7.1 Findings of the Study

The theoretical and empirical analysis of the data has resulted in the following major findings.

7.1.1. Majority of the Kudumbasree members engaged in waste management are middle aged women of age between 30-60 years (88.4%). The percentage of other two categories ie, age below 30 years is only 4.35% and above 60 years are 7.25%. This job is not attractive to the younger generation and majority of them are middle aged women who have come to this field at a much later age.

7.1.2. Attracted by the vast employment opportunities in urban areas, people began to migrate to these areas thereby increasing population. Since population increased, more and more dwelling facilities had to be arranged within the limited area. On the date of submission of the study there are 375 apartment complexes and 12000 apartments in the Cochin Corporation limits and the quantity of waste is high in the urban areas of Ernakulum district. The Kudumbasree workers are collecting wastes only from the
urban areas of the district. The workers who are engaged in this occupation are also living in the urban areas of the district.

7.1.3 Waste removal and disposal was preferred because it required less training and lower educational qualifications. All workers can do this work without any technical skill and educational qualifications. Since it is a daily routine, practical experience is necessary for them for doing this work. 7.24% illiterate persons are doing this work. Majority of the members have (44.93%) only primary level education and a few of them do not know how to read and write. 19.81% of members have secondary level education while 28.02% have high school level education.

7.1.4. Majority of the members engaged in waste management are married and have family life (72.95%). Only a small percentage of unmarried members are there (7.25%). 19.32% of widows were confident that they can earn and live by doing this job, without the help and support of their family members. There is only one divorced woman and she earns her livelihood thorough this job. Thus the Kudumbasree women’s dependence on others has gradually come down and they have become self reliant.

7.1.5. Regarding the number of children, half of the total populations have 2 children. (50.24%). Those who have more than 3 children are very less (6.28%). In general, majority of the members have fewer children and these children are not interested in doing waste management.

7.1.6. All Kudumbasree members are earning members. 27.05% of total populations have only one earning member in the family. This category includes divorced, widows and women whose husbands are under treatment or they have physical ailment. 65.22% have 2 earning members in their family which includes both husband and wife having age group 30-60. In
the case of 3 and more than 3 earning members include both husband and wife and their children. When the number of earning members increase, the total amount earned in that family also increases.

7.1.7. Only 17.39% of total population have more than 10 years experience in waste management. The percentage is very less, because in the initial stage, the monthly income was very low. At present it has increased thrice or more. This increased income attracted 42.03% of new members having less than 5 years experience. 40.58% of total population have 5-10 years of experience in Kudumbasree and in the first one or two years some of them were engaged in several other activities like retail trade, bakery, soap making etc.

7.1.8. The members were engaged in different types of work before coming into Kudumbasree and waste management. 28.99% were sales girls. They have to work at least till 8 PM at night and the salary is less. So they left this job and joined Kudumbasree. Only 13% of the total population was engaged in self employment programmes like small scale poultry farming, running stitching units etc. But they have no money for capital investment. They considered this waste management as a job with permanent income when compared to these different self employment programmes.

14.49% were house wives and they did not have any income of their own. They were completely dependent on their husbands’ income. But as the cost of living increased, this income was not sufficient to meet their family expenditure. So they joined Kudumbasree in order to support family expenditure. 43.48% were maid servants who were working on a part time basis.
7.1.9. The monthly income of the members who were engaged in different types of work before joining Kudumbasree was less. 37.2% have below Rs.1000/- as their monthly income. This category includes those women who were engaged in various self employment programmes. The monthly income was very low because the members do not have sufficient amount for capital investment. 10% of the total population earned an amount of Rs.1000-2000 as their monthly income. Majority of them were maid servants and since they did not get enough time to spend in their own families, they quit this job. 37.68% members worked as sales girls who earned an income between Rs.2000-3000. They have to work at least 12 hours in a day and have to stand all the time. 14% of the total population had no income before joining Kudumbasree. They were housewives and were depending on their husbands for meeting their needs.

7.1.10. The number of members in Kudumbasree unit was different in Panchayat, Municipality and Corporation areas. The number is high in the Corporation area when compared to the other two categories. The maximum number of members is 50 and the minimum number is 7. There is not a single group having more than 50 members in any part of the study area. This shows that there is a high degree of group work among the persons in the corporation area.

7.1.11. Due to three important reasons the members selected this job. They were more remuneration, less education and this is a job of permanent income. 54.04% opined that they considered it as a job of permanent income. Since consumption takes place daily, these workers have to collect wastes form households, flats, shops etc daily. So there is an element of regularity in this job. 32.69% opined that less education was the major reason for selecting this job. 13.27% considered more remuneration as the
major factor for selecting this job. 19% are of the view that less education and a job of permanent income influenced them for selecting this job. 0.65% said that a job of permanent income as well as more remuneration guided them for selecting this job. 0.65% opined that all the three reasons influenced them for selecting this job.

7.1.12. The workers had to collect waste from 4 sources, i.e. from hotels, hospitals, household and flats and from shops. Majority of the members (56.12%) collect food wastes from households and flats. In corporation areas, the Kudumbasree members are collecting only these types of wastes. A major part of hospital wastes are collected by other agencies. The percentage of members collecting wastes from hotel and shops are equal i.e. 10.13%. The hospital wastes are collected only by 2.52% of members in panchayat and municipal areas. 21.1% collect all types of wastes, since the number of institutions is not high. All members collect plastic wastes on a specific day.

7.1.13. Members who collect only one type of waste had 2 shifts in a day while those collecting more than one type of waste and all wastes need 3 shifts in a day. When the number of shifts increases, the earning amount is also increased. Finally it leads to an increase in their savings.

7.1.14. All workers wear uniform for their identity. Uniform may be either churidar or saree with over coat. Since they have to buy it at their own expense, almost all of them have only one pair and so it is difficult to maintain neatness. Only 26.88% of workers use gloves. Most of the workers are using plastic covers as their temporary gloves which they get from the waste bin. 17% of the total respondents use mask and shoes. Those who suffer form dust allergy, suffocation and other breathing
problems only use mask. The workers who load and unload waste form the lorries use shoes as they have to stand amongst the waste materials. Only 16% of the total populations were taking all the precautions.

7.1.15. Authorities in the health department had provided training at the beginning of this programme. After that no training is provided to the members. Most of the members who got more than 10 years experience have got training. The authorities hardly care about their health and safety. Only 37.2% of workers got training while 62.8% do not get sufficient training.

7.1.16. All workers use hand carts for waste collection and these are provided by the municipality or corporation authorities at a subsidised rate. The wastes from hand carts are carried through Lorries to the dumping area.

7.1.17. In every group, there will be some male workers to assist the women workers. Some of them are the members of Kudumbasree, while some others are the permanent municipality or corporation workers. In corporation area, there is a good team work of male workers and the female workers.

7.1.18. All workers receive salary on monthly basis and no one gets it on daily or weekly basis. The workers get their salary at the first day of every month. Monthly income is not a fixed amount and it may vary in accordance with the number of institutions from which the waste is collected. 61% of total population earn maximum amount i.e. Rs. 6000-8000 as their monthly income. This category includes those who collect all types of wastes. Only 2.9% receive the minimum amount i.e., Rs.2000-
4000. 35.75% of total population earns Rs.4000-6000 as their monthly income.

7.1.19. Half of the total population uses their income for meeting household expenses. As the cost of living increased, women who were depended on their husbands’ income have joined Kudumbasree to earn and support the family. 37.35% of the respondents gave more importance to their children’s education. Because of their low level of education, they had to take up this job. So they want their children to get good education.

7.1.20. Only a few have savings (40%). The savings may be either in the form of bank account or chitties. Unmarried workers and widows include in this category. Their consumption expenditure is less when compared to the other. Only 4.6% have savings in the form of both bank account and chitties.

7.1.21. Kudumbasree provides loan to each and every members with very low interest rate. The purpose of loan may be house construction, renovating house, taking house on lease, marriage of their daughter, treatment for illness etc. Only 13% of total population is the beneficiaries of this. 81.16% of total population has no loans. A few of them do not have collateral for providing as securities for loan. 13% of total population have loan amount ranging from Rs.20000 to 40000. Only 2.9% took loan amount ranging from Rs.40000 – 60000. 2.9% took loan amount ranging from Rs.60000-80000. 9.66% of total population agreed that Kudumbasree helped them in getting loan while 9.18% of members took loan form other
financial institutions. The members who took loan preferred the monthly mode of repayment.

7.2 Conclusions of the Study

7.2.1. The first hypothesis of this study is that among the various occupations undertaken by Kudumbasree members, waste management is one of the most remunerative. The average income earned by a majority of the members in this scheme ranges between Rs.4000-8000. Hardly 2.9% have a monthly income of less than Rs.4000. Kudumbasree engages in many other occupations, like retail trade, cottage industries and even in the running of small hotels. In all these businesses, the average monthly income is very much less than what the Kudumbasree members earned from waste management. That is why many shifted to waste disposal since there was both regularity as well as high incomes. Hence this researcher could prove the first hypothesis of this study.

7.2.2. The second hypothesis of this study is that waste removal and disposal was preferred because it required less training and lower educational qualifications. The nature of this job is physical rather than mental. Since the workers have to walk hours for collecting waste from different institutions, they must be physically fit. After collecting waste the workers have to separate it into biodegradable and non-biodegradable. Everyone can do this without any mental strain or technical skill. Since it is a daily routine, practical experience is required for doing it. The survey reveals that 7.24% of illiterate people are engaged in this work. Practical experience is their qualification. Though they are illiterate they are able to do the basic mathematical calculations. Even though 44.93% of total populations have primary level education, a few of them do not know how to read and write. Only 19.81% got secondary level education and 28.02%
have high school level education. 32.69% of people opined that they selected this job only because of their low level education. Thus the second hypothesis is proved.

7.2.3. The third hypothesis is that the condition of the persons who are engaged in this occupation improved after they shifted from other occupations to waste management. The poor urban women were engaged in different types of work before joining Kudumbasree. 28.99% of workers were sales girls and earned Rs.2000-3000 as their monthly income. They have to work at least till 8 pm at night and did not get enough time to spend with their family. 13.04% engaged in several self employment programmes. But due to the lack of initial capital investment their monthly income was below Rs.1000. 14.49% had no income since they were housewives. They were completely dependent on their husbands’ income. But as the cost of living increased, this income was not sufficient for them to meet their expenditure. 43.48% were maid servants and earned Rs.1000-2000 as their monthly income. They were working on part time basis. After joining Kudumbasree and doing waste management, 61.35% members are earning Rs.6000-8000 as their monthly income. 35.75% earning Rs.4000-6000 as their monthly income while only 2.9% earn Rs.2000-4000 as their monthly income. This means that after they joined Kudumbasree and started the work of waste management, their incomes increased considerably. The sample proportion test used in empirical analysis has proved this. Thus the third hypothesis of the study could be proved.

7.2.4. The fourth and the last hypothesis of the study is that this is not attractive to the younger generation and it is mostly persons who are middle aged who engage in this occupation. Majority of the workers (88.4%) engaged in waste management are middle aged women of age group
between 30-60 years. Only 4.35% include the category of age below 30 years are engaged in this work. Most of the respondents gave more importance to their children’s education. Because of the workers’ low level of education, they had to take up this job. So they want their children to get education and the new generation will not follow their path. In empirical analysis, to test the hypothesis two sample proportion tests is used. The result of the test is $Z = 24.251$ and $P$ value is $< 0.001$. Since the calculated $Z$ value 24.151 is greater than the tabled value of 1.645, the percentage of members in the age group 30-60 is high in doing waste management and the younger generations are not engaged in waste management programme of Kudumbasree can be proved. Thus all the hypotheses are proved.

7.3 Recommendations

Numerous problems could be identified during the study. Unless these problems are properly addressed, the life of these unfortunate brethren would become more miserable. Many of the instances where we find those who have taken up this job have become terminally ill. We also having instance of such a worker dying because sufficient precautions were not taken. After considering the problems which these workers are facing, the following recommendations are being made.

7.3.1 One of the important problems which this researcher could gather from the survey is that the workers are working under highly unhygienic conditions. It is found that only 16% of workers in the study area are taking all the precautions while at work. Being a menial job it is essential that these workers use proper gloves and such safety equipment. They are also compelled to bifurcate the waste collected into three different entities. Most of them do it manually. This makes them more vulnerable to disease.
It is such disease which makes these workers susceptible to serious illnesses.

It is recommended that each and every worker is mandatory provided with the safety equipment so essential in this occupation. Since this work is so important, the local bodies must make a provision in their budgets to provide them with this equipment. If that is not possible the services of service organization could be requisitioned for this purpose. Private sponsor could be approached for this purpose. The Home Department for example, has got the traffic police with over coats sponsored by major institutions. Similarly the local bodies could approach sponsors who would be ready to provide this essential equipment to these workers.

7.3.2 Another problem which makes waste collection difficult to the Kudumbasree workers is that the wastes are not properly segregated. Majority of the house owners do not segregate the wastes. Bio-degradable and non -biodegradable wastes are put together in the same kit. This is the most difficult problem that the workers have to face. Only the segregated wastes are carried through the lorries to the dumping yard. After collecting wastes, the workers have to segregate it manually with their bare hands and without any safety equipment. The waste kits form households may contain food wastes, sharps (broken glasses, bulbs and utensils) electronic waste and at times even animal excreta. Segregating these wastes without taking proper precautions may cause serious health hazards and it take too much time and the workers have to work extra for segregating the waste.

Efficient waste management must start from every home. Though the onus for efficient waste management lies with the local governing bodies, citizens cannot wash their hands off this responsibility. It is very important
that awareness about the need and importance of health and hygiene must be created from the childhood itself. It is recommended that every household must ensure proper segregation of waste into degradable and non-degradable. For this the local bodies should provide buckets to separate waste into degradable and non-degradable. Though this programme was launched in the study areas of this researcher, it was found that it had only limited success. Most of the household did not receive the promised buckets.

The authorities can also get the support of residents associations in this regard. These residents associations can be encouraged to take the lead to provide these buckets to each of their member. It is true that some residents associations in this study area are dong this work. It should be made mandatory for all residents associations to undertake waste management through segregation as one of their important objectives.

A related recommendation which this researcher would like to make in this regard is to introduce mechanization in the segregation as well as collection of waste. This wound enables the workers not to come in direct contact with the waste. This will in no way reduce employment opportunities. But the investment for such mechanization is very high. Kudumbasree units are not in a position to bear this high cost. The authorities should provide for the purchase of such equipment in their local budgets. In this context, the researcher would like to site the case of the use of such equipment being done successfully in countries like the Western European Countries.

7.3.3 A problem which this researcher found was the total lack of interest shown by the younger generation in general towards this is very important
household activity. They seem to regard this as an area reserved for the adults of the household.

It is recommended that waste management must include in the school curriculum. By providing training, school students can play a crucial role in managing the city’s mounting wastes. For example the project to install bio-gas plants in schools will enable the students to manage the waste in their school. This will help to bring about a substantial reduction in the waste generation in the city as well as the waste produced in schools could be disposed off at the source itself. Apart from waste management, useful by-products from wastes i.e. Free fuel for mid day meals for school canteens become a substitute for high priced LPG.

Many corporate like Mathrubhoomi and Malayala Manorama have started respectively many schemes like Seed, Nallapatam etc. to inculcate the habit of waste management in select schools. This should be extended to all schools so that children get own hand practical knowledge about waste management. This will make them aware of its importance and they would take the lead in their respective homes from a very young age.

7.3.4 Another serious problem in this field is that the authorities in the health department had provided training to Kudumbasree workers only at the beginning of this programme. After that no such training is provided to the workers. The members are of the opinion that the authorities hardly care about the Workers’ health and safety. Since the workers are working in dirty and disease-prone condition. Many of them have several diseases such as itching, skin diseases, headache, body pain, suffocation etc. Due the lack of sufficient training, the workers are working in unhygienic conditions without considering their health.
It is recommended that the authorities must consider the health and hygiene of the workers in this field. Since the workers come in contact with garbage on a daily basis, regular and free medical check-ups should be provided by the authorities in the health department. Health awareness class must be conducted at least once in a month. The workers must be educated about the need and importance of taking precautions and the use of safety equipment. Survey shows that 63% of workers did not get training. The local bodies should make it a priority since it can cause serious health problem to the workers. Through sufficient training programmes the authorities can encourage these workers to follow sanitary hygiene. It is also recommended that free medical insurance must be provided to these workers by considering the nature of this job and their working conditions. A health card which shows their age, blood group and other health related issues must be provided to each and every worker which is helpful for them. The authorities must convince these workers about the various diseases and how they can be avoided by taking sufficient precautions by providing sufficient training programmes.

7.3.5 The Kudumbasree workers engaged in waste management have no strong union to meet their demands. The local bodies have no idea about the number of the workers and their details in this field. The workers engaged in the cleaning of the city lack many of the government benefits they deserve. Major demands of these workers are neglected. Since they have no strong union, they are working in an unorganized manner. They are unable to solve majority of the problem that they face. For example, if a worker is unable to work in a day there is no provision to substitute with other worker leading to accumulating of waste which often creates disputes between the workers and the households.
It is recommended that all the workers in this field must join together and form a union to meet their demands. If so, data regarding the workers and their details will be available. The union must not be based on the ideas of any political party. The leaders must be one among them. Union can conduct area wise meetings to discuss the major problems of the workers and find their solutions. Union must make necessary arrangements for prompt waste collection and thereby avoiding unnecessary problems with the house owners. It is recommended that like other jobs a proper time schedule is needed for this work. The union must ensure proper unification regarding the number of institution from which the worker has to collect waste and their salary must be standardized. This will help to avoid unhealthy competition among the workers.

The union must fight for better working conditions to the workers and ensure co-operation and team spirit among the workers. They must be cordial to the residents associations and must be able to form squads to find those persons who dump waste in public places. They can distribute leaflets showing the importance of health and hygiene among the public. It is high time that relations between workers and the households are good for the benefits of both. By ensuring public participation unions can conduct cleaning campaigns on October 2nd and other important days.

7.3.6 Now-a-days workers from other states like Tamil Nadu and West Bengal have taken up this job at a lower wage rate than the Kudumbasree workers. This has created several problems and unhealthy competitions among the workers. Several residents associations and quarters of armed forces have appointed other state migrant workers for waste removal instead of Kudumbasree workers. This has become a threat to the Kudumbasree workers livelihood. Since the workers of other states are
working at a low rate the resident associations are employing them since they are collecting the waste promptly and efficiently than the Kudumbasree workers. This is a threat to these workers.

It is recommended that the situation can be improved with the interventions of unions. Since the Kudumbasree worker has no provision for substituting another worker, if workers is unable to collect waste, prompt waste collection is not possible. This has forced the residents association to approach these other state workers. The union must coordinate the Kudumbasree workers with the other state workers and create feeling of oneness among them. They must be made to understand that they are complimentary to each other and not competitive. By providing all benefits to the migrant workers, new members can be attracted in this field.

Another recommendation is that each and every worker should be provided with ID cards. ID card is compulsory when they are at work. The union must provide the detailed information of all workers especially the migrant workers to the concerned residents associations. This will help them in the case of theft etc. In order to make this field more attractive and competitive, authorities can give awards to the best worker or to the best cleaned area.

7.3.7 A major problem is that no pension scheme is introduced for the aged workers in this field. Government provide pension to farmers, aged persons, widows who are above 60 years old. The survey shows that 7% of workers are above 60 and who have more than 10 years of experience in this field. Most of them have several diseases and are not able to do any
other job. So their livelihood is threatened. Now the amount earned is not sufficient to meet their family expenses as well as their medical expenses.

It is recommended that a pension scheme must be introduced for the welfare of these workers. Now a day a farmer gets Rs. 500 as his monthly pension, a widow gets Rs .500 as the pension. Likewise a worker in this field must be providing a minimum amount of Rs.500 as their monthly pension so that, they can get some financial help.

7.3.8 When the programme of waste management was handed over to the Kudumbasree by the local authorities, they were provided with all the necessary materials like hand cart and other equipment essential for this work. Each worker was provided with a set of uniform which they had to wear compulsorily at work. In fact this uniform which was the distinguishing mark of the Kudumbasree workers. Along with the Kudumbasree workers the local bodies also had their own waste collectors. These people have to wear khaki coloured uniforms while the Kudumbasree uniforms were blue in colour. This researcher found that after the initial provision of uniforms and equipment, the local bodies did not provide any sort of assistance to the Kudumbasree workers engaged in waste management. All further expenses related to maintenance of equipment, purchase of new uniforms etc had to be borne by the unit themselves. Many of the Kudumbasree units approached banks for loans to overcome this problem. Since the interest rates charged were quite high some of these units found themselves in great debt. At the same time their counterparts under the local bodies did not face any of these problems. All maintenance work was undertaken by the authorities. This sort of discrimination has really created lot of heart ache among the Kudumbasree units.
It is recommended that waste collecting tools and equipment should be provided to the Kudumbasree units also by the local bodies. The authorities claimed that the Kudumbasree workers expect the local bodies to provide all equipment and uniforms. So but it may comes to dividing the wages per household the Kudumbasree unit is independent in decision making. Their wages are much higher than what is charged by the corporation workers. It is recommended that the Kudumbasree units should accept the wage standardization put forward by the local bodies and the local bodies in turn should provide the workers of the Kudumbasree units all the equipment they require without any discrimination. The local bodies are in a position to find sponsors from the large number of corporate who are maintaining offices in the study area.

Thus a joint effort of Kudumbasree workers with other state workers and various service organizations are needed for the successful waste management programme in the district. The local bodies must provide enough support and help for this Endeavour. All these programs can be effectively carried out only with efficient and non-corrupt political and administrative management with high level of technical and financial skill.