Competitive analysis of the fruit processing industry in Nepal, Vietnam, India, Sri Lanka and Bangladesh Using Porter's Five Forces Model

For an ICUC (International Centre for Underutilised Crops) Project

Improved livelihoods through the development of small-scale fruit processing enterprises in Asia

FRP R8399

Margot Lobbezoo

Liz Betser

April 2006

Amsterdam, The Netherlands

Bath, United Kingdom

Email: m.lobbezoo@360responsibility.com or l.betser@360responsibility.com
Tel: +31 (0)23 5383335 or +44 (0) 780 9563354
www.360responsibility.com and www.360responsibility.nl

Table of contents

1. Executive Summary

The analysis developed in this report was achieved by applying a method of external market competitive analysis (Porter's Five Forces model) and applying it to internal market research reports from Vietnam, India, Bangladesh, Nepal and Sri Lanka carried out under an ICUC sustainable livelihoods project.

The authors found that using a different model can give surprising insights to the previous market analysis. For example, the analysis in this report shows that for Vietnam, India and Bangladesh it may be unwise to develop new fruit processing businesses given the high barriers to entry into these markets. However the market research reports all appeared to find a high demand for processed fruit products and recommended (with some caveats) that new processing businesses should be developed. This difference in conclusion implies that more data may be required within the market analysis and highlights the usefulness of assessing markets from an internal as well as an external perspective.

A comparison of the markets suggests two potential market entry mechanisms that have the potential to be adapted to other countries. The first, used in Nepal, is that limited transformation and the development of pre-processed products could provide a means for adding value for producer-growers. A second entry point, used in Sri Lanka, is to use a more innovative approach to finding customers by selling directing to public and private sector canteens, businesses or restaurants rather than using the existing market value chain.

2.Introduction

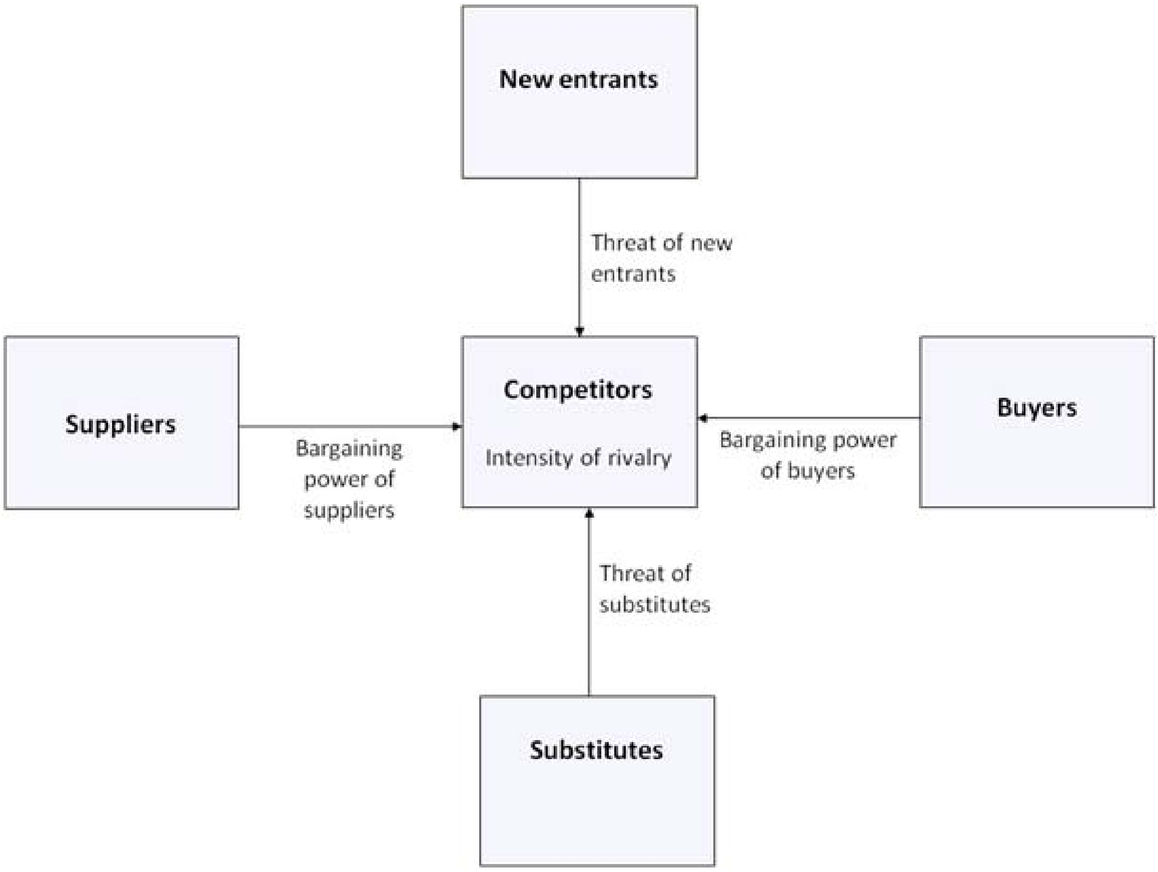
This analysis was carried out for the DFID FRP funded project "Improved livelihoods through the development of small-scale fruit processing enterprises in Asia" managed by the International Centre for Underutilised Crops (ICUC). The aim of this paper was to carry out a rapid analysis on the existing market research to achieve a more strategic market understanding in each of the five project countries (Vietnam, India, Bangladesh, Nepal and Sri Lanka). The time for producing this report was very limited and the focus was solely to provide new insights into the existing project market research.

The quality and quantity of the research results varied, making it difficult to make comparisons across countries. Such a comparison would enable learning from the situation in other countries. One way of comparing, based on the information provided in the market researches, is by developing a competitive analysis of the fruit processing industry for each country.

Using the Porter's[1] Five Forces model (see figure 1); analysis is focused on the behaviour of all players in a specific sector or industry. This provides an insight into the complexity of the sector (industry) in which the processed indigenous fruit tree products compete.

[1] D. Jobber, Principles and practice of marketing, McGraw-Hill Publishing Company, 2001, page 572

Figure 1. Porter's Five Forces Competitive Analysis Model



This type of business model has not been used in sustainable livelihoods approaches and to provide a better understanding of the approach, Porter's model is elaborated prior to analysing the fruit processing industry for each of the 5 participating countries. This introduction to the model includes an explanation on how to interpret the results of the analysis. Each country section includes a graphic of the model and an analysis of each of the forces. The report is concluded with a comparison between the countries and the interesting differences.

3. How to use Porter's Five Forces Competitive Analysis Model

3.1 The Five Players

The model is built up by first looking at the industry players. These are the competitors, the suppliers to the competitors and the buyers of the end product. In order to enable comparison for the analysis in the fruit processing industry the following distinctions are made:

- Suppliers: these are the fruit growers and producers of semi-processed products
- Competitors: these are the processors of the end products that are consumable
- Buyers: these are the retailers etc that buy directly or via agents from the competitors

Two other players are the new entrants and the substitutes. New entrants are new companies coming onto the market with the same products while substitutes in this case are products that buyers or consumers can choose instead of the processed indigenous fruit tree products.

3.2 The strength of each force

When all these players are recognised the next step is to determine how they are competing. Figure 1 shows that Porter distinguishes Five forces that determine the strength of each player. Using Jobber (2001) the forces can be explained as follows:

Threat of new entrants: The more competitors in the industry the less attractive the industry becomes (more competitors sharing the same demand). Whether or nor new competitors can easily enter the industry depends on the barriers to entry. These barriers can include capital requirements, quality standards, reactions of current competitors (pricing out of the market for instance), and economies of scale.

Bargaining power of suppliers: This determines the profitability of the competitors, the higher the bargaining power, the higher the costs for raw material. This bargaining power is determined by the amount of suppliers (high or low) and the amount of competitors (more buyers increases the bargaining power of suppliers, fewer competitors and many suppliers decreases the bargaining power of suppliers). Other factors include the rarity of the product, the potential for suppliers to integrate forwards in the industry (e.g., become fruit processors themselves) and whether the competitors are the key customer group of the suppliers.

Bargaining power of buyers: The more power the buyers have, the better they can negotiate prices but also other factors like packaging. The power of the buyers is greater when there are only few dominant buyers, products are standardised and when the product is not a key product in their assortment.

Threat of substitutes: Substitute products can put a constraint on price levels. When you increase the price of your product do the buyers then just start buying other products? Is it easy for consumers to decide to use other products?

Intensity of rivalry: There is more competition when there are a large number of small competitors then when there are only a few equally balanced competitors. Rivalry is also determined by how easy the product is to copy, the structure of the costs for production and the strategies are the competitors following (intense price competition or stabilisation).

3. 3 Improving your own position

The analysis is completed if all forces are determined. One can look at the analysis of the competitive structure from different viewpoints, one can look as a person wanting to enter into a new market, one can look as a supplier to the competitors but one can also look as one of the buyers. When your position in the model is clear the last step is to develop actions to promote and improve your own position. It might also be possible to move position or to determine that competing in this industry is too difficult and leave the industry altogether. Since the project is looking for ways to promote more growers to start processing or pre-processing the fruits the analysis will give some conclusions and recommendations especially to those groups. It is then up to the participating organisations to decide on how they are going to support the small processors best in this competing environment.

3.4 Assumptions and limitations for using the model

For each country, the information of the market research reports is analysed and brought into the model. Only information from the reports provided is used. Not all reports provide sufficient information to make a complete industry analysis; where possible missing information is indicated. The information is extrapolated and applied to the whole country; therefore some regional differences might be overlooked.

The supply chain might hold many more players then visible in the model, this may include consumers but also agents. The information of these groups that was available in the reports is used especially when determining the competitiveness factors, for example:

- Threat of new entrants is determined by entry barriers which can include the need for an agent or specific quality demands of consumers
- Threat of substitutes is determined partly by behaviour of consumers
- Bargaining power of the buyers is partly determined by the behaviour of consumers
- Bargaining power of suppliers is partly determined by the behaviour of traders and availability of cooperatives

An additional constraint was due to the project focus on the national market and not the international market for under utilized fruit processed products. The competitive analysis is limited to the national sector only. Although exporters can play a role in a national setting as buyers of the products, what they subsequently do with these products lies outside the scope of this analysis.

4. Vietnam: Processed Fruits Industry Analysis

The report on market research on underutilised fruits in Vietnam[2] has provided ample input to enable the making of a competitive analysis. Although the report was lacking in information about prices and suppliers sufficient information could be found to make a first analysis.

4.1 The power in the industry

Figure 2 shows that there are many suppliers, competitors and buyers. As assessment of the power balance between those groups shows that the bargaining power of the buyers is particularly high compared to that of the suppliers and the competitors. This means that the buyers (which consist mostly of retail shops owners and wholesalers) determine what kinds of products get the opportunity to enter the market. Since consumers have a specific demand during the festive season, this is a period when buyers have less power. When demand from consumers is high, the buyers will need to ensure they have enough stock to meet the demand.

4.2 Entry barriers for new entrants

Since buyers demand a high quality product with attractive and good packaging new entrants have to abide to high standards. According to the report several initiatives were taken by new processors to bring new products from underutilised fruits on the market. These initiatives did not succeed because of lack of sales. Another barrier into the market for small scale producers is the many subsidised initiatives as well as the competition from state run companies.

[2]Research institute of fruits and vegetables, Report on market research on underutilised fruits in Vietnam, Hanoi October 2004

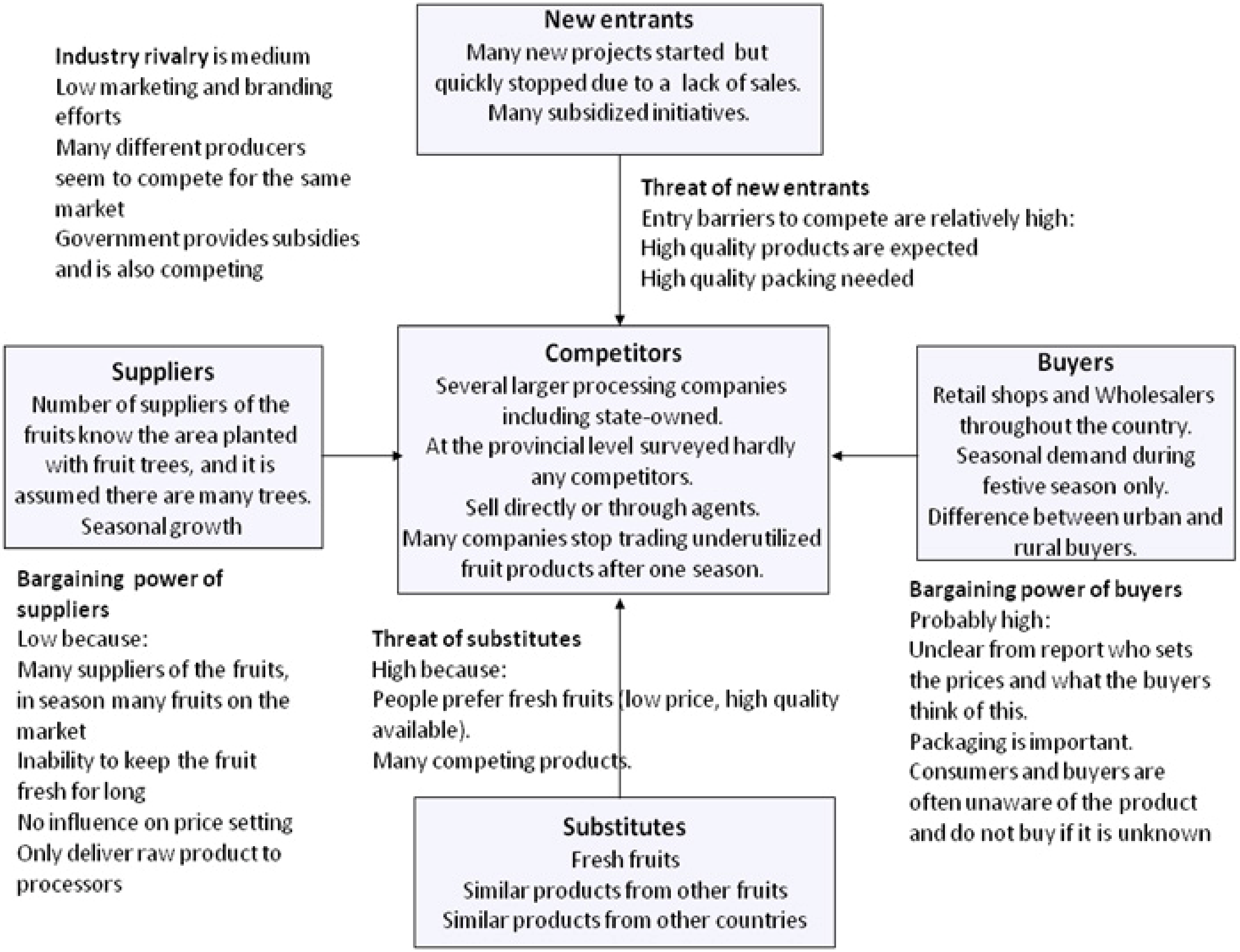
4.3 Competing in the industry

Although there are many competitors in the industry it seems the intensity of the rivalry is medium. There seem to be low marketing and branding efforts and there are two different markets, the urban and rural markets. Competitors seem to focus mostly only on one of these, reducing the overall rivalry. Given the high threat of substitute products this is a fighting industry where companies will have to make a lot of effort to convince the buyers and the consumers that their products are just as good as the substitutes. For consumers it is easy to make day-by-day decisions between the different available products without incurring extra costs.

4.4 Conclusions based on the model

Figure 2 demonstrates that suppliers, growers and collectors of the underutilised fruits have a minimal level of bargaining power. One of the solutions of the project to overcome that position was to start processing fruit themselves. However due to the relatively high entry barriers and the seasonal demand this might not be the best solution. Specialising and working together in selling the fruits to the processors can be a solution to overcome the lack in bargaining power as is the potential of developing half products that can be sold off-season to the major processors (forward integrating). New processors will have to abide to the quality and packaging standards and might decide to focus only on one market first, urban or rural. With the high interference of government in the market either companies should use the subsidies provided or they should be able to operate profitable without subsidies. Sales channels seem to be an important lack of the current new entrants, before entering the market some sort of sales channel should have been established.

Figure 2. Vietnamese industry for processed fruits with a focus on persimmon, jackfruit and sugar-apple



5.India: Processed Fruits Industry Analysis

The report "Small Scale processing and marketing of underutilised fruits in India, Market research on underutilised fruit products" is written by the Indian Institute of Horticultural Research. This report provides sufficient input to enable an analysis of the competitive structure of the industry in India. The main information lacking is on new entrants outside of those involved in the project.

5.1 The power in the industry

Figure 3 shows that there are many suppliers, competitors and buyers. Since many of the competitors have established brand names, they have a good bargaining position towards the buyers. The buyers have a high bargaining power towards the non-brand competitors and can dictate terms and conditions before taking a product up into the assortment. Suppliers have low to medium power since for some products they can also directly sell to exporters. In particular, producers of fruit during the off-season (may include producers from other localities) have some bargaining power. However during the high season, as a result of the high fruit supply, the bargaining power of suppliers decreases.

5.2 Entry barriers for new entrants

Since buyers demand a high quality product with especially attractive and good packaging, new entrants have to abide to high standards. The firm market position of the recognized brand product has proven to be an additional barrier. Using cooperatives that sell products both to the public and the members is a good step in gaining recognition at local level but only works for those new entrants that are connected to a cooperative.

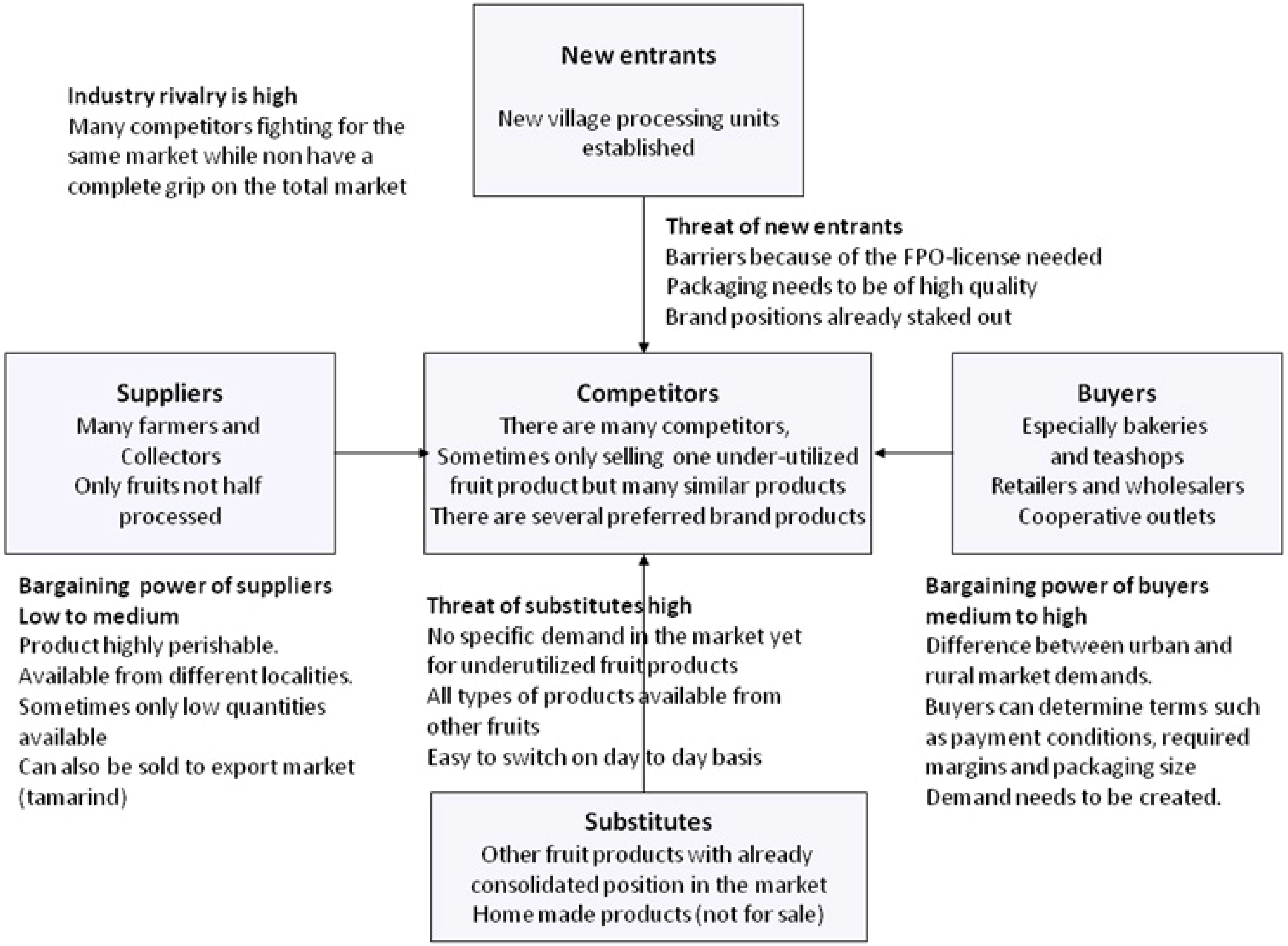
5.3 Competing in the industry

While urban and rural markets differ in demand (in price, packaging and product size), in both markets stiff competition is taking place for almost all fruit processed products. Although not all potential processed products from the underutilised fruits are on the market, several can already be found amongst the branded products.

5.4 Conclusions based on the model

Suppliers (growers and collectors) have some bargaining power but this is still low. The project is developing the idea of forward integrating whereby suppliers also process the fruits themselves. Suppliers enter a highly competitive market with many substitute products (same kind of product but from another fruit) where larger brands already have their place. Branding therefore seems very important as well as targeting specific markets. This would need a considerable amount of capital input and it is doubtful that the suppliers can afford this. When other organisations provide capital input as a subsidy, competition will become unequal for those that do not receive such subsidies. The potential of providing half-processed products to the competitors is probably higher then the full processing by the suppliers themselves.

Figure 3. Indian industry for processed fruits with a focus on amla and ber



6. Bangladesh: Processed Fruits Industry Analysis

The analysis found in figure 4 is based on the marketing and market study on Ber, Tamarind and Jackfruit products in Bangladesh[3]. The report was lacking in the fields of supplier information as well as new entrants meaning that a full competitive industry analysis could not be completed. However, even with the information provided, some conclusions can still be made and some lessons taken from the Five Forces model.

6.1 The power in the industry

Because of the two main large competitors that have built a steadfast brand name the power lies with those competitors. Both suppliers and buyers have very little influence on price setting although the suppliers might have more chance of obtaining a higher price during the off-season. Buyers do have more power than the small fruit processors. In general this industry in Bangladesh therefore seems very unbalanced. Where the power is depends on the size of the company (whether being buyer or competitor). No information is available for the situation in niche markets.

6.2 Entry barriers for new entrants

This probably depends on which market they are active. In order to compete with the major brands, capital investments such as TV adverts are needed. Starting a business does not require much investment but getting the products to the market can be difficult.

6.3 Competing in the industry

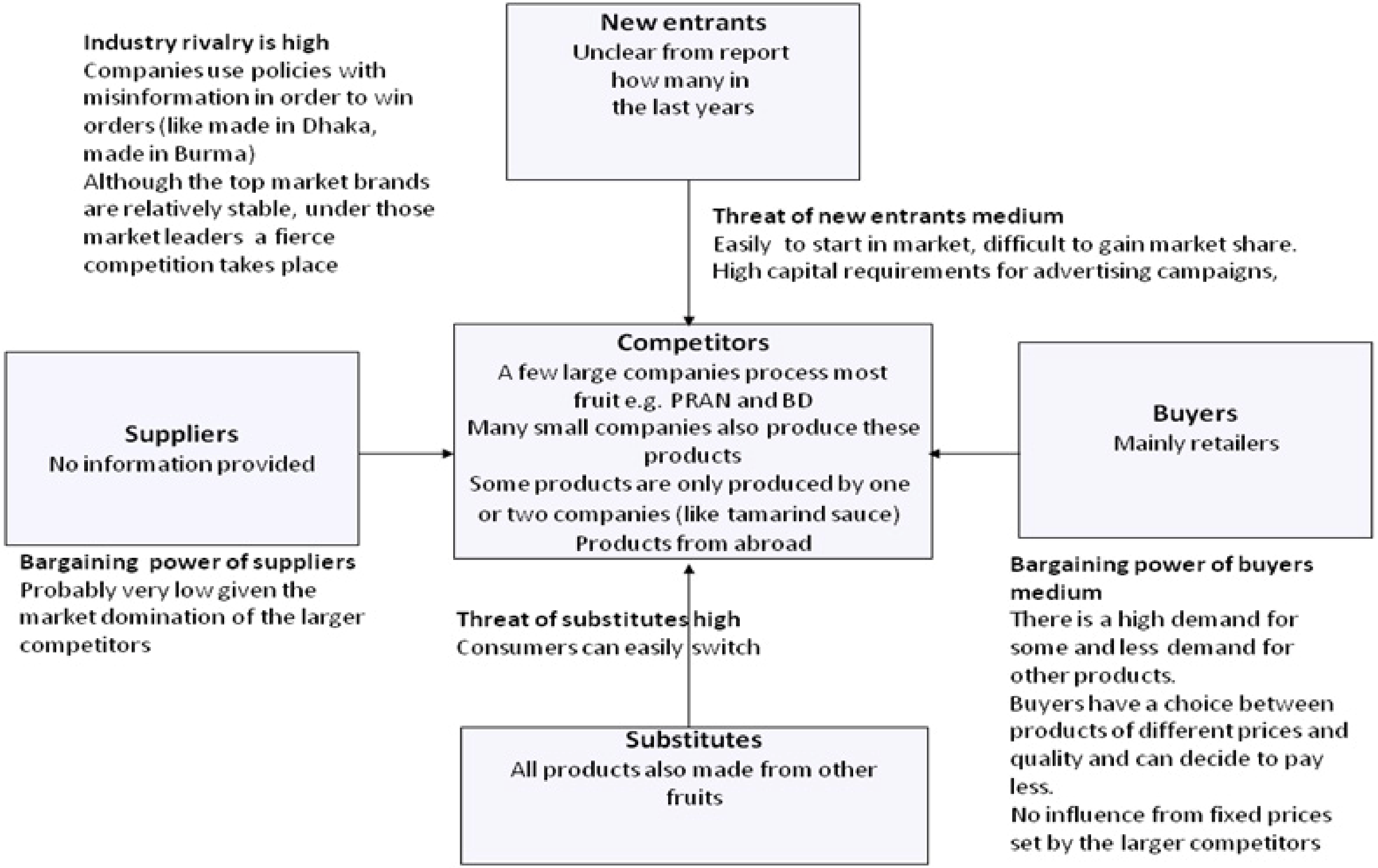
This is an industry dominated by a few larger competitors that determine price setting, quality and packaging basics. Fierce competition takes place below these market leaders with small processes competing especially in local markets for shelf space. Niche markets might be available.

6.4 Conclusions based on the model

Because of the limitations in the information as input for this model it is difficult to make any reasonable conclusions. In the field of supplier information this is particularly important since this is the group of people that the project intends to reach. However the domination of the bigger brands does not need to be negative for the suppliers if they can negotiate fixed deals and assist those larger competitors in developing new products of underutilised fruits.

[3] Horticulture research Centre, Bangladesh Agricultural Research Institute, Marketing and Market study on Ber, Tamaring and Jackfruit products in Bangladesh (2005?)

Figure 4. Bangladesh industry for processed Fruits with a focus on ber, tamarind and jackfruit



7.Nepal: Processed Fruits Industry Analysis

Based on the "market research report on underutilised fruit crops in Nepal"[4] an almost complete picture can be drawn of the competitiveness of the fruit processing industry. The only additional information that would be needed is on the current amount of new entrants on the market.

7.1 The power in the industry

This seems to be an industry where the power is not yet fully established. Although it is clear that the direct suppliers of fruit have low power, by making them into half products (lapsi pulp) they have been able to improve their power considerably. By directly selling to consumers, the competitors can negotiate better prices with the retailers. The competitors are not yet doing a lot of advertising and do not work on branding the products.

7.2 Entry barriers for new entrants

New entrants probably have no difficulties in entering this market, especially when the products are processed close to the fruit growing areas. When selling takes place through cooperatives and other collective outlets it has shown that the distance is not a problem. New competitors can buy half products from the suppliers and thus decrease initial capital investments.

7.3 Competing in the industry

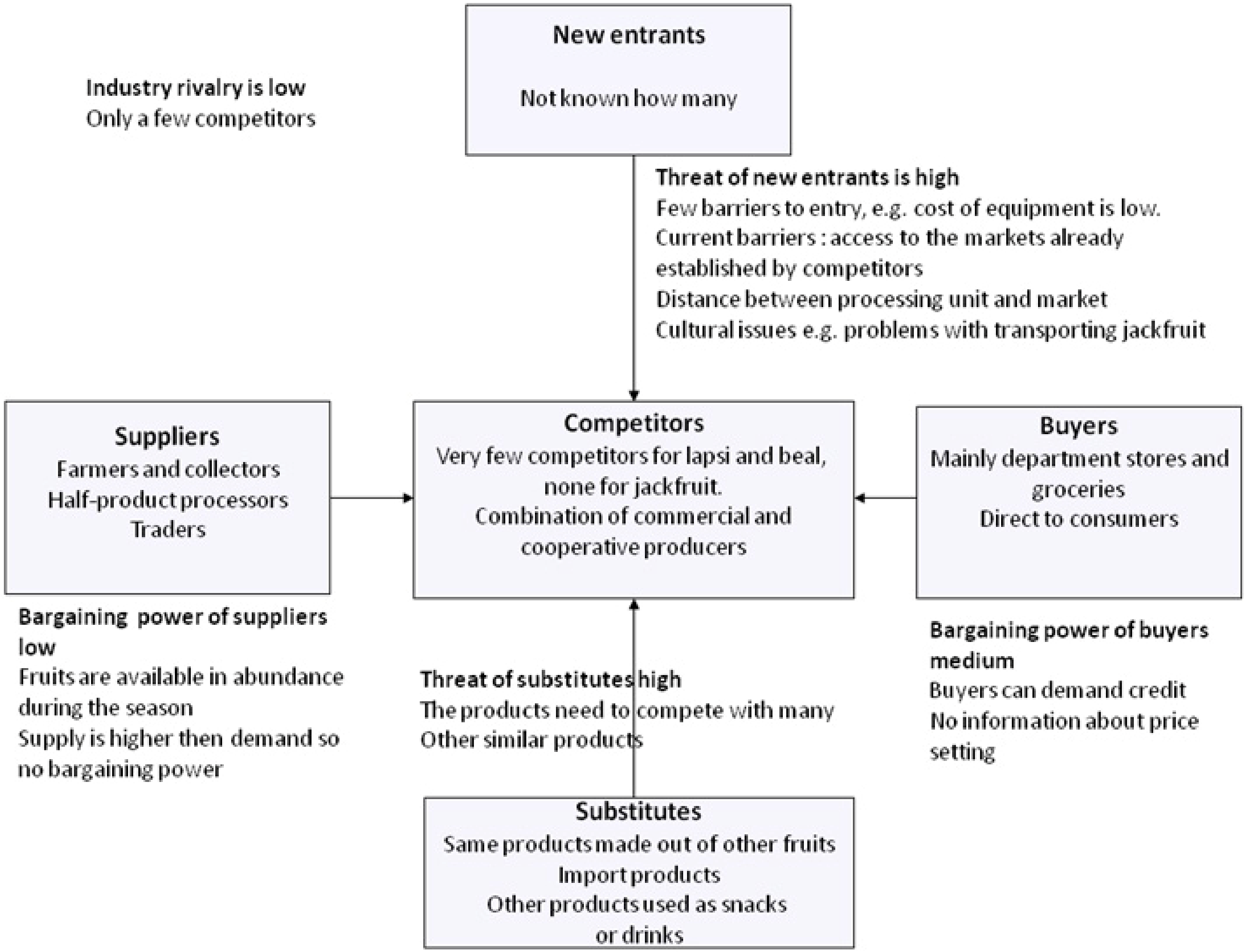
There seems to be enough room for more competitors in this industry since the competition is only a few producers. However it must remain clear that so far there is no specific demand for these products.

7.4 Conclusions based on the model

This is an industry where suppliers can easily turn into half-product or end-product producers. It is necessary to develop activities as a business to create demand and awareness for the products because that seems underdeveloped in Nepal. When competition grows, issues such as quality, health certification, branding and packaging start to become important. It is best to take this into account from the start when entering this market as a new competitor.

[4] MSD International Pvt.Ltd, Market research report on underutilised fruit crops in Nepal, Kathmandu 2005

Figure 5. Nepalese industry for processed fruits with a focus on amla and ber



8. Sri Lanka: Processed Fruits Industry Analysis

To assess the competitive industry structure of the fruit processing industry in Sri Lanka four reports were available. These 4 reports[5] contained all the information needed to do an analysis based on the 5 forces model as shown in figure 6.

8.1 The power in the industry

In the large national market the power is firmly in the hands of the large brand producers (competitors) with both suppliers and buyers having low bargaining power. For the suppliers, this is especially the case during the harvesting season. For the more local and niche markets, the buyers have much more power particularly since they tend to stay with the known brands. Local competitors have a lot less bargaining power and the suppliers have low bargaining power except when they can provide fruits outside of season.

8.2 Entry barriers for new entrants

To enter the national market the barriers are high, SLS (Sri Lanka Standards Institution) certification is necessary but also brand awareness needs to be created through extensive (and expensive) advertising campaigns. This is in order to get the products accepted by the retailers and wholesalers. However for niche markets such as canteens and hotels where producers can be in direct contact with the clients entry barriers are less high. This enables new entrants to come onto the market and have the possibility of developing from a niche market to a local market, to a national market. Nevertheless, even for these entrants the initial capital costs are quite high which still a barrier in itself.

8.3 Competing in the industry

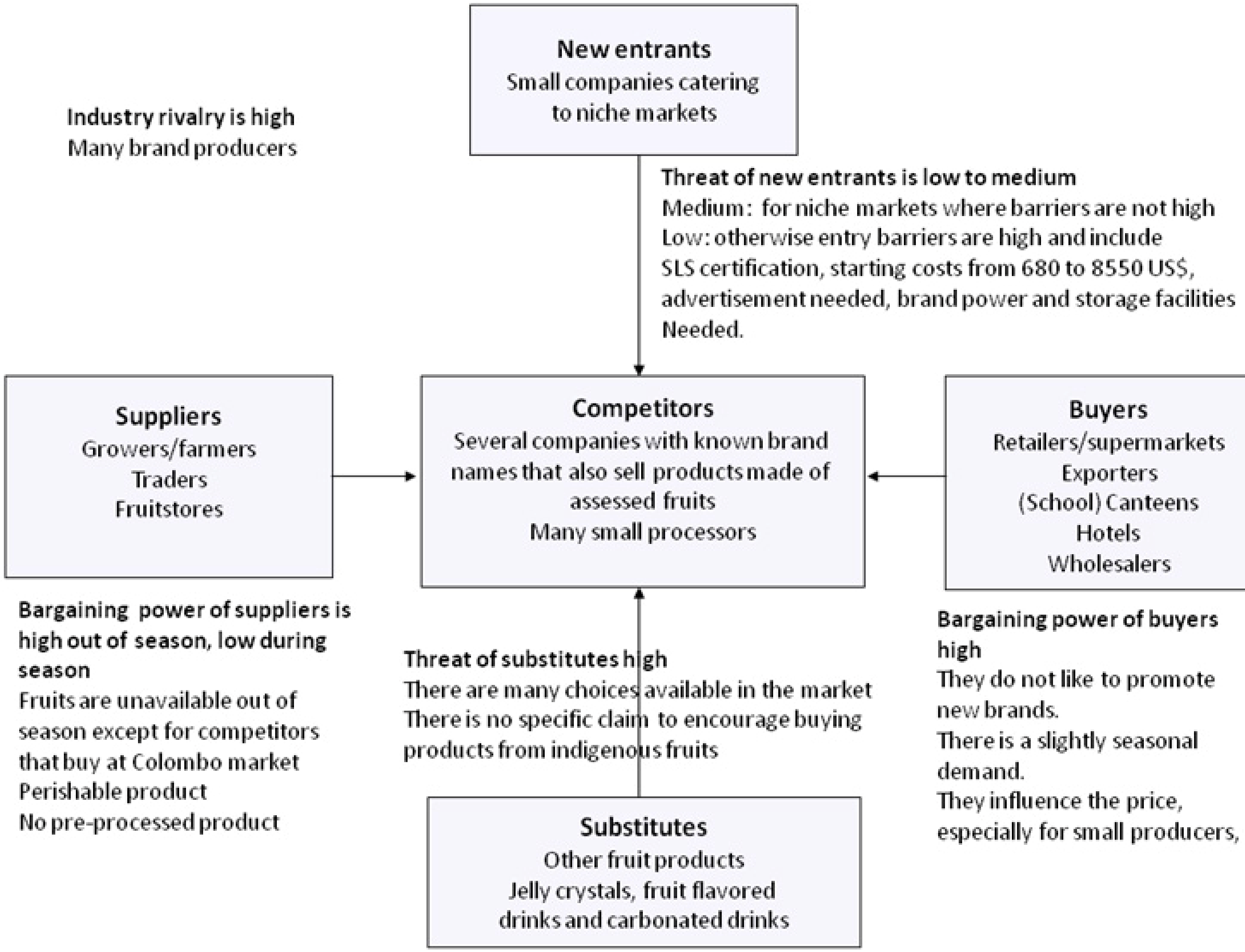
Competition is fierce between the brand producers but the smaller producers have to fight the competition to get shelf space at retailers and wholesalers. Competing in niche markets is less fierce and plays more at local level.

8.4 Conclusions based on the model

As the suppliers and growers, farmers have a very low bargaining position. In order to uplift themselves and increase income they could, according to this model, start a processing business provided that they focus on niche markets. Suppliers should investigate the niche markets first before investing any capital in equipment. Since the large scale producers also sell products of the underutilised fruits it may be possible to deliver out of season pre-processed fruit products that can be further used in the production of end products.

[5] Abeyrathne, A.H.M.S.W.B, Study on small scale processing and marketing of underutilised fruits in Horana Divisional Secretariat Divison, Study on small scale processing and marketing of underutilised fruits in Kandy Divisional Secretariat Divison, Study on small scale processing and marketing of underutilised fruits in Galle Divisional Secretariat Divison, Test Marketing report on Processed Fruit Products from underutilised crops in Kany town and its periphery, Sri Lanka 2005

Figure 6. Sri Lankan industry for processed indigenous fruits



9.Conclusions

Using a different model from the more typical sustainable livelihoods type of approach to assess the existing project market research reports can give surprising insights. Using the Five Forces competitive industry framework analysis reveals that in several of the countries (except Sri Lanka and Nepal) it seems unwise to start a new processing business considering the fierce competition in the market and the high entry barriers into that market. Most market research reports however seem to perceive a high demand and therefore deem it a good option (within limits) to start new processing businesses. It is useful to look at this information from two sides before making any decisions and perhaps reanalyse some of the data and also add additional relevant data into the model used.

In all countries, the threat of substitutes is clear; this can be counteracted by ensuring that the products have an extra claim (or value) to them, this could be a health, a beauty claim or a simple 'this product is saving you time' claim for instance. Only in one country such a claim is made for a few of the products.

In one country (Nepal) pre-processed products are sold to producers of end products. Seeing the difficulties in the entering of the markets in all the other countries this might be a good solution for the other countries too. This allows producers to remain a supplier but adding the first stage of transformation and adding value at your own processing and storage unit. This enables the suppliers to not directly start competing in the market but to sell products straight to the final transformers (producers) – this time of year is also during the period when the fruit is not in season and so achieves a higher price.

For most of the underutilised fruit products in all 5 countries there is not yet a firm demand for these specific products. All of the products are often also made from other, more well known fruits , and adding a new product on the market takes time. Retailers and wholesalers seem reluctant overall to try new products but the example of Sri Lanka shows that small producers can create their own demand in a niche market by catering directly to school, government or business canteens. Another target group might be hotels and restaurants. In India most processed food products are sold through bakeries and teashops, these might be potential niche markets in other countries.

Finally, it should be noted that an industry analysis is simply a tool to help develop new developmental activities. There is no ideal picture of an industry. For each player that ideal picture looks different, suppliers want high bargaining power but competitors want the suppliers to have low bargaining power. Whether government should intervene in an industry especially when there are already many mature players in that industry is a question that needs considering. A further question to consider is what elements projects should focus on without creating false competition by supporting only a few and not all suppliers and producers in the market thereby creating winners and losers.

10. References

Abeyrathne, A.H.M.S.W.B, Study on small scale processing and marketing of underutilised fruits in Horana Divisional Secretariat Divison, Sri Lanka 2005

Abeyrathne, A.H.M.S.W.B, Study on small scale processing and marketing of underutilised fruits in Kandy Divisional Secretariat Divison, Sri Lanka 2005

Abeyrathne, A.H.M.S.W.B, Study on small scale processing and marketing of underutilised fruits in Galle Divisional Secretariat Divison, Sri Lanka 2005

Abeyrathne, A.H.M.S.W.B, Test Marketing report on Processed Fruit Products from underutilised crops in Kany town and its periphery, Sri Lanka 2005

Horticulture research Centre, Bangladesh Agricultural Research Institute, Marketing and Market study on Ber, Tamaring and Jackfruit products in Bangladesh (2005?)

Indian Institute of Horticultural Research, Small Scale processing and marketing of underutilised fruits in India, Market research on underutilised fruit products, India 2005.

Jobber D., Principles and practice of marketing, McGraw-Hill Publishing Company, 2001, page 572

MSD International Pvt.Ltd, Market research report on underutilised fruit crops in Nepal, Kathmandu 2005

Research institute of fruits and vegetables, Report on market research on underutilised fruits in Vietnam, Hanoi October 2004