

Akshaya Patra Model: Feeding Knowledge Hungry Children

While today, he was ready to serve 1.4 million meals for schoolchildren, Mr. CC Das, Program Director, Akshaya Patra Foundation from Bangalore also faced the challenges 15-years before its establishment like any other start-up. Similar was the case of Mr. Trilok Gautam, Executive Supervisor, who was working in a remote village called Baran in Rajasthan. On his visit during the mid-day meal preparation, he was inspecting the quality of meal, where women were busy in preparing food. They were preparing bread by rolling the dough, while few were chopping vegetables with utmost hygienic care. Cleaner, safer, quality meal was to be prepared and served for 1,500 poor students. These children earlier used to go hungry from the school.

On November 28th 2001, Supreme Court of India gave a verdict and directed the State Government and Union Territories to provide mid-day meal to every child in Government and Government-assisted primary schools. The Right to Food Law emerged as a fundamental right, enforced due to constitutional amendment under Article 32 of the constitution.

Hence, every State Government geared up to make the mid-day meal scheme successful in their respective States. The Karnataka government also participated and named this programme as 'Akshara Dashoha'.

Government of Karnataka took the pioneering step to involve NGOs like Akshaya Patra as an important partner of the government to run this innovative mid-day meal scheme under the Public Private Partnership (PPP) Model.

Presently, Indian mid-day meal scheme considered as one of the largest mid-day meal programme in the world has a target to reach out nearly 120 million children in the country.

This Case Study was written by Dr. Nitin C Mali, YCSR, Shivaji University, Kolhapur. It is intended to be used as the basis for classroom discussion rather than to illustrate either effective or ineffective handling of a management situation. The case study was compiled from published sources.

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Mid-Day Meal in India – History

The ideology of mid-day meal has long-standing history in India. Madras corporation area decided to initiate mid-day meal scheme way back in 1925 for the underprivileged poor, landless children from diverse socio-economic background.

Further, in 1928, Keshav Academy of Kolkata started compulsory mid-day tiffin for school students on payment of 25 paise each child per month. Similarly, in 1941 some regions of Kerala also introduced school lunch scheme.

Furthermore, in 1942, Bombay (Mumbai) witnessed the launch of the mid-day meal scheme. In 1946, Bangalore (Bengaluru) started its mid-day meal programme, by serving rice and curd.

Joining these places UP Government also commenced the mid-day meal scheme with voluntary participation to serve meals that were boiled/roasted sprouted grams, groundnut, boiled potatoes, puffed rice or seasonal fruits.

In the 1950's with the help of various international agencies like – UNICEF, FAO and WHO different States collaborated to launch the mid-day meal scheme. Various international organizations offered voluntary services and charitable trusts like Catholic Relief Services (CRS) church world service, CARE, Meals for millions from United States of America collaborated and provided assistance to launch the mid-day meal scheme.

Expanded Nutrition Programme was promoted collectively by FAO, WHO, UNICEF and Government of India, which was culminated into Applied Nutrition Programme (ANP).

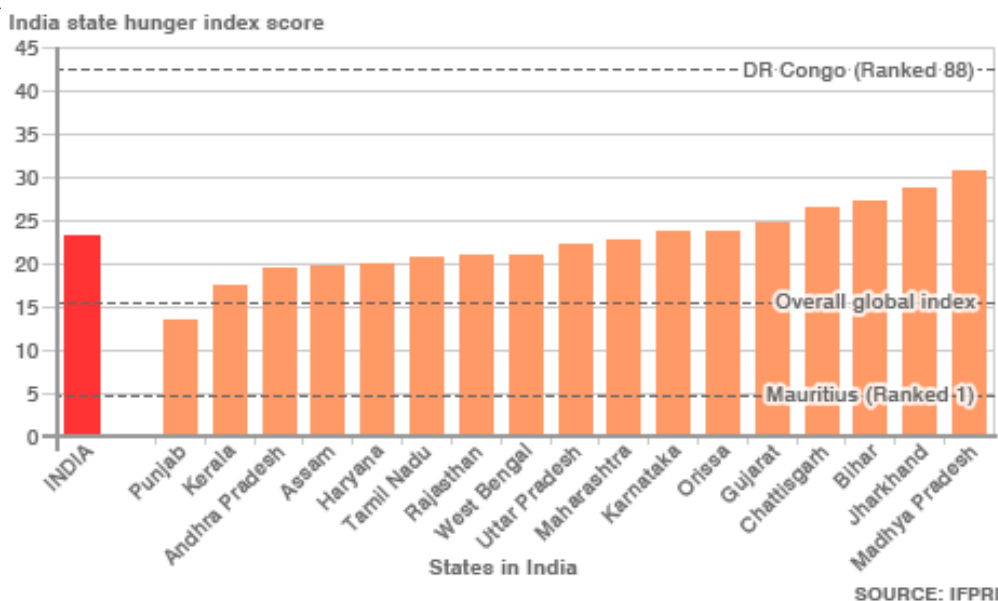
Worse Score Card

International Food Policy Research Institute (IFPRI) Germany headquartered firm Welthungerhilfe along with University of California studied and published the World Hunger Index. These organizations have analyzed the hunger on three parameters, which measured child malnutrition rate, mortality rate of children and number of calorie deficient persons in the world.

It was found that Madhya Pradesh had a major problem in child nutrition, which was similar to the South African countries – Ethiopia and Chad. Furthermore, it also reported that more than 200 million children were deprived of food. Studies also mention that India ranks as the 66th country out of 88 countries in the world as per global rankings on the Hunger Index 2008.

As per USAID Poverty Index India ranks highest, i.e., more than 300 million people suffer from the chronic poverty. This number is even higher than the entire malnutrition population put together in Africa and Latin America. Despite the largest mid-day meal schemes in the world, India has failed in its efforts to combat poverty, to feed the poor landless population and reach out to the most deprived and neglected part of society. There are two major problems before India i.e., hunger and illiteracy. A recent World Bank study depicts chronic problem of child malnutrition amongst the Indian children. It is estimated that around 60 million children in India are underweight. UNICEF reports that more than 80 million children are underweight in India.

Exhibit I: World Hunger Index - How India Compares



Source: BBC News, October 14th 2008 (access date: February 18th 2012)

Role of Akshaya Patra Foundation

The Akshaya Patra Foundation started its mid-day meal programme in June 2000 by providing free mid-day meals to 1,500 children in five government schools in Bangalore, Karnataka. Since 2000, the organization has worked towards reaching more children with wholesome food on every single school day.

Today Akshaya Patra feeds free mid-day meals to over 1.4 million school students in 10,661 government schools and aided schools across 10 States in India. Akshaya Patra has also ranked 23rd NGO amongst Top 100 NGOs of the world reported a global journal.

The Akshaya Patra Foundation is a not-for-profit organisation headquartered in Bangalore, India. The organisation strives to fight issues like hunger and malnutrition in India by implementing the mid-day meal Scheme in the Government schools and Government aided schools. Akshaya Patra means “*Inexhaustible bowl of food*” and aims to fight not only hunger but also to bring children to school and there by provide food for education. Objective of Akshaya Patra is “*No child in India shall be deprived of education because of hunger.*”

The state government is partner with NGO’s like the Akshaya Patra foundation to implement the mid-day meal programme in order to increase the number of children they reach out. This Public and Private Partnership (PPP) has proved instrumental in improving the quality and reach of the programme. There are many facets, which the government considers when selecting a non-profit to collaborate with:

- Such organizations must be transparent and of proven integrity like the NGO’s should not discriminate in any manner on the basis of religion caste and creed
- The voluntary agency should be registered under society’s registration act or public trust act and should have existence for a minimum period of two years

- It will furnish to the body assigning the work to it
- An annual report along with audited statement of accounts in terms of all grants received from the state government, both in cash and kind, duly certified by an approved chartered accountant

Research shows that universal education has lagged because of the prevailing hunger and malnutrition. These two factors reduce school enrolments, hamper performance levels and increase school dropout rates especially among girls. Akshaya Patra is focused on eliminating classroom hunger and attracting more children (enrolment) to schools and ensure schooling (reduce dropout rate) by feeding a nutritious mid-day meal on every school day. Similarly, hygiene and cleanliness is of utmost importance in each of Akshaya Patra kitchen which is recognised by National Steering cum Monitoring Committee (NSMC).

Growth Model

Akshaya Patra started midday meal catering to 1500 students in five schools in Bangalore. Within six months of starting the program, it had requests from 3,000 schools, Foundation soon scaled up to feed 30,000 children. With government financial support by April 2003, it was feeding 43,000 children daily. With rapid growth in both urban and rural areas, Akshaya Patra foundation had expanded to each day feed 5,67,622 children in 2,000 schools in ten locations in India by March 2007.

Ajay Parikh, Executive Director of Strategy for The Akshaya Patra Foundation (TAPF) says that, “Our goal is to provide meals to five million children by 2020. We have grown our operations very fast and have been successful. However, we need to introspect to decide if continuing with the same methodologies and kitchen models will help us achieve this goal as we expand further and go to new locations. We also need to see how we can optimize our current operations to feed more children from our existing locations.”

Managing Funds Cost Effectively

Akshaya Patra was funded through a combination of government subsidies and private donations (Exhibit II).

Exhibit II: Donations Received					
Sr. No.	Rice/wheat (in Kilograms)	Amount (in INR)	Class	Exemption	Organization
1.	2.6 per child	Nil	1-7 th	Excise duty	Central Government
2.	Nil	-1.31-per student	1-7 th	Nil	State Government of Karnataka
3.	Nil	-1.00-per student	1-5 th	Nil	State Government of Uttar Pradesh
4.	Nil	-1.50-per student	1-5 th	Sales & road Tax	State Government of Rajasthan
5.	Nil	-1.65-per student	1-5 th	Sales Tax	State Government of Orissa
6.	Nil	-3-per student	1-5 th	Nil	State Government of Andhra Pradesh

Source: www.Akshaypatrafoundation.com

The cost of providing hygienic meals comes to INR4.50 per child. The difference of the amount and the cost of running the kitchens are raised through donations. Since it is an independent and secular foundation and not a religious trust, the donations are subjected to 100% tax exemption under section 35 AC/80GGA (bb) of the Indian tax code. The remainder of the funding is obtained by corporate and individual donor contributions. By March 2007, there were over 16,000 private donors. With the blend of centralized and decentralized kitchens, the cost is a little higher to arrive at economies of scale as transportation cost increases due to poor infrastructure and roads in rural regions.

Locating Perfect

The main backbone system for success of Akshaya Patra foundation is its kitchen. This operates in two modes centralized and decentralized kitchens. While selecting the urban schools the centralized kitchen is more beneficial as delivery of food to these nearby schools become very easy. On the contrary, while selecting the schools in the rural area time and distance play very important role. Akshaya Patra Foundation, which provides mid-day meals to around 1.4 million school students within India, deals with this challenge. Basic need of that region is a prime concern and location is other important reason in selecting it.

Through their Vasanthapura kitchen in Bangalore, about 1,20,000 school children from around 700 schools in South Bangalore are served with mid-day meals. Delivering best quality food at lowest price is one of the hurdles faced by Akshaya Patra. The Vasanthapura kitchen uses 35 vehicles to distribute the cooked food. To minimise the cost of distribution, they have to solve a complex Vehicle Routing Problem (VRP). To simplify this problem, they divide the number of schools equally among the vehicles; each vehicle would then have to deliver food to 20 schools. For every vehicle, they need to find the best route. Because for Akshaya Patra, every rupee saved would help them to add more children to their midday meal programme.

Delivering in Time

Various modern Methods like Logistic charting for route optimisation, GPRS to track the location of vehicles for safer and on time delivery are gradually being adopted and implemented by the foundation. It also faced difficulties in the transportation of goods. For example when trained delivery trucks would be blocked in mud in rainy season for up to three days in remote and rural areas. Due to lack of electricity and refrigeration, Spoilage and wastage of vegetables was a problem. Although the chief cook usually use to go to the weekly *haat* market to procure vegetables, organization always felt the need to train women to buy carrots, potatoes and other vegetables having longer shelf lives.

A True Learning Organization

Since its early development occurred largely through trial-and-error, a culture of constant improvement and learning was adopted throughout the organization, which affected everything from kitchen design to delivery of service. “Earlier we did try to give them sambhar but the children were unhappy and said *dal khatti (sour) ya kharab ho gayi hai*; so now *dal* and *kadhi* is offered once a week said Mr.Das. Similarly, at the Kanyapur Madhyamik Vidyalaya, Asha Sharma, the Principal, said when I met Class VIII, where about 25 bright-eyed girls were eager to give her, their feedback on the Akshaya Patra food. *Khichdi* is clearly their favorite food, followed by *roti*; *dal* and now this would be a challenge for Mr.Das in the APF kitchens in the South. Sweet *pongal*, is the weekly dessert, but in UP the children did not have much of a liking for this *meethi khichdi* and rice. However, they are sure of one thing; they do not like the *kheer*.

Akshaya Patra prepares nutritious meals that suit the local palate i.e., in Northern parts it serves *rotis* and in Southern part it serves rice. Akshaya Patra faced a challenge, as it now needed a machine that would roll out 40,000 *rotis* an hour. The Foundation approached Tortilla manufacturers in the US and Holland with their consultation the kitchen acquired its current *roti* maker. A giant lump of *atta* is fed at the top, which is spread by the rollers into a thin, flat, fabric like sheet, from which round-shaped *rotis* are cut and passed through the oven with LPG burners. After one side is cooked, the *rotis* are automatically flipped to cook the other side and then fall onto a *jaali*-like surface where they puff up, as in millions of Indian homes. In the next step, oil is sprayed on the *roti* to prevent their sticking together; pair of hand gloves touches *roti* only during packing. The wasted dough goes back to the machine to make more *rotis*.

Blending it Right: Centralized and Decentralized Kitchen Model

Centralized kitchens have the capacity to cook between 50,000 and 1,50,000 meals daily thus it helps achieving economies of scale. Cooking takes place in mechanized steam heated cauldrons that are specially designed to reduce the cooking time. The foundation has its biggest kitchen located in Hubli Dharwad with a capacity to cook for 1,85,000 students in less than five hours. The organization purchases its food stocks from local markets, thereby reducing costs incurred on transportation and food spoilage.

Decentralized kitchen model is one where all the cooking activities of a school are conducted in an area close to the school itself. Decentralised kitchens are set up in remote areas of the country where difficult location makes setting up of large infrastructure feasible. In such areas, Akshaya Patra representatives identify self-help groups (women group) who carry out the cooking process. They are trained and educated to prepare the meals in a healthy hygienic manner and are provided with all the raw materials and infrastructure required for cooking.

Managing Supply Chain

The daily lunch provided by the Foundation include – rice, lentils, vegetables, spices, and curds. The raw materials used for preparing mid-day meal can be classified into subsidized and non-subsidized. Government-subsidized food grains such as rice and fortified *Atta* form the major portion of the meal. Non-subsidized food can further be classified into two types: groceries such as *moong dal*, oil and vegetables such as tomatoes.

TAPF deals with three types of raw materials: subsidized- dry food grains, non-subsidized- dry food grains, and green foods such as vegetables. A lot of time and cost is spent in cleaning (rice-cleaning machine) the subsidized dry food grains such as rice, which not only increases the cost but also reduces the quantity. Around 3,500-4,000 tonnes of curd is received and consumed every day.

For improving the system, the following steps could be useful:

Steps in Supply Chain

- Food grains supply
- Cleaned rice stored for month: silo lifted up via bucket elevators
- Cleaned rice lifted to third floor into day: silo via bucket elevators
- Computer controlled flow valve

- Pre-processing cleaning rice, *dal*, vegetable-cutting, etc.
- Cooking of rice and sambhar happens on this floor, Packaging and loading

Technology Food

The kitchen from inside is very gigantic, consist of rice cauldrons(vessels) each of which cooks up to 110 kg of rice in 20 minutes. Similarly, *Sambhar* cauldrons cook up to 1200 litres of *sambhar* in two hours. Rice is emptied down from the steam-heated cauldrons for cooking. The entire cooking process is conducted on the first floor. Super-heated steam is used for cooking the food instead of flame. When cooking is finished, it is loaded into trolleys, and then the cooked rice is sent down through the pipe to the ground floor. It moves down through the pipe into containers.

Managing Human Resource challenges

Akshaya Patra foundation used to employ self-help group of four to six village women to cook the mid-day meal. Foundation has trained these women about cooking, nutrition, hygiene standards, maintaining accounts, inventory and different activities to empower them. Each village kitchen consists of one head cook on rotation who was responsible for purchasing vegetables, firewood and supervising the daily operations. She earned INR50 for three hours per day while the other women earned INR1000 per month.

Contradictory to the scenario it was also observed that young managers from IIM Bangalore, social service as important aspect in their career over salary, were also interested to work with Akshaya Patra. “Our employees are adapting to change,” says Venkatachalan B. General Manager-Human Resources, Akshaya Patra Foundation. The entire team is dynamically changing from traditional pen and paper culture to digital driven and paperless organization by using computers, ERP processes, which has enabled to widen the horizons and ability to think innovatively.

Akshaya Patra promotes *best HR practices to retain the talent*. It offers the wages as per the minimum wages in the respective states or as per the central government policy i.e., INR4,266 per month. Similarly it offers average salary of INR7,925, median salary of INR5,370 per month to the highest salary at par with other corporates for managerial positions in the country. The Foundation adheres to various statutory laws such as the Employee State Insurance Act 1948, Employees Provident Fund and Miscellaneous Provisions Act, 1952 and the Payment of Gratuity Act, 1972.

Quality and Nutrition of Mid-Day Meal

Every meal prepared by Akshaya Patra is of 500 calories, whereas nutrition experts recommend more than the 350-400 calories. Quality and safety of the food are the prime requirements at each stage of the Akshaya Patra kitchen. To improve the quality standards, advanced projects like *kaizen* and 5's' have been undertaken in different locations. Employee health, safety and increased, hygiene standards are rigorously maintained. Automization also helps Akshaya Patra to maintain very high hygiene standards. Where there is very less human touch in the cooking activity. Food is cooked in steam-heated cauldrons, packed in stainless steel containers and transported to various schools in specially designed vehicles. Akshaya Patra foundation focuses to ensure that children not only have access to unlimited food for education but at the same time they provide nutritious food quality by constant feedback, evaluation and implementation of best practices like *kaizen*, *six sigma* methodologies to enhance the quality. All the kitchens have well trained Cooks and

Production Supervisors that manage and supervise the production. Critical Control Points (CCPs) like cooking temperature are checked and recorded at periodic intervals, to monitor the quality of the meal. Quality officers ensure that food quality is maintained by periodic quality checks.

Extension Services

Foundation conducts various other feeding programmes for *Anganwadi* children, relief for disaster, feeding the expecting, lactating mothers, and old age homes, runaway, homeless and subsidised lunch for economically backward class of society.

Akshaya Patra also undertakes various social responsibilities like private tuitions community health camps, health check-ups, skill development programmes, coaching for scholarships.

Mid-Day Meal Little Bus

The blue school buses having pictures of children on it, which moves across 23 locations in 10 states that are donated by different organizations are encouraging the children. It creates assurance of food, Happiness, dream of better future and cherishing moments. These buses carry meals to 1,06,661 schools within the country.

The bus is uniquely designed to serve the food that is packed in stainless steel of 304 grade vessels, which maintains the food hot and fresh for longer period. Due care is taken of every vehicle by sterilisation before the process.

Many students have benefited from the Akshaya Patra mid-day meal programme various beneficiaries are now pursuing their PHD's Higher education and involved in research activities. Few are working in civil services. Meghashree one of the beneficiary of Akshaya Patra delightedly expressed her feelings and said “Mother goes out from the home early as six ‘o’clock in the morning and is busy till six p.m. in the evening she doesn’t have time to cook hence was not able to join the school earlier. But now my siblings and I have the mid-day meal at school that is tasty and nutritious”.

Footprint and Global Impression

Many researches reflect that mid-day meals help to improve better health among children leading to better cognitive social and emotional development among children. There is significant increase in enrolment and retention of children in school with increased attendance.

Former US President Bill Clinton along with 25 delegates visited Akshaya Patra Foundation on 16th July 2014. The kitchen is the part of Clinton global initiative (CGI) which is funded with \$7 million dollars to develop the Akshaya Patra foundations mid-day meal programme.

Looking to the extraordinary work undertaken former US President Clinton said, “I want to thank all the students and teachers for the warm welcome. Cooking and distribution of food is a commendable effort and this is a remarkable partnership between government and private sector and NGO. Such a huge quantity of food prepared and served in efficient, healthy and sanitary manner is unbelievable”.

US President Barack Obama during his first visit to New Delhi expressed that Akshaya Patra has “powerfully demonstrated of what’s possible when people work together” it today runs on a unique public-private partnership model, with 65% of its funds provided by the government.

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