

Changing Portfolio of Coir Workers; Impact of Modernisation

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Abstract: *The purpose of the study is to document the impact of mechanization in the coir industry. Document analysis, survey and Interview methods have adopted to document the change in employment and workforce in the coir industry from traditional to the mechanized times. The structure and nature of work is changing at each stage. The industry as a whole befitted the shift from manpower industry to machine power industry. The modern coir industry is profitable as in the case of time and labour too. From coir fiber extraction to mat making, machines are taken over the works and this simplify human labour and interventions. With the new generation workers with technological skills may fit to this industry now and hence the traditional coir workers and industry has leave behind the remembrance of a bygone era.*

Key Words: *Traditional Coir Industry, Mechanization, Coconut Husk Retting, Defibering. Fiber Extraction, Coir Yarn Spinning Ratt, Household Unit, Small Scale Unit, Power loom.*

1. INTRODUCTION:

The Coir Industry was one of the most important landmarks of Alappuzha from 15th century onwards. The coir and coir workers are common in the rural depictions of Alappuzha when she is represented in literature or Malayalam movies. Those who have taken a cruise along the backwaters of Alappuzha wouldn't have missed the pleasing visuals of villagers engaged in the manufacturing of coir. The women folk and the weaving wheels work intimately to fabricate one of the strongest threads in the world - coir, the golden fibre of Kerala. But today, all these are mere images than reality. The portfolio of works in coir industry had changed dramatically. It was transformed from a proto industry to a fully fledged industry during the British period and from traditional to a modern, mechanized industry today.

For the people living by the side of the backwaters of Alappuzha, coir manufacture was their key livelihood from the early phase of 19th century. Traditionally it has been used to make rope, twine, brooms and brushes, doormats, rugs, mattresses and other upholstery. Among the untold products made of the tough and resilient coir fiber, the most wanted products were coir mat and bed. Through the hands of master craftsmen, coir is transform into magical texture and turned into quite a few of products. The nature and structure of work in the coir industry have been changing from time to time. When coir industry is develops from a sole cottage industry to a factory industry and to a modern mechanized industry, the workforce has also changed with the changing work environment. Thereby these changes conveyed little payback to the traditional coir workers and concentrated many from the status of an entrepreneur to that of a mere mercenary.

2. LITERATURE REVIEW: T. M. Thomas Isaac (1990) in his study 'Evolution of Organization of Production in Coir Yarn Spinning Industry' reveals the real nature of traditional coir industry in Kerala. He pointed out that the structure and nature production in traditional coir industry was quite different and lengthy process. He argued for rapid mechanization of coir industry to compete with the changing global situation as a survival means. Throughout this study, he documented the various process of production in coir industry, both in traditional and modern methods of production.

K. R. Gouri Amma (2005) in the article 'Modernization of Coir Industry' opines that in foreign exchange and employment creation in the rural areas, coir industry was significant during last few decades. The rural rooted industry since mostly women workers were involved at different stages of production had an added relevance in the national income. She concluded that coir industry as a whole support the modernization process as it benefits every segment of the industry. She also reported the changing nature of production in the industry as the result of modernization.

J . Jeya Balaji (1989) in his study reported that modernization helps to increase production as well as boost the marketing of the products in the coir units of Thanjavur. He stated that mechanised operations of production gave standardisation and speed in the industry and the traditional structure of production was altered. Richard Paul (2004) in his study on 'A Study on Production and Marketing of Coconut in Theni District' evaluated the resource-use efficiency in the production and marketing of coconut. He observed that the production of raw material is not proportionate to the production of coir fiber and coir yarn.

Sasi (1995) pointed out that the number of coir workers in coir industry has been reduced to 50% with the passing of 50 years. He stated that the greater part of coir co-operatives are not functioning and the functioning units are unable to pay minimum wages to the workers. He stresses the need for modernization and diversification of the industry and extension of government assistance to private coir sector.

3. METHOD:

This study used the triangulation approach of both qualitative and quantitative methods. The study used both primary as well as secondary data. For collecting required primary data from the veteran and present coir workers and owners of coir units, questionnaire and interview techniques are used. The study focused on the nature and structure of labour (Portfolio of work) in the coir industry. It evaluated the changes in the nature and structure of labour from traditional to modern coir industry.

4. PORTFOLIO OF WORKS; TRADITIONAL COIR INDUSTRY:

The tale of coir starts with coconut palm itself. Though it is hard to trace the origin of coir, both historians and scientists are of the opinion that the coconut palm had existed as far back as 3000 years back (Kavitha Menon, The Golden Fiber). Alappuzha is the nerve Centre of coir industry in the country. Here one can see coconut husks being beaten into fiber for making beautiful mat and other coir products (S. Poornimadevi, 2017). In the traditional coir industry, both men and women were actively involved in the production of coir. Labour intensiveness is the prime feature of traditional industry. The process of coir production begins from the extraction of coir fibre. It was a lengthy process; the green coconut husk kept under water in lakes and ponds for period ranging from 6 months to 1 year. While submerged, the husks undergo anaerobic fermentation, which causes them to soften and separate. During retting, materials of the green husk which bind fibres together are degraded and fibres are loosened. The retted husks are crushed by female workers with wooden or iron roads till the fibers are separated from the rotten pith. The Fiber has to be further cleaned, dried and the slivers arranged in the same direction before spinning can start (T. M. Thomas Isaac). The next stage is coir mats production using semi-mechanized devices called 'Tharai'. Men are fully employed in the manufacture of coir mats and other products made from coir and coir fibers.

Coconut husk processing and defibering was carried out by women workers. After the coir fibers are extracted, they are spun into yarn by hand. Children, adults were involved in the process of coir yarn production. Coir Yarn is generally of 2 ply, spun from coir fibre by hand (Coir Board). The Coir yarn is of different qualities/grades based on the quality of fibre used, the nature of twist, presence of impurities etc. Different varieties of yarn have specific characteristics and applications. After the fibers have been spun into yarn, they are ready to be bleached or dyed, if desired. Yarn from coconut fibers is used to make a variety of products, including brushes, brooms, ropes, mats, mattresses, and many others.

The next stage of traditional coir industry is coir mat making. The mat production is done in the looms attached to the sheds near the house of the worker. Varied size of coir yarn and coir fiber was used to make mats. The specially designed wooden looms are loaded with coir yarn first. The worker throw the smule from right to left, between the yarns to lock the yarm properly and then break upper part with a sharp knife. This process continues until the desired length of mat is obtained (Veteran Coir Worker's Report). Another type of mat is made through the combination of coir yarn and fiber. Here, the worker fixes coir fiber tightly inside the coir yarn nest and then cutting the edges with sharp long scissor. Different designs of flora and fauna are making through different colour coir fiber (dye). Different designs of flora and fauna are making on the mat through different colour coir fiber (dye). When the mats are removed from the loom, the edges of each side are stitching. Special skilled workers stitch the edges. The separation of labour and labour specialization was not familiar in the traditional coir industry during the initial stages. The same worker performs each activity in the pre-loom, loom and post-loom works. But later on due to the intensity of work, labour specialization introduced in the industry. The traditional industry stage continued until the modern factory system was introduced. Unlike the cotton weaving industry in England, the coir yarn industry of Kerala did not make the historical transformation from the proto-industrialization stage. Its destiny remained grooved to the handicraft technology and patty scale of production (T. M. Thomas Isaac). It is in this stage, an Irish born American started the first coir factory in Alappuzha.

5. PORTFOLIO OF WORKS IN FACTORY SYSTEM (PRE-MODERN INDUSTRY):

The first Coir factory "Darragh Darragh Smail & Co." for the manufacture of Coir floor furnishings was established by Mr. James Darragh (an Irish born American) together with Henry Smail at Alappuzha during the year 1859. This factory started the coir manufacturing industry for producing coir mats, matting and other floor coverings on a factory basis. Followed to this, nearly 25 major coir factories were set up in the Alappuzha town like William Goodacre & Sons (1862), Aspinwll & Co (1867), Volkart Brothers Company (1869), Bombay & Co and Madura & Co. Thus the facility for the manufacture of woven coir products on a large scale at a common place, Alappuzha turns to be the

prime centre of coir industry in Kerala. Many workers came to the factory from five to six miles away. The fiber extraction method continues as same in this stage as well. As number of factories increasing, the demand for coir fiber is also increased. The process of separating coir fiber from coconut husk has now become industrialized. As the lakes and ponds become husk retting grounds, a new problem of water pollution arose. The shores of lakes and ponds have become work places where husk retting and coir fiber extraction concentrated. As more and more men and women become employed in this field, it soon turns to a skilled and specialized labour in the coir industry.

An important innovation that was adopted in the handicraft technology with the expansion of production was the introduction of the spinning wheel or ratt in the latter half of the 19th century (T. M. Thomas Isaac). It was a semi machine worked through manpower, a stationary wheel with two spindles and a moving wheel are used. At one side, the stationary wheel is rotated by one person. The spinners feed the fiber slivers to the spindles to make the strands which are then connected to the on the moving wheel to give counter twist to make the two ply yarn (Coir Board). The count of the yarn is regulated by moving a triangular piece of wood with grooves on the sides between the strands. Slowly the ratt spinning replaced the hand spinning in Alappuzha.

As pointed above, the emergence of factory system revolutionized the coir mat and matting manufacture in the country. Thus coir industry emerges as the largest employment generating industry employing a staggering more than half a million people in the country (K.Manoharan and R. Ramesh chandran, 2004). Moreover, thousands of entrepreneurs are directly and indirectly involved in activities ranging from the manufacture of coir fibre to producing and marketing of value-added products of coir (Dr.P.Mohanasundaram). At this time, we can see three types of production centres of coir matts, that is, Big factories (Alappuzha, Muhamma and Cherthala), Small Scale Units ranging 5-15 looms and household units having 1-4 looms. Essentially, this was a handloom sector producing mats and mattings as per orders obtained from the big coir factories and the Exporters. The household units consists three or four looms working along the house in small sheds, the number of workers will be less than 10. Small Scale units were concentrated in the villages of Aryad, Mararikkulam, Kattur, Omanappuzha, Muhahamma, Arthunkal, Thannermukkam, Cherthala and Aroor. These units comprised 5 to 15 looms and 10 to 30 workers. The nature of works in the big factories and small scale-household units are same. The finished coir yarn and coir fiber of brown, white or dyes are the prime raw materials for the production units. In the pre-loom work which includes loom yarn processing in required length and count of threads and wrapping it around the wooden road to load the loom, separate labours are employed other than weavers. In the looming session, to make up to medium size mats one worker and for larger size mats two workers were working together in single loom (Coir Board). In the post loom session, a specialised worker stitches the two cutting sides of the mat. The finishing work in the weaving centre is called 'passing' in which the workers check the quality parameters of the mats. These mats are then delivered to the 'order distribution' factories. There the supervisor called "Mooppan" inspects quality as per the contract and accepts the mats.

These practices were continued until the modernisation and mechanization happens during 1990's. The coconut husk retting and fiber extraction, coir yarn spinning, pre-loom yarn processing, coir fiber processing and dyeing, coir yarn dyeing, mat weaving in looms and allied works are directly carried by the workers until then. Only the coir yarn making machine ratt is transformed into automated machine now. But the wind of modernisation altered the nature and structure of whole work in the coir industry. The process of modernizing traditional 'labour intensive' industries is a vital issue for developing countries (TM Thomas Isaac). At this point of time, large factories demanded mechanization to reduce manpower and manage their foreign orders. Thus, modernization and mechanization gradually decreased the number of small scale and household coir units in Alappuzha. Now there is only few registered small scale coir units are functioning. Other small scale and household units were abandoned and the workers were migrated to other industries.

6. PORTFOLIO OF WORKS IN MODERNIZED COIR INDUSTRY:

In a state like Kerala where modern industries are lesser in number, the development of coir industry mainly based on the natural fibre available within the state attracts immediate attention (K. R. Gauri Amma). Now, through a series of measures taken by the government, the coir sector is just about to change. On the agenda is a spread of new machines to make the yarn and mats. The finer details of the spread might create the best mats the world has ever seen and could change the character of the coir industry in the coming years (The Economic Times, Faizal Khan 2016). There is a need for modern production technologies in the coir sector for the entrepreneurs to run the units in a viable manner. Coir Board has already established a National Coir Training & Design Centre, Kalavoor with the installation of new machineries and technologies for demonstration and training to the interested entrepreneurs so as to enable them to get good knowledge in the working of the coir units (Coir Board, National Skill Qualification Framework for Coir Training Centres)

Till 2000, husk retting (soaking coconut husk in water for over six months to soften it) was the ordinary method of fiber extraction. Worries over water pollution ended the era of retting, which has been banned by the

pollution control board (The Economic Times, Faizal Khan 2016). After the invention of defibering machines, the green husk is directly put into the defibering machine. The machine separates the fiber from the husk. This extracted husk is again refined to remove the impurities and the hard coconut skin. A different machine is used to refine the husk. The refined husk is gathered and piled which is again sent for the twine making process. With the mechanization of the coir sector, big units with a capacity of defibing 8,000 husks a day is in operation. But the poignant fact is that we have are only few such factories in Kerala except the factories in Palakkad. The work of defibering is migrated to Tamil Nadu.

Next step of mechanization happened in the spinning wheel, to which the fibre is fed to make the golden yarn. The efforts to maximize the productivity of the coir yarn resulted in the introduction of automatic yarn spinning machine units (Coir Board, Project Profile for Automatic Coir Spinning Unit). The automatic yarn spinning machine is capable of spinning of any variety of yarn according to the requirement of coir industry. Automatic spinning machine with multiple heads has increased the production of coir yarn and wages of the spinners. Such a single machine can replace the labour of more than 25 hand yarn spinner and displace them from the industry. As these hybrid machines are not ubiquitous, raat coir yarn production is still running. However, the fact is that the ratts are running on electricity than human labour.

Like the automation of yarn spinning, the machines were also appeared in the weaving-spinning field as well. The mechanization ranges from semi automatic to fully automatic weaving machines and from household units up to big factories. The array of machines has been able to increase the productivity and speed, and significantly reduce human labour and labour cost. Automatic rope winding machine improves beaming mechanism for the preparation of warp beam. The eclectic motor automation increased the productivity and quality of beaming. These motorized beaming devices prepare chain of beam for 1 meter and 2 meter wide mattings to 3x4 meter wide mattings as well.

The research and development in coir industry (Coir Board) was mainly aimed in improving the productivity of spinning and weaving industry. The gradual mechanization of handlooms replaced wooden parts of the loom with metallic parts and human power operated parts with electric motors. Later, a metallic handloom "ANUGRAHA" has been developed to make it suitable for the women workers to be first time engaged in the weaving work for earning better wages (Central Coir Research Institute). It was followed by "ANUPAM" loom developed by CCRI during 2006. It was a versatile machine to weave all types of mats, matting and carpets. The loom is pneumatically powered and suitable for women workers (Coir Board). Other major machines used in coir industry are Buster/Disintegrator, Beater/Decorticator, Crusher, Turbo Cleaner, Revolving Screener, Bailing Press, Conveyor, Curling Machine, Hackling Machine, Slivering Machine, Automatic 2 Ply Yarn Spinning machine (Single & Double Head), Automatic 3 Ply Yarn Spinning machine (Single Head), Conveyor type 2 Ply Yarn Spinning Machine (Single/ Double Head), Conveyor type 3 ply yarn spinning machine (Single Head), Willowing Machine, Winding machine (Coir Board).

In short, the function has been fully mechanized while retaining only the form of the coir handloom today. The fact that productivity and production speed have increased because of mechanization but it made the coir industry a technical workplace now. The justification for mechanization is that it intended to compete with the neighboring states. From 1990 onwards, the slow pace of modernization processes is also a bane of the coir industry. Experts are of the view that the phase of modernization of different sectors of industry needs to be accelerated and pave way for cost effective and productive equipment and machinery to replace the age old tradition and outmoded production and processing equipment (Kavitha Menon, The Golden Fiber). Ravi Karunakaran, former chairman and managing director of the Karan group, coir exporters of Alappuzha once said "If we wait for the last coir worker in the handloom sector to retire, there will be no industry left in Kerala.

7. PRESENT STATUS OF WORK IN COIR INDUSTRY:

As per the report of Coir Board (2016), 15 % units are engaged in fibre extraction / defibing activity while 9.4 % industries are engaged in coir yarn production through traditional methods while 25.1 % units are modernized / automatic coir yarn production units. 36.5% industries are engaged in Coir Mats (Frame Type), followed by Coir Pith Processing (3.4%), Coir geo-textiles (1.8%), SemiAutomatic Power looms (6.2%) and Automatic Power looms (2.6%). It is also found that the units following traditional mode of production falls into debt or running short of profit. All existing coir industries adopted modernization is running on profit. The profit margin revolves around 5 percent to 30 percent 2014-15.

Further the study intended to assess the status of technology shows that 38.3% coir industries are fully mechanized, while 41.8% industries are partially mechanized, and 19.9% industries are not mechanized and following traditional methods. The reported reason for not opting for modernization is that the partial and non-mechanized industries lacks of finance and unavailability of working capital. The employment statistics survey conducted in the selected coir factories shows that 52.1% workers are in the age group of 22 to 35 years, 38.7% of workers are in the age group of 36 to 45 years and 9.2% workers are above 45 years of age. It is also significant that participation of younger generation in the coir industry (age below 35) is 52.1 percent. With regard to the educational qualification of

workers, the data shows that there are no illiterates while 35.9% are educated up to matriculation, 46.5 % are educated up to higher secondary and 17.6 % workers are educated up to graduation and above. Regarding technological skill, 79.3% coir workers are well equipped, 18.1% workers are partially equipped to handle modern technologies and only 2.6% coir workers found to be not equipped to handle modern technologies.

8. CONCLUSION:

The remarkable feature of the evolution of the organization of production in the coir yarn spinning industry has been the persistence and resilience of petty commodity production (T. M. Thomas Isaac). Coir industry is passing through a period of uncertainty it never faced before. The dawn of modernization brings automated technologies to the coir industry. But the traditional industry treats technology as delinquent. As traditional character gradually shifted to modern mechanized industry, it benefited the whole industry. Work yard for centralized yarn production was the next stage of evolution. The traditional workers were out run as the nature, methods and labour participation in the industry changed considerably. The coir and coir products produced as a handloom in human labour, now automated machines are producing with human assistance. The coir fiber extraction method has become fully automated but the industry migrated to neighbor states. This is also in the case of coir yarn production. Unless the industry embrace mechanization instead traditional method, the industry may totally migrates to nearby state.

Tamil Nadu started mechanized spinning factories some 20 years back which supplied long and evenly spun yarn, tailor-made for Kerala's modern units. Modernization of coir industry in Kerala stars very slowly but gradually achieving pace. But here, modernization meant to alter the traditional industry instead of complimenting each other. An open clash was set forth in which modernization overthrow the traditional industry as whole. The wave of change quickly wiped out a proud coir history from coastal Alappuzha. Today, coir products are manufacturing in only a few places as household or small scale basis. Most of the coir factories have been shut down or shifted to nearby state.

REFERENCES :

1. Bhatia & Narayan, (2008). A Handbook on Social Change, Himalaya Publications, Delhi.
2. K. Bharkaran Unnithan, (1970). Coir Industry in India with Special Reference to Marketing and Trade, Coir Board, Ernakulam.
3. Balakrishnan, P. K (2005), Evolution and Working of Coir Industry in Kerala, Coir Board, Kochi.
4. K.R. Gouri Amma, (2005). Modernisation of Coir Industry, Journal of Kerala Calling, Vol.XV.
5. Thomas Isaac T., Pyaralal Raghavan (1990), A Policy Framework for Revitalisation of Coir Indiistry in Kerala, CDS, Thiruvananthapuram.
6. Dr. P. Mohanasundaram, (2015). Problems Faced by Coir Units in Human Resource Management: A Study in Alappuzha District of Tamil Nadu, International Journal of Arts, Humanities and Business Studies, Volume 01, No.5
7. K.Manoharan and R. Ramesh chandran,(2004). Cluster Approach – A New Paradigm for the Sustainable Development of SSIs in Kerala —, Journal of Business Studies, Vol.1, No.2
8. S. Poornimadevi, (2017). A Study on the Problems and Prospects of Coir Industry in Pollachi, Coimbatore District, International Journal of Advanced Trends in Engineering and Technology (IJATET).