Evaluating the performance of the Thriposha program



Report No : COM/2019/TRI/01



National Audit Office

Company Audit Division



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1. Executive Summery

Sri Lanka Thriposha Ltd was established with the vision of to create a non-malnutritious, prosperous, proud and healthy nation out of Sri Lankan general public to carry out mission of, to empower the supplier forces that strengthen the local farmer with the concurrence of the General Treasury and with the assistance and supervision of the Ministry of Health for the future of a prosperous, grand and quality Sri Lankan nation in our motherland, to produce the Thriposha supplementary food rich with high, proper and standard nutrients and pack and finish and to continuously supply.

Production of Thriposha was initiated with the assistance of CARE institution in Canada in 1973 with the objective of providing a nutritious additional food to people in our country with nutritious requirements. This entity was registered as a fully government owned Company belonging to the Ministry of Health by the name of Sri Lanka Thriposha Ltd., on 07.09.2010 under the Companies Act no. 07 of 2007. It was able to be established as a government owned Company under the Ministry of Health after submission of the Cabinet Paper no. 10./1236/415/039 dated 23/06/2010 to the Cabinet of Ministers and getting the same approved.

Maize and soya beans are the raw materials used in largest quantities for production of Thriposha, which amounts to 66% and 30% in order. These grains are purchased from local farmers through Farmer Associations under certified prices. In addition, the Thriposha additional food is produced mechanically in the Thriposha Manufactory by collecting the other materials such as milk powder, minerals and vitamins required for this purpose. While, the additional food Thriposha is full of the highest nutritious quality, this includes 61.9% of Carbohydrates, 20.0g of Protein and 7.8g of Fat. In addition, it also contains minerals, Vitamin, fiber etc. Thriposha is highly helpful to cater to the nutritional deficiencies that cannot be fulfilled by the main diet and a pregnant mother, or a breast-feeding mother or an infant with nutritional deficiencies will receive two 750g packets of Thriposha each per month free of charge.

This Thriposha additional food required for Thriposha beneficiaries amounting to approximately a million scattered throughout the island is produced in the Thriposha Manufactory situated in Kapuwatta, Ja-ela and distributed to the Divisions of Medical Officers of Health all island. In addition, Thriposha additional food is also distributed to estate residents and 09 centers in the Department of Probation and Child Care. In addition to the subsidiary of Thriposha additional food, the entity is producing additional product named Suposha by targeting the market.

This Government Company in which around 190 employees are currently engaged in the service had earned a pre-tax loss of Rs. 0.41 in year 2015 and pre-tax profits of Rs. 0.46, 0.63 and 0.78 billion in 2016, 2017 and 2018 respectively.

Because of, Media and Internet discussion in the society about infant mortality due to malnutrition and reports of United Nations Food and Agriculture Organization reported that Sri Lanka is the second most malnourished country in the world, even though the government spend about Rs. 3 billion annually, carried out the performance audit for the evaluation of present operations of this government company.

The objectives of this performance audit were to evaluate whether the company economically, effectively and efficiently conducting the functions of preparing basic plans to get necessary funds, obtaining final raw material for production of Thriposha, quality control in the production and distribution as well as utilization of human and physical resources.

In the process of getting required allocations to production of Thriposa, The company had requested allocations form 2018 budget for the planned two silos with the capacity of 4000 metric tons each to store the raw material, the allocations were not received.

Loss of production due to delays in procurements, not preparing a detailed plan, not entering agreements with supplier and lack of follow up on whether supplier were providing locally produced raw material are the main issues in related to obtaining raw material to the Thriposha production.

At the verification of records of year 2017,2018 and up to June 2019, it was noted that the company did not achieved their production targets and shortage of raw material and shortage of man power were the main factors. Although Plan and layout of a food production company should be design in a way that protects the quality of the product, there were drawbacks to doing so.

When considering the nutritional composition of the product along with the relevant specifications, deficiencies and excesses of nutrients required to contain 100 g of Thriposha were observed. In controlling the quality manufacturing sector, product quality deterioration was observed during the raw material cleaning process, raw material mixing, packaging and storage.

It was further observed that, even though the company had been advised by the consulting firms on 14.02.2017 to obtain ISO 22000 and HACCP quality certifications for its products but no action has been taken to obtain those quality certificates after rectifying the deficiencies mentioned therein. Distribution of Thriposha had not been done accordance with the demand but the company moved to the production of Suposha for external market. When there was a shortage of raw material for the production of Thriposha, it was not observed that, use of raw material for Thriposha production by stopping the production of Suposha. Both Thriposha and Suposha productions were made parallelly without dominating Thriposha production. Furthermore, it was seen that there are instances of non-compliance with the regulations of the circulars (01-04/2016) regarding the distribution of Thriposha, deficiencies in the maintenance of records in clinics and deficiencies in the storage of Thriposha in a manner that protect the quality of the product in the offices of the Medical Officer of Health and in maternity and infant clinics.

The audit observed that there was no an inadequate monitoring system to maintain the overall performance of the Thriposha program, further it appears that the performance of this program is not at an optimum level due to non-supervision of processes such as purchase of raw material, production, distribution, storage and record keeping, non-delivery of products to the relevant parties on time. By overcoming deficiencies, the vision of the Institute to create a non-malnutritious, prosperous, proud and healthy nation out of Sri Lankan general public and the government's intentions can be made a reality.

2. Introduction

2.1 Background

Production and distribution of Thriposha supplementary food is a major national mission of the Sri Lanka Thriposha Limited to fulfill the national mission of creating a healthy and nutritious population.

The Thriposha program which was started as a special project in the year 1973 under the Ministry of Health was established on 17 September 2010 as a fully state-owned company under the name of Sri Lanka Thriposha Limited. This company is operated under the supervision of the Ministry of Health and its activities are carried out by the Board of Directors. To create a healthy and malnutrition free population, thriposha is distributed free of charge through Health Clinics to all pregnant mothers, breast feeding mothers, underweight children and children who are under the age of 5, in Sri Lanka.

Thriposha is made using corn, soybeans, vitamins, minerals and milk powder and is a complete nutritious supplement containing carbohydrates, protein, fat and other nutrients. The main objective of Thriposha production is to create a healthy population by providing additional nutritional value to the beneficiaries. Thriposha also enhance economic status of the local farmers by procuring locally sourced soybeans and maize, the main raw material of the product.

When this institution was taken over by the government in year 2010, program was able to fulfill only 60% - 70% of the total Sri Lankan requirement. With a special focus on this, a new machinery system was installed in year 2016 to meet the 100% beneficiary requirement.

In addition to the same, Sri Lanka Thriposha Ltd was able to introduce the surplus production generated after fulfilling the free Thriposha requirement to the beneficiaries, under the name Suposha to the market.

a.) Vision of Sri Lanka Thriposha Limited

To create a non-malnutrition, prosperous, proud and healthy nation out of Sri Lankan general public.

b.) Mission of Sri Lanka Thriposha Limited

To empower the supplier forces that strengthen the local farmer with the concurrence of the General Treasury and with the assistance and supervision of the Ministry of Health for the future

of a prosperous, grand and quality Sri Lankan nation in our motherland, to produce the Thriposha supplementary food rich with high, proper and standard nutrients and pack and finish and to continuously supply and provide and grant it for the wellbeing of the beneficiaries seeking good health.

c.) Main Objective of Sri Lanka Thriposha Limited

Providing a nutritious supplement suitable for the people of our country that is in need of nutrition.

d.) Functions of Sri Lanka Thriposha Limited

- i. Preparation of Thriposha supplement used as a supplement for pregnant mothers, breast feeding mothers and young children under strict quality control.
- ii. Packing with great care about hygiene.
- iii. Purchase of maize and soya beans from local farmers at concessionary prices through farming companies.
- iv. Distribution of Thriposha Packets to the Offices of the Regional Directors of Health as prescribed by the Ministry of Health.

2.1.3 Financial Review

2.1.3.1 Financial Performances

(q) The financial performance of the company for the last four years are as follows.

	2015	2016	2017	2018
Revenue (Rs Billion)	1.776	1.469	2.184	2.807
Production cost (Rs Billion)	1.793	1.393	2.073	2.656
Gross Profit / (Loss) (Rs Billion)	(0.167)	0.76	0.111	0.151
Gross Profit / (Loss) Parentage (%)	(1)	5.17	5.08	5.38
Other Income (Rs Billion)	0.026	0.020	0.028	0.038
Operational Expenses (RsBillion) Profit before Tax / (Loss) (Rs	0.05	0.05	0.076	0.111
Billion)	(0.41)	0.46	0.63	0.78
Profit before Tax / (Loss) Parentage (%)	(2.0)	3.13	2.88	2.78

Table No 01 - Financial Performances



2.1.3.2 Comparison of Actual Production with the Annual Production Plan

Year/D	ouration	Expected production according to production plan (Master Bag)	Actual production (Master Bag)	Actual production as a percentage of the expected output (%)
2017		1,047,612	543,955	52
2018		846,792	529,476	63
Till 2019	June 30,	613,506	236,278	38.5

Table No 02- Comparison of Actual Production with the Annual ThriposhaProduction Plan

Based on the above information, it was observed that the achievement of the Actual Production Plan of the company is at a very low level. It was 52% in 2017, 63% in 2018 and 38.5% till June 30, 2019. Compared to the actual production with the expected production, the target achievement was at a very low level. During the audit it was not observed the steps taken by the Management to find the reasons for such a low achievement and implementing correcting measures.

2.2 Thriposha Production Process

Maize, soya beans, vitamins, minerals and milk powder are stored in the main raw material warehouse after received by the company. Maize and soybeans for the production of Thriposha and Suposha are first loaded from the main warehouse to the nearest cleaning machine. Then the sand in the maize and soya beans is cleaned through a cleaning machine, the lightweight maize and soya beans and other pollutants are cleaned by the wind and stored in 2 silos.

Thereafter, the cleaned soya beans are sent to a peeling machine for peeling process. The machine peels off the soybean seeds and stores the peeled seeds in a separate tank. Then, the cleaned maize and peeled soya beans are sent to the Anderson machine.

First, maize and soy are mixed in proportion. Proportionately mixed maize and soya beans are then sent to the grinder inside the Anderson machine. The mixture of ground maize and soya is then steamed in the Anderson machine. The cooked maize and soya mixture are then cut into small pieces and dried with the help of a dryer. The dried mixture is then ground again through a grinder.

Milk powder, minerals and vitamins are then added to the mixture of ground maize and soya. The mixture is then stored in storage tanks released to the packaging division for packaging of Thriposha and Suposha. The Thriposha production process is shown in the below illustration

Production Flow Chart



2.3 Thriposha Distribution Process

Thriposha Fctory (Ja Ela)



Delivery (by Lorries and rail wagons)



2.4 Nutrition Supplementary Programs Implemented in other Countries of the World

Nutrition supplementary programs such as Thriposha implemented with Super Cereal and Super Cereal Plus products being promoted by the World Food Programme in other parts of the world. These products are manufactured in factories at Belgium and Ruwanda, distributed to other countries by the World Food Program as needed.

This Super Cereal product is for pregnant and lactating mothers and Super Cereal Plus is available for children under 5 years of age. This product is a blend of Corn and Soya and is offered to babies from 6 months to 5 years of age. This product is made to be feed in addition to breast milk and is not a suitable for breast milk.

This product is made using Corn, Soya beans, Sugar, non-fat milk powder, Soya bean oil , Vitamins and Minerals.

In addition, a nutritional supplement called Acha Mam in Pakistan is given to infants between the ages of 6 months and 5 years. This product contains peas, vegetable oil, milk powder, Sugar, Vitamins and Minerals are manufactured using Soy Lecithin. Details of those products are as follows.

Criteria	Super Cereal Plus	Super Cereal	Acha Mam
Target Team	Infants between 6 months to 5 years	PregnantandlactatingmothersmalnourisHedindividuals	Infants between 6 months to 5 years
Main ingredients	Corn ,Soya beans ,milk powder , Sugar, Soya oil , Vitamins and Minerals	-	Peas , vegetable oil milk powder , Sugar , Vitamins , Minerals Soy Lecithin
Daily ration	200g	200g - 250g	100g
Nutrition	787 kcal	752 -939 kcal	520 kcal
	33 g protein	31 g – 38 g Protein	13 g Protein
	20 g fat	16 – 20 g Fat	20 g Fat
Providing Term	60 – 90 Days	Depends on individuals	60 – 90 Days
Product Expiration time	In 18 months	In 12 months	In 24 months
Management	Primary – 1.5 Kg Bag	25 Kg Bags	100g x 105 Bags
of packaging	Secondary – 1.5 Kg x 10		
	1.5 Kg x 12		

Table 03- Detail of nutritional Supplements products operating to other parts of the world

2.5 Related Institutions

In this performance audit, the following Institutions and organizations identify as agencies to perform these functions.

Institutions

a.) Ministry of Health & Indigenous Medicine

Functions performing

- Carrying out procurement activities to • obtain raw materials required for the production of Thriposha.
- Obtaining funds and allocation required for the production and providing to Thriposha Company.
- Carrying out of distribution of • Thriposha.
- b.) Infant and maternity clinics
- c.) Industrial Research Institutions (GINTECH) SGC Institution

d.) Sri Lanka Association of Standards

- Monthly Distribution of Thriposha to • beneficiaries and informing the relevant beneficiaries about Thriposha Consumption.
- Conduct quality tests • on raw materials (Corn Soya beans) used in the production of Thriposha and testing whether the raw materials contains contaminants.
- Testing whether the raw materials • used for Thriposha are genetically modified on mutated.
- Testing the quality of the vitamins • used for Thriposha productions.
- Testing the quality of raw materials • (Corn Soya beans) used for Thriposha production and performing the quality control of Thriposha and issuing

standards and SLAS quality certificates related to baby foods.

- e.) Department of Agriculture
 Providing necessary advice for Maize and Soya beans cultivations and providing budgetary allocations for relevant projects.
 f.) World food organization
 Providing necessary technical
 - Providing necessary technical assurance required for Thriposha program and conducting various researches on Thriposha program and providing advises to improve quality.

2.6 Authority for Auditing

This audit is carried out according to the provisions contained in Article 154 (1) of the Constitution of the Democratic Socialist People's Republic of Sri Lanka and in terms of Sections 3 (1) (d), 5 (2) and 12 (d) of the National Audit Act, No. 19 of 2018.

2.7 Selection of the Topic

- a. Evaluating whether this food supplement has addressed the issues that the media and the Internet have raised concerns in society regarding the reporting of infant deaths due to malnutrition in Sri Lanka and according to the United Nations Food and Agriculture Organization, Sri Lanka is the second most malnourished country in South Asia.
- b. Problems in Thriposha distribution.
- c. The government has to spend around Rs. 03 billion annually.
- d. Evaluating the performance of Thriposha supplement.

2.8 Scope of Audit

- a. Performance audit is conducted in accordance with the Guidelines issued by the International Organization of Supreme Audit Institutions (Intosai), Provisions of Article 154 of the Constitution of the Democratic Socialist Republic of Sri Lanka and the provisions of the National Audit Act, No. 19 of 2018. Accordingly, it is essential to gain an understanding of the organization's operations and internal controls as a basis for determining the extent to which the stated objectives can be achieved and the risks associated with achieving those objectives in order to draw conclusions from the observations and give recommendations in performance audit.
- b. The audit work is pre-planned and linked to the audit plan. This may change based on the results of the findings during a performance audit. Accordingly, the scope of the audit is limited to audit sampling procedures based on the time available for audit and the amount of human resources available.
- c. Studying the process of procurement, production and distribution of raw material for Thriposha production of Sri Lanka Thriposha Ltd from 2017 to 30 June 2019. It is proposed to do the following in selecting samples for the study of nutritional supplementary programs operating in other parts of the world.
 - Selection of a sample related to the procurement process of the Ministry of Health regarding the purchase of raw materials
 - To study whether the production process is in compliance with the relevant quality control and standards
 - Check the availability of Thriposha to the required persons at the required places at the required time by selecting a sample

2.9 Audit Objectives

The main objective of the audit was to evaluate the performance of the Thriposha program for infants and pregnant mothers.

Sub Objectives and Criteria

	Sub Objectives	Criter	ia
а	Preparation of basic plans required for production	I. II. III.	Budget of the institute Action Plan of Institute Guideline on Good Governance for Public Enterprises issued by the Department of Public Enterprises on 23rd. June 2003. (PED 12)
b	Obtaining the raw material	I. II.	Company's Articles of association Structured Operational process of Organization
		III.	Procurement Guide Code
		IV.	Government policies
		V.	Budget of the institution
		VI.	Institutional Action Plan
		VII.	International standards
		VIII.	Specifications of quality assurance given to suppliers for raw material
		IX.	Standard conditions for the quality of raw materials
c.	Thriposha production	I.	Institutional quality inspection standards
		II.	Leading performance indicators of the organization
		III.	Standardized operational processes of the organization
		IV.	Sri Lanka Standards Institution
		V.	World Health Organization (WHO) /
			World Food Organization (WFO) standards
		VI.	ISO Standards
		VII.	Nutritional Ingredients
		VIII.	The maximum temperature that should
			be maintained in storage
d	Thriposha distribution	I.	Action Plan of the Institute
		II.	Standardized operational processes of the organization
		III.	Sustainable Development Goals
		IV.	Plans of Provincial Health Institutions

e. Adherence to quality control procedures

I. Composition of food ingredients

II. Quality control standards introduced by the WHO

3. Detailed Audit Observations

3.1. Basic Planning

3.1.1 Planning of Storage Facilities for Raw Materials

While maize and soybeans are the main raw materials required for the company's production, it is necessary to supply that raw material without shortage. The capacity of silos that belongs to the Company is 300 metric tons, which will be sufficient for the company to produce in about 3 days and the company will need to store the required soybeans and maize for at least 14 days depending on the production process. The company plans to build two silos with a capacity of 4,000 metric tons each. The estimate for this is Rs. 450 million and although the company received the required funds in the year 2017, it was unable to find a supplier at that time and was unable to complete the work that year. Further, allocations were requested from the year 2018 budget, the necessary funds have not yet been received.

Currently, maize and soybeans are stored in two small silos and in a small space. If the company received the necessary funds to purchase those two silos and then the company will be able to avoid the problem of inadequate storage facility as the existing storage space for soybeans and maize can be used to store Thriposha.

3.2 Obtaining the Raw Material Required for the Production of Thriposha

The annual requirement of the major raw materials for the production of Thriposha are 12000 metric tons of maize and 6000 metric tons. of soya beans. This requirement and the milk powder requirement are procured by the Procurement Committees of the Ministry and the relevant supplier and the relevant prices are provided to the institution. Other raw materials such as Vitamin Minerals and Packaging Raw Material are procured through competitive bidding by the company's Main Procurement Committee.

Under this heading, it is stating that observations related to the relevant procurement made by Sri Lanka Thriposha Limited from the year 2017 to June 30, 2019, within the given scope of the performance audit.

3.2.1 Procurement Plans

According to section (c) of guidelines 4.2.1 of the National Procurement Agency, Procurement activities for the coming year should be prepared in detail. However, the company had not prepared a detailed procurement plan to meet this requirement. As a result, it was not possible to order the raw material on time and to carry out the preliminary work in a systematic manner.

Details are given in the following paragraphs.

3.2.2 Registration of Suppliers, Entering Agreements and Performing Accordingly

The procurement committee of the Ministry is making necessary arrangements for the procure raw materials for Sri Lanka Thriposha Ltd and select the suppliers and give the relevant decision to Thriposha Limited. These selected suppliers were contracted only for individual orders made from time to time without entering into an agreement for full procurement, and due to the non-availability of such agreements in the year 2017, the relevant suppliers has time to time increased unit price for the procurement of supply of 15,000 metric tons of maize value of Rs. 734,250,000. Further, as a result of not suppling raw materials according to the delivery schedule, the company was unable to make the production continuously as non-availability of the required raw material. Details of such product outages are explained in the following paragraphs.

3.2.3 Getting Supplied of Locally Produced Raw Material

According to the article of association of the institute, in order to strengthen the local farmer, the two main raw materials required for the production of Thriposha, soya beans and maize should be locally produced soybeans and maize. If a supplier somehow manages to supply the imported soybeans and then confirms that they are imported stocks, the tender awarded will automatically be canceled and he will not be able to bid for the remaining tenders as a result. However, according to the decision taken at the Cabinet meeting held on December 21, 2004, steps can be taken to import only if there is a shortage of domestic production. However, the company never

adopted a methodology to verify whether the stocks received at the warehouses were locally produced or imported. Thus, the institution did not follow up on whether the objective of empowering the local farmer in the article of association was actually achieved and there was no opportunity to verify it in the audit.

3.2.4. Selection of Suppliers

The following facts were revealed regarding the suppliers who selected based on presented prices, for the supply of raw material to produce Thriposha for the year of 2017,2018 and year 2019 up to the month of June.

A. The following facts were revealed regarding the procurement for the purchase of 15000 MT of maize for the year 2016-2017.

I. Bids were invited through a newspaper advertisement on 10.11.2016 for the purchase of 15000 MT of Maize required from 1st December 2016 to 30th November 2017. Accordingly, bids were submitted by eleven (11) bidders. According to the report of the tender opening committee, 8 bids have been submitted.

II. Bids are invited for a specific period of one year from December 1, 2016 to November 30, 2017. However, one bid was submitted for a short period of 9 months from March 2017. Failure to do so is considered as a major deviation according to the provisions of section 7.8.4 (c) of the Public Procurement Guidelines for failure to provide bids for an adequate validity period.

III. Even though relevant procurement has called for only one bid through the bidding documents for the full year, in this case, one bidder divides the period into two periods of his choice and follows an informal procedure of submitting two bid prices to cover the entire bid period through two separate bid prices applicable to each period only.

Acceptance is a debatable exception on the grounds that it may not be fair to other bidders.

The above bids have been accepted by the company and granted the procurement to the bidder SDK United Agriventures (Pvt) who bid two prices to supply 4000 metric tons at Rs. 54.68 and the remaining 11000 metric tons at Rs. 48.95.

Until the end of May, 2000 metric tons out of the second 11000 metric tons were supplied as scheduled and after that it was informed that it could not be supplied at that price and, 1000 metric tons had to be purchased at a price of Rs. 52.50 (tax free) per kg considering the urgent requirement. Based on the decisions of the Tender Board on 27/06/2017, then they demanded Rs. 54.68 per kg of maize. This tender had to be canceled from July 2017 and the company had to go for a new tender, where it had to procure maize at a price of Rs. 59.50. The reason for the change in prices from time to time is that there is no agreement with the suppliers for the procurement of 15000 metric tons of maize required for the year 2016/2017 and due to the change in prices from time to time and non-continuous supply by the relevant supplier, Sri Lanka Thriposha had to pay an additional price of Rs. 10.55 per kg of maize and the loss of production was 261,225 metric tons.

B. Selection of Suppliers for the supply of 5000 MT of Maize for the 03 months of the year 2017 for the production of Thriposha.

Even though the bidder has selected by calling bids for 15,000 metric tons of maize required for year 2017, unable to get supply of locally produced maize by the end of the year, for continuous production a new bid was called on 16th October 2017 under the National Competitive Bidding Scheme to procure 5000 MT of locally or imported maize with the approval of the Board of Directors.

Only two companies had submitted bids for this. Accordingly, the bid prices were Rs. 59.50 and Rs. 56.50 respectively. So even if the lowest bidder here is chosen as the supplier, it was stated that they would need 35 days to deliver the consignment. At that time, the Cabinet had decided to procure 1000 metric tons of maize required for production from the company that had won the previous tender.

At the end of the first 1000 metric tons obtained, the awarded the tender was informed to supply the maize, but this time also informed that the maize could not be delivered on the relevant date. Again, 750 metric tons of maize had been procured from the same company that had awarded the previous tender.

Later, 1000 metric tons of maize which was supplied by tender awarding, company was rejected due to lack of quality.

As a result of not supplying continuing and providing low quality maize by tender awarding Company, 5000 metric tons of maize related to this procurement had to take from previous supplier at the price of Rs. 59.50 and had to pay extra price of Rs. 3 per 1 kg.

C. Selection of suppliers to purchase of milk powder for production

When purchasing milk powder for Thriposha production, it was observed that, with the approval of the Cabinet of Ministers, the milk powder was purchased only from Milco (Pvt) with the objective of making a significant contribution to the economic development of the country as well as the local dairy farmers by encouraging local producers, without bidding. It was noted that at the verification of purchase of milk powder for the year 2017, 2018 and 2019 at a retail price. It has been agreed to supply 1 kg of Highland milk powder for the year 2017 at Rs. 810 / -, for the year 2018 at Rs. 798 / - and for the year 2019 at Rs. 800 /-. In further inspection, it was observed that agent of Milco (Pvt) Ltd has provided to the highland outlet situated at Triposha premises to the price of Rs. 690/- in the year 2017, 2018 and 2019. It was observed that Sri Lanka Thriposha Ltd had to pay higher prices of Rs. 120, Rs. 108 and Rs. 110 per 1 kg for the years 2017, 2018 and 2019 respectively. Therefore, the total loss may occur to Thriposha Limited was Rs. 77,760,000 in 2017, Rs. 64,800,000 in 2018 and Rs. 66,000,000 in 2019. Further Sri Lanka Thriposha Limited buys Highland Milk Powder in 25 Kg master bags. Therefore, the packaging cost should also be less than getting as a 1 Kg packet. Accordingly, the price of 1 kg of milk powder given to Sri Lanka Thriposha should be further lower than the price paid to agents.

3.2.5 Delays in Delivery

It has been directly affect to the efficacy of production that not supplying of raw material on time for continuous production after taking into consideration of stock control measurements. (Reorder level, re-order period) The examples are as follows.

A. Cabinet approval for the purchase of 6000 MT of soybeans for the year 2018 was obtained in February 2018 and the tender was called through a newspaper advertisement on 24th April 2018, but awarding the tender was delayed until 26th July 2019. As mentioned above, as the procurement process took time, purchases were made through competitive bids to continue production, but there were some instances that the production stalled.

Month	Hours of production downtime				
	Production machine I	Production machine II			
February	7	7			
December	165	-			

B. In order to procure 12000 MT of maize required for the year 2018, the above procurement which commenced the procurement process on 08.02.2018 was awarded on 27.02.2019 and 13 months have elapsed for the relevant process for this tender. This tender has been awarded subject to the supply of 12000 MT of maize at a cost of Rs. 55.90 per 1 Kg. Due to this delay in 2018, purchases were made at higher prices of Rs. 59.50 and Rs. 58.50 per 1 kg as per the decisions of the company's procurement committee on competitive bidding.

3.3 Thriposha Production

3.3.1 Planning and Maintaining of Production Premises Systematically

In accordance with section 5.2.1, Sri Lanka standard (SLS) 143: 1999 design and layout of food establishment should be designed to protect the quality of the product.

3.3.1.1 Impact that Occur from Animals on Production Premises

During the site inspection conducted on 19th September 2019, it was observed that a large number of pigeons were staying in the area where the Anderson machines 1, 2 and drying machines were installed in the manufacturing division (Figure No 01) and their droppings were scattered in different places of the division (Figure No 02). Further during the site inspection conducted on 25th of June 2020, it was observed that the pigeons' dirt (feathers) were still scattered in the above mention area.

After the drying machines, Thriposha is carrying by an uncovered conveyor, where it is inevitable that these animals' dirt will mix with the product. Furthermore after this stage the product will be split into small pieces and pack after mixing with vitamins and other ingredients. If any contaminants were mixed during the above process, there is a risk that it will be included in to the

final product. Therefore it was observed that the production process has been carried out without following proper hygienic procedure.



Figure No 01 - Pigeons staying inside the building of production section



Figure No 02 - Presence of pigeons' droppings in the production premises

3.3.1.2 Management of Waste Generated from the Production Process

There was a curtain to separate the section where the Anderson machines, drying machines were installed and the section where the soybean dehulling machine was installed. During the soybean dehulling process, the delicate particles that come out of it were scattered throughout the areas where the Anderson machines and drying machines were installed. (Figure No 3, 4) During the site inspection conducted on 25th of June 2020, it was confirmed that the aforesaid situation was still remain the same.



Figure No 03 - The particles come out from soybean dehulling machine were scattered throughout the production section.



Figure No. 04 - The particles come out from soybean dehulling machine were scattered throughout the production section.

3.3.2 Employees' Hygiene and Safety of the Production

According to the Sri Lanka standard 143: 1999 section 8.3, food handlers should wear suitable head covering and footwear. However on-site inspection carried out on 17th September 2019 and 25th June 2020 it was confirmed that they have not wear them. (Illustration No 05) It was

observed that this will affect the safety of the production as well as the health safety of the food handlers.



Figure No o5 - Employees in the manufacturing section who do not wear suitable head covering and footwear

3.3.3 Arrival of Visitors to the Production Section

Although section 8.5 of Sri Lanka standard 143: 1999 mention that visitor to food manufacturing, processing or handling areas should wear appropriate, protective clothing .It was confirmed in the audit that the aforesaid requirement was not followed for the visitors entering into the company's manufacturing division. As per the inspection carried out on 25th June 2020, it was observed that there were no any improvements to comply with above requirement.

3.3.4 Idle Capacity

According to the data of the years 2017, 2018 and 2019, it was observed that there were production idle hours of Anderson Machine (A1) and Anderson Machine (A2). Idle times of these machines were 6912 hours and 2809 hours, 7047 and 889 hours, 3371 and 1334 hours respectively. This was due to Thriposha storage tanks were filled, machine breakdowns, insufficiency of workers, power outages, shortage of packaging materials, shortage of raw materials (maize, soya beans, minerals) further idle of production due to the lack of staff were 77% out of total idle time. Apart from that, overloading of Thriposha storage tanks, mechanical failures and delays in the supply of raw materials had led to these idle of production.

The company has two grinding machines which is Anderson I and Anderson II, for the production of Thriposha and Suposha with a capacity of 1800 kg per hour and 2700 kg per hour respectively. However, it was observed that only one machine is operated at a time due to the lack of staff. (A-1: Anderson Machine I, A-2: Anderson Machine II)

Reason	Reason 2017 (Hours) 2018 (Hours)		lours)	2019 August	Total		
	A - 1	A – 2	A - 1	A - 2	A – 1	A-2	
Overloading of Thriposha storage tanks	-	950.5	9.25	506.15	-	251.5	
Machine breakdowns	-	426.45	8	264.25	-	346.55	
Inadequacy of workers	6912	632.5	6506	42	3246	-	<u>17,338.5</u>
Power outages	-	27	-	2.75	-	5.5	
Shortage of packaging materials	-	103	-	66.75	-	222	
Shortage of raw materials (Maize)	-	581.25	292	-	-		
Shortage of raw materials (Soya Beans)	-	80.5	172	7	-	358	
Shortage of raw materials (Minerals)	-	7.5	-	-	-	-	
Shortage of raw materials (Vitamin)	-	-	60	-	-	-	
Lack of storage space for the Finished Goods	-	-	-	-	-	10.5	
Other Reasons	-	-	-	-	125	139.5	
	<u>6,912</u>	<u>2,808.7</u>	<u>7,047.25</u>	<u>888.9</u>	<u>3,371</u>	<u>1,333.55</u>	<u>22,361.4</u>

Table No 04- Production idle hours and the reasons

3.3.6 Achieving Production Targets

In the examination of data relevant to the years 2017, 2018, 2019 (up to August) it was observed that the company had not met their production targets due to shortage of raw materials, shortage of staff etc. (Annexure 01) Accordingly, the monthly production variance for the relevant years ranged from 510,740 kg to 1,310,078 kg, from 132,110 kg to 697,176 kg and from 941,144 kg to 1,527,108 kg, respectively. Failure to take the necessary steps to minimize the relevant variances has resulted in a decrease in efficiency.

3.3.7 Production Cost

It was observed that the company has not followed appropriate cost calculation or analysis such as standard costing. Proper costing system helps to analyses the variance and takes actions to minimize the variance. Further company has not identified overhead cost and computes the actual cost of the production.

3.3.8 Failure to Implement a Batch Processing System in the Thriposha Production Process

It was observed that due to the non-implementation of a batch processing system in the manufacturing process it is not possible to identify the product group from which a defected Thriposha packet occurs. Also, apart from the date of production and date of expiration no other information was observed regarding the product. (Figure 06)



Figure 6 – Only the date of manufacture and expiry date are recorded on the Thriposha packet.

3.4 Quality Control of Thriposha Program

A Quality Control Division has been set up to oversee the quality control of the company and it is possible to maintain the quality of the products at a high level by maintaining high standards of quality control in the division. The relevant observations made during the audit are given below.

3.4.1 Issuing Quality Certificates Regarding Raw Material Suppliers to Thriposha and Suposha Productions.

Details are as follows.

- (a) When the supplier of raw materials became a new supplier, it was not included in the company's procurement plans that the operating premises of the supplier should be physically inspected by the Quality Control Division and a physical inspection should be carried out on the operations. The following major suppliers in year 2017, 2018 and 2019 had not been physically verified.
 - SDK United Agri Ventures (Pvt) Ltd
 - Golden Foods Agro (Pvt) Ltd
 - JK Tradelink (Pvt) Ltd
 - Ampara Ekabaddha Govi Sangama Ltd
- (b) Due to not fulfilling above requirement, company had to faced problems regarding delaying raw material supply, quality issues etc. which are discussed in following paragraphs.

3.4.2 Physical Verification of Suppliers

a) At the point of purchasing Soyabean from farmers, moisture level must be checked using moisture meter. However, when physically verifying the contracted Soyabean supplier, it was revealed that the Moisture meter of the contracted suppliers was out of order since a week before the physical inspection.

Empowering local farmers has been identified as one of the main missions of Thriposha Ltd. In such a scenario, the audit observed that when the price of soybean seeds is mainly determined by the moisture level, whether the farmers have been paid a fair price. Further, it was observed that the contribution of Thriposha Ltd to achieve the above mission was not up to a satisfactory level.

b) One of the Maize storages located in Siyabalanduwa owned by the contacted supplier had two main silo storage tanks with a capacity of 7,500 M tones. During the filed visit, it was revealed that the maize in these two silos may susceptible to affected by fungus and bacteria due to wet atmosphere and accumulation of water at the issue point to the packing unit which could also lead to inflecting in to the packaged maize seeds. (figure No. 07 & 08).



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Figure No 07
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Figure No 08

Accumulation of water around the Silo

3.4.3 Quality of the Product

3.4.3.1 Composition of Nutrients

Vitamins, minerals and milk powder are added at the final stage of production (before the packing process) to improve the quality of the Thriposha product. As of the date of the field visit, those added nutritional supplements were tested from the Institute of Industrial Technology on 23 May 2018 by test report No. SS 1802828, 15 February 2020 test report No 1909497 and 03 January 2020 test report No 1918030. According to further investigation, deficiencies in 7 composition of vitamins and excess in 2 composition of vitamins had been identified compared to the standardized nutrients specification that should be contained in 100 grams of Thriposha product. Deficit nutrients had been deviated in between 22% to 72% and excess nutrients had been deviated from 42.5% to 200% based on standardized nutrients specification. Details are below.

Deficiencies

Nutritional	Measure	Comp	Accordin	ng to tested	Accordin	ng to tested	Accordin	g to tested	Average	of
component	ment	ositio	report	dated on	report	dated on	report da	ted on and	deficiency	based
	unit	n	2018/05/	23 and	2020/02/	and	2020/01/	03 report	on specific	cation
		based	report n	umber: SS	report nu	umber: SS:	number:	1918030		
		on	1802828		1909497		(Accordi	ng to		
		specif	(Accordi	ng to	(Accordi	ng to	sample	sent on		
		icatio	sample	sent on	sample	sent on	2019/12/	04)		
		n	2018/01/	30)	2019/07/	(03)				
			Compo	Deficien	Compo	Deficien	Compo	Deficien	Quantity	%
			sition	cy	sition	су	sition	су		
Vitamin	mg/100g	1 mg	0.67	(0.33mg)	0.9 mg	(0.1 mg)	Not	-	(0.21	22
B1			mg				tested		mg)	
Vitamin	mg/100g	2.1	0.47	(1.63	0.7 mg	(1.4 mg)		-	(1.5 mg)	72
B2		mg	mg	mg)						
Vitamin C	mg/100g	60 mg	30.2	(29.8	40.2	(19.8	-	-	(24.8	41
			mg	mg)	mg	mg)			mg)	
Vitamin	mg/100g	4 mg	2.6 mg	(1.4 mg)	3.6 mg	(0.4 mg)		-	(0.9 mg)	23
В5										
Iron	mg/100g	10 mg	6.63	(3.37	Not	-	4.32mg	(5.68	(4.52	45
			mg	mg)	tested			mg)	mg)	
Zinc	mg/100g	11 mg	6.54	(4.46	Not	-	7.8 mg	(3.2 mg)	(3.83	35
			mg	mg)	tested				mg)	
Vitamin B	mg/100g	13 mg	7.7 mg	(5.3 mg)	10.4	(2.6 mg)	Not	-	(3.95	30
3 (Niacin)							tested		mg)	

Table No: 05 - Deficiencies in Nutritional components

Excess

Nutritional	Measurement	Composition	According to	tested	According to	tested	Average	of the
component	unit	based on	report date	ed on	report date	d on	excess	based
		specification	2018/05/23	and	2020/02/15	and	on	
			report numb	er: SS	report numb	er: SS:	specificat	ion
			1802828		1909497			
			Composition	Excess	Composition	Excess	Quantity	%
Vitamin E	mg/100g	6 mg	9.7 mg	3.7 mg	7.4 mg	1.4 mg	2.55 mg	42.5
Vitamin B	mg/100g	1.8 mg	5.51 mg	3.71	5.4 mg	3.6 mg	3.655	200
6				mg			mg	

Table No: 06 – Excess in Nutritional components

3.4.3.2 Ingredients not Included in the Nutritional Composition

According to the standardized specifications for the Thriposha product, 60 micro grams of iodine should be contained in 100 grams of Thriposha. Though entity had not currently added iodine as nutritional component to the production, nutrient description appeared in Thriposha packet has mentioned that iodine component of 60 micro grams contained in the product according to the observation made on 25 June 2020. Hence, consumers would have been misled due to incorrect packaging printing included in Thriposha product.

3.4.3.3 Testing of Water Used for Production

According to the Sri Lanka Specification on Drinking Water SLS 614: 2013, maximum amount of free ammonia that could be contained in drinking water is 0.06 mg per liter. According to the water tested by the report No. 1819736 date 10 January 2019 obtained from Institute of Industrial Technology declared that free ammonia level was 0.48 mg per liter in the water used for production and it was observed the 700% excess of free ammonia compared to the specification.
According to the further investigation made on the free ammonia composition in water used for the Thriposha production, a sample of drinking water selected by the auditor was tested from the Institute of Industrial Technology and report was issued under No : SS 1918031 dated 18 December 2019 which also indicated that the amount of free ammonia per liter was 0.20 mg and observed excess was 233% relative to the specification.

3.4.3.4 International Norms on Micronutrient Content in Thriposha

Thriposha contains 11 Vitamins and 6 Minerals as micronutrients compared to the technical note published by the World Health Organization in 2012.

(http://www.who.int/nutrition/publications/moderate_malnutrition/9789241504423 / en /) Some of the Vitamins and Minerals in Thriposha did not meet the level recommended by the World Health Organization. Further according to the specifications of the Thriposha Company the amount of nutrients that should be contained in 100 grams of Thriposha is not compatible with the actual amount of nutrients as per the test reports.

According to the specifications of the Thriposha Ltd 100 grams of Thriposha should contain 800 mg of Vitamin A, but according to test reports it was only 502 mg. It has a deficiency of 298 mg. There was also a deficiency as 8.26 g of Vitamin D deficiency an excess of 1.4mg of Vitamin E and a deficiency of 198 g of Vitamin C.

Similarly there were inconsistencies in the amount of Minerals as mentioned above, a deficiency of 16 mg of Iodine, a deficiency of 4.3 mg of Iron, a deficiency of 7.65 mg of Zinc, a deficiency of 600 mg of Potassium, a deficiency of 400 mg of Calcium, a deficiency of 50 mg of Phosphate and an excess of 10 mg of Magnesium were identified. Details are given in Table 07 as below.

Micronutrient	WHO Technical Note 2012)converted to 40g Kcal per 100g of Thriposha flour) (a)	The amount that should contain 100 Thriposha as per the specificatio ns of Thriposha Institute (b)	Calories inclu Thriposha acc reports (Total Intriscic) According to previous test reports (c)	C	Non- complianc e with WHO technical standards (a-d)	Non- compliance with Thriposha specifications (b-d)
Vitamin Vitamin A (mg)	1206-804	800	520	502	302	298

Vitamin D (mg)	24.1-8	15	5	6.74	1.26	8.26
Vitamin E(mg)	>13.4	6	6.3	7.4	6	1.4 **
Vitamin C(mg)	>60.3	60	42	40.3	20.1	19.8
Mineral salts						
Iodine)mg)	60.3-140.7	60	44	Not tested	16.3	16
Iron)mg)	7.2-12.1	10	24.5	5.7	1.5	4.3
Zinc)mg)	8-14.1	11	6	3.35	4.65	7.65
Potassium)mg)	603-884	900	768.4	300	303	600
Calcium)mg)	400-563	500	1015	100	300	400
Phosphorus)mg)	342-563	450	1043	400	-	50
Magnesium)mg)	112.6-168.8	100	266.4	110	2.6**	10**

** Exceeds the required size according to the specification

Table 07 - Content of Thriposha Comparison with WHO Standards

Note: * WHO Technical Note, 2012. Supplements for Infants and Children Between 6-59 Months and Moderate to Severe Malnutrition's.

3.4.4 Quality Control of the Manufacturing Division

3.4.4.1 Packing of Thriposha in Paper Bags (Master Bags)

Entity packed 30 packets of 750 g of Thriposha to the Kraft paper bag for distribution purpose and instructions for storing of those packages at the office of the Medical Officer of Health are as follows.

- a. Should be stored without exposed to moisture
- b. Should be stored on pallets
- c. Temperature range that package should be stored, etc.

It was observed that there is a risk of damage and deterioration of Thriposha stocks due to noninclusion of these information in the packing bags and also it is a non-compliance with the relevant standards for packaging as per paragraph 10.3 of SLS 143: 1999 Standard.

Filed inspection of selected Maternity and Pediatric Clinics and Medical Officer of Health Offices revealed that above storing procedures had not been followed.

3.4.4.2 Storage of Thriposha

Suitable temperature level to store Thriposha packets is at 20-22 degrees of Celsius, however, entity had planned to store Thriposha at a level of 25-27 degrees of Celsius. According to the audited date of 11 October 2019, temperature of the Thriposha store was 28.2 degrees of Celsius despite the rainy climate prevailed on that day. For further investigation, temperature of the Thriposha stores was measured again on 25 June 2020, and it was 33.4 degrees of Celsius. Therefore, it was observed that there was a possibility of damaging the quality of nutritional contents of the product due to relatively high temperature at stores.

3.4.5 Packaging Division

The packing division of Sri Lanka Thriposha Ltd had 08 packing machines, out of 04 were used for the production of Thriposha and 04 machines for the production of Suposha. The finished product of Thriposha and Suposha required for these packing machines was stored in 3 storage tank capacity of 10.5 m tons.

The following observations were made in this regard.

3.4.5.1 Finished Product Store Tanks of Triposha and Suposha

- (a) Three tanks used to store Thriposha and Suposha finished products were made out of fiberglass. Also, those tanks were 35 to 40 years old and had cracks on the inside and outside of the tank walls. Due to the fact that the finished product stuck in those cracks and stays inside for a long time there is a risk of having mold and worms and also risk of fiber strings mixing with the finished product as revealed during the physical inspection of the factory and examination of the board papers (Board paper no 03 /82/02) submitted by the Factory Manager.
- (b) It was observed that due to damage of the tank wall (inside and outside) of the finished product, flour mix could not move easily, hence the finished product was removed by tapping the tank with a support an iron bar. The audit observed that due to this activity ability mix fiber strings to the product was very high and the it damages the tanks further. (figure No 09)



Figure No 09 - finished product tanks

3.4.5.2 Operations of Packing Machines

During the process of supplying the mixture stored in the finished product tanks to the packing machines, it was observed that the mixture passed through polythene bags which did not confirm to the Standard of the General Principles of food hygiene (SLS 143-1999) of the Sri Lanka Standard Institution. (figure No 10 & 11).



Figure No 10



Figure No 11

The mixture passed through polythene bags

(a) Although standardized rubber bags should be used to absorb and exhale air for the function of above packing machines, the company had used Thriposha packing packets as a temporary alternative and audit observed deficiencies in adherence to the standardized production methods. (figure No 12)



Figure No 12 Thriposha packing packets were used as a temporary alternative

3.4.6. Quality Certificates of ISO 22000 / HACCP

(a) Sri Lanka Thriposha limited had obtained the approval of the Board of Directors on 14 February 2017 to obtain the ISO 22000 and HACCP quality certification for its products with the assistance of a consulting firm and the lowest bidder was Halcyon Private Limited, had physically inspects the Thriposha factory premises on 01 March 2017 and submitted an initial gap report to the company on 15 March 2017. It was observed that even though two years have been lapsed from the date of the report submitted as of the audit date of 30 September 2019, Management had not taken an action to correct the following activity identified in the initial gap report.

(b) The audit observed that the Thriposha wastage was packed in bags and stacked at the back side of the Thriposha Finished product warehouse until the wastage was sold for animal feed. However, due to improper storage, in turn it has encourage the escalation of animal's hazards (pigeons and rat) that must be controlled with in the factory premises. Further the above observation had not been corrected even as at the field inspection conducted on 25 July 2020.

3.4.7. SLS Certificate Examination

- a) Sri Lanka Triposha Ltd is in the process of obtaining the SLS certificate relating to food processing and hygiene offered by the Sri Lanka Standard Institution. This should be done in accordance with Sri Lanka Standards Institutions' Standard No.143, which provides the necessary guidance to ensure hygiene handing of food processing.
- b) Section 4.3 of the above standard prescribes the procedures to be followed in the primary/ basic production (raw material production) of food, handing, storage and transportation of the raw material in a manner to ensure the maintenance of hygiene.
- c) Sri Lanka Triposha Ltd uses corn and soybeans as raw materials for making Thriposha and Suposha. The following observations were made during the field inspection on September 25, 2019 made at the contracted soyabean supplier during the year 2019.
 - i. According to agreement with Sri Lanka Triposha Ltd and the above supplier, packaging should not be packed in fertilizer and other chemical packaging bags but some instances were noted that the farmers who supply the grain to the above supplier had used the fertilizer packaging to packed the grain.



Figure 13 – use of fertilizer packaging to pack grains

ii. It was observed that inflow of grains cleaning machine is located below the ground level and covered with a wire mesh which is constantly exposed to the environment. Hence, there was a possibility that anything unfit for human consumption, such as hard items, animal parts, insects etc. may fall into the pit and mix with grains was high.



Figure 14 – Location where the grain is inserted into the machine.

d) The following weaknesses were observed in the manufacturing process of Triposha in accordance with Sri Lanka Standards No.143.

According to the paragraph 5.1.2 of the above standard, adequate maintenance work should be carried out in factory premises and a healthy environment should be created, but the following shortcomings were observed in the factory which were not compliant.

- i. In the production machine area, a soft dust emitted during grinding of grain was largely mixed with air was visible and it directly affects the health condition of the factory workers.
- ii. The starting point of the strip of food in the place where the steamed grain is about12 inches above ground level, and there is a risk of dust or small items unfit for consumption entering to the product due to exposure to the environment.

3.5 Distribution of Thriposha Production

In observing the distribution of Thriposha, information obtained from Thriposha institutions, offices of the Medical Officer of Health as well as a sample of infants and maternity clinics in selected districts were observed. (Annexure No. 04)

3.5.1 Issuance of Thriposha

According to the responses received to the queries submitted by Thriposha Limited for updating the number of Thriposha beneficiaries, it was observed that in 2017 and 2018, Thriposha were not issued as per the demand. Between 23 million and 24 million packets of Thriposha were requested for the year 2017 but according to the data provided by Thriposha Limited, only 15 to 16 million packets were issued. Accordingly, a shortfall of about 8 million packets was observed. And also, out of the 24 million packets requested for the year 2018, only 16 million were supplied and a deficit of around 8 million was observed for that year. Triposha Limited had not issued as per the demand and that was confirmed during our inspections also. In order to avoid such shortages, the company had agreed to send stocks of Thriposha to the respective District Health Services Director's Offices by Lorries to avoid difficulties in distributing Thriposha by wagon.

Accordingly, the distribution of Thriposha by Lorries procured by the company through tenders and Lorries procured from the Medical Supplies Division of the Ministry of Health is being carried out without any delay. Therefore, the company hope to reduce the gap between demand and distribution of Thriposha in the coming year.

3.5.2 Deviation from the Provisions of the Circulars Relating to the Distribution of Thriposha

Although all pregnant mothers are considered as Thriposha beneficiaries as per General Circular 01-04/2016 regarding Thriposha distribution and selection of beneficiaries, the

maternity clinics at the Balapitiya Base Hospital belonging to the Balapitiya Medical Officer of Health where we had visited, it was observed that Thriposha is given only if weight is less than 42 Kg. (Annexure-03)

3.5.3 Maintaining Documents Related to Clinics

There were deficiencies in the maintenance of forms and documents relating to the receipt and distribution of Thriposha to clinics.

3.5.3.1 Maintaining the Thriposha Stock Book

- a. Thriposha stock books were not maintained in the clinics where the samples were tested during the inspection regarding the maintenance of Thriposha stock books.
- b. The stock books at the Rajagiriya Maternity and Children's Clinic had not been maintained in this manner. In addition, there were instances of incomplete notes in the stock book and balancing it. Also, at the Pannala Maternity and Children's Clinic, the stock books was incomplete.

Also, it was observed that the necessary action has been taken for the deficits by comparing the physical stock and the stock book balance. And there were physical stock shortages in some clinics. The details were as follows.

Location	Deficit
District Hospital – Meegahatenna	01
Base Hospital – Balapitiya	01
Medical Officer of Health-Ambalangoda	06
Medical Officer of Health-Navalar	10
Medical Officer of Health – Rukmalgama	04

Further, when checking the monthly summary used to prepare the Thriposha receiving documents, issuing document and Thriposha Monthly Beneficiaries and Stocks (MBI) Report at the Rukmalgama Maternity Clinic, there were 961 Thriposha packets to be held on the day of audit, but the physically verified 1347 packets and the surplus was 386 packets. Upon further inspection, it was observed a stock of 990 packets of Thriposha received as at 31 July

2019 but listed as 600 Thriposha in receiving document and according to the Thriposha Monthly Beneficiary and Stocks (MBI) Report for the month of July. Thriposha was balanced to 600 packets and at the end of the month, the stock brought forward was also indicated as zero.

3.5.3.2 Thriposha Monthly Beneficiaries and Stock (MBI) Report .

The following weaknesses were observed in relation to these reports.

• The Ambalangoda Medical Officer of Health's office had recorded the stock as zero in this report In cases where physical stocks are available.

• After February 2019 (MBI) reports of all clinics related to the Vavuniya Office of the Medical Officer of Health had not been submitted to the Vavuniya Regional Director of Health Services.

• The Minuwangoda Office of the Medical Officer of Health had duly completed the acceptance certificate and kept it at the relevant Medical Officer of Health office without sending it to Thriposha Company.

In this context, it was revealed that there is a lack of adequate internal control over the maintenance of records on Thriposha stocks. As a result, there is a risk that the stock will become obsolete or misused due to the amount of stock being kept hidden from the documents.

In order to avoid these risks and vulnerabilities, the authority to monitor and maintain the Thriposha stock books and the Thriposha Monthly Benefit Stock Record is vested in the Medical Officers, Officers through Institutional Medical Officer, Medical Officer (Maternal and Child Health) affiliated to the Office of the District Director of Health Services and the District Director of Health Services, and the company, hopes to provide advice, regular monitoring, and action in this regard in the future.

3.5.4 Storage of Thriposha in the Offices of the Medical Officer of Health and Maternity and Infant Clinics for the Protection of Thriposha.

When storing Thriposha, it should be stored in such a way as to preserve the quality of the Thriposha and not to harm the product during its expiration date.

Thriposha warehouses should be locked and avoid unauthorized persons access and pallets should be used during storage. Thus, cases where Thriposha was not stored on pallets were observed.

Maternity Clinic – Sandalanka



Figure 15 - Thriposha packets packed on the floor

Office of the Medical Officer of Health - Minuwangoda



Figure No.-16 Thriposha Packets Packed on the Ground Figure Maternity Clinic – Rukmalgama No.-17 Thriposha Store



Figure No. 18 Thriposha packets packed on the floor

There were also instances of other material being stored on Thriposha storage pallets in Thriposha warehouses.

Meegoda Maternity and Baby Clinic



Figure 19 - Packing other materials on pallets

Baby and Maternity Clinic - Galagedara



Figure-20 Other materials on pallets



Figure 21 Other materials on pallets

It was also observed that Thriposha was stored at the Rukmalgama Clinic, the injection room and the premises where the mothers were waiting to see the doctor.

Maternity Clinic - Rukmalgama



Figure 22 - Storage of Thriposha in the injection room and where mothers wait to see the doctor

3.6 Transport of Thriposha

During the shipment of Thriposha wagons from Thriposha to the Director General of Health Services' offices, shortages were observed between the consignment sent by Thriposha and the consignment received by the Regional Director of Health Services. This situation was mainly observed in relation to the consignment sent to the Office of the Director of Health Services, Jaffna and the details are given below.

Month	Stock sent by	Inventory received	Deficit
	Thriposha for the	by the Office of the	(Master Bags)
	month	Director of Health	(Master Dags)
	(Master Bags)	Services	
		(Master Bags)	
January 2019	1571	1567	04
June 2019	1674	1666	08

3.7 Overall supervision of Thriposha production and distribution process

3.7.1 Monitoring the overall performance of Thriposha distribution

It was observed that there were no systematic monitoring procedures to maintain the overall performance of the Thriposha program.

Therefore, it was observed that it is important to name and maintain the responsible parties or institutions to systematically monitor the activities such as production, distribution, storage and record keeping of the program.

The following observations were made during the examination conducted at the Minuwangoda Medical Center.

- It was observed that the Thriposha Acceptance Certificate was not duly completed by the Health Medical Center and issued to the Thriposha Institute. As a result, Thriposha Limited does not receive any confirmation that the relevant stocks have been duly received by the relevant Medical Center. (Annexure No. 04)
- It was observed that there is no proper methodology to obtain information on how many stocks actually remain in the relevant health centers from the stock reports as the Health Medical Center mentioned the stocks to be received as stocks received at the completion of the MBI report. (Annexure-05)
- At the discussions with World Food Program Officials their idea was that a methodology should be functional and updates should be maintained between the parties involved in the production and distribution process (Health Center Officers, Family Health Workers,

Thriposha Institutions, Ministry of Health, Thriposha Related Officers) due to the implementation of subsidized schemes such as Thriposha. It was stated that a methodology for exchanging up-to-date information could be implemented by introducing a small mobile phone program to the concerned parties.

This will enhance the efficiency of the production and distribution process of Thriposha and will enable us to identify the Thriposha need in advance and deliver it to the required parties expeditiously without any shortage. They were noted that the World Food Program's financial and technical support is available to introduce such small mobile phone programs. However, it was observed that no such action was taken in Sri Lanka Thriposha program.

3.7.2 Progress of Thriposha Beneficiary Infants

According to World Food Program reports and discussions with officials, Super Cereal Plus cereals in other countries provide 100-200 grams per day for malnourished children every 2 to 3 months, and children with no progress are referred for other medical treatments.

However, the Thriposha program is not so targeted and is recommended to be given at a dose of 50 grams per day for a long period of time, and observed that children who do not show any progress are not referred for other alternative treatments.

3.7.3 Progress of the Thriposha program

The following reports and statistics show that the Thriposha program, which has been in operation for about 40 years, has failed to achieve the desired goals.

• Sri Lanka ranks 84 in the Global Hunger Index

(According to International Foods Policy Research Instructure - IFPRI)

According to a study by UNICEF in 2017, 1/5 of children under the age of 5 in Sri Lanka are reported to be malnourished. It is reported that the level of malnutrition has increased from 13.3% in 2006-2010 to 21.4% in 2012-2016. It was observed that it has failed to achieve the desired goals.

4. Recommendation

- 4.1 Planning and carrying out the relevant procurement in accordance with the National Procurement Guidelines.
- 4.2 Develop a methodology to follow up on whether locally produced raw materials are supplied by suppliers when locally produced raw materials are available.
- 4.3 Follow National Procurement Guidelines in selecting suppliers and get liaise with the most productive sectors to get supply of new suppliers. Further, when the raw material supplier is a new supplier, the operating premises of the supplier should be physically inspected by the Quality Assurance Division of the Thriposha Company, which should be included in the company's procurement plans and a physical inspection of the supplier's operations should be carried out accordingly.
- 4.4 When entering into agreements with suppliers, enter into agreements with suppliers for the entire procurement made by the Ministry Procurement Committee.
- 4.5 When purchasing raw material, negotiate with the suppliers and come to an agreement to purchase at a price that is advantageous to the organization.
- 4.6 Take action to expedite the procurement of raw materials after discussing with the Ministry of Health.
- 4.7 Identify and analyze production costs that help control production costs, use a system such as generally accepted standard costs and maintain proper inventory control.
- 4.8 In accordance with section 5.2.1 of SLS 143:1999, design and layout of food production organization should be planned in a manner that ensures the quality of the production.
- 4.9 Proper covering of the entrance between the sections where Anderson machine, drying machine were installed and soybean dehulling machine was installed to minimizes small particles moving to the Anderson and drying machine section and furthermore duly clean the area.

- 4.10 Examine the possibility of using state-of-the-art technology to move corn, soybean and other raw material in the production process of Thriposha instead of the screw which is currently being used.
- 4.11 As stated by Sri Lanka Standard, do wear appropriate and protective clothing when entering to food manufacturing, processing or handling areas
- 4.12 Recruit adequate number of employees in order to carryout continuous production
- 4.13 Identify and analyses production cost which leads to control the cost, using generally accepted costing technique such as standard costing, implementing proper inventory control system.
- 4.14 In case of a defect in a product, a code system should be maintained so that the ingredients used for it, their expiration dates, the parties responsible for the production can be easily identified and the code should be mentioned in the Thriposha packets.
- 4.15 Taking action to maintain the proper composition of the ingredients in the Thriposha in accordance with the international norms regarding the micronutrient content of the Thriposha and to ensure the nutritional composition of the Thriposha by conducting continuous quality tests. Furthermore, by adding nutritional supplements, the nutritional value of Thriposha should be checked in a timely manner and action should be taken to minimize variations in the specifications of the nutrients to be contained.
- 4.16 Continuous monitoring of shipments by Thriposha wagons from Thriposha Limited to the offices of the Director of Health Services, the consignment sent by Thriposha and the consignment received to the offices of the Regional Director of Health Services and the maintenance of related documents.
- 4.17 Strengthening internal control over the distribution of Thriposha and the maintenance of relevant documents in the offices and clinics of the Medical Officer of Health.
- 4.18 Implementing a method of exchanging updated information through the introduction of a small mobile phone program to the parties participating in the manufacturing and

distribution process (Health Center Officers, Family Health Workers, Thriposha Institute Officers, Thriposha Related Officers in the Ministry of Health).

- 4.19 Implementing another special program and providing other nutritional supplements in parallel to this program for malnourished children who have been given Thriposha but have not shown progress.
- 4.20 To provide necessary instructions for the physical safety of Thriposha and to preserve the quality of Thriposha and to store the Thriposha in the offices of the Medical Officer of Health and in the Maternal and Pediatric Clinic in such a manner as not to harm the product during its expiration date.
- 4.21 A storage room should be used to store the normal waste of Thriposha product until it is sold for animal feed. (Inaccessible to pigeons and rats).
- 4.22 Continuous monitoring of shipments by Thriposha wagons from Thriposha Limited to the offices of the Director of Health Services, the consignment sent by Thriposha and the consignment received to the offices of the Regional Director of Health Services and the maintenance of related documents.
- 4.23 Strengthening internal control over the distribution of Thriposha and the maintenance of relevant documents in the offices and clinics of the Medical Officer of Health.
- 4.24 Implementing a method of exchanging updated information through the introduction of a small smart mobile phone program to the parties participating in the manufacturing and distribution process (Health Centre Officers, Family Health Workers, Thriposha limited Officers, Thriposha Related Officers in the Ministry of Health).
- 4.25 Implementing another special program and providing other nutritional supplements in parallel to this program for malnourished children who have been given Thriposha, but have not shown progress.
- 4.26 Halcyon Private Limited, the consulting firm for obtaining ISO 22000 and HACCP quality certifications, has taken action to rectify the activities included in the Initial Gap Report

issued on 15.03.2017 by physically inspecting the Thriposha factory premises. Obtain ISO 22000 and HACCP quality certifications as soon as possible.

Sgd./W.P.C. Wickramaratne Auditor General

W.P.C. Wickramaratne Auditor General

31 December 2020

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Annexure - 01

Achieving production goals

Month			Produ						
	Budgeted			Actual			Difference (Kg)		
	2017	2018	2019	2017	2018	2019	2017	2018	2019
January	1,776,050	1,399,400	2,191,300	1,265,310.00	1,267,289.25	1,234,951.50	510,740.00	132,110.75	956,348.50
February	1 ,851,650	1,520,900	2,288,500	1 ,086,480.00	1,098,433.50	1,094,522.25	765,170.00	422,466.50	1,193,977.75
March	1,927,250	1,585,700	2,482,900	1,332,426 .25	1,375,602.25	1,453,342.25	594,823.75	210,097.75	1,029,557.75
April	1,776,050	1,399,400	2,081,950	1,105,285.50	752,964.50	793,941.75	670,764.50	646,435.50	1,288,008.25
May	2,069,000	1,650,500	2,179,150	1,180,947.25	1,352,572.75	1,238,005.50	888,052.75	297,927.25	941,144.50
June	2,002,850	1,650,500	2,580,100	958,842.75	1,392,517.75	1,258,452.00	1,044,007.25	257,982.25	1,321,648.00
July	2 ,078,450	1,715,300	2,677,300	1,240,005.75	1,380,606.50	1,150,191.50	838,444.25	334,693.50	1,527,108.50
August	2,040,650	1,682,900	2,555,800	1,348,334.00	1,137,908.50	1,505,699.00	692,316.00	544,991.50	1,050,100.00
September	1,993,400	1,707,200	2,555,800	974,120.00	1,359,991.25	-	1,019,280.00	347,208.75	N/A
October	2,059,550	1,707,200	2,555,800	749,471.50	1,426,299.25	-	1,310,078.50	280,900.75	N/A
November	1,993,400	1,642,400	2,373,550	1,372,773.50	1,284,822.50	-	620,626.50	357,577.50	N/A
December	2 ,002,850	1,391,300	2,288,500	855,171.25	694,123.50	-	1,147,678.75	697,176.50	N/A
Total	23,571,150	19,052,700	28,810,650	13,469,167.75	14,523,131.50	9,729,105.75	10,101,982.25	4,529,568.50	9,307,894.25

List of Districts where field inspection was conducted

- 1. Jaffna District
 - Nawalar offices of the Medical Officer of Health
 - Gurunagar- offices of the Medical Officer of Health

2. Vavuniya District

- Rambekulama offices of the Medical Officer of Health
- Puththottam offices of the Medical Officer of Health

3. Colombo District

- Rajagiriya offices of the Medical Officer of Health

4. Gampaha District

- Ja-Ela o offices of the Medical Officer of Health
- Kudahapola offices of the Medical Officer of Health
- Minuwangoda offices of the Medical Officer of Health

5. Galle District

- Iduruwa offices of the Medical Officer of Health
- Ambalangoda offices of the Medical Officer of Health
- Benthota Government Hospital
- Balapitiya Base Hospital

6. Kurunegala District

- Sandalankawa District Hospital
- Pannala offices of the Medical Officer of Health

7. Kaluthara District

- Walallavita offices of the Medical Officer of Health
- Meegahatenna District Hospital
- Pelawatta Estate Hospital

8. Ratnapura District

- Godakawela offices of the Medical Officer of Health
- Pallebedda District Hospital

9. Kandy District

- Galagedara offices of the Medical Officer of Health

General Circulars on Thriposha Distribution and Beneficiary Selection 01-04/2016

23×08 2019 10:34 FAX 0112237363	THRIPOSHA LTD	tn: Dr. Sharthi Gunawardana
		Chunawardana
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Thriposha is a highly nutripregnant & lactating mother nutritional status. Maize, Soy the ingredients of Thriposha. The main objective of the Thof the target group with nutrin meals. To achieve appreciated. Accordingly, plustaff. 1. Selection of Thriposha b 1. All the pregnant m 2. All lactating moth 3. Undernourished cl (a) Children v (b) Children v *Thriposha shou	riposha programme is to ritional deficiencies, whi this programme objecti ease follow the below me eneficiaries tothers ers (during the first six m hildren (from 6 months to whose weight for age lie b with longstanding grow we months in the CHDR) whose weights for height uld be continued for anon nge.	nd, distributed free of charge to hildren, in order to improve their er, vitamin and mineral premix are fulfill the nutritional requirements chare not provided by the routine twe, your co-operation is highly ntioned instructions to educate your months) to five years) below -2SD rth faltering (growth faltering in 3

General Circulars on Thriposha Distribution and Beneficiary Selection 01-04/2016

23/08 2019 10:42 FAX 0112237363 THRIPOSHA LTD 1002 Important: Children whose weight for length/height lies below -3SD should be referred to a
paediatrician for therapeutic foods. Anyone other than the above categories is not considered as Thriposha beneficiaries. The target groups who receive Thriposha as recommended do not need other supplementary food. As Thriposha is only a supplementary food, the beneficiaries should be encouraged to have a nutritious balanced diet (e.g. Main meals, complementary feeding with breast feeding). 2. Thriposha distribution 1. A beneficiary is entitled to 1500g (750g x 2 packets) of Thriposha per month (50 g per day)2. The monthly stock receive to your institution should be properly stored and distributed to the beneficiaries as soon as possible. To avoid spoilage and damage to Thriposha by rats, weevils, termites and other 3. insects, it is necessary to provide clean and secure storage facilities until it is distributed to the beneficiaries: distributed to the beneficiaries.
Thriposha stocks should be issued methodically and old stocks should be issued first. New stocks should not be stored with spoiled or damaged bags. RDHS should be informed regarding the spoiled or damaged Thriposha bags and committee appointed by him should investigate and submit a report. Accordingly filled form General 47, should be sent to Sri Lanka Thriposha limited and obtain the permission from them to discard the stocks.
The monthly Beneficiary and Inventory Report (MBI) should be completed and sent to the Sri Lanka Thriposh Limited before 10th of the following month, in order to receive your next allocation. order to receive your next allocation. Ministry of Health, Nutrition & Indigenous Medicine spends Rs 2500 million annually for the Thriposha programme. Hence, it is your duty and responsibility to implement this programme effectively to reduce the maternal and child malnutrition in Sri Lanka. Dr. P. G. Mahipala Director General of Health Service: Suwasiripaya" 385, Ven. Baddegama Winalewansa Thero Mw. Colombo 10. 385, පූජය නද්දේශන විෂලවංශ කිම් මාවය, කොළඟ 10, 385, සාකයේදුප්රෝම ප්රිද්ධා ක්රියාන නිහකරු දිද්දා හැකද්ද, යොලුනා 10, 385, Rev. Baddegama Wimalawansa Thero Mawatha, Colombo 10

Failure to properly complete the Thriposha Acceptance Report by The Health Medical Center



MBI The actual stock of the **MBI** report and the remaining actual stock are not mentioned in the stock records

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