

Dynamics of Weaving Industries in Amarapura Township, Mandalay Region

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In Myanmar, the garment industry started from the weaving. In weaving the hand loom was started as a folk art and the Saunders Weaving and Vocational Institute was established by Mr. L H Saunders in 1914. In 1954, the power looms were introduced by this institute but the local people were not interested in power looms. Nowadays, local people are trying to develop their weaving industries with power looms. This research aims at pointing out the dynamics of weaving industry and describing the main factors influencing these changes. The study site is Amarapura Township of Mandalay Region. Data were collected by qualitative research method. The research tools are key informant interview, in-depth interview and participant observation. Weaving industry is one of the main professions of the Amarapura people and about 80% of the people depend on weaving and other works related to the weaving industries such as dyeing, chichagin, yetphaukgin, chapope, cloth selling, and so on. After 1993 the weaving of Amarapura became popular and well-known in Myanmar because one of the most famous politicians wears the sarong woven in Amarapura while canvassing for votes in the national election. The design of the sarong was known as "Aung San Suu Kyi achei" and it was very much known to every woman. The runners of the weaving industries extended their business and they used mostly power loom for mass production. On the other hand, it is facing many difficulties such as scarcity of labour, absence of waste water system, lack of demands from abroad, etc.

INTRODUCTION

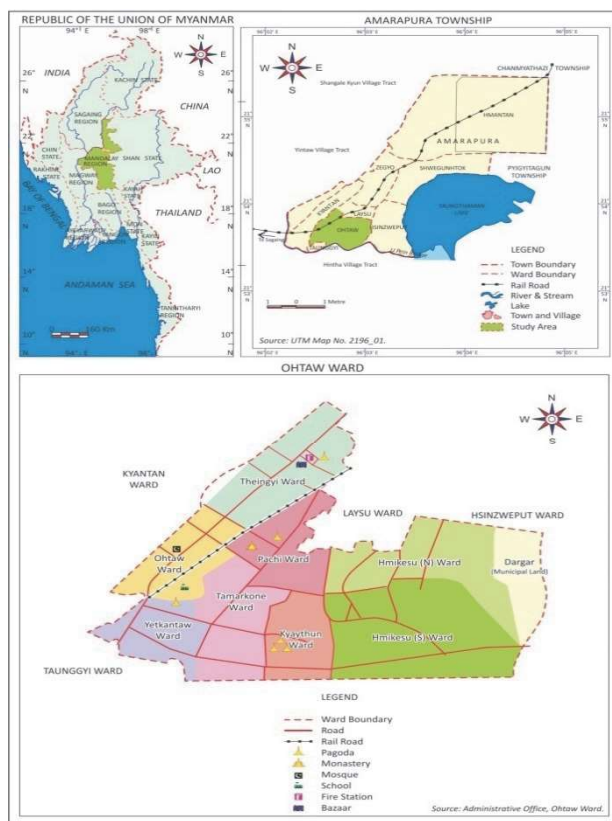
Weaving is one of the primary methods of textile production. It commenced from the traditional rural handicraft in the world. Then it developed in workshops, transformed in local places, and got activated in factories. Likewise, the garment industry in Myanmar started from the weaving. There are two methods of weaving: hand loom and power loom. The hand loom is a traditional handiwork business and the power loom is a business which transformed the hand loom because of the technological development. The decline situation of the hand loom is that the price of raw materials increases every year and the cost of the hand loom cloth has increased more than that of the power loom cloth (Narasaiah and Krishna, 1999). The power loom industry has grown up from traditional hand loom sector with inherent technical knowledge passed on from forefathers and is being continued in many of the clusters (Sultana and Nisa, 2016). So, the power looms have obviously better technology than hand loom.

The development of weaving industry aims at raising productivity and flexibility. The weaving processes are confronted by customer wishes for more and more variety of products and fabrics in a shorter period of time. Therefore, the productivity requires the capability to produce more fabrics in a shorter period of time. This industry provides numerous individuals with gainful employment. The

growth of the power loom sector leads to the development in other fields, but there are still many challenges to deal with.

During this study, the dynamics of weaving industry was studied in Amarapura Township of Mandalay Region (see figure 1). There are nine wards in this township of which Ohtaw ward is selected which consists of eight sub-wards. Among them, there are Tamargone ward where doobby was first tested, and Yetkantaw ward where weaving was first started in this township. There are 1166 households and 6150 people.

FIGURE 1
THE STUDY AREA OF OHTAW WARD IN AMARAPURA TOWNSHIP,
MANDALAY REGION



Research Aim and Methodology

The aim of this study is to point out the dynamics of weaving industry and to describe the main factors influencing changes. The qualitative research method was applied in collecting data. Research tools included in-depth interview, key informant interview, and participant-observation. A total of 36 interviewees participated in the data collection. They were weavers, cloth sellers, dyers, the sellers of thread and weaving-related material. This research was conducted from August 2017 to December 2017.

RESEARCH FINDINGS

Background History of the Weaving

The weaving industry of the study area might have been started during the New Stone Age. The evidences in the form of marks of the pieces of cloth were found on the earthen pots and pot-shards that

were used in weaving and spinning when the Taungthaman bank collapsed (Amarapura Township Record, 1982). In Konbaung dynasty, the consecutive kings made much improvement in the art of weaving through the concerted efforts of the weaving technicians both at home and from abroad. In 1910, Mr. LH Saunders introduced a flying shuttle loom "*Lunpyan-letkhatsin*" to Amarapura. This loom can weave the fabric with widebreadth and long length. In 1954, the power looms were introduced by the Saunders Weaving and Vocational Institute but the local people were mainly interested in the hand loom. The weaving industry was operated as the private business before 1962. Afterwards, it was run and headed by the cooperative department from 1962-1988. In later years, w doing private business was permitted. The local people have used the hand loom and power loom which can weave the plain cloth by using a roller.

After 1993, a famous politician used to wear *achei longyi*. The hand loom weavers first attempted to weave this design. This pattern became popular and its demand greatly increased. But the low productivity of the hand loom could not meet the demand. Then the power loom was tested to weave that *achei* designs which contain the dobby with two rollers. Since then, the pattern of the fabric has become well-known as "Aung San Suu Kyi *achei*" (see figure 2). For these facts, the locals have gradually changed to the power loom with two rollers.

FIGURE 2
AUNG SAN SUU KYI ACHEI LONGYI



The Processes of Weaving

A huge proportion, 80%, of the locals mainly depends on weaving for their living. It involves dyeing thread, transferring yarn from a swift to a reel "*chichagin*" and winding thread onto the bobbin "*yetphauklokegin*", transferring the thread "*chapope*" and weaving.

Dyeing thread. The locals did not have to do the dyeing process because the cooperative department gave out the ready-made dyed threads. They made the work of dyeing after 1988 as the Indian threads were not ready-made dyed. The most people changed to the using of China threads after 2000 because it was ready made dyed thread. But they continue the job of dyeing as the ordering colors are not contained in the selling colors. They dye yarn for themselves as well as for sale. There are two kinds of dyes: natural dyes and synthetic dyes. There are eight people in synthetic dyes and three people in natural dyes. There are two types of dyeing techniques: hot dyeing techniques and cool dyeing techniques. For dyeing process, hot water, cold water, glue-liquid, dye and glove are required. And then cleaning (purifying), dyeing (see figure 3), wringing, shaking off, and putting out to dry (see figure 4) have to be conducted step by step. As dyeing needs physical strength, it is done by men only. Dyeing is done not by individual

but by groups. Each man who dyes earns about 10000 mmk on an average. But the owner provides 50000 - 70000 mmk for the dyeing leader as a special extra payment.

**FIGURE 3
DYEING THREADS**



**FIGURE 4
KEEPING DYED THREADS IN THE SUN**



Chichagin and yetphauklokegin. Although it was done by hand before, it is done by machine now. The machines can be different in size like small, middle and big ones according to the type of business, but the working process is all the same. In the process, thread from the swift must be firstly wound onto the reel (see figure 5). Next it must be rewound onto the bobbin (see figure 6). That portion of job does not need physical strength, so mostly women take it up. The charge for ten pounds of yarn of it is 1500 mmk.

**FIGURE 5
CHICHAGIN**



**FIGURE 6
YETPHAUKLOKEGIN**



Rotating the swift (*Chapope*). There are two ways of rotating the swift: by hand and by machine. Nowadays, rotation by machines (see figure 7) is being used mostly. The way of rotating the swift first needs to collect reclining big swift "*tonelonechargyi*", base of a thread-divider "*sikhwekhon*", bobbin-holder "*yauklone-cut*", bobbin, roller "*leitlone*". Then the number of swifts to be used; the breadth and length of the warp; and weft to be rotated are to be calculated. After that, bobbins need to be attached to the bobbing-holder. Next, taking front thread "*shaesi*" and back threads "*nauksi*", *sikhwe*, *yinthwar-thwin*, *Sikauk*, *chapartchein* must be finished before *chapope*. When the threads are wound onto the big swift, the second stage is reeling around the roller. The price of *chapope* is 50 mmk per *pasoe* or *longyi*. These activities are done by men only.

FIGURE 7
ROTATING THE SWIFT



Weaving. There are hand loom (*let-tan*) (see figure 8) and power loom (*set-tan*) (see figure 9) for weaving. Men wear (*pasoe-tan*) and women wear (*meinma-tan*) are mainly woven. The number of weaving industry and the price of weaving-related materials are shown in Figure 10 and 11, and Table 1.

In weaving by hand, it requires shuttle, hand loom, bobbin, roller, silk, etc. Before the start of weaving, design and formula are to be made. It is to be practically created with the help of a small bobbin for curlicue pattern and a small shuttle in which silk threads with necessary colors are on the basis of a silk warp. Designs were woven in detail in former days. But they have to create plain patterns and small patterns. Regarding it, a woman aged 63 said:

Formerly, most of the customers bought the fabrics with the producers' design. Nowadays, customers themselves draw their own design in their favorite colors and put orders. And, they also put orders by looking at the designs of fabrics the celebrities wear. As a consequence, weavers have to constantly observe the apparels of the celebrities.

They mainly used to weave only the silk. Most products are *lunyakyaw-kyogyi achei*, *yarka achei*, etc. The prices of the *longyi* are from 300000-1100000 mmk. It is not the casual wear for the people. Because of this, cotton clothes have been woven instead of the silks since 10 years ago. The price of a cotton *achei* is 15000-100000 mmk. The weaving-charge depends on the shuttle of a loom. A shuttle costs from 1300-1500 mmk.

In the power loom, plain fabrics and designed fabrics are woven. Weaving plain patterns needs shuttle, loom, bobbin, thread, roller, etc. If the designed fabrics are woven, it requires another roller and a dobbie (the machine to illustrate designs). When the weaving is to be started, reeling threads onto the roller, drawing warp threads through the heddle "*hmutkaw*", putting the bobbin into the shuttle, etc. must be done step by step. Then, the weaving can be started. Not only men but also women weave fabrics. Their daily income is 4000-8000 mmk.

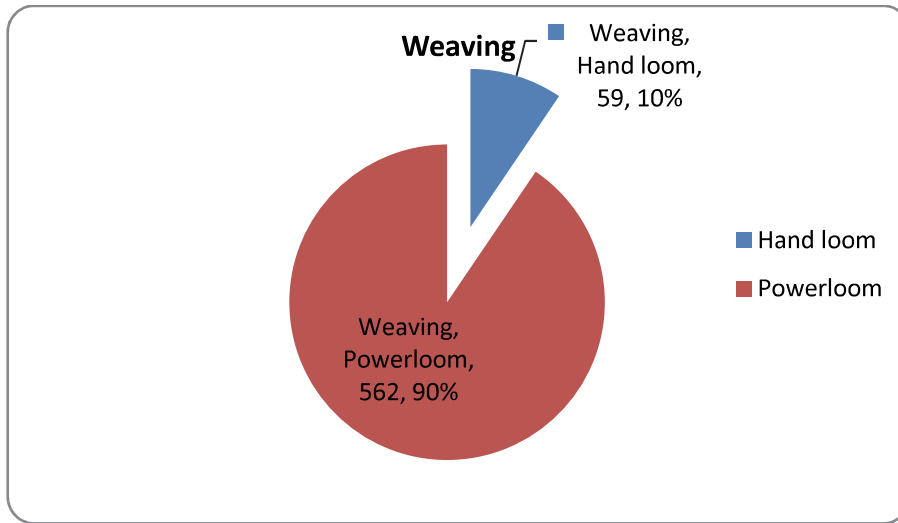
**FIGURE 8
HAND LOOM**



**FIGURE 9
POWER LOOM**

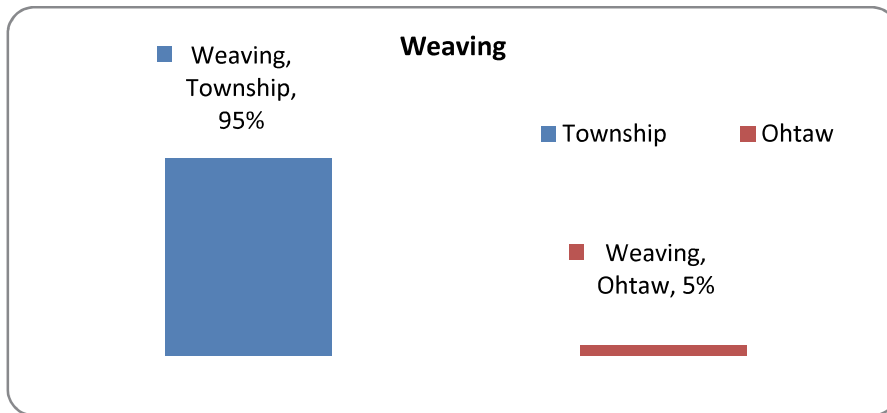


FIGURE 10
THE NUMBER OF LOOM IN OHTAW WARD IN AMARAPURA



Source: Ohtaw ward Administrator's Office (August, 2017)

FIGURE 11
THE COMPARATIVE NUMBER OF LOOM IN OHTAW WARD AND AMARAPURA TOWNSHIP



Source: Ohtaw ward Administrator's Office (August, 2017)

TABLE 1
THE PRICE OF WEAVING-RELATED MATERIALS

No	Name of weaving-related materials	Value (mmk)
1	hand loom	200000
2	power loom	2000000
3	Reel	100
4	Bobbin	300
5	Dobby	400000
6	<i>chicha and yetphauk-khone</i>	500000
7	<i>Chapope</i>	900000
8	Loom	300
9	Motor	90000

Challenges of Weaving

The locals in the study area face difficulties with weaving such as shortage of laborer, dumping waste water, financial investment and distribution.

Shortage of labor force. The livelihood of the local people mainly depends on weaving-related economic activities. Formerly, they wove mostly by hand and there were many weavers with the capacity. After 1993, there were many job opportunities and jobs with more income were available in Mandalay. The population of those who went to work in Mandalay gradually increased. There remained only few weavers. When the fabrics of Amarapura became so famous, they hire workers from other regions. Some of them could not afford to buy raw materials, but they got them from wealthy people who got products in return. Such a system could be found in villages of Amarapura. In hiring workers from far places, each worker is to be given 600000–1000000 mmk in advance. But workers, no sooner than their arrival, find some other links that give them more money. After repaying the advanced debt, they move to work with other employers. Regarding this, a 45 year old man mentioned:

I did weaving. Currently I have stopped working due to the rarity of workers. If a worker is hired, advanced payment must have to be provided. As I cannot afford to provide it, nobody comes here. Now, I'm a broker.

Besides, a 55 years old woman, owner of a weaving factory said:

We have over 100 employees. There are locals and from other places. The workers of this town come to work irregularly. When they are late, they don't like to be called. Those from other areas, they are provided with hostels here. They keep regular hours. They are given 800000-1000000 mmk as advance. Half of their daily wage is cut on the basis of their daily income.

Therefore, it is found that the locals have to stop weaving, to go on with reduced number of looms or to go on relying on exchanging system due to the problem of workers shortage.

Dumping waste water. After 1988, the locals started the dyeing thread. Later in 2000, weaving industry grew more; the customers put orders of fabrics in multi-colors. The entrepreneurs attempted to dye threads. Nowadays, despite multi-colored threads from abroad are available, they do not stop dyeing. As glue-liquid and chemicals are to be used, the product produces waste water. There is no separate drainage system for delivering waste water, and it goes into the Lake of Taungthaman. Regarding it, a 58 year old man said:

Chemicals are used in dyeing. It produces waste water. But most of the locals have no ideas that such water that comes out is waste water and that how much waste impacts it has on the environment. They do not understand what can be ruined."

Thus, the dyeing business becomes much developed; most of the locals know less about to what extent the waste water produced may have bad impacts on our environment.

Financial investment. Locals have to make financial investment in the sectors of machine accessories, wages of workers and product.

In the investment of machine accessories, the costs of some accessories are shown in Table 1. There are no buyers when the value is high. Some can buy an incomplete set. As the machine or business is not their own, they have no private chances to create their own designs. The machines currently used are the ones that they started to have some 50 years ago and that have been repaired a little. They can make so little investment that they rarely use modern machines.

There were few businessmen in weaving industry. Most of local people produced fabrics within their capacity. Advance money can rarely be provided for workers. After 1993, the numbers of weaving industry has gradually increased. Workers are in more demand. By that time, there were fewer workers in weaving because some locals went to Mandalay to be engaged in other activities. The owners hire not only locals but also people from other regions by providing advance money. Regarding it, a 68 old woman said:

I have got about thirty looms. We did it here. Now there are rare local weavers. Of workers hired from far areas, I have to invest nearly ten lakhs in individual and provide them with accommodation. As we cannot afford it, I moved looms to Nyaungpinwaing village and work under raw give-products take system."

So it can be found that they have to move from their place to another area; have to shift their jobs; have to change their jobs as the locals cannot invest much in wages.

All fabrics produced were to be put forward to the co-operative department before 1988. It was not difficult to make investment. Later, the weaving owners can give permission to private business and have the right to sell their products directly. But their products are in good demand only in the six months of a year (from October to March). If there is political instability, the sale drops in any month. The merchants and the entrepreneurs can only store products but most of them cannot do that. So the fabrics they collect are sold to them. If compared with the other times, there is difference of at least 200¼500 mmk per unit. To overcome those difficulties, loans could be taken out by fulfilling the commercial loom and SME loom forms. But only three or four were chosen to take out loans. As a consequence, their businesses became delayed in progress and they got less income.

Distribution. The co-operative department played the leading role in insuring threads and receiving fabrics. So the locals had no practice of distribution by themselves. After 1988, private weaving industry was granted permission, and they had to buy threads, dyes and other necessary things at the Zaycho market. Most of the products were sold to the merchants there at wholesale prices. After 2000, the fabrics were in great demand, the locals opened shop-houses to sell machine spare-parts, threads, dyes, etc. If the customers put orders to buy weaving-related materials, the sellers sent them right to the buyer's home or shops through door-to-door delivery system. Now, there are varieties of ways in selling fabrics such as receiving orders, selling at their shop-houses, selling to the merchants at wholesale prices and distributing to other areas. Moreover, some are advertised on television and in newspapers, magazines and are being sold through phone contacts, online shopping and right price system. A small number of the products are trying to be distributed to international markets. But the locals are facing many difficulties. These include:

- To change consumer goods such as purses, scarf,
- To innovate frequently about new designs,
- To get the contacts about the international markets;
- To need investments, machines and skillful workers to produce the high quantity and quality of products.

Therefore, the fabrics sellers are making attempts in varieties of ways to sell their products.

DISCUSSION AND CONCLUSION

According to these findings, about 80% of the locals do weaving business. So the weaving industry is the main business at the locality. The locals used the loom with shuttle pushed by hand before 1910; lunpyan-letkhatsin in 1910; the power loom with a roller in 1954; and the power loom with doobby after 1993. The weaving has been gradually developed through ages into the power loom. Formerly, there were many weavers whose businesses were within their capacity and the locals did it well. After doobby had been used, the demand also increased and expanded their businesses. By that time, some shifted their jobs to other areas. There has occurred a shortage of workers. To overcome these difficulties, some hire workers from other areas and rely on raw give¼product take system. Therefore, weaving industry owners have to change the situation according to their social environment.

Nayak and Ulaganathan (2004) stated that the power loom cluster in Nagari has a deeper traditional root. Lack of economic infrastructure, technological obsolescence and poor information systems have led to the inferior quality and low productivity of the cluster. However, the industry has been able to survive both the locals and international trade. Similarly, the power looms in the study area which are still being used so far are the ones that have been repaired. It can only produce less fabric and cannot create new designs. The fabrics produced have to rely on the local market. In selling, only the first six months of a year is the period of great demand and they cannot gain as much profit as possible. Though the products can be sold at foreign markets, there are still difficulties to improve quality, marketability and the product-image. Thus, it can be found that the locals are attempting not only to export quality products abroad but also to sell them locally whatever difficulties they are facing.

Tanusree (2015) stated that the hand loom weavers of Varanasi have lost their prestigious traditional industry. It has occurred due to the industrialization in all over India. Subsequently power loom started functioning. For the huge production in short time, better wage, less labor and more profit, the weavers have shifted from hand loom to power loom. These facts are a little different from those in the study area. The locals have been doing the hand loom weaving straight forwardly. After the power looms emerged, weavers by hand gradually changed to use machine looms. The number of weavers by hand has decreased as power-loom has more advantages, such as being easy to learn, earning more wages, gaining more profits, needing less investment. As a result, though the locals' business has been improved, the traditionally inherited hand looms may disappear in long term.

The customer is the backbone of every business and sustainable growth of any business can only be achieved through customer satisfaction. This assumption is true for the present study. Although there are sellers of dyed threads, the colors that customers require are not available. So they continue dyeing threads. In the dyeing process, the chemicals are used rather than natural dyeing materials to get bright colors that most customers like. Besides hand loom as well as power loom, the designs were the producers' favorites in former days. The priority is now given to the designs that the customers like the most. Thus, weaving business people put more emphasis on buyers' choices rather than on the quality of the item.

In conclusion, the locals did weaving only by hand in earlier days. In later 1954, they worked by both hand loom and power loom. Nowadays, there are fewer weavers by hand and more weavers by machine. This industry not only contributes to the regions well-being but also creates jobs for those from other areas. Therefore, it can be learnt that the policy maker should up-grade power loom and avoid the decline of the hand loom.

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Dr. Win Win Soe is a lecturer at Department of Anthropology in University of Mandalay.

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