

Challenges and Opportunities of Marketing Fruit and Vegetables at Logia, Northeastern Ethiopia. The Case of Onion, Tomato and Banana

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Abstract

Fruits and Vegetables production and marketing is not a new sector in Ethiopia; it has been undertaken for decades. Even if marketing of horticultural crops like tomato, onion and banana had been increased over the last few years, there are so many market related problems. The main objective of the study was to analyze the challenges and opportunities of marketing onion, tomato and banana at Logia town, Northeastern Ethiopia. The selection of the crops is mainly based on their relative economic importance and marketability. A number of respondents in logia town were interviewed. The analysis was made with the help of descriptive statistics. A total of 96 of which 48 consumer and 48 retailer respondents' were drawn through purposive sampling technique at each level. The age of respondents ranged from 20-52 years with the average of 36 years. About 14.58% of the sample respondents were illiterate and 27.08% able to read and write. About 64.58 % of the respondents were married. The survey result indicated that, retailers of logia town in average product handled per individual per year were 40-70Qt onions, 100-120 boxes tomatoes and 20-30boxes banana. The respondents in the logia market indicated that as they did not get any support in terms of capacity development from local government as well as from NGOs. The results indicates that marketing system for onion, tomato and banana were predominantly constrained by a number of difficulties like weight cheating, unfair pricing of products by brokers and low quality of the products and lack of cooperative. Onion, tomato and banana are means of income providing business opportunities for actors in the market chain including the producers, brokers, transporters and retailers. Though, marketing of onion, tomato and banana seems profitable as indicated from the survey result and hence great attention should be given to the mode of marketing side to seek stable income from it for all market players and for the government.

Keywords: Banana, Challenges, Marketing, Onion, Opportunities, Tomato

Introduction

Fruit and Vegetable crops are important both for health and economy; but the amount and mode of production and marketing is still weak in Ethiopia. Demand for fruit and vegetables consumption tends to grow very rapidly with urbanization, increased awareness and income of the peoples. Exports of fruit and vegetable products from Ethiopia have also increased from 25,300 tons in 2002/03 to 63,140 tons in 2009/10 (EHDA, 2011).

Horticultural produce is a high value item. Diversity of fruits and vegetables are demanded by consumers, such growth provides major opportunities for farmers and retailers to diversify increase their incomes. Such opportunities may be especially valuable for women, who are the primary producers and marketers/retailers of horticultural produce throughout Ethiopia. Finally, from the farming through retailing, fruits and vegetables employs about twice as much labor as cereals per hectare of production; small farmers, rural laborers, and the urban poor stand to gain extremely from these employment opportunities (Munguzwe and Tschirley, 2006).

Diversification into horticultural crops is becoming attractive for many poor farmers around the world. Worldwide production of fruit and vegetable crops has grown faster than that of cereal crops, albeit from a much lower base. Between 1960 and 2000, the area under horticultural crops worldwide has more than doubled. There are several reasons for the global increase in production and trade of fruit and vegetable crops. Horticultural production is profitable. Farmers involved in horticultural production usually earn much higher farm incomes as compared to cereal producers and per capita farm income has been reported up to five times higher (Lumpkin *et al.* 2005).

Ethiopia has different varieties of fruit and vegetable crops that can grow in different agro ecological zones produced through commercial as well as small farmers both as a source of income as well as food. However, the type is limited to few crops and the production is concentrated to some pocket areas. In spite of this, the production of fruits and vegetables varies from cultivating a few plants in the backyards for home

consumption up to a large-scale production for domestic and export markets (Dawit *et al.* 2004).

Major types of horticultural crops currently growing in the district are onion, tomato, green pepper from vegetables and papaya, banana and other many fruits. The production of those horticultural crops is mainly for market, but the productions system is very random and fragment specially of onion and tomato which are over supply seasonally. There are so many production and marketing problems that challenge fruits and vegetables development in the site. The nature of the product (perishable), production seasonality, lack of transport, storage, post-handling facilities and lack of organized market system have resulted in low and unstructured income.

A number of factors are influences competitiveness of marketing fruit and vegetable crops in the area. So data on factors that affect competitiveness of fruit and vegetable market is essential for the design of any strategy that has an objective of intervention. Identification, classification and valuation of market constraints help's to remove obstacles that affecting performance and to strengthen good sides. Although fruits and vegetables are economically important commodities and study made on fruits and vegetables marketing is vital to identify the key constraints and potentials on the system in the *town*. There was no adequate information on the supply of onion, tomato and banana. It is also essential that the marketing system of a commodity operates efficiently. In the light of the above aspects, the present research work was initiated to study the challenges and opportunities of marketing onion, tomato and banana and to give alternate solution for identified problem and to aware the concerned body to use the opportunities.

Materials and Methods

Study area

Geographically, the Afar Regional state is located in the Northeastern part of Ethiopia. The total geographical area of the region is about 270,000 km² (CSA 2008). It is geographically located between 39°34' and 42°28' East Longitude and 8°49' and 14°30' North Latitude. The region shares common international boundaries with the State of Eritrea in the north-east and Djibouti in the east, as well as regional boundaries with the Regional States of Tigray in the north-west, Amhara in the south-west, Oromia in the south and Somali in the south-east.

Most of the region is flat land. The altitude of the region ranges from 116 meter below sea level (where one of the highest temperatures (50°C) on earth has been recorded) to 1600 meters above sea level. The lowland areas of Afar are generally below 1600 meters above sea level. The highest peak, mount Mussa-Alle is just 2063 meters above sea level. The temperature of Afar varies from 25°C during the rainy season (September-March) to 48°C during the dry season (March-September). The average annual rainfall registered for 11 years at Dubti station was 187.9mm. Logia, where the study is conducted, is found in Afar National Regional state, North-eastern Ethiopia which is far around 570km from the capital city Addis Ababa. It is geographically located between 39° and 34' and 42° and 28' east longitude and 8°49' and 14° 30' north latitude (BPEDORS 2000). Previously the livelihood of the community relied only on animal rearing which was pure pastoralist; but now the agro-pastoralists are emerging which are practicing irrigation agriculture though challenged by limited supply of agricultural inputs like improved varieties and new agricultural technologies for better production (BPARD 2000).

Methods of Data Collection

Data were collected both from primary and secondary sources. Primary data sources incorporated the entire situations of the marketing system of the retailers up to consumers and the most important data types collected were consists of buying and selling condition, pricing, determinants of market supply, consumers and retailers characteristics, marketing problem and their opportunities.

Sampling procedures

A random surveying on market places for traders/retailers and consumers of onion, banana and tomato in Logia town market place were done. A total of 96 individuals (of which 48 consumers and 48 retailers) were interviewed in the market using purposive sampling technique.

Data Analysis

The data were analyzed using descriptive statistics (percentage, tables, minimum, and maximum mean values) of consumers and retailers characteristics.

Results and Discussions

Household Characteristics

The age of respondents ranged from 20 to 52 years with a mean of 36. The family size ranged from a minimum of 1 to a maximum 8, average family size and average active labor force was 4.06 and 3.33 respectively. Table 1 shows that about 14.58% of the sample respondents were illiterate, 27.08% able to read and write, 10.41% grade 1-4, 5-8 is 35.41%, and the remaining 12.5% attended 9-12 grade. The study indicates that of the sample 64.58%

respondents were Muslims the remaining 35.41% were Christians. About 64.58 % of the sample respondents were married and the remaining, 22.91%, 8.33% and 4.16% were single, divorced and widowed respectively.

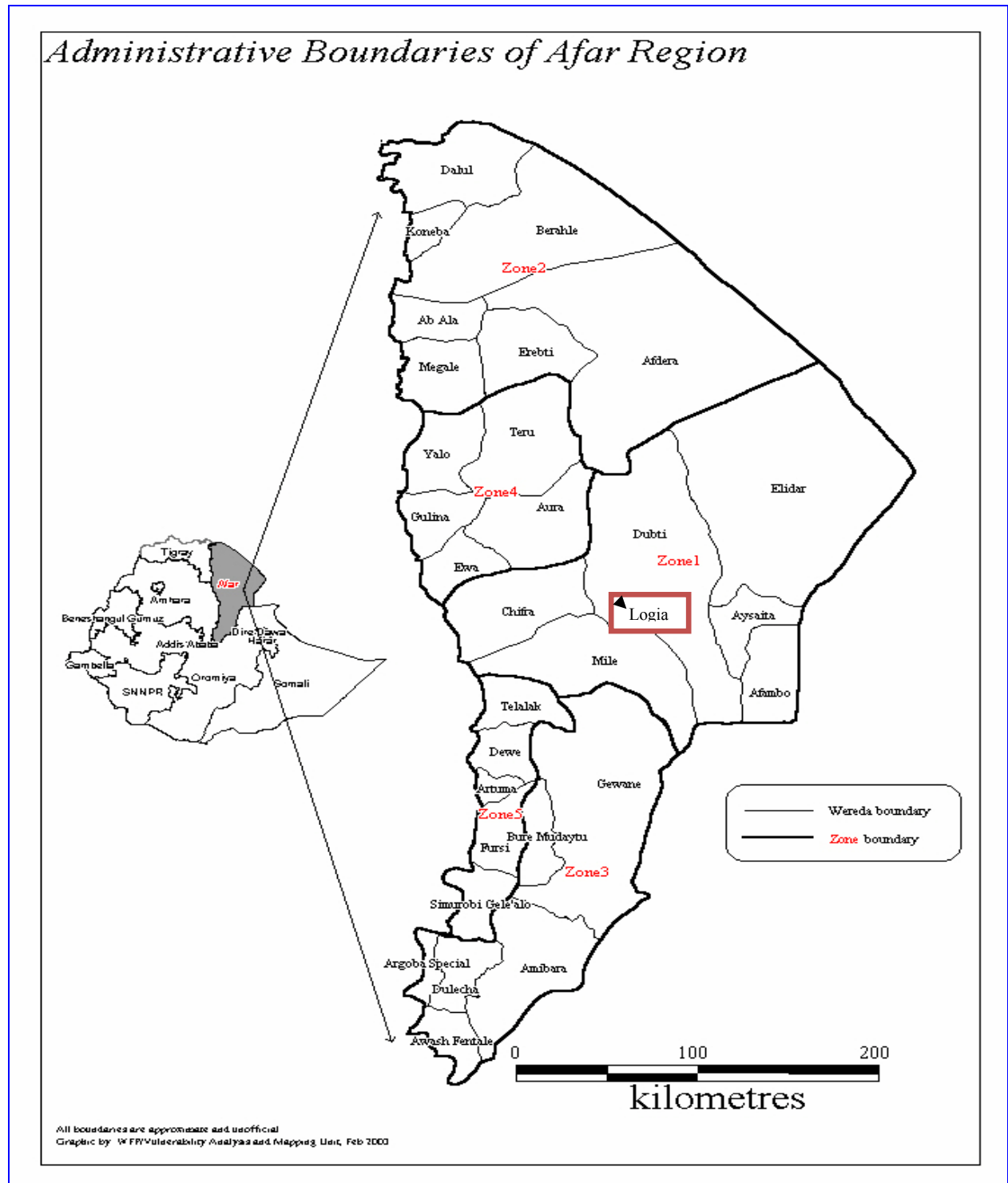


Fig.1 Map of the study area

Table 1 The socio-demographic characteristics of respondents in logia town

List	Number of Respondents	Percentage
Sex		
Male	74	77.08
Female	22	22.9
Education		
Illiterate	14	14.58
Able to read and write	26	27.08
Grade 1-4	10	10.41
Grade 5-8	34	35.41
Grade 9-12	12	12.5
Marital Status		
Single	22	22.91
Married	62	64.58
Divorced	8	8.33
Widowed	4	4.16
Religion		
Christian	34	35.41
Muslim	62	64.58
Family Size		
Mean	4.06	
Active Labor Force		
Average labor	3.33	

Source, survey result, 2013

Retailers and Consumers Characteristics

Retailers

The involvements of retailer in the marketing system include buying of fruits and vegetables, transport to retail shops or market place, displaying and at last selling to the final consumers. A purposive sampling of 48 retailers in Logia town market was taken out of which 38 were male and 10 were female. The numbers of banana, onion and tomato retailers were 8.33% and 58.33 both onion and tomato together (Table 2). In Logia market there were no producers who bring their products to the market for selling.

Table 2 Sample of retailers by their crop type in logia market place

Retailers by type of the crops	Number and percent of retailers at the market	
Onion only	4	8.33
Tomato only	0	0
Banana Only	6	12.5
Onion and Tomato	28	58.33
Onion and Banana	4	8.33
Tomato and Banana	2	4.17
Onion, Tomato and Banana	4	8.33
Total	48	100%

Source, survey result, 2013

Consumers

Consumers are also one of the major market players. According to the survey results there were no consumers that produce onion, tomato and banana for family consumption in Logia town at their garden. But majority of the interviewed consumers had got interest to produce fruit and vegetables at their garden though there were limited spaces, lack planting materials, limited know-how about fruits and vegetables adaptive to the area and shortage of water. So they are fulfilling all their needs from market.

The consumers in Logia town and surrounding areas were challenged due to high perishable nature of the product, seasonal fluctuations of supply, distant trade with unknown partners in a market and limited information about price of the products. Majorities (80%) of the consumers interviewed have rural background and have hardly got experience and know-how on fruit and vegetables production. All the respondents or consumers in the study area said that they are not asked for tax when they purchase those products from the retailers in market.

According to the survey results of the consumer respondent majorities of them have no know-how on health importance of onion, tomato and banana, simply they prepare and used in a traditional way and even they

don't know how to extend the shelf life of those crops. All purchased products are kept together in average for three days except for banana which is consumed and finished in a day. But proper pre-harvest and post-harvest management techniques enhance Onion produce (Kabir, 2007). Optimization of the practices for the crops results in a significant decrease of Post-harvest losses and decreasing in Post-harvest losses will be instrumental in market stability and exploiting opportunities to export market and earn foreign exchange.

Profitability Analysis of Retailers

The survey result indicates that the net profit obtained from onion, tomato and banana at retailers level were 62.49ETB, 66.06ETB and 82.25ETB, per quintal respectively. As pointed out on Table 3 profit of banana per box is higher than that of tomato and onion in net profit. This may be because of there is limited retailers of banana in the Logia market. Information of respondents indicates that no one is paying tax to the government. However, it's a big source of income to the town in order to fulfill the basic needs of the peoples.

Table 3. Average cost and profitability analysis (Birr/Qt/box)

List of expenses	Crop type		
	Onion	Tomato	Banana
Average purchase price per Qt/box	732.97	620.07	588.34
Packing cost	0.58	0.76	0.83
Cost of labor	0.48	0.64	0.66
Average selling price	796.52	687.56	672.08
Net profit per quintal/box	62.49	66.06	82.25

Source, survey result, 2013

The average holding of retailers in Logia town in a year was 40-70Qt of onions, 100-120 boxes of tomatoes and 20-30boxes of bananas. The survey result indicates that, the working capital of retailers range from 2000 to 7000ETB with an average of 4500ETB. Retailers of the study areas are mostly exchange the marketable horticultural crops on credit basis with the highlanders/sellers. This relieves working capital shortage of retailers. So retailers have the chance to take the amount they need and were expected to pay back at the end of one or two market days depending on the speed of the market and the amount handled.

On top of these, the shops were either in open air, or poorly made of 'Satara' and wood constructed for sun protection. So products were exposed to different contaminating agents. There was serious lack of consideration and attention in improving the market place by concerned body. Again the retailers did not get any types of training that can capacitate their business thinking.

Marketing actors

The major market players in the study area include retailers, transporters, brokers and at last consumers. The survey result indicated that in logia market there were no onion, tomato and banana producers/farmers that sell products.

Brokers: Brokers play a vital role in networking producers to market and other stakeholders of the products. These agents work for a benefit on behalf of other participants/actors. They enhance the selling and/or buying process between producer, wholesalers, and retailers and sometimes with consumers without handling any product for sale. But the brokers sometimes go beyond facilitation and tend to control and fix prices and at last make extra benefits from the process.

According to the survey result the estimated number of brokers working on fruits and vegetables in Logia was not more than 10. Brokers found in Logia town were working with brokers living out of Afar region (Kombolcha, Dessie and others) on the price as well as all market conditions. The retailers found in Logia town were brokered mainly on transporting cost of produces, price and availability.

Retailers: They are the final link between fruit and vegetable producers and consumers. Mostly retailers are known for their limited capacity of purchasing and handling products and low financial capital. They buy fruits and vegetables from wholesalers and sell to urban consumers. The survey result revealed that the average years of experience was about 4 with a minimum of one and half and maximum of 10 years working experience. All the respondents in the study area were not licensed to sell/handle onion, tomato and/or banana. Consumers usually buy the product from retailers as they offer according to requirement and purchasing power of the buyers. The survey data indicated that the average number of days that retailers can store the products for onion and tomato when market was weak or price was low 2 to 7 days while banana took 2 to 5 days. Due to lack of adequate, reliable and timely market information, retailers were sometimes forced to dispose their products within very limited period at low selling price.

Consumers

Consumers usually buy Onion, Tomato and banana from retailers as they offer according to requirement and purchasing power. They have their own quality criteria to purchase fruits and vegetables. Survey data indicated

that consumers prefer small to medium onion size which is undamaged; they also prefer red color with medium size tomato and free from any types of damages/crack. The major buyers of Onion, Tomato and Banana from retailers were the final consumers (households), hotels and restaurants.

Marketing problems

There are so many factors that determine marketing of onion, banana and tomato crops in Logia town. According to the interview with the respondents; weak support on fruit and vegetable marketing in the town, lack of access to creditor financial service, insufficient product handling techniques, limited supply of products, unfair pricing, lack cooperatives that work in the area of fruit and vegetable marketing are some of the problems raised by onion, tomato and banana retailers and consumers as well. Based on this, the marketing problems raised from the market player's side have been discussed below.

a) **Lack of credit/financial service**

In the study area, there is limited Credit and Saving Institution (CSI) and the survey data indicated that there is lack of credit provider especially on horticultural crops marketing and unavailability of credit on demand was indicated as constraints by 64.8%, 18.2% and 18.2% of onion, tomato and banana retailers, respectively. On the other hand most of the respondents' indicated that the reasons for not participating in credit market were religious who is related to taking or giving interest is unaccepted.

b) **Insufficient product handling techniques**

Survey data revealed that almost around 99% of the retailers were in a limited appropriate pre and post-harvest handling practice at market place. Absence of well ventilated storage, harvesting healthy and damaged together, physical damage during transporting (loading and unloading) and inappropriate agricultural practices from the producers side at field were also constraints that was resulted in poor quality of onion, tomato, banana and others which ultimately leads to low price and deterioration of the products. Sometimes the farmers harvest the produce before maturity which is leading to lower eating quality, failure to ripen or excessive softening in tomato and banana fruit. Use of unsanitary containers, over-loading of containers at producer's levels, rough handling and throwing products were also the main cause of post-harvest problems as respondents said

c) **Disease and pest problems**

Due to the impact of disease and pest at production level, the damaged, bruised and unhealthy parts of onion, tomato and banana are the major problems for marketing process especially the influence of cutworm while the crop at field level is common on tomato fruit as reported and also observed.



Fig. 3 Mix of damaged and healthy tomato, onion and fruit in Logia market

d) **Unfair pricing:** According to the survey result of the respondents at the study area, repeated unfair pricing was reported which were not based on the actual supply and demand interaction but the complicity created by brokers. Those brokers used to decide on the price of products especially on onion and tomato.

e) **Lack of standards:** Based on the survey result there was repeated weight cheating and lack of price discrimination was common problem practiced by both wholesaler and brokers. Lacks of proper sorting and cleaning or sanitation by producers were also another problem which leads to low quality standard of the produce. So as a general there are no clear and well known standards in the market/areas.

- f) Lack of strong cooperatives:** The survey result indicated that there are no existed cooperatives on horticultural crops marketing in the study area. Due to this reason, local traders/retailers controlled all the marketing activities.

Opportunities of the town

Logia town is one of the naturally endowed areas though it has some marketing constraints. The area is suitable to produce not only horticultural products but also other market oriented commodities of cereal, pulses and/or animal production. There is also good potential for tropical fruits and vegetable. On top of this, relatively fertile arable land as a result of the Awash River and abundant irrigation water potential are some to mention. The natural proximity to Djibouti is also another market opportunity of the area. Being found on the main road to Addis Ababa and bordering to Oromia, Amhara and Tigray national regional state are the market opportunities that enhance level of commercialization.

The conducive government policy in general and special attention to the area in particular as one of the development corridor, explained by expansion of irrigation water from the Tendaho sugar factory farm, Awash river and an increased infrastructure facilities like mobile and internet cafe, electric power and all weather roads could facilitate fruit and vegetable production and marketing. The other opportunity is the existences of Non-Governmental Organizations (NGOs) that works on dry land crops and create market linkage with different market actors and facilitates experience and knowledge sharing within and outside the area.

Conclusions

Fruits and Vegetables production and marketing is not a new sector in Ethiopia; it has been undertaken for decades. The main objective of the study was to analyze the challenges and opportunities of marketing onion, tomato and banana at Logia town, Northeastern Ethiopia. The selection of the crops is mainly based on their relative economic importance and marketability. The largest actors in the case of onion, tomato and banana were consumers and retailers and there was no producer and whole seller in the market. Better access, to roads, telephone and other improved infrastructural situation characterized the town. A number of respondents in logia town were interviewed. The analysis was made with the help of descriptive statistics. A total of 96 of which 48 consumer and 48 retailer respondents' were drawn through purposive sampling technique at each level. The age of respondents ranged from 20-52 years with the average of 36 years. About 14.58% of the sample respondents were illiterate and 27.08% able to read and write. About 64.58 % of the respondents were married. The survey result indicated that, retailers of logia town in average product handled per individual per year were 40-70Qt onions, 100-120 boxes tomatoes and 20-30boxes banana. The survey data indicated that the retailers did not get any support in terms of capacity development from local government as well as from any NGOs. The survey result indicates that marketing system for onion, tomato and banana were predominantly constrained by a number of difficulties like weight cheating, unfair pricing of products by brokers and low quality of the products and lack of cooperative. Onion, tomato and banana are means of income providing business opportunities for actors in the market chain including the producers, brokers, transporters and retailers. Fruits and vegetables production and marketing should be intensified and diversified to satisfy the wider regional market demand and to gain normal profit for all market actors. Training on pre and post-harvest handling has to be given to the producers hence improve the shelf life of the study crops that can generate a better income to producers/retailers and relatively even supply for consumers. Though, marketing of onion, tomato and banana seems profitable as indicated from the survey result and hence great attention should be given to the mode of marketing side to seek stable income from it for all market players and for the government. Therefore it is essential to take some improvement measures by the government as well as private sectors.

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