance Sheet) were used from 2000-01 to 2004-05 (5 years), being the latest year in which data collection was possible.

The second Chapter deals with the Area, Production and Productivity of rice in India, Kerala, and Ernakulam district. As the rice is the major food crop of Kerala and majority farmers in the state are rice farmers. The prosperity of people of Kerala based on the performance of the rice crop and hence Kerala's economy is largely rice based. The area and production of rice which was steadily increasing till mid seventies had succumb to economic pressure emanating from other remunerative crops, and the growth of the construction sector. This resulted in the decline of more than 5 lakh ha of area under paddy cultivation during the last two decades. Socio-economic-ecological impacts of paddy field conversion are the central theme of this chapter.

Chapter -3 presents a historical sketch of the rice mill business in Kerala and Kalady. Different methods of rice processing and the conversion of by-products. Chapter -4 gives a detailed study of rice mill cluster in and around Kalady based on the Porters Diamond model of clustering. Chapter -5 presents a detailed analysis of the financial performance and problems of 20 selected modern rice mills having their own brand names for marketing their products and constitutes 40 percent of the total market share in rice trading. Chapter -6 contains the findings, conclusions and interpretation of the results. Also suggestions for improvement of the industries and an enquiry into the possibility of further research in this area had been made.

Findings:

Specific finding in conformity with the objectives laid down are given below:
1. **In Kerala, rice is the staple food.** Its food requirements are increasing year by year. But the production of rice is deteriorated year by year due to the negative impact of cropping pattern change. In Kerala, mid seventies were a period of highest area of paddy cultivation and production. But after that period, the rice production and are of cultivation succumb to economic pressure emanating from remunerative corps like coconut, rubber, banana etc. Due to this change in cropping pattern Kerala has to depend on other states for its food requirement mainly for rice. The rice processing mills throughout Kerala suffering from shortage of its only raw materials - paddy - for processing.

The deceleration in production of rice is due to negative change in the cropping pattern effect in the state of Kerala. Enquiry into the causes that led to the deceleration of rice production of Kerala during the reference period from 1974-75 to 2003-04 is divided into three T.E and 1994-95 is the base year. The period of study were – period - I 1974-75 to 1980-81, Period - II 1981-82 to 1991-92, Period - III 1992-93 to 2003-04 the total output growth decomposed in to three effects using the formula;

\[
\text{Output growth} = A + \sum W_i C_i Y_i - A_o \sum W_i C_i Y_i
\]

**Three effects are Area effect, Yield effect and cropping pattern effect.**

Output growth is the sum total of Area effect, yield effect and cropping pattern effect. The decomposition analysis revealed that the tendency of output growth before and after the benchmark year shows the declining nature of output growth. Value of absolute area effect remains negative before and after the base year shows the stable nature, Yield effect increasing nature and value of cropping pattern effect changes from positive to negative shows the declining nature of the effect. The tendency of deteriorating the production of rice every year created raw material shortage to the rice mills throughout the state, especially the rice mill cluster in and around Kalady.

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2. While analysing the causes and factors led to the clustering of rice mills in and around Kalady and to address the issue in conformity with the Porter's Diamond model of clustering, it is proved that certain locational factors are influencing the clustering of modern rice mills in and around Kalady. From time immemorial Kalady was a trading centre for rice, the demand for 'Kalady rice' still continues. The traditional rice processing families and the younger generation are still continuing as the rice mill owners and traders of rice in this area. The entrepreneurial growth tendencies of this area along with the availability of pure water from the perennial water source of river Periyar are the dominant locational factors that influence the clustering of modern rice mills in and around Kalady. This is proved by applying the proportion test. There is a positive relation between entrepreneurial growth and availability of pure water resulted in the clustering of modern rice mills in and around Kalady.

3. Modern rice mills are classified on the basis of technological progress i.e. highly advanced (fully automated) and advanced (Semi-automated) modern rice mills. The highly advanced rice mills are using sophisticated methods for processing, sorting etc. They are using computer sortex machines. It is proved that technological progress bears a positive influence on sales. The highly advanced modern mills have an upper edge over advanced modern mills over total sales.

4. Technically progressed mills have lesser debt-equity ratio. As already stated that of the 20 modern rice mills selected for financial performances analysis, is divided into two categories i.e (1) Highly Advanced Modern Rice Mills and (2) Advanced Modern Rice Mills. It is proved that the highly advanced modern rice mills are running in a low gearing - i.e. the ratio between proprietors funds and outsiders fund are comparitively low.

5. The most pertinent finding of the study is that the capital and long term funds and properly and fruitfully invested in fixed assets and working capital
Apart from this major finding, the other notable findings of the present study are listed below.

**Other findings of the study:**

* Kerala is one the state which has the lowest percentage of area of cultivation in India i.e. 0.76 percent of the total area of rice cultivation in India.

* Kerala witnessed a decline of 5 lakh ha of land under rice cultivation over a period of two decades.

* Productivity of rice in Kerala shows an upward trend because of the use of HYV seeds.

* During the year 1965-66 about 32.1 percent of the total land area is under rice cultivation but during the year 2003-04 it reduced 12.01 percent.

* In Kerala remunerative crops like coconut, rubber, banana etc. increased their proportion of area under cultivation and it resulted in the decrease in the area of rice cultivation.

* Wage rate of agricultural labourers is the highest in Kerala than all other states in India.

* The wage rate agricultural labourers increased about 2500 percent (25 times) when compared to the wage rate of 1970-71.

* The price of paddy per quintal is increased only 3 times when compared to the price of 1970-71.

* The cost of cultivation per quintal is Rs. 522 in Kerala which is highest of all other states in India.

* The number of modern rice mills was increased from 6 during 1970 to 35610 in the country during 2004.

* Rice bran is the main by-product of the rice processing industry.

* The growth of Kalady rice mill cluster was rapid after 1980.

* In Kerala 120 modern rice mills are operating and producing about 6 lakh tonnes of processed rice.
Majority of modern rice mills work on shift basis and the time required for one shift is 8 hours.

Majority of rice mills (76 percent) met their capital needs through banks and other financial institutions.

Rice mills are classified into Highly advanced and Advanced rice mills, only 36 percent are highly advanced, others are using advanced moderate technology. Only 36 percent of the units are fully automated and 64 percent are semi-automated.

There is not a single unit working in and around Kalady on traditional lines.

There is not a single unit in and around Kalady owned and operated by government or co-operative sector.

Majority of rice mills are (67 percent) operated in partnership basis, 19 percent are soletradership and 14 percent are private limited companies.

Majority (79 percent) are working on 50-75 percent capacity utilization.

Majority (55 percent) of the entrepreneurs have got primary education, 15 percent are graduates, and 3 percent are post graduates; others have either secondary or technical education (27 percent).

Majority (65 percent) are in the age group of 40-50 category 18 percent are above 50 categories, 17 percent belong to 30-40 categories.

96 percent of the entrepreneurs are locals (in and around Kalady) 4 percent from within the district of Ernakulam.

93 percent of the rice mill units have their own premises and 4 percent are operating in rented premises.

38 percent of the units employed 25 persons, 24 percent units in between 25-40, only 3 percent above 40.

50 percent of the skilled workers belong to the local area and 50 percent from outside the local area and outside the state.
* All the skilled and un-skilled workers belong to male category.
* Majority (55 percent) of the skilled workers are from outside the state.
* Majority (88 percent) of the administrative staff are from the local area and 12 percent from outside the local area and outside the state.
* 68 percent of the administrative staff are graduated, 22 percent are post graduates, 2% primary education and 8% have acquired secondary education.
* Majorities (72 percent) of the administrative staff are male category and 28 percent are females.
* All the units (100 percent) are producing ‘matta variety’ of rice.
* In Majority of the units (52 percent), samples of paddy are verified by the owners of the rice mills.
* 79 percent of the rice mills purchasing paddy on daily basis, 14 percent on alternatives days.
* 93 percent of the units have their own storage facilities others have rented storage facilities.
* Majority of the cases (53 percent), price of paddy is determined by open/secret negotiation between paddy brokers/commission agents, vendors, and rice mill owners.
* Price of rice is determined by the rice mill owners in consultation with the Government agencies.
* 65 percent of the units reported that they are making sales only in the state of Kerala.
* 32 units have joint-business activities.
* The paddy open market yard at Kalady is the biggest paddy market in Kerala.
* ‘LEADS’ is the common brand name of the rice bran oil marketed by the Kalady Rice Millers Consortium(KRMC)
Suggestions and Recommendations:

The following measures are suggested to remove the problems mentioned earlier to strengthen the development of modern rice mills in and around Kalady.

1. In Kerala production of rice is deteriorating steadily every year. The cluster of modern rice mills in Kalady is to depend on other states for its raw paddy requirement. It is necessary to increase the paddy production by cultivating more paddy fields. The reasons for the deterioration of paddy production is due to increased cost of production, small sized holdings, lack of irrigation facilities, conversion of paddy fields for construction purposes such as the construction of roads, schools, colleges, houses etc. The main reason is the negative change in cropping pattern i.e. more remunerative crops such as coconut, rubber, banana etc are cultivating in the paddy fields. For increasing paddy production the state government should introduce a legislation like the Forest protection Act that the paddy fields shall not be used for other purposes.

2. The Minimum Support Price of paddy per quintal should increase to meet the cost of production.

3. Declare Kerala as a paddy protection area.

4. Organise a paddy technology mission so that the farmers shall get good prices for the by products also.

5. The Kerala Agricultural University should take necessary R&D activities so that they can introduce HYV seeds to increase the paddy production.

6. Open new agro clinic centers and paddy information centers.

7. Provide infrastructural facilities such as irrigation, electricity, fertilizers etc. to the farmers.

8. The Kerala State Electricity Board, a supporting industry of modern rice mill cluster in Kalady should reduce the present power tariff rates as the industry providing staple food to the people of Kerala.

9. Setting up of a common effluent treatment plant for treating effluents generated from the cluster of rice mills in and around Kalady.
10. Setting up of a common fuel pump for the use of modern rice mill cluster members in Kalady. This will considerably reduce the cost of fuel charges.

11. Setting up of a common testing laboratory for the use of modern rice mill cluster members in Kalady.

12. The Food Corporation of India should collect paddy from different parts of the country and the finished product also handover to the FCI so that the rice mill cluster in Kalady can fully utilise its present capacity in full. This will ultimately reduce the commission /brokerage paid to middlemen in rice trade.

13. A technology –cum – business information centre should be established and it should provide necessary training etc. to its workers, management staff etc.

14. Establish a captive power plant independent bio-gas operated generator sets to reduce the cost of power.

15. A refinery project will help to increase the realisation of product from the expelling plant. The refined oil should be sold in a common brand.

16. Development of new marketing channels in addition to the existing domestic market channels. Women identified through the ‘kudumbasree’ Programme can be trained and sold the products through this way. This will enable the door-to-door marketing of products of rice mill cluster members.

17. Common marketing yard inside and outside the state should be opened to procure paddy. This will help to procure paddy seasonally so that the modern rice mill cluster can work at full capacity level.

18. Quality control laboratory to test the bran and bran oil is to be established so that the modern rice mills can make use of their by products fully.

19. Linkages with the government agencies such as the industries department, Kerala Agricultural University, Cochin University of Science and Technology (CUSAT), Central food technology research institute (CFTRI) pollution control board, KSEB etc. should be developed.

20. At present only one extraction unit in the ownership of the cluster members is working, steps should be taken to set up more rice bran oil extraction units to extract more rice bran oil and its conversion in to edible oil as well as industrial purpose.
21. For getting jute bags, polythene bags, and other packing materials a consortium owned factory should be established to manufacture packing materials.

22. A fly ash brick manufacturing unit should be established by the cluster members with the help of the government of Kerala to use the fly ash generated after boiling the plant. This will get value addition for their industrial waste.

23. A common warehouse should be set up by the cluster members to avoid their storage problem.

24. The activities of the ‘common store’ facilities for storage and supply of mill stores (viz. consumables such as gears, shafts and belt drives) rubber tyres and vehicle spare parts should be popularised and readily available to members of the cluster with out delay.

25. The cluster of modern rice mills should take proper initiative with the co-operation of Kerala Agricultural University and the government agencies to encourage the farmers to shift high yielding and Value yielding varieties of rice. So also the farmers should also provided with all other facilities required for the atmosphere of cultivation in the state. The cluster along with other specialised institutions as to help the farmers appropriately orient cropping patterns towards paddy and also corporate farming or cluster farming. This will contribute much towards enhancing availability of raw material.

26. The government and the cluster members of modern rice mills should reach an agreement to distribute the products of modern rice mill cluster through the public distribution system (PDS) operated and managed by Kerala Civil Supplies Corporation (Government agency). This will definitely reduce the transportation cost and the danger of bad debt to a greater extend.

27. Various training programmes including 3 month long training Programme to promote export sponsored by SIDBI (State Industries development Bank of India) and implemented by EDI should be launched continuously.

28. The government agencies in this sector should take strict measures for the adherence of quality parameters by the modern rice mill units in respect of each of the brands brought out by them.
29. The government agencies should take necessary steps to control the blending of dyes and chemicals which are injurious to health by some of the rice mills to make the inferior quality rice in attractive forms.

30. Rice mills in Kerala should include in the high priority sector by the government considering its role in supplying the staple food for the ‘Keralaites’.

31. A standardised pricing policy after consultation with all those who related to this industry should be formed by the government agencies for the fixation of fair price for the rice processed by the cluster members.

32. The government agencies should encourage the quality control, social services, and environment friendly awards to the best modern rice mills in this sector which satisfies the above parameters.

33. Co-operative paddy procurement scheme should be implemented.

34. Procurement scheme must be given more emphasis and liberal financial assistance from the financial institutions to the co-operative sector to attain the objective is to be made, so that un-holy existence of middlemen can be eliminated effectively.

Suggestions for further research

As stated earlier that the study can be conducted from different angles such as owners, consumers, workers, traders etc. but the present study is limited from the point of view of rice mill owners and workers alone. Further study can be conducted from the point of view of consumers, traders; paddy brokers/ commission agents, paddy farmers, rice traders etc. Another important scope for further research in this area is to examine the problem and prospectus of o value addition and value creation (forward linkages) of by-products such as rice bran, husk etc. Another researchable topic is the various implications of the supporting industries linkages- backward as well as forward aspects. The rice mill
sector give direct employment to 4000 persons. The employer-employee relationship, Labour welfare measures, role of trade unions etc. have further researchable topic. As there is wide gap between demand and supply of rice in Kerala, the possibilities for government owned and operated or co-operative sector can also be studied.