

AMRUTHAM NUTRIMIX: A CASE STUDY

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ABSTRACT

This study is based on a unique mixture of locally available food grains to produce a health food mix known as Amrutham for children aged between 6 months to 3 years. The production of this product are fructified in collaboration with already established organization Kudumbasree, which actively focuses on diversified programmes including micro financing, special schools for special children, baby food production etc. Kudumbasree has spread its wings in all most all rural areas of Kerala to empower women. Its protein food Amrutham, a take home food supplement that is introduced to improve the nutritional status of children with the active support of the Government of Kerala which helped fight against malnutrition and undernourishment. The malnutrition and undernourishment is prevalent among children from underdeveloped as well as developing countries around the world. This study is concerned on the detailed description of the success and sustainability of producing the Nutrimix Amrutham in one of the units situated at Kayanna village, Kozhikode district.

INTRODUCTION

The Amrutham Nutrimix (Nutrimix and Amrutham are used interchangeably) is a health supplement provided by Kudumbasree that is aimed to satisfy nutritional requirements of the children of Kerala between the ages of six months and three years. It operates under the Take Home Ration Strategy

(THRS) which is a feeding programme through Anganwadis, and the Nutrimix is distributed in the form of Take-Home-Ration (THR).

Integrated Child Development Services (ICDS) programme working under the Social Welfare Department, governs Anganwadi's in India. The Anganwadi programme, started in the year 1995 to cater various requirements of children aged below six years in addition to targeting socially and economically disadvantaged groups. The supply of baby food was carried out by the ICDS. Kudumbashree with the help of Local Self Government (LSG) took this as a pilot project limiting its supply of baby food supplement to 59 ICDS blocks, which was later extended to all the blocks in the state.

Thus, the Amrutham project got off the ground in 2005 when the Central Plantations Crop Research Institute (CPCRI) located in Kasargod provided the formula for the recipe. This formula was accepted by the Social Welfare Department of Kerala after it conducted surveys in three blocks. The CPCRI also provided the women entrepreneurs with the appropriate training to prepare the product.

Further, the Civil Supplies Corporation with active support of the state Government provided critical assistance with proper liaison with the Food Corporation of India (FCI) to supply wheat at subsidised rates to these units. This was essential for their sustenance as the main ingredient in Amrutham Nutrimix is wheat; the cost of the later in the open market is very. In addition, various Banks provided loans needed to buy the machinery and establish various infrastructural facilities.

ICDS: Role and Evolution

The Integrated Child Services (ICDS) is the world's largest Government funded

scheme for infants and young children. It was first started in 1975 in 33 select blocks in India, in accordance with the National Policy on Children.

The Supplementary Nutrition is one of the six services provided under the Integrated Child Development Services (ICDS) Scheme which is primarily designed to bridge the gap between the Recommended Dietary Allowance (FDA) and the Average Daily Intake (ADI). Supplementary Nutrition is given to the children (6 months – 6 years) and pregnant and lactating mothers under the ICDS Scheme.

The impact of the ICDS Scheme on health status was first assessed 21 months after it was implemented, and was reported in Lancet. The project showed early signs of success, the nutritional status of children improved considerably. The prevalence of severe malnutrition decreased from about 22% to 11.2% in rural, 5.5% in tribal and 6.1% in urban projects.

The Government took measures to build upon the early successes that gained the programme international recognition. Two major BTP evaluations were conducted in 1978 and 1982. This prompted the Government to spread the reach of the programme to every state and UT in the country. The states are individually responsible for overseeing implementation of the programme.

The Nutrimix comes under the Take Home ration (THR) strategy, which is a part of the ICDS. It is also tied to the Wheat Based Nutritional Programme (WBNP), which provides required food grains, and is in-turn tied with the ICDS.

NUTRIMIX COMPOSITION

There are five major ingredients in the Amrutham Nutrimix: Wheat, Groundnut, Soyabean, Gram Dal and sugar/jaggery. The Central Plantation

Crops Research Institute (CPRCI) at Kasargod provided the formula based on extensive research conducted into the nutritional needs of infants.

Initially, a nine ingredient recipe was considered. The recipe included seven ayurvedic components. This recipe had to be abandoned as it was considered too complicated. The composition of the mixture is tested and adjusted periodically based on nutritional requirements. The last such change was in 2015.

PRODUCTION AND DISTRIBUTION

The Nutrimix is produced in the Kayanna production unit consisting of Roaster, grinding machine, sealing and packing units as shown in Exhibit 1.

The cost of production and distribution of the Nutrimix is fully sponsored by the Government. At present, the Government pays Rs. 56/- for each kilogram of product produced. It is compulsory for a portion of money to be set apart for Nutrimix production in the state Government's budget.

The product is distributed in packets weighing 500 gram each. It is meant for children of ages between six months and three years. Every child gets 2.5 kg of Nutrimix a month, a quantity calculated in accordance with the nutritional requirements of the children. This quantity was 3.6 kg per child before this was changed in 2015, when the composition of the mixture was adjusted.

The product is distributed via the anganwadis. Several anganwadis taken together are under a single Integrated Child Development Services (ICDS) unit, which acts as a monitoring agency. This is under supervision of a Child Development Programme Office (CPRO) unit, which leads up to the District

Programme Office and the Kudumbasree District Mission.

The product is distributed on a month-by-month basis. Every month, an “intent” is raised by the ICDS based on the number of children registered by the anganwadis who are eligible for THR. Orders are sent by the tenth of every month. The factories are to manufacture the Nutrimix by the Twenty Fifth of the month. It is then dispatched to the ICDS unit by the end of the month, which is subsequently distributed to the anganwadis, which distribute them to the children who are eligible.

CURRENT STATE

Kudumbasree has had significant success in its aim of providing nutrition to infants from poor families. Today there are 368 units in Kerala that manufacture the Nutrimix, which are distributed to the children through more than 3200 anganwadis.

Every two years, a Performance Improvisation Programme is run by Kudumbasree State Mission to oversee performance concerns and improve efficiency whenever possible.

KAYANNA UNIT

The Kayanna unit is located in the district of Kozhikode, at a distance of around 30 kilometres from the main city. It is one of the 36 such units in Kozhikode district. It was founded in 2004.

It was Mr Sathyan who came forward to lead the management of the Kayanna unit. Initially there were ten women came forward, but unfortunately one of the women had to quit her job soon after due to an illness caused by an

allergy. The women joined were all housewives looking for additional means to support their families but did not have the educational qualifications to seek out jobs that required specialized skills. Of the women employed, the leader of the group was the only one who had a graduation degree; the remaining eight women are under-matriculates.

Prior to the actual setting up of the unit, all the women workers had to undergo a training program that train them how to operate the machinery and prepare the Nutrimix. The program was one week long. Every two years, the women attend additional training on how to improve their performance.

With the exception of one woman who had to leave due to her allergy, all of the remaining nine women are still employed to this date. Five of the women are now over 60 years old, whereas the remaining four are between 50 and 60 years in age. Working together for more than ten years has developed a deep bonds of friendship between them, and all of them speak of their jobs with great satisfaction.

All these Nutrimix production units are functioning on an owner-worker philosophy, where they decide themselves on the amount to be paid to each of them. That means they pay wages to themselves. In the Kayanna Amrutham unit, the wages for the women when they started working initially was 30 rupees a day. This increased to 50 rupees a day in 2005, and gradually to 250 rupees a day, the amount which they currently receive. The table below lists the wages of the workers and how that changed over time:

Year	2004	2005	2009	2010	2012	2013-2016
Wage (per day in Rs)	30	50	100	100	200	250

The women work from 9:30 am till 5:00 pm from Monday to Saturday. Sundays are holidays.

INITIAL INVESTMENT

The initial cost of the project was Rs. 2 lakhs. The government subsidized 50% of this amount. The Service Co-operative Bank loaned Rs. 45,000 for the project, which is 45% of the initial cost. The nine workers in the unit chipped in the remaining 5% of the cost as an investment or 'beneficiary' contribution. The initial loan had a five year repayment time; it has been fully paid. During the initial period they were producing the Nutrimix Amritham through external agencies.

The unit has recently borrowed Rs. 16 lakhs from Canara Bank to expand its business with their own infrastructure. This loan amount is being repaid at a monthly basis at the rate of Rs. 20,000 per month.

The initial investment of Rs 2 lakh was used to rent the premise, purchase the Blender and start up the project.

FURTHER INVESTMENTS

In 2007, another sum of Rs 2 lakh was loaned, this time from the Federal Bank. An extra Rs 35,000 was added to this sum from the profits of earlier investments, and the building was purchased for Rs 2.35 lakhs. This came up to 4.7 cents of land and a building with three rooms.

In 2013, Rs 16 lakh was borrowed from Canara bank. A first floor was added to the existing building. The area added was 1250 square feet, and the construction cost of the first floor was Rs 8.75 lakhs. Together, the ground floor and first floor made up 2500 sq feet of area. The loan amount is being paid back at a monthly installments of Rs 20,000 per month.

The unit has very recently borrowed Rs 16 lakh from Canara Bank. This is to renovate the building so that it can meet the requirements to obtain a HACCP certificate. HACCP (Hazard Analysis Critical Control Point) is a preventative food safety management system in which every step in the manufacture, storage and distribution of a food product is analyzed for microbiological, physical and chemical hazards.

The blender and Sifter were provided for free by district panchayat. The blender was covered in the initial investment. All other machines were purchased later off profits from earlier investments.

MACHINERY

The cost of each of the machineries installed for producing the Amrutham from the mixture of the food grains is illustrated in the table below:

Machine	Cost (in Rs)	Machine	Cost (in Rs)
Pulveriser	55,000	Furnishing	2,00,000
Roaster	60,000	Cooling Tray	20,000
Blender	1,000,000	Packing machine	1,500
Sifter	45,000	Electrification	20,000
Band Sealer	30,000	Weighing Balance	6000

PRODUCTION AND REVENUE GENERATION

The Amrutham Nutrimix is produced as per the premix formula and supplied to the anganwadis through ICDS. The ICDS provides a certain fixed amount of money for each kilogram of Nutrimix produced. The current amount paid is Rs 56/kg, but this has changed over the years, as shown in the Table. The actual production cost varies depending on the price of the various ingredients of the recipe, most of which is purchased locally and whose process vary seasonally. Any money left over after costs of production, operating costs, worker salaries etc. have been paid, turns out to be the profit for the unit. In the Kayanna nutrimix unit, the profit earned is calculated at the end of each financial year and is equally divided among the nine women. Thus, each women involved there at the end of the financial year receive their profit share which is in addition to the wages they received every month toward their services to this Nutrimix unit.

Year	2004-2006	2007-2010	2011-2016
Price/kg (in Rs)	35	40	56

The quantity of Amrutham supplied over the years by the Kayanna unit is depicted in Exhibit 2. The revenue generated depends on the quantity produced, which in turn depends upon the demand raised by the ICDS. The demand and supply was met almost all cases. The profitability of this unit

depends on the procuring costs of all the ingredients, which is mostly market dependent. The revenue generated during part of 2009 till 2015 is shown in Exhibit 3.

The bill for recovering the costs of Amrutham is generally raised by the Twenty fifth of every month. According to Government regulations, the money is to be paid by the ICDS within 48 hours of the bill being raised. There have been occasional delays in the payment; the maximum period of delay has been four months. This creates lot many financial problems for these units, which need to be addressed at the Government level.

MAINTAINING QUALITY

Every month before the product is sent to the anganwadis for distribution, normally the government supported laboratories are used to conduct sample quality tests. An external inspector examines the product and declares whether or not it meets the required standards. Regular health inspections are also conducted to ensure that all the units meet the hygiene standards set up by the Kudumbasree State Mission.

FUTURE EXPANSION PLANS

There are plans to expand the business by selling certain Amrutham based Value added Products. Pedas and biscuits are two such items on the list. The main challenge to this venture currently is the lack of funds to construct adequate storing facilities.

An immediate plan, for which money has already been loaned, is the renovation of the building so as to obtain a certificate from the HACCP. The renovation is currently going as per schedule.

CHALLENGES

The challenges faced by the Kayanna unit are mostly related to the availability of funds. Delays in payment are not uncommon. The units are supposed to be paid within 3 days of raising the bill as per Government regulations, yet delays of up to four months occur.

The rising prices of raw materials is probably the biggest challenge. The prices have risen approximately 156% in the last 10 years since the FCI first started selling wheat for the purposes of this project. Yet the increase in money paid by the Government is a mere 60%: the sum has risen from Rs 35 per kg of Nutrimix produced in 2005 to Rs 56 per kg of Nutrimix produced in 2016. Unfortunately, it is inadequate to offset the increase in production costs, which means that the unit is currently operating at a loss.

The Government has made note of this problem and is taking steps to rectify it. One plan that is not yet implemented is that the FCI will provide wheat at Rs. 2/kg, down from Rs 4.15/kg, which is the current price. The Government is also planning to increase the amount paid per kg of Nutrimix from Rs 56/kg to Rs 65/kg.

CONCLUSION

This study shows the massive effort undertaken by Kudumbashree and the Government of Kerala to ensure adequate nutrition for children who would be unable to gain nutrition otherwise. It describes an inspiring story of the journey performed by nine women of a village Kayanna in Kozhikode district to establish a self-sufficient, independent production unit for producing the unique protein food Nutrimix Amrutham, with active support of the Government of Kerala through Kudumbashree. This shows, how these women in spite of their limited educational background able to earn a respectable position in the society and able to support their family to have a better life. This story will inspire many other common women in our country to start their venture collaboratively, which is already been pursued by Kudumbashree.

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Exhibit 1: Amrutham Production Unit at Kayanna

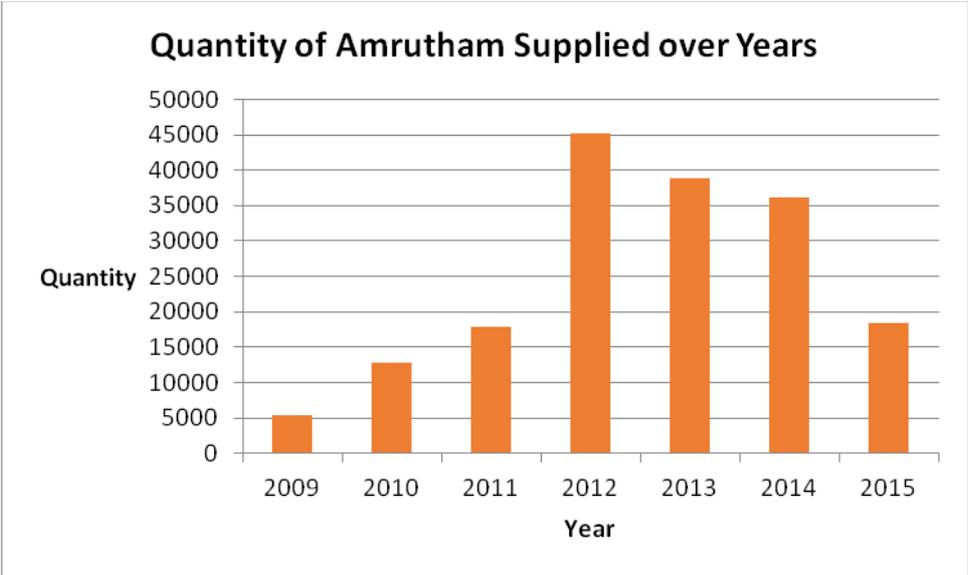


Exhibit 2: Quantity of Amrutham Produced over Years

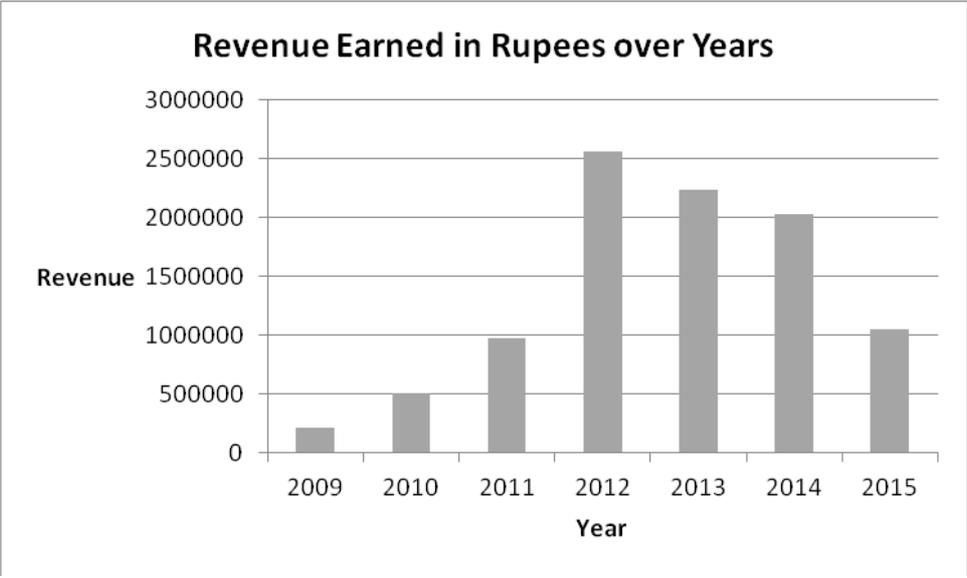


Exhibit 3: Revenue Earned over Years