Chapter 6

Problems Faced by Ayurvedic Medicine Manufacturing Units in Kerala

The present chapter attempts to portray the nature of problems faced by the Ayurvedic units in Kerala. A primary survey was conducted to identify the problems faced by the units. Thus, 130 manufacturing units were selected based on random sampling which formed ten percent of the total manufacturers in the state. They were classified into tiny/small, medium and large scale units on the basis of their annual turnover. Their responses were collected using personally attended, well structured questionnaire.

Table 6.1
Sample Design for the Survey

<table>
<thead>
<tr>
<th>Area</th>
<th>Small/ Tiny Units</th>
<th>Medium Units</th>
<th>Large Units</th>
<th>Total Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Kerala</td>
<td>23</td>
<td>13</td>
<td>1</td>
<td>37</td>
</tr>
<tr>
<td>Central Kerala</td>
<td>17</td>
<td>10</td>
<td>1</td>
<td>28</td>
</tr>
<tr>
<td>North Kerala</td>
<td>39</td>
<td>21</td>
<td>5</td>
<td>65</td>
</tr>
<tr>
<td>Total Units</td>
<td>79</td>
<td>44</td>
<td>7</td>
<td>130</td>
</tr>
</tbody>
</table>

Based on the survey results, the problems faced by the Ayurvedic manufacturers in Kerala were broadly classified into the following.

6.1 Raw material scarcity

The survey result showed that scarcity of medicinal plants was the biggest problem faced by the Ayurvedic industry in the state. Due to the over
exploitation of medicinal plants and the lack of any concrete efforts from the part of the authorities to encourage cultivation and replanting of the medicinal plants has led to the problem of raw material scarcity. All the 130 firms surveyed opined that this is the most important challenge faced by the Ayurvedic industry in the state. Nevertheless, perspectives varied among firms with regard to this problem.

Table 6.2
Firm/Industry Level Problems Faced by the Units under Sample

<table>
<thead>
<tr>
<th>Problem Faced</th>
<th>Size of the Unit</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tiny/Small</td>
<td>Medium</td>
</tr>
<tr>
<td>Raw Material Scarcity</td>
<td>79(100)</td>
<td>44(100)</td>
</tr>
<tr>
<td>Financial Constraints</td>
<td>63(80)</td>
<td>13(30)</td>
</tr>
<tr>
<td>Labour Problems</td>
<td>67(84)</td>
<td>2(5)</td>
</tr>
<tr>
<td>Marketing Problems</td>
<td>71(90)</td>
<td>13(30)</td>
</tr>
<tr>
<td>Government Policies</td>
<td>25(32)</td>
<td>28(64)</td>
</tr>
<tr>
<td>Managerial &amp; Technical</td>
<td>61(77)</td>
<td>37(85)</td>
</tr>
<tr>
<td>Power Problems</td>
<td>16(20)</td>
<td>31(70)</td>
</tr>
<tr>
<td>Other Problems</td>
<td>-</td>
<td>33(75)</td>
</tr>
</tbody>
</table>

Source: Survey Data (2009)

Figures in brackets represent percentage values

Besides the fall in the supply of medicinal plants, the large firms informed that, the deterioration in the quality of the medicinal herbs is their major concern. Getting the right quantity of medicinal plant in the right time was a challenge. Medium sized firms believed that the fall in the supply of the medicinal plants has led to the increase in its price. This has increased their cost of production, which has forced them to raise the price of their drugs. The raw material expenditure constitute around 40-45 percent of firm’s total expenditure. This price hike has to some extend affected total sales of medium firms. Contrary to the above, two views
the small firms believe that the scarcity of medicinal plants and the consequent price hike has affected their survival. Earlier these firms had required medicinal plants in and around their manufacturing premises. The large-scale transformation of land to non-agricultural activities has led to the fall in supply. These small firms are not able to buy all medicinal plants from the open market. This has forced them to concentrate in the production of a few most demanded medicines.

Hence, resource depletion has affected all manufacturing units irrespective of the size, but differently. Large units are concerned about the quality of the medicinal plants, medium sized firms are apprehensive about the increased cost of production and finally the small and tiny firms about their survival. However interestingly it is noted that no concrete efforts has been taken to overcome this major problem. The firms like AVS and Nagarjuna Herbal Concentrates have developed their own herbal garden and of late Government of Kerala has launched a medicinal plant cultivation programme.

6.2 Capacity Utilisation

Manufacturing can be considered as the combined result of many forces, which facilitates production. This process includes setting up men, tools, customer orders, inprocess inventory, spare parts and raw materials etc. If any of these factors do not work properly it will lead to underutilisation of capacity. Better capacity utilization provides an opportunity for quick increase in output and productivity in the short run.

Capacity utilisation influences cost of production, profitability and generation of internal resources. It is therefore necessary that problems of underutilisation of capacity should be identified and estimated in early stages, to tackle the problem of inefficiency. Underutilisation of capacity has been one of the
important factors affecting the efficiency of a productive enterprise. Several factors affect capacity utilisation, some are supply factors and others are demand factors. On the supply side raw material, scarcity poses to be the most important factor affecting capacity utilisation. Shortage of raw materials affects the volume of production and thus leads to underutilization of capital and labour. Apart from this factors like shortage of power, transportation bottlenecks, would affect capacity utilisation. On the demand side, the most crucial factor affecting the capacity utilisation is the shortage of demand for the output.

From an economist’s point of view, capacity is a cost concept. It is usually defined as the output that can be produced with the minimum average total cost given the existing physical plant and organisation of production and factor prices. Capacity utilisation refers to that proportion of total capacity, which has been gainfully utilised for the production of required goods and services. Thus, it is the ratio usually expressed as a percentage of actual production to the capacity. Although a plethora of prefixes is available to quantify capacity, ratio of actual production to installed capacity is used in the present study as a measure of capacity utilisation. As it is already mentioned in the previous chapter the total productivity in the Ayurvedic industry was found to be low. The prime cause for this was poor capacity utilisation.

The table 6.3 explains about capacity utilisation in the Ayurvedic industry in Kerala. The survey results showed that majority of the units irrespective of their economic size are characterised by low capacity utilisation. Eighty-six percent of the large firms and 85 percent of the medium firms come under this category where as only 16 percent of the small firms are included in the category of poor capacity utilisation. This may be due to less amounts of capital employed by
small firms. The capital used by small firms consists mostly bronze urns and a few vessels needed for producing the drugs.

Table 6.3

Capacity Utilisation in Ayurvedic Industry

<table>
<thead>
<tr>
<th></th>
<th>Rates of Capacity Utilisation</th>
<th>Total Units</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Low</td>
<td>Medium</td>
</tr>
<tr>
<td>Small/Tiny Units</td>
<td>12 (15)</td>
<td>22 (28)</td>
</tr>
<tr>
<td>Medium Units</td>
<td>37 (85)</td>
<td>7 (15)</td>
</tr>
<tr>
<td>Large Units</td>
<td>6 (86)</td>
<td>1 (14)</td>
</tr>
</tbody>
</table>

Source: Computed from Annual Reports of AMMU’s, Various Years and Survey Data, 2009.

High - Above 75%; Medium- 55 – 75 %; Low- less than 55 % Capacity Utilisation.

Figures in brackets represent the percentage values.

Further 22 small units, seven medium units and one large unit utilised their capacity much better than the earlier category. Their capacity utilisation ranges between 55 to 75 percent. It has to be noticed that none of the large and medium sized units come under this category. The figures for capacity utilisation by AVS, Nagarjuna and Oushadi for 2007-08 were estimated to be 65 percent, 25.2 percent and 13.43 percent respectively.
6.3 Financial Constraints

Finance is regarded as the lifeblood of any business. The paucity of finance can affect the production adversely. However, the survey results showed that none of the large firms is affected by financial constraints. Their efforts to expand were never affected by paucity of finance. Only 28 percent of the firms depend upon external source of finance. Internal funds are considered the most preferred source of funding for large firms. However, obtaining a loan or any other source of credit was never a problem. There is an increased trend towards the use of internal resources as the major fund for production. For example, Pankajakasturi that earlier depended upon external funds have now stared using internal funds for production. However, firms like Nagarjuna and Oushadi still depend upon external funds from financial institutions such as KSIDC, KFC etc.

However, paucity of finance emerges as a major problem for medium size firms. Thirty percent of the firms revealed that finance is a major bottleneck for expansion. The changes in the consumer perspectives on Ayurvedic medicines have forced these firms to undergo innovation, which requires large-scale investments in R & D. The Good Medicine Manufacturing (GMP) regulations have forced these firms to undergo rapid alterations in the production processes and infrastructural requirements. Eighty percent of the small size firms believed that they are impeded by financial constraints. They urged for cheap finance backed by governmental security for their existence. Interestingly, it is to be noted that 70 percent of small sized firms did not consider, obtaining finance as a major necessity which reveals their urge for expansion.

Hence, it may be concluded from the survey results that large-scale firms are never affected by financial constraints; paucity of finance limits the
expansion plans of medium sized firms where as financial shortage affects the prospects of some small firms.

6.4 Labour Problems

Contrary to the accepted belief, labour unrests and lockouts have not affected the Ayurvedic manufacturing units in the state. Not even a single case of labour agitation has been reported in the Ayurvedic industry. Large units collectively supported this view. They opined that there is an emotional bondage between the labourers and the management. The approach of the workers itself is holistic and not materialistic. Most of the units in the production sector are headed by much experienced labourers who are authorities in their field. Many of the present workers are heirs to the labourers who were with these firms right from the day of establishment. This creates an emotional commitment towards the firm. This bondage between the labour and management is very evident in the case of AVS. However, it is found that labourers are highly organised.

Only five percent of the medium sized firms reported that they have labour problems but it is not affecting their production in any way. They reported that not even a single working day was lost due to internal labour problems. However, these firms are not able to attract new generation labour force to their firms. The female participation in the labour force of Ayurvedic industry has increased in recent times.

The response of the small firms regarding the issue of labour was very different. They employ less number of workers and do not carry out production regularly. The nature of production of small firms show that they demand labour when and where needed (on call labourers). More than any labour unrest it is the difficulty in obtaining labourers that affects this small firms. Small firms revealed
that they are not getting labourers for cleaning, sorting, cutting, grinding and crushing of medicinal plants. The category of people who helped them in this process has gone to other sectors, especially into construction, in pursuit of much better remuneration and certainty. In their absence, most of the tiny units carry out the production process with the help of the family members, which has brought back their manufacturing to the old household system. Eighty four percent of the small firms shared this view. The new generation family members of the small firms are not showing interest in this business. This has put the small firms under severe stress. Thus, labour unrests and tribulations are not affecting the Ayurvedic industry in any way. Nevertheless, the difficulties in obtaining adequate number of labourers emerge as a major constraint especially for medium and small units.

6.5 Marketing Problems

An excellent network of marketing is indispensable factor for the overall growth of any industry. Marketing mechanism adopted by the Ayurvedic industry has undergone rapid changes over years. Moreover, firms have identified that they can sustain only through excellent sales networking. The main factor that contributed to this popular belief is the change in the consumer attitude towards Ayurvedic industry. The approach of the manufacturing units towards the consumers and the attitude of the consumers towards Ayurveda have undergone thorough transformation over the years. Their acceptance for Ayurveda has grown to heights, which have encouraged the enthusiastic producers to grow. However, modern lifestyle demands Ayurvedic medicines in much user-friendly form. This has called for large-scale innovation in the medicine manufacturing and packing. Thus, it was necessary to gather information regarding whether consumer perspectives have affected their prospects.
Seventy one percent of the large firms answered that the changes in the consumer attitude has forced them to accept and adhere to changes. There is a large-scale drift from classical Ayurvedic formulations to proprietary medicines in recent times. Most of the large firms at national level have moved to branded products. Firms in Kerala are also producing more and more of such medicines that are mostly cosmetic and toiletries, which is evident from the product profile of the large firms. However, in Kerala medium sized firms produce more of cosmetic and toiletries. These developments call for greater investments in R & D, innovation and large scale sales promotion activities. This shift in the product structure has forced these firms to launch large-scale advertisement and sales promotion efforts, which was unheard in the field of Ayurveda until 1990’s. This implies that changes in the consumer perception has not inhibited the growth but has forced the Ayurvedic firms to undergo systematic transformation. These alterations in the attitude of the consumers have become so common that they expect similar changes in the product style of medium sized firms.

Thirty percent of the medium sized units are of the opinion that the radical changes in the attitude of the consumers have emerged as a major constraint for them. At the same time, they realise that it is an opportunity. The main hurdle infront of them is paucity of an efficient R & D, facilities for clinical trials and the volume of investment required for the same. It is difficult for them to rise up to the expectations of the consumers who demand the products same as that of the large firms.

It may be analysed from the survey that, consumers who buy medicines from the small firms do not expect too much from them. Majority of the
small and tiny firms shared the view that they do not face any kind of marketing problems.

Agency distribution is regarded as the most important channel opted by most of the Ayurvedic units for marketing their products. Many large firms have their own agencies apart from the dealership given to private parties. Nevertheless, these firms do not consider agencyship as the best method to sell the products. The proprietary medicines produced by the medium firms are sold through allopathic dispensaries and even super markets.

Thus, it may be concluded that changes in the consumer attitudes have tremendous impact on the firms. Large firms with their long years of experience and expertise are able to undertake innovation in both the product style and usage. All large firms are successful in this regard. This change has been a big challenge for most of the medium sized firms. However, many of the medium sized firms have emerged successful whereas these changes are not at all a matter of concern for the small and tiny firms.

6.6 Managerial and Technical Problems.

The heterogeneity that persists in the industry was much evident from the nature of working, attitude of the manufacturers, approach towards professionalism etc. Although tiny and medium sized firms exceeded the number of large-scale manufacturers, their contribution to the total output was very negligible. This contradiction forced us to study whether the existence of the large firms inhibit the prospects of the other two category of producers. It was also essential to find whether competition between each sets of producers hinder growth. The responses of these three groups are noted below.
The large firms collectively shared the view that there is no space for any kind of internal frictions between the firms irrespective of their size in the industry. Every firm knew their strength and weaknesses. The large firms believe that the entry of a new firm, introduction of a new medicine or innovation of any other type by any of the existing firms do not affect others. They believe that each of the manufacturers has a set of potential consumers who will never leave these firms. For example, the AVS has brand loyalty all over the world and in north Kerala. AVP and Vaidayaratnam Oushada Shala have market-edge in central Kerala where as Nagarjuna and Pankajakasturi has better customer reach in south Kerala. Oushadi, through excellent healthcare network of Government reaches all parts of Kerala through government hospitals and dispensaries.

The analysis of the survey result showed that 84 percent of the medium firms face problems that emerge within the industry. They agree that the existence of large firms and the commercialisation introduced by the large firms are lessons for medium firms to emulate. The Ayurvedic consumers expect similar trends from the medium sized firms, which has turned out to be a matter of concern for some firms. This calls for large scale investments from borrowed sources. Majority of the medium sized firms operating in South Kerala reported that the existence of unauthentic manufacturers in the region is destroying their prospects. These artificial producers are able to produce medicines at low cost. This encourages customers to buy their medicines. Later they realise that these medicines are of inferior quality and adulterated which force them to generalise that all medium sized firms are unauthentic. This drifts the potential consumers towards large scale manufacturers who are known for their authentic and superior quality medicines. This trend of large scale adulteration is widely seen in the case of cough
syrups (mixed with alcohol) and memory augmenting drugs which targets children. Hence, medium sized firms demanded that government should take strict action against such unauthentic manufactures.

Nearly 77 percent of the tiny and small firms agreed that issues within the industry are damaging their survival. Most of the small units surveyed were owned by local vaidhyars who had long years of experience and good will in their area. The firms operated by them and the products produced by them earned the same reputation as the large producers. Earlier there was affiliation towards these vaidhyars and their products, but that age of loyalty no more exists. In the modern age the medium firms comprehend that, there is no scope for any such emotional concerns. The domination of the large scale manufactures and their excellent marketing network has washed off all the potential customers form the small firms. The entry of medium sized firms, with the introduction of proprietary medicines, which are best suited for modern customers, has added fuel to the fire. Most of the small firms operate in the rural area and majority of the customers belong to that locality. The establishment of Ayurvedic hospitals and dispensaries by the Government in rural areas and supply of Ayurvedic medicines by Oushadi and Ayurdhara at subsidised rates have put an end to their question of endurance.

The preparation of Ayurvedic medicines follows a rigid pattern and nature. This imposes certain problems for manufacturing units. Rigidity enters as a serious problem for large firms who produce huge quantities in anticipation of demand. Low shelf life is considered a main issue. The shelf life of kashayam is one day and preserved kashayam is for a year. There is no shelf life for arishtam and asavams (as it contains permitted amounts of alcohol). However, most of the large firms produce preserved kashayam; where as natural kashayam is now produced
only at home for one time use. Besides shelf life problems relating to standardization, documentation also emerge as a problem. Only 14 percent of the large firms considered this as a major issue. Where as 36 percent of the medium sized firms reported this to be a problem. Medium firms resolved this by stopping the production of kashayam. Pharmaceutical issues never affected small firms due to the nature of their production process.

Hence, the very evident heterogeneity has not affected the large firms but has been damaging the prospects of medium firms. At the same time the diversity within the industry is detrimental to the small firms.

6.7 Shortage of Power

Power is the backbone of any industry and plays a vital role in fostering the industrial activity. The most important source of power is electricity. Easy availability of power is one of the important factors for the development of any industry. Electricity is no longer an abundant factor and has turned out to be costly. Shortage of power is regarded as a major problem by 70 percent of the medium firms. Irregular supply of power creates difficulties because the production process has to work continuously and any breakdown in between affects the entire production. Twenty percent of the small firms reported that they face problems pertaining to power shortage. This adds to the belief that the production process of small firms continues to be labour oriented. Only 14 percent of the large firms mentioned about shortages of power, because most of them had superior arrangements installed to get rid off power shortages.

6.8 Governmental Policies

As an industry producing products that are intended to improve the health care of the people, the Government has imposed certain regulations time to
time. Regulations such as Good Medicine Manufacturing Practices (GMP), Good Laboratory Practices (GLP), Good Agricultural Practices (GAP), Good Clinical Practices (GCP) etc, are statutorily made compulsory. All these certifications are time bound in nature. Extension of the registration is subject to the completion of these regulations. Regulatory obligations have to fulfill three important criterion viz., quality, efficacy and safety. Quality is a major concern. The Ayurvedic medicines have to be of good quality and should pass the clinical trials. This becomes all the more important when these medicines cross the national borders. It should check the adulteration of botanicals, toxic metals, micro organisms microbial toxins, pesticides fumigation etc. There are several cases of such contaminations reported. One such study reported that 64 percent of the herbal medicines exported from India had significant amounts of lead (Thattee et al., 2008).

Another study conducted by the Harvard Medical School identified that 14 -20 percent of the 70 herbal medicines exported from India contained heavy metals. Hence, quality has to be assured in identifying and using herbal raw materials, processing and finished herbal medicines. Another variant of regulations is the efficacy. This means that Ayurvedic medicines should pass the clinical trials. This is very important in many advanced countries. Some of the medicinal plants such as *Phyllanthus amarus, Picrorhiza kurroa, Tinospora cordifolia*¹ widely used in many Ayurvedic formulations have been tested on clinical trials. The result showed some matters of concern. For example the clinical test conducted by Harvard Medical School on *guggulipid (Gulgullu)* brought the result that eight week treatment with one gram or two gram of *gulgullu*, did not improve the levels of serum cholesterol in population of adults with hyper cholesterolemia, but increased
the level of LDL cholesterol (Arora, 2008). Ayurvedic medicines can be safe only if it can pass the test of quality and efficacy.

Forty three percent of the large firms revealed that regulatory obligations with regard to exports\(^2\), which involves testing the efficacy of Ayurvedic medicines using western clinical standards and adulterated medicines produced by some firms are disturbing future prospects. All large firms believe that Government should not soften their attitude towards these forged manufacturers. This reflects indirectly the confidence of the large units in their products. It is to be noted that sixty four percent of the medium sized firms consider that hard and stringent regulatory obligations framed by the Government are disturbing them. The conditions laid down in the Laws are designed for large firms. Moreover, it is impossible for medium firms to fulfill these conditionalities in a time bound manner. They added in the survey that it is after the repeated reminding and representation that Government agreed to relax certain provisions in the GMP certification. Hence they demand relaxation and separate set of regulations from the government.

Contrary to the above two views, only 32 percent of tiny and small sized firms opined that governmental regulations impose a huge challenge for them. Incidentally, some firms were unaware of these rules, while, others reported that they have heard about these rules and regulations but knew very well that it is impossible for them to fulfill these specifications. Hence, it may be concluded that all large firms are well aware of the governmental policies regarding the method of production and standardisation of the production processes. However, the medium firms expect certain relaxations whereas small and tiny firms know their inefficiency in fulfilling these regulations.
6.9 Other Problems

The opening of the economy and freer international trade has set great opportunities for the herbal industry in India. Kerala in particular has been identified as the hotspot of authentic Ayurvedic products and treatments. The selection of Kerala as the must-see destinations in India has attracted large number of foreign tourist to the state. Ayurveda is considered as a source of positive health. The growing cynicism with western medicine, failure of western medicine to treat chronic diseases and to catch the root of the ailment, along with the change in the social patterns has evoked interests in Ayurveda. The mounting hike in the volume of trade in herbal products; large investments of funds into Ayurvedic sector by MNC’s; the increase in the number of foreigners studying Ayurveda, willingness of MNCs to take over reputed Ayurvedic manufactures or their individual products are visible signs of Ayurveda being globalised (Stock, 2002). It is widely realised that opening up of the economy and its integration with the world economy has opened up a new world of opportunities for the manufacturing units in Kerala. Nevertheless, certain doubts are raised from different corners. Hence, it was essential to know if globalisation has affected Ayurvedic industry in the state. The responses are discussed below.

Large firms know very well that as Ayurveda goes global it has to be very vigilant about its products and its composition (Patwardhan et al., 2004). This requires the maintenance of quality efficacy and safety. They believe that globalisation of Ayurveda has opened up new vistas for these units. All the large firms shared this view. The encouragement given to health tourism, increase in the export of Ayurvedic medicines, opening up of retail outlets by large firms (AVS) in foreign countries has augmented this. Nagarjuna Herbal Concentrates Limited has
set up a separate production unit exclusively for promotion of exports. However, the large firms agreed that what goes outside the country under the label of Ayurveda are mostly cosmetic and over-the-counter segments of Ayurveda, are high performers and there is a large untapped market for its classical formulations. The large firms site two reasons for this. One is the restriction imposed by the World Wildlife Fund. The WWF has listed 150 medicinal plants in the negative list of exports. For example if items like sandal wood or \textit{Rakthachandanam}\textsuperscript{2} is used as an ingredient in a face cream or oil, it does not get the approval for export. Secondly, most of the importing countries do not provide sanction to the export of Ayurvedic products as medicines proper, but as herbal dietary supplements only.

Virtually 75 percent of the medium sized firms regard globalisation as an opportunity. Only 11 medium firms considered it as a distant dream. These firms realise that they are not able to expand and export like the large firms due to their inefficiencies. Most of the products sold by the medium sized firms are cosmetic products, which have good demand in the external market. Opening up of the economy has not affected small firms in any way. The firms that participated in the survey attribute that large scale encouragement given to medical tourism has forced them to rethink their mission. These small firms have decided to restrain production to a few mostly demanded medicines and concentrate on increasing its sales. Further, they plan to switch over to the treatment side, which is much more profitable than the production of medicines proper. The small firms owned by reputed vaidhyars can easily win the confidence of the patients. Government owned financial institutions such as KSIDC, as a part of their tourism promotion package has decided to give a maximum subsidy of Rs. 15 Lakhs for setting up of Ayurvedic
treatment centre. The number of small firms approaching KSIDC for the same is on a rise (KSIDC, Annual Report, 2008).

Hence globalisation of Ayurveda as per the survey results has opened up a new world of opportunities for the large firms where as it has encouraged the upcoming of efficient medium sized firms to carry out the production and export of branded patented medicines. In addition, globalisation has helped the small firms to redirect its mode of operation from production of Ayurvedic medicines to Ayurvedic treatment.

Thus, it is concluded that the problems faced by the Ayurvedic medicine manufacturing units in the state are diverse. In common, all the firms face similar problems irrespective of their size, but the manner in which these problems affect each category of firms are different.

End Notes

1. The local and English names of these medicinal plants are given in the appendix table 1

2. Ayurvedic medicines are exported as health supplements.

3. Some unauthentic manufacturers do not include all medicinal herbs in the required quantity and do not mix ingredients that are costly and scare. Hence, they are able to sell the medicines at a low price.

4. Many MNCs such as Hindustan Unilever Ltd has come up with herbal cosmetic products, which have excellent sales. Marico has taken over the Manjal soap, produced by S.D Pharmacy. S.D Pharmacy later came up with Mullapoo soap of similar status. It is understood that the herbal products, which are sold by many MNCs, are actually produced by reputed Ayurvedic firms in Kerala.

5. Rakthachandanam (For botanical name refer the appendix 1) is a very essential ingredient in the preparation of any herbal cosmetic drug.