The Potential Of Developing Agro-Based Industries In Sri Lanka (With Special Reference To North Central Province)

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ABSTRACT- By this study it was mainly to measure the potential of innovating and developing agro-based industries in Sri Lanka. Until the introduction of the open economic policy in 1977, Sri Lankan economy was depending heavily on the agriculture sector consisted with rural subsidiary food crops and plantation sectors. After 1977, industrialization becomes the most vital component in economic policy and the government placed a high emphasis on secondary sector in order stimulate the process of industrialization. However, the secondary sector has not yet been developed as expected though there prevails a bi-directional interdependence between agriculture and manufacturing sectors. Except in few agro-based industries the level of utilization of agricultural products as inputs is at a low level. Therefore this study attempts to explore the factors contributing to the low use of agricultural products in manufacturing industries and the potentials for promoting the use of farm products in agro-based industries. The North Central Province (NCP) was selected for the study as it is a leading agricultural area. A pre tested and structured questionnaire was used to collect primary data. From a random samples of 270 farmers. Data gathered through observations as well as from available secondary sources were also used during the study. Having tested for the reliability and validity of data, inferential statistics were used to analyze the data. Results indicated that market availability & competition, technology, financial facilities, labour availability, are vital factors that have motivated people to use farm products as industries. If necessary actions were taken to motivate people by providing adequate facilities, there is a huge potential for innovative people to establish agro-based industries and develop existing agro-based industries.

Keywords- Agro-based industries, Bi-directional Interdependence, Manufacturing industries.

I. INTRODUCTION

We can expect forward linkages between agriculture and agro-based industries and backward linkages between agriculture and non-agro-based manufacturing industries. The basic arguments underlying the industry-to- agriculture linkage, on the demand side, is that the availability of consumer goods in rural area acts as a stimulus to rural households by raising their aspirations and these aspirations can only be satisfied by increasing farm incomes which enables to purchase consumer goods. This presupposes that marketers of consumer goods are targeting and penetrating rural mass markets increasingly with goods that match buyers' demands in terms of range, quality and prices. Therefore, an argument can be made that rural population has a larger share of national purchases in many basic consumer products and in some consumer durables. Such rising aspirations, however, matched by expanding economic opportunities have indeed become widely available with the spread of modern technologies for products particularly for food items. Hence, it can be decided that there has been some match of aspirations and the means of satisfying them.

The prevalence of the dominance of the bi-directional interdependence between agriculture and manufacturing reveals that Sri Lanka is well proceeds to attain higher growth rate due to the sectoral interdependence and the flow of effects that will further the growth in these two sectors. However, this strong relationship shows that reform measures that directly stimulate either sector do have a flow-on–effect to the other sector. Given that manufacturing growth stimulates agricultural growth, which in turn stimulates manufacturing; it is therefore useful to set reforms policies which remove restrictions on agriculture and increase its profitability can enhance the stimulus for manufacturing.

Within the framework of liberalized economic policy in Sri Lanka it would be better to have an expansion in agro-exports too. This might stimulate investment in agriculture to produce surpluses. This in turn might expand demand for a variety of industrial goods. It would be better mechanism by which the pace of overall economic development can be accelerated.

II. THEORETICAL BACKGROUND

The role of agriculture in economic development has been viewed largely as passive and supportive, according to the historical experience of the western world. The process of economic development requires a rapid structural transformation in the economy to convert it from an agricultural economy to a more complex, modern industrial and service oriented economy. Therefore, in making microeconomics and macroeconomics reforms a wider attention should be paid to structural adjustments. In this context, agriculture sector should receive a wider and stronger commercial orientation through the diversification and value addition, and that could be achieved by encouraging the public and the private sector investments in agriculture. In return, the profitability in agriculture would be enhanced by furthering technological innovations, quality improvements in agricultural output, raised productivity in agriculture, and elevated farming income would fuel the growth in manufacturing sector. Due to the enhancement in agricultural productivity a flow of resources from agriculture sector to manufacturing sector would be developed inducing the growth of the manufacturing sector. In this context, enhancing agricultural productivity is a pre-requisite in economic development. Agriculture sector provides sufficient and law priced agricultural output and man power for the expansion in industrial sector, which is regarded to be a dynamic and leading sector. In the famous two sectors model presented by Arthur Lewis has discussed this process in detail.
At present, development economists are less sanguine about the desirability of placing heavy attention on rapid industrialization because the agricultural sector in particular, the rural economy in general, needs to be viewed as dynamic and leading elements in any overall strategy. Without the agricultural and rural development, industrial growth would either be straitified or, if it succeeds, would create severe internal imbalances in the economy such as widespread poverty, inequality and unemployment. In applied economic theory, it is said that to achieve the acceleration of economic growth either balanced growth approach or a big push approach should be followed in a formal manner. In accordance with the balanced growth approach, concurrently or simultaneously, both the industrial and agricultural sectors should play at the same time. First of all, a sound relationships or linkages between industrial sector and agricultural sector should be maintained in order to achieve economic wellbeing. The balanced growth approach says that under the endeavor of getting the economy well balanced, a greater place should be given to both agricultural and industrial sectors. Thus, we may find better mutual interdependence between two sectors. Simply say, the industrial sector may absorb the agricultural out puts as its inputs. Eventually, better input-output relationship may be appeared between those two sectors. In fact, it is clearly understood that this form of growth pattern is highly convenient for developing nations due to their scarcity of resources. The theories say that through the balanced growth, two major types of industries would be emerged namely, backward linkage industries and forward linkage industries. Besides, it may be a big push to economy if both sectors are developed concurrently. For rapid development especially in less developed countries, a rapid and big push is needed to get them developed. As in other third world countries in the world, agriculture in Sri Lanka is still an important sector in Sri Lanka.

III. RESEARCH PROBLEM

Agriculture sector in Sri Lanka contributes 11.9% to the GDP while employing 32.7% of the total labour force [2]. At present due to the law levels of profitability in farming the young generation is reluctant to commence their carrier as farmers following the foot steps of their parents and are looking for non-farm employments and this will become a serious issue in future. Though value addition to farm products is a way of raising the farm income that is taking place in limited sale, at present. At the same time, few resourceful individuals and some private sector companies have entered the farming sector under these circumstances, identifying factor that could motivate farmers to use farm products as production inputs in agro-based industries and potentials for expanding agro-based industries have become an act with national importance. Therefore, this research attempts to serve this purpose.

IV. OBJECTIVES AND HYPOTHESES

4.1 objectives

The specific objective of study is to assess the factors influencing establishment of agro-based industries in Sri Lanka.

4.2 Hypotheses

H₁: Market and competition are highly affected the development of agro-based industries.

The non availability of sufficient markets and efficient channels of distribution are key limiting factors faced most of the production oriented rural development programmes implemented in the agriculture and industries sector of Sri Lanka [1]. Marketing of agricultural products at a profit to the farmer has become a constraint very often; middlemen tend to exploit farmers, who sometimes are forced to dispose their products at almost the cost price [7].

H₂: Technology and development agro- based industries are significantly related.

Lesser developed countries are primarily takers of technology, offered mainly by multinationals. Their ability to develop indigenous modern technology is limited [4].

H₃: Financial facilities are highly affected agro-based industries.

The supply of rural credit to facilitate agricultural development was a fundamental objective of nationalization of banks [6].

H₄: There is a significant relationship between availability of labour and development of agro-based industries.

A time lag exists between current technologies in the agro- industries and educational practices in the institution [3]. There is scarcity of skilled workers in the agro- industrial sector [5].

V. METHODOLOGY

5.1 The conceptual frame work

Though there are a number of factors contributing to the development of agro- based industries, this study focuses only on four key factors, that are market availability & competition, technology, financial facilities, labour availability, (see Fig 1).

![Figure 1- conceptual frame work](image.png)

5.2 Study area and sample

The NCP where around 95% of the total populations are farmers was selected for the study. A pre tested and structured questionnaires were used as the tool is collecting primary data. The two districts in the NCP are Anuradhapura and Polonnaruwa and there are 22 and 7 Divisional secretariat areas in Anuradhapura and Polonaruwa respectively. A field Survey was conducted in all Divisional Secretariat areas of both districts, with a random sample of 270 farmers.

5.3 Data and data collection,

Both primary and secondary data were used in this study. As attitudes of farmers and government officials were assessed, survey method was used. Secondary data were extracted from institutional documents, reports, records, books, newspaper articles, and Websites.

5.4 Data analysis
Both descriptive analysis such as tables, averages and percentages and some inferential tools such as chi-square test and kruskal–Wallis test were used in hypotheses testing.

VI. RESULTS AND DISCUSSIONS

6.1 Market and Competition

A chi-square test was done using data on market and competition (Table 1). Results revealed that the market and competition have a significant impact on the agro-based industries.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Total Frequency</th>
<th>Squared</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demand for agricultural products</td>
<td>93</td>
<td>9.4884</td>
</tr>
<tr>
<td>Influence made by imported agricultural products</td>
<td>81</td>
<td>0.9326</td>
</tr>
<tr>
<td>Demand from the industries for your agricultural products</td>
<td>40</td>
<td>7.9452</td>
</tr>
<tr>
<td>Demand of agro-based products</td>
<td>17</td>
<td>2.1682</td>
</tr>
<tr>
<td>Influence made by imported agro-based industrial products</td>
<td>39</td>
<td>4.8823</td>
</tr>
</tbody>
</table>

\[ \chi^2 = 32.27 \text{ d.f. } 16 \text{ critical (at 0.05)} \]

Since the value of chi-square at a 0.05 of 26.2962 this suggests that there is a statistical evidence to accept the formulated hypothesis. Therefore market and competition are highly affected the development of agro-based industries. (See Table 1).

6.2 Technology

It was hypothesis that there prevails a significant relationship between the technology and the existence of Agro-based industries. The Kruskal-wallis test was used for this purpose and results of the test are prescribed in table 2.

Mean is greater than the Median, then the distribution is positively skewed. The table 2, value of chi-square for 12 degrees of freedom at 0.05 level of significant is 21.026. The calculated value of chi-square is higher than the table value. Therefore technology and development of agro-based industries are significantly related. (See Table 2).

6.3 Financial facilities

<table>
<thead>
<tr>
<th>Variable</th>
<th>Chi-square</th>
<th>Degrees of freedom</th>
<th>Critical table value (at 0.05)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Financial facilities</td>
<td>29.7884</td>
<td>d.f=16</td>
<td>26.29</td>
</tr>
</tbody>
</table>

The value of chi-square for 16 degrees of freedom at 0.05 level of significance is 26.29. As the calculated value of chi-square is higher than its table value at 0.05 level the null hypothesis is accepted. (See Table 3).

6.4 Availability of labour

<table>
<thead>
<tr>
<th>Variable</th>
<th>Chi-square</th>
<th>Degrees of freedom</th>
<th>Critical table value (at 0.05)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Availability of skilled labour</td>
<td>96.16</td>
<td>4</td>
<td>9.488</td>
</tr>
</tbody>
</table>

The critical value of \( \chi^2 \) from the table at 0.05 levels of significances 96.16. Since the calculated value of \( \chi \) is higher than the critical value, therefore the null hypothesis is accepted. (See Table 4).
VII. CONCLUSION

In considering the market structure and its scope, a conclusion could be made that there is a significant influence on developing the system of agro-based industries.

If sufficient attempt is made, a considerable volume agro-product can be sold as they projected. The grievances of majority of people were that they are not paid an attractive price for their products and there is a keen competition coming from foreign agro-products which are regularly imported. This idea was expressed by 44% of the selected people. Thus, only the thing that has to be done by any authority is to provide enough market segmentation enabling to capture and penetrate as far as possible. In doing so, adequate marketing promo tools should be introduced and implemented.

Hence it can be concluded here that if competition comes from imported items is eliminated and farmers are given a reasonable price mostly this discussing sector can be developed as needed by the country.

It is a better evidence that technology can make a considerable contribution to develop agro-based industries as far as possible. In this point of view, a deeper investigation was made to identify whether they have been provided more technological facilities as they expected. In this review to some extent it was noted that they are having lack of expected technological facilities as well as technological know-how. Thus, in their point of view, if any authority fills this vacuum, their will be in the position of utilizing those due capacities and time on developing ago-based industries to the best of their courage and willingness.

In analyzing the variable, financial strength, certain farmers alleged that they have accumulated adequate money for commencing agro-based industries. Unfortunately they have become poor to introduce an upgrade ventures due to the less attention made by the respective governmental bodies. It was therefore noted that if necessary actions are taken by the government to plant different factories related to agriculture in all over the NCP a well developed industrial park can be plotted by giving larger volume of employment opportunities to those who are unemployed not only in this area but other areas in the country also.

Through the hypothesis tested in relation to the relationship between agro-based industries and availability of labour it was thoroughly understood that there are much more possibilities to commence labour intensive industries pertaining to discussing sector. In this area, it seems that many of the poor people are awaiting for jobs opportunities in respect of farming and industries. Hence this unoccupied working labour force can almost be absorbed to industrial sector if necessary factories related to agro-based industries are located all over the region. In summing up all the points discussed so far, it was noticed that many farmers are having larger willingness, abilities, strengths, expectations, and caliber in starting new agro-based industries as well as developing the existing agro-based industries. The Salient problem behind not developing this particular sector is that these people are not given a big push, better motivation and the facilities enabling to get this sector developed and to get it towards at its saturation point.

Whatever the matters, in accordance with the revealed information it was understood that the agro-based industries can be established and developed very well in NCP enabling to cater the industrial purposes of the country.

REFERENCES


Biographical data

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