A Study on Value Chain Analysis in Dairy Sector Kilinochchi District, Sri Lanka

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Abstract

Introduction : Value chain analysis is essential to an understanding of markets, their relationships, the Participation of different actors, and the critical constraints that limit the growth of livestock production and consequently the competitiveness of smallholder farmers. These farmers currently receive only a small fraction of the ultimate value of their output, even if, in theory, risk and rewards should be shared down the chain.Objective : Main objective of the study is to evaluate the effectiveness of the value chain in the karachchi division, Kilinochchi district. And environs with a view to achieving the following broad output, to identify the key value chain actors in the dairy sector; to find out key factors influencing on value chain analysis for dairy sector; to discover the strengths and weakness of each value chain actors; to discover the opportunities and threats of each value chain actors; to suggest the value chain actors to strengthening the dairy sector in accordance with benefits of socio and economic point of view.

Index terms— competitiveness, smallholder, livestock, constraints, strengthening

1 Introduction

he role of livestock in agriculture in Sri Lanka is complex and significantly different from that of industrialized nations. Although the contribution of livestock sub-sector to the national Gross Domestic Product (GDP) is in the lowest level, it has been a crucial source of high quality protein, minerals and vitamins to the population, by way of milk, meat and eggs. For many rural smallholder farmers, livestock is a 'living bank' that serves as a financial reserve for periods of economic distress **??**Perera and Jayasuriya, 2008). In this way, this study focuses on the value chain analysis in Author : University of Jaffna. E-mail : Achchu2009@gmail.com Author : University of Jaffna. E-mail : k.r.kaja@gmail.com the dairy sector in the Karachchi Division, Kilinochchi District, Northern Province of Sri Lanka. Further, the livestock value chain can be defined as the full range of activities required to bring a product (e.g. live animals, meat, milk, eggs, leather, fiber, manure) to final consumers passing through the different phases of production, processing and delivery. It can also be defined as a market-focused collaboration among different stakeholders who produce and market valueadded products. Value chain analysis is essential to an understanding of markets, their relationships, the Participation of different actors, and the critical constraints that limit the growth of livestock production and consequently the competitiveness of smallholder farmers. These farmers currently receive only a small fraction of the ultimate value of their output, even if, in theory, risk and rewards should be shared down the chain (Rota and Sperandini, 2010).

After the successive resettlement in the Karachchi Division, people move to agricultural, dairy and poultry sector activities. The opportunities of the dairy sector is in the tremendous trend , the demand side of milk is in the highest level, especially, cooperative societies, retail shops, companies like Nestle Lanka Plc and local people raise the demand in the Karachchi Division. But in the supply side has the weakness to produce the expected level of milk production. There are so many reasons behind this constrains such as lack of grade breeds in the dairy sector, ineffective management of the dairy sector, high cost of feeding, lack of awareness among individual farmers, lack of artificial insemination, lack of financial support etc. Balancing between Demand and supply side of the dairy sector is in the problematic one. Due to that especially the weakness of supply side should be focused through the research and development side. Therefore, this study has the valuable purpose as strengthening the value chain actors (individual farmers, input suppliers, and milk bulking, processing & marketing) in the Dairy sector, Karachchi Division.

2 II.

3 Study Objectives

The main objective of the study was to undertake value chain analysis for dairy sector, Karachchi division, Kilinochchi District, Sri Lanka and environs with a view to achieving the following broad outputs.

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Methodology : Qualitative study, especially field interview method has been utilized to get the valuable information from value chain actors as input suppliers, individual farmers, and milk bulking, processing & marketing actors in the dairy sector.

Conclusion : Kilinochchi district is considered as feasible place to dairy farming, but unfortunately people in this district have to face financial difficulties. And also they don't have the educational background to plan the dairy farming in the large scale; further co-op society in the karachchi division has not enough technological facilities to preserve the pure milk. And also they don't have the value added strategies like milk toffee, ice cream, yoghurt in the large scale. Due to that government and nongovernment organizations should focus their activities toward dairy farming. opportunities and threats of each value chain actors; to -To identify the key value chain actors in the dairy sector -To find out key factors influencing on value chain analysis for dairy sector -To discover the challenges of value chain actors -To discover the opportunities of value chain actors -To suggest the value chain actors to strengthening the dairy sector in accordance with benefits of socio and economic point of view III.

4 Literature Review

The review of literature included the collection of various earlier studies that were carried out in Srilanka and the region in order to appreciate the current thinking in the dairy value chain in Karachchi and the region.

Every firm is a collection of activities that are performed to design, produce, and market, deliver and support its product. All these activities can be represented using a value chain model. Competitive advantage is created and sustained when a firm performs the most critical functions e either more cheaply or better than its competitor(s).

Value chain can be used to examine the various activities of a firm and how they interact in order to provide a source of competitive advantage by, performing these activities better or at a lower cost than the competitors. In competitive terms, value is the amount buyers are willing to pay for what a firm provides them.

Creating value for buyers that exceeds the cost of doing so is the goal of any generic strategy. Value instead of cost, must be used in analyzing competitive position". Sustaining competitive advantage depends on understanding NOT only a firm's value chain but how the firm fits in the overall value system. There are stakeholders, who are not direct actors/players in the dairy value-chain, but contribute to its development. The stakeholders in question take different forms such as government; development organisations or promoters and input suppliers are necessary and have played very important roles in the development of the dairy subsector in Karachchi Division. These stakeholders may fall in any of the categories given below and appropriate data collection tools or checklists of information required were prepared.

The key players in the value chain were the input suppliers, farmers of various sizes, milk collection centers, processors and retail outlets. Each of the players in the value chain carry out various value adding services, the input suppliers for instance provide various veterinary drugs, milking equipment, AI services, feed among other services. The primary producer in the dairy value chain -the farmer carries various animal husbandry measures such as disease control measures, provision of feed to in-calf and lactating cows requirements and traded through the formal marketing channels. The farmers adopt different feeding regimes; provide water to enhance milk production by dairy cows. It has been established that the larger the scope of operation of the farmer, the lower the cost production, hence economies of scale. The Milk Collection Centers play intermediary roles for small holder farmers to enable them enter the commercial selling of milk through the processors to the market. Milk Collection Centers (MCCs) will bulk the milk, test the milk for quality and chill the milk to the approved temperature by the processor. Some MCCs provide capacity building services to farmers in order for the farmer to run dairy farming as a business. The processor is an important player in the dairy value chain. The processors have played the role of promoting the growth of the dairy subsector and offering the market to the MCCs and the farmers to buy their milk. The processors buy raw milk and produce various milk and milk products. Some of the products the processors produce include pasteurized fresh milk, long life milk, lacto, butter, yogi drinks among others. The processor enters into supply agreements with various retail outlets such as Shoprite, Spar supermarkets among others.

The promotion of value chains in agribusiness aims to improve the competitiveness of agriculture in national and international markets and to generate greater value added within the country or region. The key criterion in this context is broad impact, i.e. growth that benefits the rural poor to the greatest possible extent or, at least, does not worsen their position relative to other demographic groups **??**GTZ, 2006). The need to connect producers to markets has led to an understanding that it is necessary to verify and analyze markets before engaging in upgrading activities with value chain operators. Thus, the value chain approach starts from an understanding of the consumer demand and works its way back through distribution channels to the different stages of production, processing and marketing **??**GTZ, 2006). Globally livestock ownership currently supports or sustains the livelihoods of an estimated 700 million rural poor, approximately 70% of the world's rural poor population (PPLPI, 2001). The dairy cow is one of the most important investments a farmer can make to improve their standing because of their inherent value, the nutritional valuable milk produced, the work they can perform, and the way it can help diversify farming activities. The importance of the dairy cow is expected to increase as food imports to Sub-Saharan Africa (SSA) are projected to more than double by 2030 under a business as usual scenario **??**World Bank, 2008). Dairy provides rural farmers with a way to increase assets, a method to diversify income and nutrition. Dairy is also an important tool to address poverty, enhance agricultural development, and create employment opportunities beyond an immediate The following trends will affect dairy production, particularly rural, smallholder livestock producers: 1) Increasing pressure on common grazing and water resources; 2) A shift in livestock production from a local, multi-purpose activity to an increasingly market-oriented and vertically integrated business; and 3) Strong growth of industrial production units reliant on the use of cereal based feeds close to urban centers **??**PPLPI, 2009). An estimated 60 % of the African rural population lives in areas of good agricultural potential, but with poor market access. Only 22 % live in areas of good agricultural potential and good market access. About 18 % suffer poor market access and poor agricultural potential (Kelley and Byerlee, 2004 cited by Koenig et al.

5 2008).

Heiko Bammann (2007): in his paper, "Participatory value chain analysis for improved farmer incomes, employment opportunities and food security" , states that, Collaboration between government agencies, non-governmental agencies, and private agribusinesses offers the greatest potential for applying the value chain concept, w with the aim of increasing income and employment through improved farming. The approach can be applied to a wide range of situations and for different beneficiary groups, including youth and women's groups.

6 In the Land" O Lakes study [Swanson Study (2009)] entitled Dairy Development for Vulnerable

Populations in Zambia established that poor maintenance of roads in the milk shed areas made it impossible for the processor trucks to gain access to Milk Collection Centres (MCCs) among other key findings. To strengthen the capacity of the small holder dairy farmer, the study recommended that promoting organisations should have field level hands on support and training to direct beneficiaries of the dairy cows and maintain close monitoring through farm visits in addition to group meetings. The farmer training should focus on record keeping, improved management of animals, with attention to growing special feed for dry season months.

Most commonly, milk processing in tropical countries is characterized by inadequate technological and economic conditions. Smallholder farmers are increasingly trying to produce milk regularly for sale directly to customers in their village or nearby cities, or to private milk vendors, or to milk plant in the local region **??**Malcolm, 1999).

IV. Qualitative study, especially f field interview method has been utilized to get the valuableinformation from value chain actors as input suppliers, individual farmers, and milk bulking, processing & marketing in the dairy sector. Separate structured interview questions have been designed by researchers (see the annexure). Further judgmental sampling method wasused to select the respondents in the key value chain actors. d) Sampling Design Respondents in the Input suppliers Firstly, Owners of five retail shops providing feeding items to the dairy sector located in the Karachchi division were selected and interviewed. Secondly, in the category of input suppliers, especially in the financial services, managing in charge of Bank of Ceylon and credit officer in commercial bank, Kilinochchi district were interviewed. Thirdly, doctor in charge who practices veterinary medicine in the socioeconomic development project for dairy farmers in Karachchi DS division was interviewed.

7 Methodology of The Study

8 Respondents in individual farmers

Thirty individual farmers who have involved in the dairy farming activities, Karachchi division were selected and also interviewed by the research team.

9 Respondents in the milk bulking, processing & marketing activities

Under this category, eight members including general manager and two labors in the maintenance section in Livestock Breeders co-op society, Karachchi division were interviewed. Secondly, five runners in the dairy sector, who collects and delivers the milk to the people, retail tea shops, firms and primary schools in the Karachchi Division, were interviewed. Finally, Managing in charge and marketing field officer of Nestle Lanka Plc, in the Karachchi division were interviewed.

V. According to the statement of the doctor in charge who practices veterinary medicine, in the kilinochchi district, especially the climatic condition is not suitable for some grade breeds, due to that the selection of the grade breeds is the most important one to dairy sector development, the grade breed as the Sunanthini is the best breed for kilnochchi district. Therefore, especially the nongovernment organizations as world vision, UNDP, IOM etc should focus the suggestion of the doctor in charge. Further, the grade breed as Sunathini can be imported from Kerala region. India with minimum legal procedures.

10 Value chain analysis

Further, he pointed that, Co -op societies, individual farmers and other actors in the milk processing and marketing in the karachchi division In Karachchi division, fifteen loans especially to the dairy sector have been provided to the people who have involved in the dairy sector successfully for last couple of years. The resettlements of these loans are in the 90 percentage level. Further, the bank are ready to provide the loans with minimum procedures as certificate of veterinary doctor , two government employees grantees, and required insurance. But people have lack of awareness to get the loans, even though bank has not focused any training program yet now to give the awareness.

And also BOC and Cargills have jointly planned the strategic alliances in the Dairy sector in the Kilinochchi district, due to that they have already named the project as Yarlpanam Dairy Development Ltd with estimated cost of 500 million approximately. Further, 5000 direct and indirect employees can be benefited from this project (see the annexure 4). So that, in future, the dairy sector development will be in the tremendous way.

11 Credit Officer in Commercial Bank

Private commercial banks in the kilinochchi district have the rigid procedures of loaning system compare with government oriented commercial banks, in the private sector, the commercial bank has the better loaning system to the self employment, in the island wide, even though in the karachchi division, the activities of the loaning system in the dairy sector is in the lowest level. Only three loans have been provided to the dairy sector. It is the far lowest level compare with other districts in the Northern Province. Resettlement of the loans is in the question mark especially in the self employment purpose, because, people generally get the loans for the self employment purpose, but they use the loans for building constructions (housing) and other personal purpose. Due to that the credit unit and managing in charge of commercial bank in the kilinochchi district have the risks to provide the loans to the people.

12 iii. Retails Shops Providing Feeding Items to the Dairy Sector in Karachchi Division

In the Karachchi division, approximately, fifteen retail shops are functioning; mainly they sell the prima branded feeding items, further, the demand for Prima brand is in the peak level. They all generally sell the 8000 kg prima dairy mass per month. Mainly dairy mass and minerals items are demanded by the farmers in the division.

Challenges of the Retail Shops providing feeding items -High rent, they pay for the owner of shop -Expand the business is in the question mark, because, lack of financial support -Life time of the dairy feeding items is in the low level (minimum one month period) -Lack of awareness in the Dairy feeding items and its marketing strategy -Lack of awareness to get the loans from financial intermediaries -Surviving in the high rocket speed inflation in the Sri Lanka.

But, there are some opportunities, marketing of feeding products will be increased in future, because the dairy sector development has been focused by people, co-op societies, and other private sectors in the Karachchi division, further, Nongovernmental organizations as World vision, UNDP, IOM have implemented the several project related to the dairy sector in the division. Opportunities of the Livestock Breeders' co-op society in the dairy sector -Co-op society has the two model farms with sixteen high breeds, now only five dairy castles provide the yields, in future; yielding capacity of the farms will be increased -Marketing opportunities of the pure milk and other value added products as curd, moor, ice cream and yoghurt are in the highest level, dairy related products are demanded by the private sectors as nestle lanka plc, cargills, other retail shops, and people in the division -Documents and accounting system are maintained in the proper way, due to that, controlling activities as budgeting , forecasting can be utilized to get the earning with minimum cost ii. Runners' Perspective towards Dairy sector

In Karachchi division, fifteen runners who collect and deliver the milk to the people, retail tea shops, firms and primary schools are functioning in the dairy business approximately. Out of fifteen runners, five runners were selected as interview respondents.

Challenges of the runners in the dairy sector -High Transportation cost, increasing oil price is the main reason to the high transportation cost -Time management, they all have to deliver the milk to the preschools and other sectors before 10 am in the week days -Leasing cost , they all have the responsibility to pay the installment and interest to purchasing the vehicles on lease -High competition in the dairy sector, runners must compete with each others to get the high yield -Lack of awareness in the marketing strategies -Lack of educational background to calculate their salary or commission scheme -Lack of financial assistance, they have to face complex situation when they approach the banks for the loans to expand the business iii. Nestle Lanka Plc's perspective towards dairy sector Managing in charge and marketing field officer of nestle lanka plc were interviewed to get the valuable information by the research team.

Opportunities of the nestle lanka plc in karachchi division towards dairy sector -Nestle lanka plc is the major collector in karachchi division, they have two chilling plants to preserve the milk, each have the 1800 liters capacity. Head office is ready to provide the additional plant when there is maximum supply (more than 5000 liters per day) -They have the proper strategy to collect the milk, assigning the runners as milk collectors in morning and evening with the payment based on the kilometers. -To provide the basic infrastructure facilities to induce the individual farmers in the dairy sector as providing dairy cattle and cattle sets. -To provide the financial assistance to individual farmers and runners to increase the commitment on the work -They have the tremendous capacity to preserve the milk. -They have the proper equipment to the test the quality of milk (to test the lactogen) -They have the proper documentary system to maintain the information as valuable source -They have the proper marketing strategy and team , marketing strategy and training are provided through the research and development department of the company -They have the better infrastructure facilities as chilling plants, transportation vehicles, better marketing team, etc -They have the big opportunity to expand the business, because nestle plc is one of the listed company in Sri Lanka

13 Year

14 Conclusion

While analyzing dairy sub-sector as source of employment and a business opportunity for poverty alleviation, it should be understood in the context of the contribution of livestock production to livelihoods and income generation for smallholder farmers through the production of higher-value products compared to most crops. In this way, kilinochchi district is considered as feasible place to dairy farming, but unfortunately people in this district have to face financial difficulties. And also they don't have the educational background to plan the dairy farming in the large scale; further co-op society in the karachchi division has not enough technological facilities to preserve the pure milk. And also they don't have the value added strategies like milk toffee, ice cream, yoghurt in the large scale. [1] [2] [3] [4]

[1] to ensure that the raw milk produced meets standard household or smallholder dairy operation. Dairy is a

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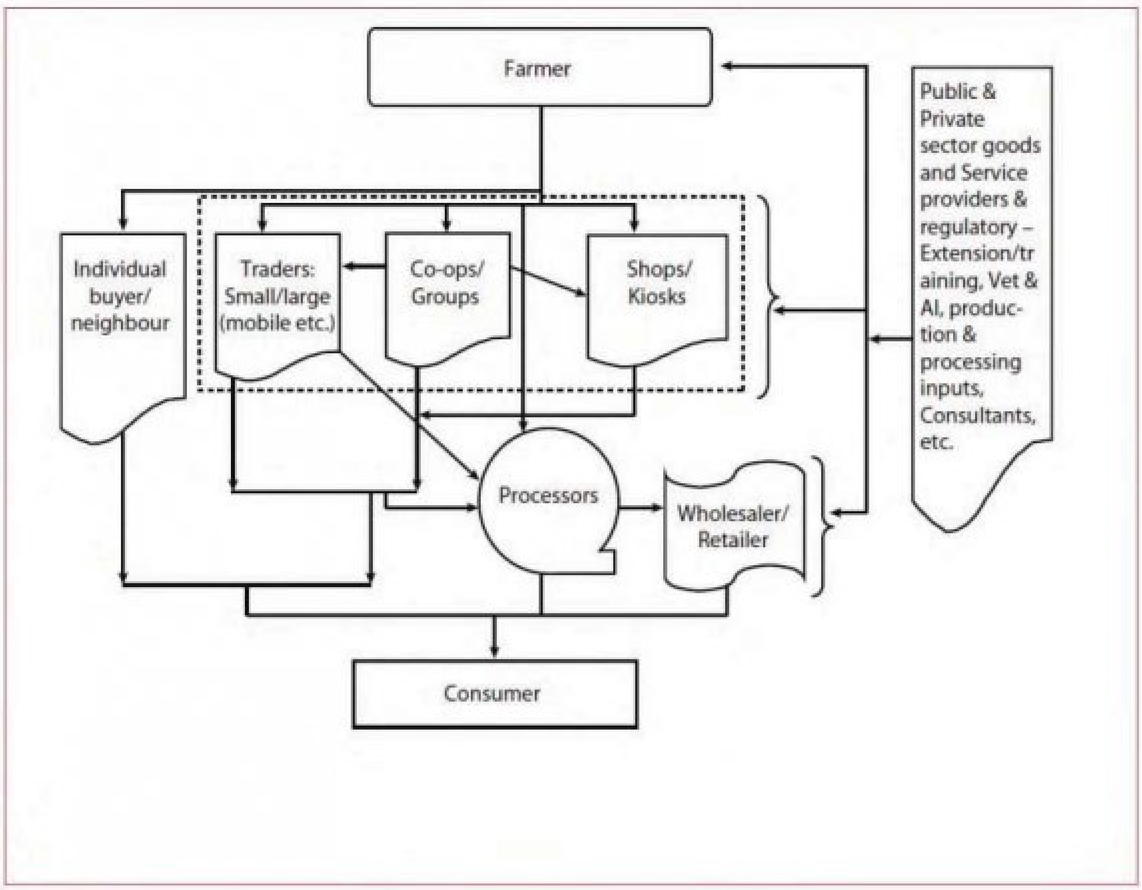
Figure 1: A



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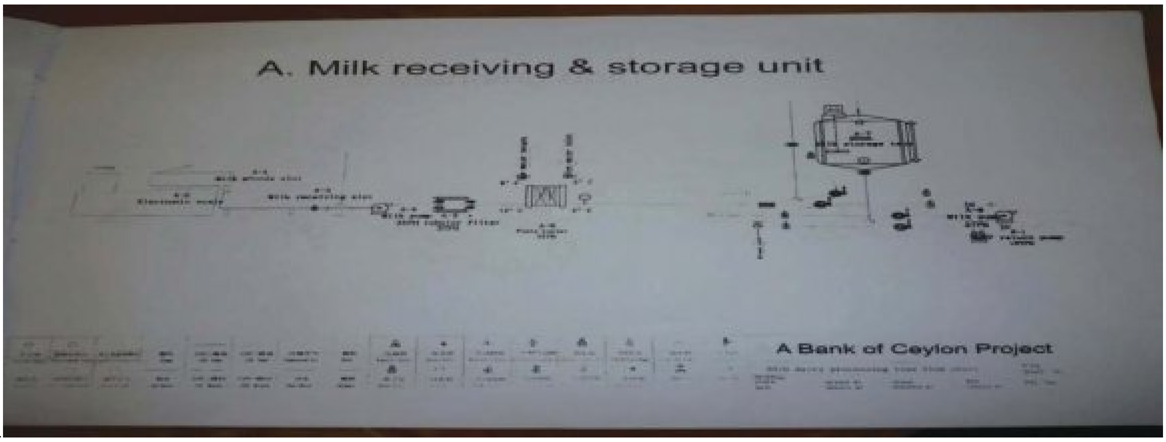

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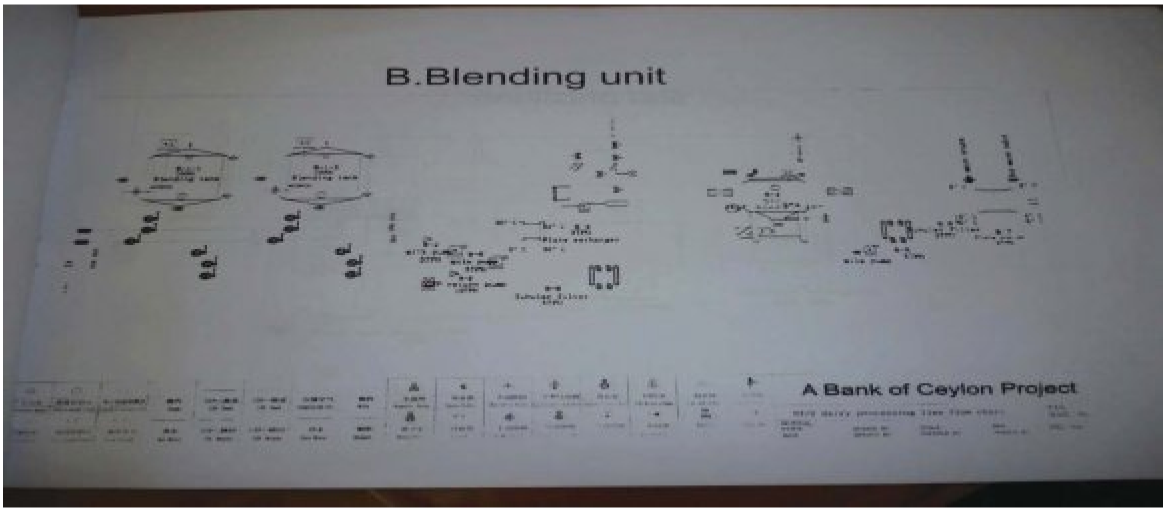

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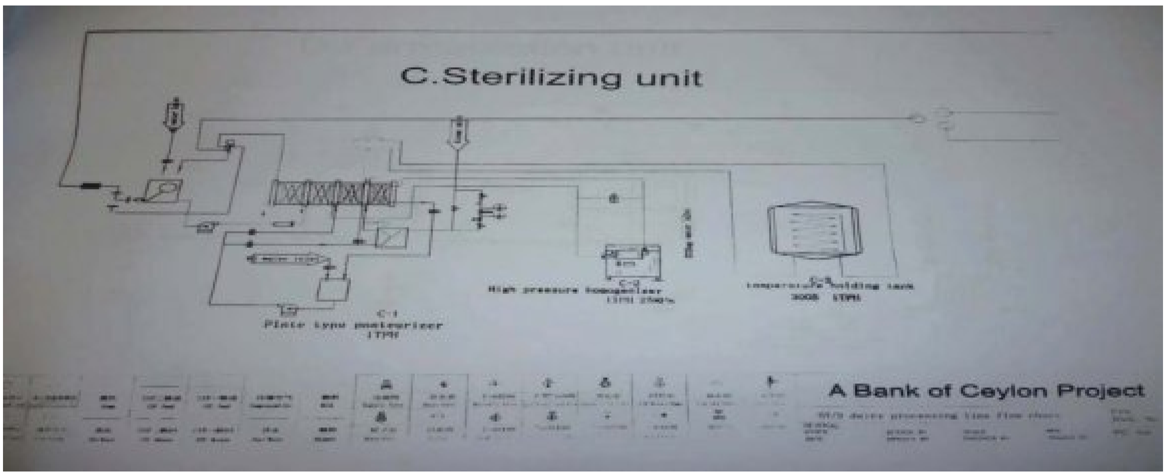

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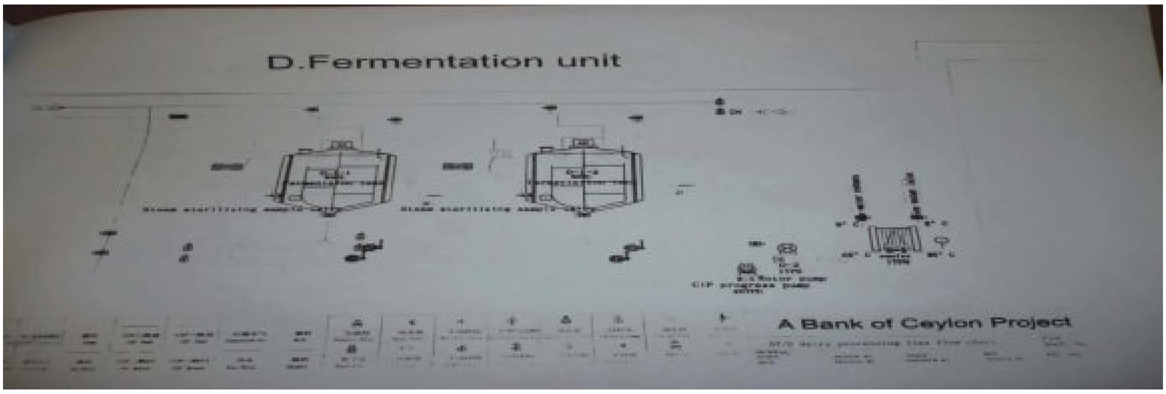

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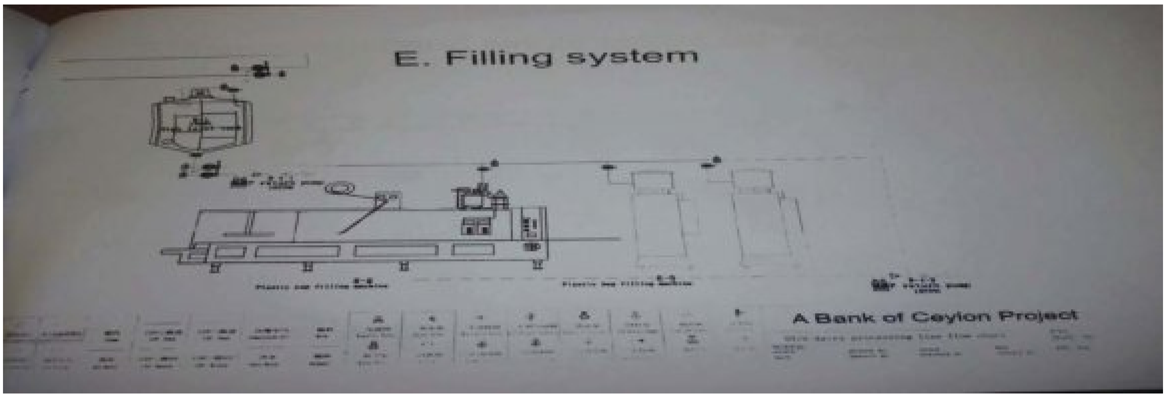

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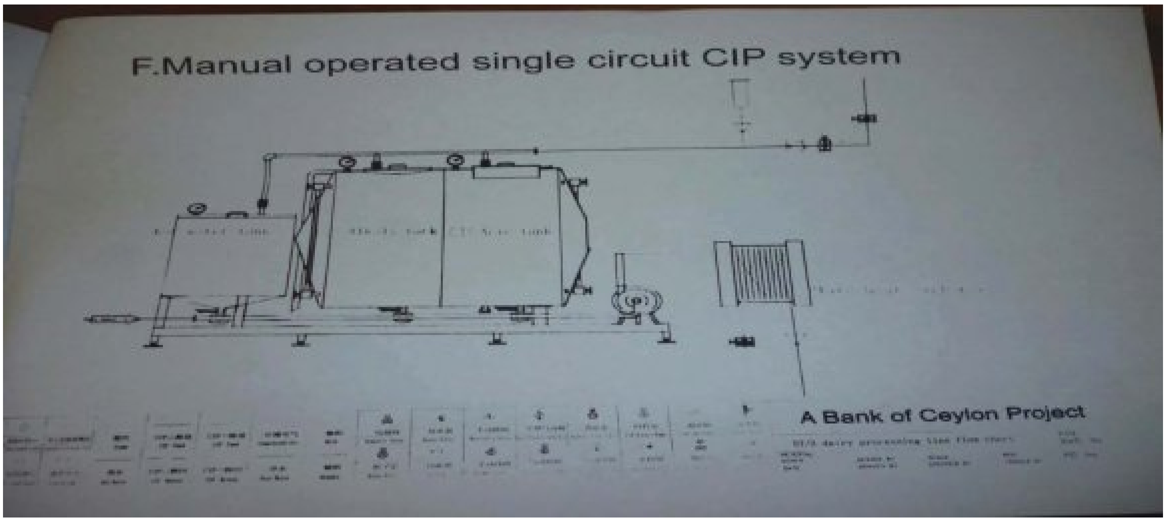

Figure 8:

ii. Financial Services, Managing in Charge of Bank of
Ceylon and Credit Officer in Commercial Bank,
Kilinochchi District
Managing in Charge of Bank of Ceylon

Figure 9:

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[Annual Report. Central Bank of Sri Lanka ()] *Annual Report. Central Bank of Sri Lanka*, 2010. Colombo. Central Bank of Sri Lanka

[Food and Agriculture Organization of the United Nations ()] *Food and Agriculture Organization of the United Nations*, 2002. (Market Developments for Organic)