

# Towards High Value Vegetable Markets With Effects Of Covid 19: A Case Study Of Thabuththegama Economic Centre In Sri Lanka

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**Abstract**—The expansion of high value added markets for vegetable marketing that provides both opportunities and challenges for smallholder farmers. The aim of this study is to point out the key affecting factors for farmers' participation in high value markets, compared to Economic Centers. Group discussion and face to face interviews were conducted with a sample of 36 smallholder vegetable farmers in the rural; Thambuththegama and Thalawa in Sri Lanka. Descriptive analysis was used in this study. The results suggested that 1 % of the sample, educated young farmers are engaging with more high value local and international markets and others are selling their product at the Economic Centers with post-harvest loses and transportation cost. In addition, irrigation technology, technology adoption for production, non-develop farmer organization and poor government interventions are constrain to participate the high value market in Sri Lanka. The income generated from vegetable farming was positively correlated to high value market participation in Sri Lanka. Some implications that need to be prioritized in agricultural development strategies include improving technological innovations and empowering collective actions through cooperatives or farmer organization.

**Keywords**—Sri Lanka, Covid 19, high value market, vegetable farming

## 1. Introduction

Agro food systems in developing countries are rapidly changing towards high value markets (Imami et al., 2013; Reardon et al., 2012). The development of global food retailers has taken place in these country for more than two decades. Moreover, modern food markets in Sri Lanka are currently have been developed in major cities and provincial cities, but have not reaching rural and distant communities. For small-scale farmers, this phenomenon could not present better economic opportunities such as increased incomes, productivity and welfare etc. due to bringing some challenges with higher product standards and quality requirements Hernandez et al., 2007; Miyata et al., 2009; Rao and Qaim, 2011

studies investigated modern marketing channels while some studies concluded that smallholder farmers would get obvious economic opportunities from being linked to high value markets, Boselie et al., 2003; Reardon et al., 2009 studies found that there were challenges limiting smallholder farmers' participation and some others smallholder participation in direct marketing joining with pola, rural retail market and road side. There have been no clear conclusions about whether smallholder farmers can effectively participate in high value market chains in Sri Lanka.

## 2. Background of the problem

Linking smallholder farmers to high value markets is critical in the Sri Lankan economic system. According to Reardon et al. (2009), modern food markets are likely to source from commercial and large farmers, and exclude smallholder farmers. According to the Agricultural Household survey in Sri Lanka 2016/2017, Agricultural Operators (36.1%) are the main decision maker of agriculture production activity and 26 % members contributing agriculture activities while remain 38% for not contributing agriculture activities. Furthermore, Agricultural Household Population (aged 15 years and above) in Sri Lankan is 29.1 % people who depend on agriculture for their living. Approximately all most all smallholder farmers in Sri Lanka live in rural areas (Ministry of Agriculture, 2019) with associated problems such as limited access to farm assets, infrastructure, markets, and institutional support. These fundamental issues often create smallholder farmers' poverty generating. Thus, considering the growth of vegetable market change throughout the country, participation of smallholder farmers in high value markets can be a significant alternative at the Covid 19 for rural development and poverty alleviation strategies.

Smallholder farmer participation in high value markets in Sri Lanka is still limited. Previous studies have highlighted the significance of smallholder farmer participation, and its implication for farmer welfare (Simmons et al., 2005). This study carried out in Thambuththegama Economic Center in Anuradhapura that are more relevant to create an arguments in against to the smallholder vegetable

farmers in rural as they have facing with the price fluctuations in seasonally that was more rapid with Covid 19 may be positively or negatively.

### 3. Objectives of the study

Limited linkages available between modern food markets and smallholder farmers in Sri Lanka. Therefore, smallholder vegetable farmers' traditional market channels are still dominant among the rural population, modern retail store formats are also emerging rapidly. Since 2010, the modern food retail sector, taking the format of supermarkets, has started growing in the city markets. This situation brings new opportunities for large scalars to be involved in the growing modern market channels in which small farmers have to manage profit margin with uncertainty and covid 19 bring the unexpected situation. Therefore, the purpose of this research is to analyses the key factors affecting smallholder farmers' participation in high value markets, compared to the traditional market in Sri Lanka effect of covid pandemic. This study also describes the current situation of Sri Lankan vegetable growers and markets, and analyses the affecting factors of high value market participation on farmers' income.

### 4. Methodology

Qualitative approach to achieve the research aim. Primary data, secondary data and literature review were used to identify the factors affecting for high value added market in Sri Lanka. A group discussion and face to face interviews was used as the primary data collection that was carried out in the period April to May 2020 which was the lock down period on Covid 19 in Thabuththegama Economic Centre and farmers in Thalawa and Thambuththegama. The Primary data was collected in a short interval of time and a total of 35 respondents were interviewed. Necessity of high value added market was promoted with the price fluctuation of vegetables at the Covid 19 in Sri Lanka in which Thabuththegama Economic Center used for collecting the vegetables prices at the lockdown period that is due to in rural area. Collected primary data were compared with the secondary data which were collected by Hector Kobbekaduwa Agrarian Research and Training Institute in the period of March to April 2019.

### 5. Discussion and Conclusion

The **distance to marketplaces** is an important factor for farmers in terms of product delivery in the developing countries. Miyata et al. (2009) found that Smallholder producers who live near the major village significantly tend to sell to high value markets. Distance to market place is a constrain to participate a high value markets that are located in major cities in Sri Lanka and 1% of farmers of the sample have participated with them and 99% of farmers participate with functions of the Economic centers in Dambulla, Thambuththegama, Kappetipola and Megoda in which involvement of middlemen and any other seasonal effects are the reasons for fluctuations the vegetable prices. **Farmers' organizations or cooperatives** can also play crucial roles in facilitating smallholder farmers to gain access to modern markets (Pascucci, 2011). These collective investments can help smallholder farmers to reduce transaction costs (Hellin et al., 2009). Though short distance to marketplaces, forms of capital such as land and non-land, equipment and irrigation assets, irrigation technology and infrastructure, Farmers' organizations or cooperatives are positively affect to the smallholder vegetable farmers with the bad effects the prices are rapidly fluctuated in Sri Lankan vegetable markets. Therefore, government and farmer organization intervention are the functions to stabilize the vegetable prices. Reardon et al., 2009 point out that the high value markets paid the net premium prices, which are relatively higher than the price paid by wholesalers in traditional market channels.

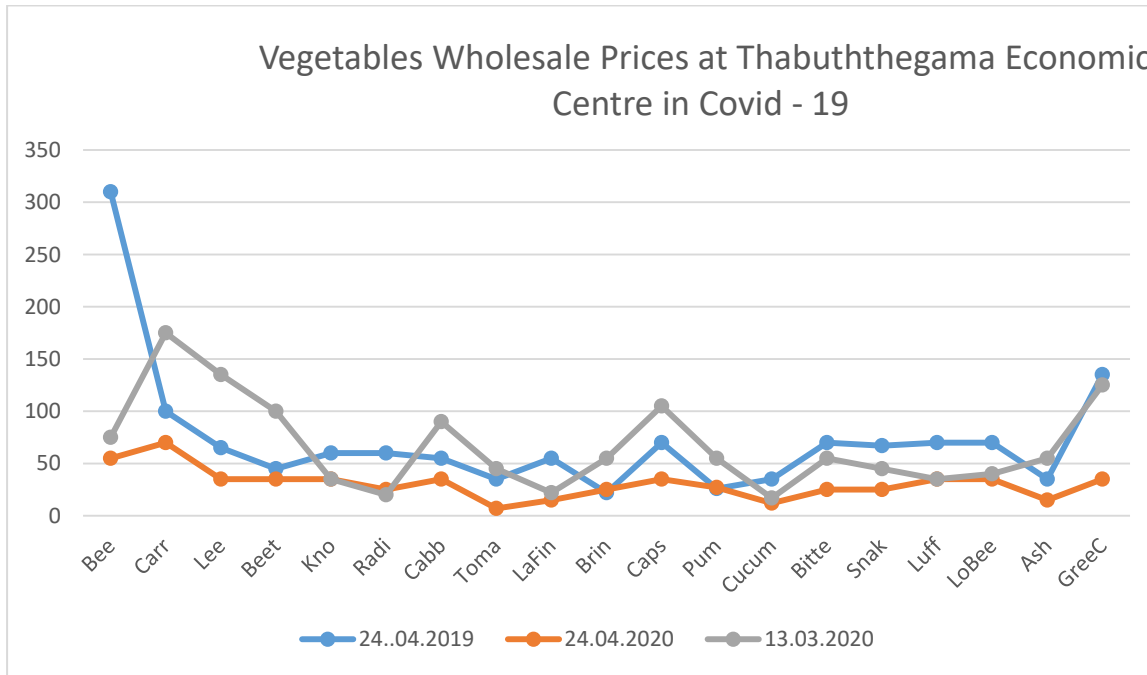
Hernandez et al. (2007) state that **irrigation technology** functional by smallholder tomato growers in Guatemala link to the decision to participate in modern market supply chains. Neven et al., (2009), indicating that the **irrigation infrastructure** has a significant effect on market channel adoption in the study of vegetable farmers in Kenya. Sri Lankan vegetable farmers don't have the well developed and advanced irrigation technology, 95% of vegetable farmers those who have utilized traditional irrigated water supply methods like agro well etc.

**Table 1: Thambuththegam Economic Centre- Price Fluctuations on Covid 19**

Type of Vegetables	Daily wholesale Prices (Rs per Kg)							
	13.03.2019		13.03.20		24.04.2019		24.04.2020	
	Range	Avg.	Range	Avg.	Range	Avg.	Range	Avg.
Beens	50- 60	55	70- 80	75	300- 320	310	50-60	55
Carrot	80 - 100	90	170- 180	175	90- 110	100	50-90	70
Leeks	50 - 60	55	130- 140	135	60- 70	65	30-40	35
Beet Root	40- 45	43	90- 110	100	40-50	45	30-40	35
Knokhol	35- 40	38	30- 40	35	50-70	60	30-40	35
Radish	25 -30	40	15-25	20	50 -70	60	20-30	25
Cabbage	30 – 40	35	80- 100	90	50- 60	55	30-40	35
Tomato	20- 30	25	40- 50	45	30- 40	35	5-10	7
Laddies fingers	25- 35	30	20- 25	22	50- 60	55	10-20	15
Brinjals	60- 80	70	50- 60	55	15- 20	22	20-30	25

Capsicum	80- 110	95	80- 130	105	60 -80	70	30-40	35
Pumpkin	10- 20	15	40- 70	55	20- 35	26	25- 30	27
Cucumber	15- 25	20	15- 20	17	30- 40	35	10-15	12
Bitter Gourd	65 -75	102	50- 60	55	60- 80	70	20-30	25
Snack	30- 40	50	40- 50	45	60- 75	67	20-30	25
Luffa	45- 60	53	30- 40	35	60- 80	70	30-40	35
Long Beans	30- 50	40	30- 50	40	60- 80	70	30-40	35
Ash Plants	40- 50	45	50- 60	55	30- 40	35	10-20	15
Green Chillies	200- 240	220	100- 150	125	120- 150	135	30-40	35
Sweet Poteto	50- 70	60	60- 70	65	-			
Maniyoc	50- 70	60	80- 90	85				

Sources: Primary data collection on 24.04.2020



Sources: SWGK Bulankulama drafted using secondary and primary data in 2019 and 2020

Neven et al., 2009; Reardon et al., 2009; Schipmann and Qaim, 2010 have conceptualized the decisions of smallholder farmers to participate in modern market chains as **'technology adoption of product marketing'**. But in Sri Lankan vegetables farming are adopted to the technology they still are utilizing the traditional techniques. Schipmann and Qaim 2010 identified three factors for influencing the farmers' decision making to join in high value markets that are demographic variables of farmers such as **education, age, farming experience and household size.**(Miyata et al., 2009; Schipmann and Qaim, 2010). Hernandez et al., 2007; Blandon et al., 2010 found that there was no correlation between level of education and market participation. Blandon et al., 2010; Hernandez et al., 2007; Schipmann and Qaim, 2010 provide information that younger farmers tend to be modern market suppliers regarding farmer age. The studies conducted by Neven et al. (2009), Rao and Qaim (2011), and Ismael et al. (2013) which concluded that farmers who supply high value markets have a higher education level than traditional market suppliers. More educated farmers were expected to have a better understanding not only of the production process, but also of marketing and

business aspects, such as supply requirements and price negotiations. Educated young farmers in Sri Lanka are engaging with more high value local and international markets that is 1% out of the sample. Another 2% are selling their vegetables at the Pola or road side while rest of 97% are selling their product at the farm gate prices in Sri Lanka.

Household was another aspect in determining farmer marketing decision. Hernandez et al. (2007) and Rao and Qaim (2011) found that household size has a negative correlation with the farmers' adoption of modern market chains. Miyata et al. (2009) however found that household size was not different between modern and traditional market suppliers. Farm aspects include farm size, land ownership and irrigation (Schipmann and Qaim, 2010) which are not the associated factors to adopt the high value market in Sri Lanka. Neven et al. (2009) found that smallholder farmers who owned relatively large farms are likely to sell produce to supermarkets which is more significant with the Sri Lankan vegetable farming who supply their products on the forward trade agreement to the Keels and Cargiels Super markets in Sri Lanka those who are in the 2 % among the sample. This finding is similar to cases such as sweet

peppers in Thailand (Schipmann and Qaim, 2010), vegetable growers in China (Wang, Zhang, and Wu, 2011), and vegetable farmers in Kenya (Ismail et al., 2013). But, farm size has no significant effect on the smallholder farmers to join in high value markets, such as the tomato growers in Guatemala (Hernandez et al., 2007), apple growers in China (Miyata et al., 2009) and fresh fruit and vegetable farmers in Honduras (Blandon et al., 2009). Therefore small size farmers in Sri Lanka also can join with the high value market in which government intervention is needed to develop the marketing channels.

Reardon et al. (2009) emphasized that farmers should also consider the possibilities of risk and the cost of farm production and post-harvest handling technologies to deal with the quality and transactional requirements needed by modern market channels. Past harvest losses are high in vegetable marketing in Sri Lanka with poor post-harvest handling technologies in which 95% of packing is polythene bags and it is practices to cost minimization at the transactional requirements. Moreover, smallholder farmers often experience additional costs derived from barriers of entry to high value markets. Reardon et al. (2009) highlighted that these costs reduce smallholder farmers' choice of participation in supermarket channels.

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