

# *Samriddhii: Redesigning the Vegetable Supply Chain in Bihar*<sup>1</sup>

**Bhawna Anjaly and Vaibhav Bhamoriya**

## **Introduction**

"Samriddhii is a social initiative aimed at achieving the economic independence of the marginalized vegetable and fruit-growing farmers in Bihar. The purpose of Samriddhii is accomplished by re-engineering the (vegetable and fruit) supply chain by directly connecting the market place and the producers. Once the business model is established, Samriddhii is capable of creating livelihood opportunities to ensure economic empowerment of hitherto marginalized farmers in Bihar and in India". Kaushlendra Kumar, Founder and Managing Director of Knids Green Pvt. Ltd.

"We started our journey in January 2008, with a small outlet and a unique concept of selling vegetables through branded refrigerated push carts under the brand name of Samriddhii™." Kaushlendra Kumar, the Founder and Managing Director of Knids Green Pvt Ltd., a struggling start up, said with confidence.

According to Kaushlendra Kumar, "In the first three months of our operation in (2007-08), we crossed a turnover of Rs. 7,50,000. This increased to Rs. 85,50,000 in 2008-09. The turnover in 2009-10 was Rs. 2 Crores. In 2010-11 Samriddhii's projected a turnover of Rs. 4 Crores".

The sense of satisfaction and achievement in the voice of Kaushlendra was evident. He was reminded of the sunny day in 2007 when he was awarded an academic prize of Rs. 25,000 (roughly US\$550) for topping Post Graduate Programme in Agribusiness

in Management (PGP-ABM) 2007 batch in Indian Institute of Management Ahmedabad (IIMA).

To the surprise of many fellow participants, Kaushlendra declined several professional job opportunities made to him. Kaushlendra spent his entire prize money and the next few months in travelling extensively in villages of Bihar to explore how his vision of empowering poor marginal vegetable and fruit growing farmers of Bihar can be transformed into a reality. Kaushlendra could now recollect with confidence more than three years of his struggle in financially empowering the marginal farmers of Bihar (including resource poor vegetable growers, vegetable vendors, and farm laborers) and help them to face the future challenges in the emerging (global) economic environment in India.

## **Kaushalya Foundation - A Socio-Economic Initiative**

Unlike most of his fellow participants in IIMA who preferred status conscious jobs with attractive compensation, Kaushlendra desired to do something extraordinary for the people of his state, and in general to the poor farmers of his country.

In 2007, Kaushalya Foundation<sup>2</sup> (KF), a non-government, non-profit organization, was created by Kaushlendra in the name of his mother Kaushalya, to address managerial issues related to poverty elevation by working closely with the people at the grassroots level.

Specific goals and objectives of the Foundation included:

- Organizing and professionalizing small and marginal farmers towards market oriented farming activities
- Organizing and professionalizing street vendors

2. <http://www.kaushalyafoundation.org/>

1. This is a revised and enlarged version of the case prepared by Bhawna Anjaly and Vaibhav Bhamoria on the same topic. The revised version was prepared by Dr. M Ashraf Rizvi, Associate Professor, Indian Institute of Management Indore in cooperation with Dr. N.Ravichandran, Director, IIM Indore. IIM Indore cases are developed solely as the basis for class discussion. Cases are not intended to serve as endorsements, sources of primary data, or illustrations of effective or ineffective management.

and linking them to the main stream economic activities of the society

- Economic empowerment of street vendors and vegetable growers
- Connecting street vendors and growers to the main-stream market operations
- Generating livelihood opportunities, and creating market space for the poor farmers to provide them an identity and hence life with dignity
- Providing a broad range of social security measures and financial services to vegetable vendors and growers of Bihar state.

To enable poor and under-privileged members of the society, KF collaborated extensively with government institutions, financial institutions, market institutions, voluntary organisations, academic institutions, and research bodies working in the broad area of agriculture. All these interactions convinced Kaushlendra that some new innovative initiative is needed as a vehicle for KF to accomplish its goals and objectives. This resulted in the formulation of 'Samriddhi' on December 13, 2007

Samriddhi was a comprehensive vegetable supply chain system aimed to eliminate all intermediaries and middlemen in the existing distribution system and, therefore, benefit both the marginal (and usually poor) farmers as well as vendors. The purpose of this initiative was to re-engineer the value chain of vegetable production and distribution by organizing and mobilizing the informal and fragmented vegetable market segments and supply sources of Bihar. Samriddhi was positioned and developed as a brand that stood for fresh and high quality vegetables grown by farmers in the (holy) river Ganges' soil.

### **Kaushlendra Kumar - A Social Entrepreneur**

Kaushlendra grew up in a family of three children in a village, 58 kilometers South East of Patna, the capital of Bihar, one of the three most populous states in India. His mother taught in a local school. His father farmed pulses, grains, and vegetables. Kaushlendra was sent to a government-run boarding school far away from home when he was merely eleven years old. He desired to stay at his home and be close to his family. But he was sent away to a

boarding school because his parents felt that quality education (and hence a prosperous life) was more important than living together with family.

Kaushlendra went to Gujarat for his studies where he excelled academically. He spent 10 years (11-21 years of age) in Gujarat pursuing his studies. But he could never disassociate himself emotionally from the sufferings of the poor marginalised farmers of his state. While studying engineering in Gujarat, he admired the prosperity of Gujarat farmers. The link, as he saw it, was that despite a more inhospitable environment, Gujarat farmers were connected to the market, and there was always someone to buy and sell what they grew. The situation in his native state Bihar was, however, fundamentally different.

When Kaushlendra decided to do something to make a positive change in Bihar, many were skeptical about his plans for transforming Bihar's agricultural sector. Locals gossiped that he had crushed his family's dreams and would have no way and means to repay them for all that they had invested in his education. For Kaushlendra, starting a venture of his own to help the poor farmers of his region was far more important than getting a lucrative job and making only his family prosperous.

### **Economic Status of Farmers in Bihar**

Although the state of Bihar is blanketed with fertile ground and fed with abundant number of rivers and streams, it continued to remain as one of the poorest states in India. It is the 12<sup>th</sup> largest state in India in terms of geographical size at 38,202 sq mi (94,163 km<sup>2</sup>) and 3<sup>rd</sup> largest by population with 103,804,637 (Males: 54,185,347; Females: 49,619,290)<sup>3</sup>. Close to 85% of its population lived in villages. Bihar is located mid-way between West Bengal in the east and Uttar Pradesh in the west. It is bounded by the country of Nepal to the north and by Jharkhand to the south (Exhibit 2).

The Bihar plain is divided into two parts by the river Ganges which flowed through the middle of Bihar

3. [http://www.brandbihar.com/english/bihar\\_census\\_2011.html](http://www.brandbihar.com/english/bihar_census_2011.html)

from west to east. Bihar has a notified forest area of 6,764.14 km<sup>2</sup>, which is 6.8% of its geographical area. The landscape is lush and the population is dense. However, the agricultural productivity is low. The farmers are overexploited. Majority of the farmers working in the cultivated areas did not own the land on which they toiled. As the land ownership remained with the landlords on paper, the poor farmers could never avail government subsidies and other benefits meant for them. As a result, the number of such small, marginal, and landless farmers continued to increase, and the exploitative practices continued unabated.

The poor farmers of Bihar are, thus, caught in a perpetual poverty trap. Factors such as the nature of farm tenancy, rising cost of cultivation, falling prices of farm commodities, scarcity of farming resources, inadequate credit availability for cultivation activities, and lack of adequate subsidy had led to the deteriorating economic conditions of these farmers. They are caught in a vicious (poverty) cycle as they did not have the necessary resources to get rid of poverty, which in turn manifested into many disadvantages for them. These disadvantages collectively worked in a cyclic process making it virtually impossible for these farmers to break the cycle.

The economic condition of vegetable and subsistence crop growers in Bihar is much worse. They are virtually at the bottom end of a long supply chain nested with intermediaries. In fact, there are at least six intermediaries between the original farmer and the final consumer; viz., a village-level aggregator, a transporter, a commission agent, a wholesale seller, a semi-wholesale-seller, and the roadside vegetable vendor (See Exhibit 3). Most of these intermediaries did not add any value to the final produce but earned a huge profit for just connecting the local farmer with vegetable vendors and their consumers. The farmers had to depend on these intermediaries if they wished to sell surplus produce outside their villages for cash. As vegetables were perishable, transporters often exploited the farmers by delaying transportation and, due to the fear of decomposition, the farmers were

forced to sell their products at whatever prices intermediaries dictated.

In this exploitative process, the farmers on the one end remained poor while the vegetable vendors fared no better. By the time the farm produce was purchased by vegetable vendors, the prices were so high that there was very little room for any final mark up. In addition, as they operated in unauthorised spaces without appropriate vending licences they were held ransom by the local police and civic administration. Most of these vendors worked as long as 16 hours a day. Their profit margins were small. Also, they were forced to pay weekly taxes to the local mafia. As their produce began to perish at the end of the day in their open and unrefrigerated stalls, they were often left with no option but to slash prices.

### Managing Challenges

Kaushlendra was familiar with the abysmal conditions of the poor farmers and the vegetable vendors in Bihar much before he joined IIM Ahmedabad's Post-graduate Programme in Agribusiness Management (PGP-ABM), a very specific course designed to prepare professional managers, decision-makers and leaders for the agriculture, food, agribusiness, rural, and allied sectors<sup>4</sup>. However, he knew very well that despite his intense desire to change the situation in Bihar and his learnings at the premier B-School, it wasn't going to be easy to improve the general situation and the economic welfare of the vegetable growing farmers in Bihar.

There were three main challenges. First, vegetable farmers as well as the vegetable vendors in Bihar were very unorganized and bringing them to a common platform would not be easy for Kaushlendra, who was no more a "local" as he lost touch with the local people outside his family. Second, the informal and fragmented vegetable supply chain needed complete reorientation with professionalism. This required talented people, and this led to the third challenge, which proved to be the most difficult to handle. He needed people to own his "dream" and

4. <http://iimahd.ernet.in/programmes/pgp-abm/career-impact.html>

turn it into a reality. Convincing talented people to work for him was challenging. Kaushlendra had nothing to offer to them except a "dream" of a better future, and he knew that selling dreams was never easy.

Kaushlendra ready to face these challenges, decided to create a system in which

- small-scale farmers received fair prices
- are eventually organized into producer groups
- supplying directly to local vegetable vendors and
- legitimise their roles in the supply chain

### Reorganizing the Vegetable Sector

Mobilizing and organizing informal and fragmented vegetable sector (resource constrained vegetable growers, vegetable vendors, and farm laborers) proved to be a difficult and a tiring process for Kaushlendra. One of the biggest challenges that he faced was that he needed to win the trust of farmers without anything tangible to demonstrate to them. Though Kaushlendra tried hard to maintain links with his hometown even when he was pursuing education outside, it was difficult to find many local people to help him in his new venture. Several of his friends had left Bihar for greener pastures. Outside his family there were very few people who were his old contacts.

However, all this did not discourage Kaushlendra. He was inspired by Dr Verghese Kurien, who developed the Anand model of cooperative dairy development and thus engineered the White Revolution in India, to make India the largest milk producer in the world. Motivated by the cooperative model pioneered by Kurien (See Exhibit 4), Kaushlendra wanted to develop a comprehensive vegetable supply chain that would eliminate all the intermediaries and middlemen in the current system and would benefit both the producers as well as the vendors.

Kaushlendra visited '*mandis*' (vegetable markets) in Patna to collect information about potential demand. For assessing the availability or supply of vegetables, he reached out to small and marginal farmers of Patna and Nalanda districts. There were difficulties

and uncertainties at both ends. First, the farmers were not ready to trust him and share information. They were more comfortable to trade with known "Biharis", and for the marginal farmers, Kaushlendra was not yet one among them as a trading partner. It took approximately nine months to convince some of the farmers to trade vegetables with him but only with some conditions. None of the farmers wanted to be the first one to deal with Kaushlendra. To overcome this, Kaushlendra convinced his elder brother 'Dhirendra Kumar' to become a virtual supplier of vegetables. This solved the first puzzle on the supply side.

Second, the vendors were hesitant to leave their established suppliers and switch over to Samriddhii as their trading partner. Just like the farmers, they found it difficult to trust him on commercial transactions. They had, however, been very open, warm, and encouraging when no commercial consideration was involved. On many occasions, Kaushlendra sold vegetables himself.

Over a period of time, due to sustained efforts, Kaushlendra's dedication to bring about a social transformation started paying off and business partners (both farmers and vendors) started noticing his commitment. Samriddhii made its first notable business transaction in December 2007. The evolution was neither easy nor free from financial risks and operational challenges. Some vendors never returned the credit they availed from Samriddhii. This led to credit overdues. However, a determined Kaushlendra meticulously followed his business principle of 'Never fight with any business partner', and restrained from hassling such vanishing vendors. Instead he carefully and gradually weeded them out of his supply system.

### Business Model

Compared to standard commercial businesses, Samriddhii created and operated a very different business model. Kaushlendra started gathering groups of farmers and, in order to show them how much more they could benefit if they were directly connected to markets in cities far away, he rented

trucks, bought vegetables from farmers directly, and delivered the farm produce to vendors in town for sale to ultimate consumers.

It was widely believed that the vegetable supply chain in India suffered from endemic problems, such as fragmentation and manipulation by traders (Bhardwaj and Palaparthy, 2008)<sup>5</sup>. In India, an average vegetable vendor bought his vegetables from middlemen, who retained a margin of up to 50% of the consumer's price (Prasad and Prasad, 1995)<sup>6</sup>.

These agents, who purchased vegetables from multiple farmers and arranged their transport from the rural heartlands to their own outlets, usually enjoyed significant clout among both vegetable producers and vendors by exploiting information asymmetry regarding the demand and supply of vegetables and their actual production. As the farmers lacked a stable pricing mechanism and marketing infrastructure, they were vulnerable to the buying power of intermediaries. Similarly, vendors were susceptible to the exploitative intermediaries, who often engaged in price gouging. This led to irrational and inefficient market prices. The farmers and the vendors continued to struggle to make a decent living.

Kaushlendra wanted to break the monopoly of these intermediaries, by creating a business opportunity by organizing an unorganized vegetable market segment. In order to fulfill these objectives, he founded Knids Green Private Limited (KGPL) in 2008. Exhibit 1 captured an assessment of business potential in terms of scope and size of the vegetable market.

KGPL was a business initiative and was also a well-structured marketing move. A quick industry analysis revealed encouraging facts. The direct competition was with traditional vegetable supply chain and its middlemen, modern retail chains like Reliance Fresh, Namdhari Fresh, Food Bazaar, Spencer's, etc., and with new entrants in cash and carry segment like

Wal-Mart, Metro etc. The indirect competition was with companies making ready to cook food and packaged food. KGPL had several strategic advantages over other players (See Exhibit 2).

As a company engaged in the marketing and supply chain management of vegetables, KGPL started operating through partnerships with farmers and vegetable vendors. KGPL started generating operating surplus through the direct sale of vegetables to consumers, sales to associated vegetable vendors, institutional sales to restaurants and advertising space-selling on panels of airconditioned vegetable carts. The scalability of KGPL is summed up in Exhibit 3.

At the source centered in the rural areas of Bihar, the company coordinated with hundreds of farmers and farming clubs for procurement. Downstream, scattered vegetable vendors who once had to submit to the pressures of intermediaries now work in a coordinated way with the company that supplied branded and guaranteed-fresh produce. KGPL was managed by Kaushlendra and the parent organization, the Kaushalya Foundation. Due to effective and streamlined communication between all actors of the supply chain, costs were kept low, uncertainties reduced, resulting more cash surplus in the hands of the poor farmers and vendors.

Knids Green Pvt. Ltd. had been able to grow its association with vendors and the farmers who represented the two extreme ends of the vegetable supply chain. It had been able to expand its base in four districts of Bihar, namely, Patna, Nalanda, Bhojpur (Arrah), and Jahanabad. In these four districts, KGPL had a total supplier (vegetable growers) base of more than 3000 farmers, who were supplying vegetables to Samriddhii™ Grameen Kendra (SGK), located at different clusters of villages producing vegetables. It also had a base of over 500 vegetable vendors across Patna who were procuring vegetables from Samriddhii™ City Centers (SCC).

5. Bhardwaj, Sunil, and Indrani Palaparthy. 2008. Factors influencing Indian supply chains of fruits and vegetables: a literature review.

6. Prasad, Jagdish, and Arbind Prasad. 1995. Indian Agricultural Marketing: Emerging trends and perspectives. New Delhi: Mittal Publications.



### The re-engineered Vegetable Supply Chain

The operations of the vegetable supply chain designed by Samriddhii from the producer to the customer (Exhibit 4 gives a pictorial representation of the process employed by Samriddhii) was simple but systematic. Vegetables were collected at village level from small and marginal farmers through SGK. Here the vegetables were graded and sorted before being transported to Distribution Center (DC). Vegetables brought at distribution center were again sorted and graded before being dispatched for Samriddhii City Centers.

The responsibility of SGK was to supply inputs, information to the people in addition to the procurement. SCC was established at each focal demand point. The primary function of SCC was to distribute vegetables to associated vegetable vendors and order processing (See Exhibit 4).

Further, in every village, five to six groups of a dozen or so farmers formed collection and knowledge sharing groups called Kisangaclubs. Each club elected a coordinator and two assistants who worked with Samriddhii as collection agents. Since most farmers and, in some cases, entire villages grew only one or two varieties of vegetables, Samriddhii extension workers have identified 20 profitable varieties that can be grown in the region. Through the use of mobile technology, they coordinated the Kisangaclubs and distribution centers to ensure steady demand for all produce grown by club members.

To stabilise the value chain and the new initiative, Kaushlendra revived the extension services wing of the state's agricultural department. In the last 20 years (1990 - 2010), this department had become defunct. The state system was rife with dishonesty and several middlemen, for a commission, perpetuated the system where subsidies continued to flow to land-owning non-farmers. Over time by persuasion Kaushlendra converted many of these middlemen to socially accepted paid consultants who proactively helped the farmers to be aware of and learn how to access farm related subsidies. His team also conducted workshops to increase the interaction and interface

between the state agriculture department staff and the farmers. A reward system was introduced to recognize the best agriculture staff based on their assessment by the farmers. This initiative gave the much needed acceptance, relevance, importance, and authority of power to the marginated poor farmers.

At the distribution centers, Samriddhii employed a number of jobless persons to sort and clean all the produce and distribute (the 20) vegetable varieties to their 800 registered vendors. These vendors (as well as member farmers) were given group membership cards and committed to basic group principles. This alone has been a huge step towards legitimizing these men and women and giving them more bargaining power in their interactions with local authorities.

In order to make vegetable vending more professional and profitable, Samriddhii assured the vendors that it would buyback leftover vegetables if vendors commit not to slash prices at the end of the day. They also reassured vendors to use time-stamped receipts so that all Samriddhii branded vegetable carts can offer a freshness guarantee. Consumers were guaranteed that produce they are buying has not been artificially colored and that was grown locally; the villages from which each item was sourced was posted. In the end, vendors improved their earnings, and prices remained competitive (even lower in most cases).

A significant new development introduced by Kaushlendra was a refrigerated vegetable cold cart. These carts had 20 compartments lined in packets of cooled ethylene glycol, the same chemical used in mobile ice cream carts and also to transport the polio vaccine. Every night the packets were returned to storerooms in ice manufacturing companies (with which Samriddhii has set up partnerships) so that when vendors pick up their carts in the morning from the distribution center, they are refilled with fresh vegetables and lined with recharged ethylene glycol packets, ensuring that produce stays cool and fresh for the next ten hours. While Samriddhii piloted this project with just ten of these carts in 2008, 50 more had been ordered in 2009.

### Recruitment Challenges

Recruiting efficient and talented people to work for a (new) company like KGPL was difficult. It was more difficult in the first year of company's operation when the Indian economy was doing well. Everyone was looking up to a good-paying job. It was, therefore, very difficult to get people to work for modest payments in a start-up company. Anyone with a reasonable talent, skills, or education had either already migrated or was in the process of migrating to greener pastures outside (the state of) Bihar.

Some informal interactions and interviews with potential employees revealed that the reason was the mindset of people. Selling vegetables was still considered to be a menial job. Most of the people were unwilling to do a menial job until they became desperate for a job. This also meant an issue of low capability of the employee apart from low self-confidence. Kaushlendra found the hard way that adding to the woes is the fact that working in a start-up demands dedication and commitment.

The work culture and mindset of the people in Bihar was not very favourable to new companies and entrepreneurs. Most people preferred to go out of state to work as a rickshaw puller or do any menial job rather than selling vegetables in their hometown. They did not value work ethics much. Most of their working hours were not productive. The long-term perspectives related to opportunities were ignored. The attrition rate was as high as 70%. The sense of ownership of work was not present and workers tried to circumvent their responsibility. Despite being empowered with decision-making most employees behaved like clerks and hesitated to take decisions even when called for. The long-term growth perspective of both the individual and the business was traded off with the short-term considerations by such behaviour of the employees. This scenario had an adverse impact on the manpower available to any start-up and KGPL was no exception to that.

### Growth Options

Learning from this experimentation, over the next few years Samriddhii planned to establish a complete cold chain from Bihar to Delhi and subsequently in the rest of the country. Kaushlendra was setting up partnerships with ice manufacturing companies all along the route between Patna and Delhi so that trucks carrying vegetables from Bihar to larger markets down south and north will be able to recharge refrigeration packets every seven to eight hours. Trucks using this technology were more environmentally friendly. The operating cost was less than fully refrigerated trucks.

There were twin approaches to redefining the vegetable supply chain. Kaushlendra remembered that for expansion they were trying to replicate the same model of direct coordination with farmers and vegetable vendors in Lucknow. They were also dispatching the consignment of 'Mangos' and 'Parwals' (Pointed Gourd) to the large vendors at Delhi. Organic farming, distribution of quality seeds extension services of some enabling mechanism introduced by KGPL.

Samriddhii™ was also expanding across different states. The first step to this direction has been an entry into the state of Uttar Pradesh through its subsidiary company, Orvem Marketing Pvt. (ORVEM) a 50:50 joint venture between Knids Green Pvt. Ltd. and a local partner from UP. This company was planning to implement the same business model of Samriddhii™ in Uttar Pradesh. ORVEM had already made its presence among the farmers of seven districts of Uttar Pradesh namely, Lucknow, Sitapur, Barabanki, Hardoi, Rae Bareilly, Unnao and Sultanpur. ORVEM was planning to launch its refrigerated push carts in the Lucknow town somewhere towards the end of the third quarter of the Financial Year 2010-2011.

To minimize wastage, KGPL was contemplating on an idea to open a vegetable-processing centre. As

Kaushlendra briefed his team about upcoming plans, he was wondering about managing the financial and human resource required for the same.

Locally, Kaushlendra was soon to begin sourcing produce from another region of Bihar, an area that has been cut off from Patna since a vital bridge over the Ganges was washed away in floods a few years ago. In fact, he had already organized 5,000 farmers in this region so that as the demand grew and more markets were opened in six major cities in Bihar and then Delhi, he would be able to quickly increase supply.

Farmers who were now organized into Kisangaclubs had the option of selling to large companies and competitors. And soon Samriddhii would begin processing and canning local tomatoes, ladyfingers, and a region-specific gourd variety. As Samriddhii grew, farmers and vendors in the region would continue to prosper and Kaushlendra's vision of transforming the river-rich parts of Bihar and then Jharkhand and Uttar Pradesh into India's vegetable supply hub would become a reality.

**Exhibit 1 - Scope and Size of Vegetable Market**

| Region    | Market Potential (MT) | Market Potential (INR Billion) | Target Market Potential (INR Billion) | Organized Players (Percentage) |
|-----------|-----------------------|--------------------------------|---------------------------------------|--------------------------------|
| Patna     | 1,21,000              | 1.69                           | 1.05                                  | 4.27                           |
| Lucknow   | 1,66,000              | 2.90                           | 1.74                                  | 2.50                           |
| Ranchi    | 38,620                | 0.62                           | 0.34                                  | -                              |
| Delhi     | 6,28,900              | 12.58                          | 8.18                                  | 5                              |
| Mumbai    | 5,43,600              | 11.95                          | 7.76                                  | 5                              |
| Kolkata   | 2,08,900              | 3.35                           | 2.18                                  | 5                              |
| Hyderabad | 2,96,811              | 5.34                           | 2.93                                  | 5                              |
| Bhopal    | 65,420                | 1.31                           | 0.72                                  | -                              |
| Indore    | 72,880                | 1.45                           | 0.80                                  | -                              |
| Pune      | 1,16,000              | 2.86                           | 1.86                                  | 2.5                            |

Source:KGPL



**Exhibit 2 - Strategic Advantages of KGPL**

| Product / Process             | Samriddhii™ | Vending Carts | Unpackaged Vegetables | Traditional Supply Chain | Super Markets |
|-------------------------------|-------------|---------------|-----------------------|--------------------------|---------------|
| Convenience                   | *           |               |                       |                          | *             |
| People Centric                | *           | *             |                       | *                        |               |
| Assurance of Quality/Quantity | *           |               |                       |                          | *             |
| Professionalism               | *           |               |                       |                          | *             |
| Inclusivity                   | *           | *             | *                     | *                        |               |
| Cost Efficient                | *           | *             | *                     |                          |               |
| Positive Social Impact        | *           |               |                       | *                        |               |
| Lower Wastage                 | *           |               |                       |                          | *             |

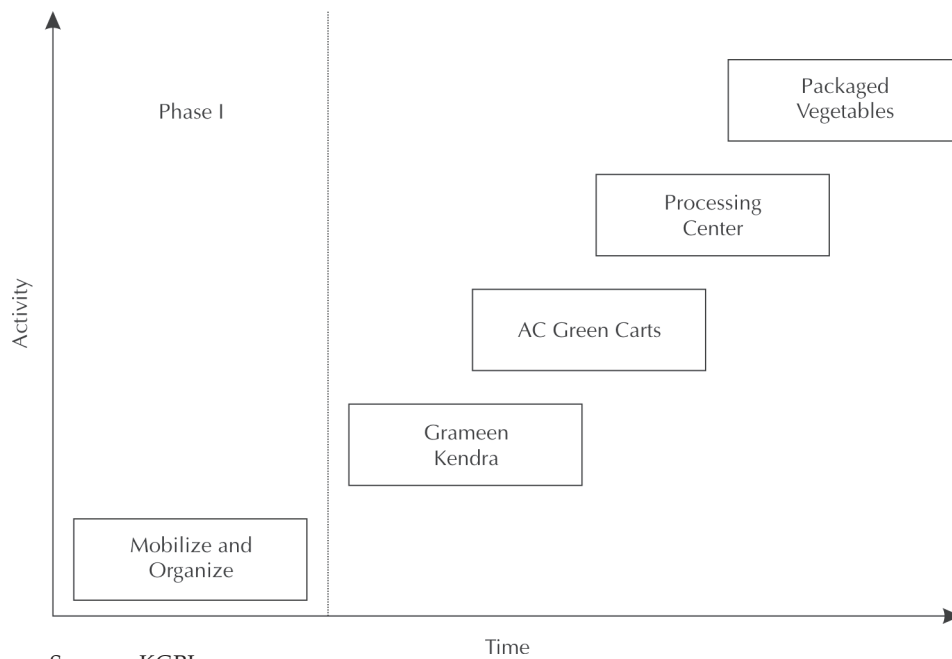
Source:KGPL

**Exhibit 3 - Phases of the Enterprise****Phase-I:**

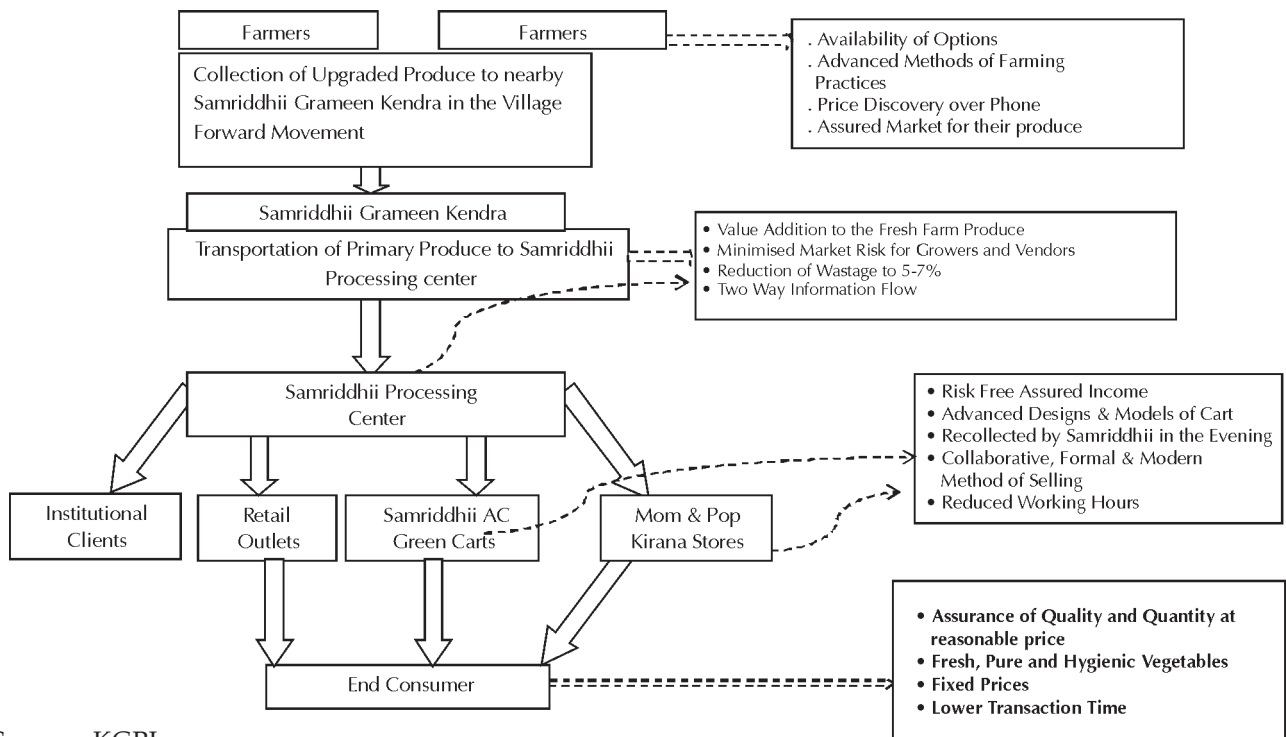
- Mobilizing and Organizing the Vegetable Growers and Vendors

**Phase-II:**

- Establishment of Samriddhii™ Supply Chain Components:
  - Samriddhii™ Grameen Kendra:
  - The Primary Sorting/Grading cum Vegetable Collection center
  - Growers themselves become the partners,
  - Center for Capacity Building and act as Agri-Input Centers.
- Samriddhii™ AC Green Carts:
  - Point of Sales for Vendors
  - Become the owners of the Carts
  - Lower wastage of Vegetables and risk free income.
- Samriddhii™ Processing Center:
  - Sorting/Grading cum Packaging cum Distribution Center
  - Storage Space for 2-3 Days
- Samriddhii™ Packaged Vegetables:
  - Non-Adulterated, Pure, Fresh and Hygienic in Nature,
  - Better Customer Satisfaction and higher turnover for the vendors.



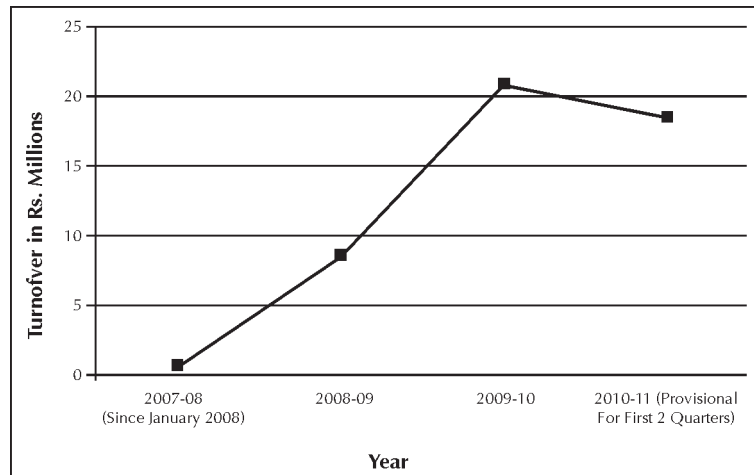
**Exhibit 4 - Business Model of Samriddhii**



**Exhibit 5 - Financial Performance of KGPL**

| Financial Year                             | Turnover (in Rs.) |
|--|-------------------|
| 2007-08 (Since January 2008)               | 7,58,580          |
| 2008-09                                    | 85,58,885         |
| 2009-10                                    | 2,08,81,641       |
| 2010-11 (Provisional For First 2 Quarters) | 1,84,73,548       |

Source: KGPL

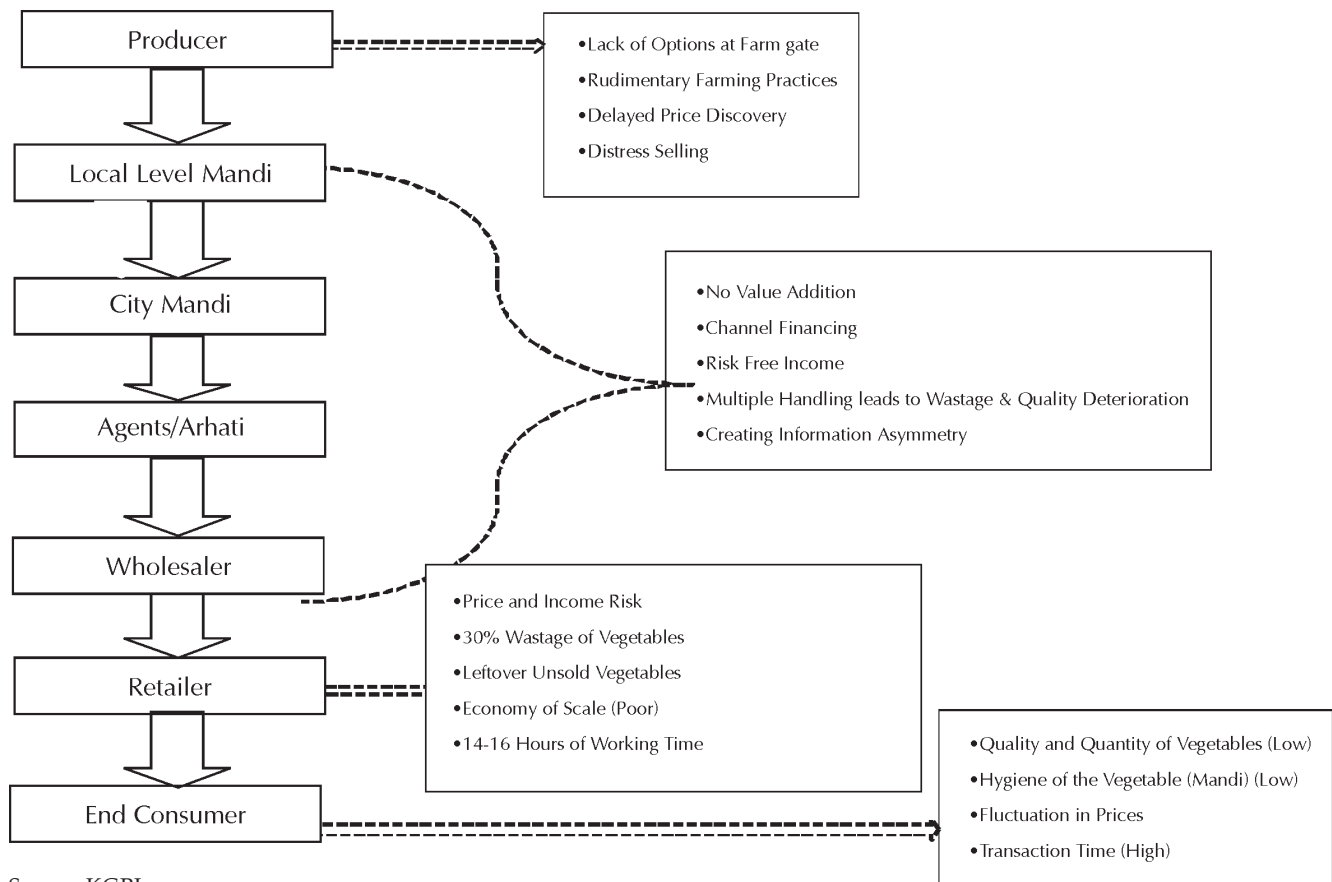


**Exhibit 6 - Map of Bihar**



Source: www.mapsofindia.com

**Exhibit 7 - Traditional Vegetable Supply Chain in Bihar**



Source:KGPL

**Exhibit 8 - The Amul Model**

Amul Dairy has been a successful change maker in India's dairy system. The Amul Model is a three-tier cooperative structure which consists of a Dairy Cooperative Society at the village level, a Milk Union at the District level, and a Milk Federation at the state level

The Village Dairy Cooperative Society (VDCS) is the primary society having membership of milk producers of the village. It is governed by an elected Management Committee consisting of 9 to 12 elected representatives of the milk producers. The VDCS appoints a professional secretary for managing the day-to-day functions of the society as well a set of other people to assist him or her. The District Milk Union, the second tier under the three-tier structure, has

membership of Village Dairy Societies of the District and is governed by a Board of Directors consisting of 9 to 18 elected representatives of the Village Societies. The Milk Union further appoints a professional Managing Director for managing the day-to-day functions of the union as well a set of other people to assist him or her. The Milk Unions of a State are federated into a State Cooperative Milk Federation. The Federation is the apex tier under the three-tier structure.

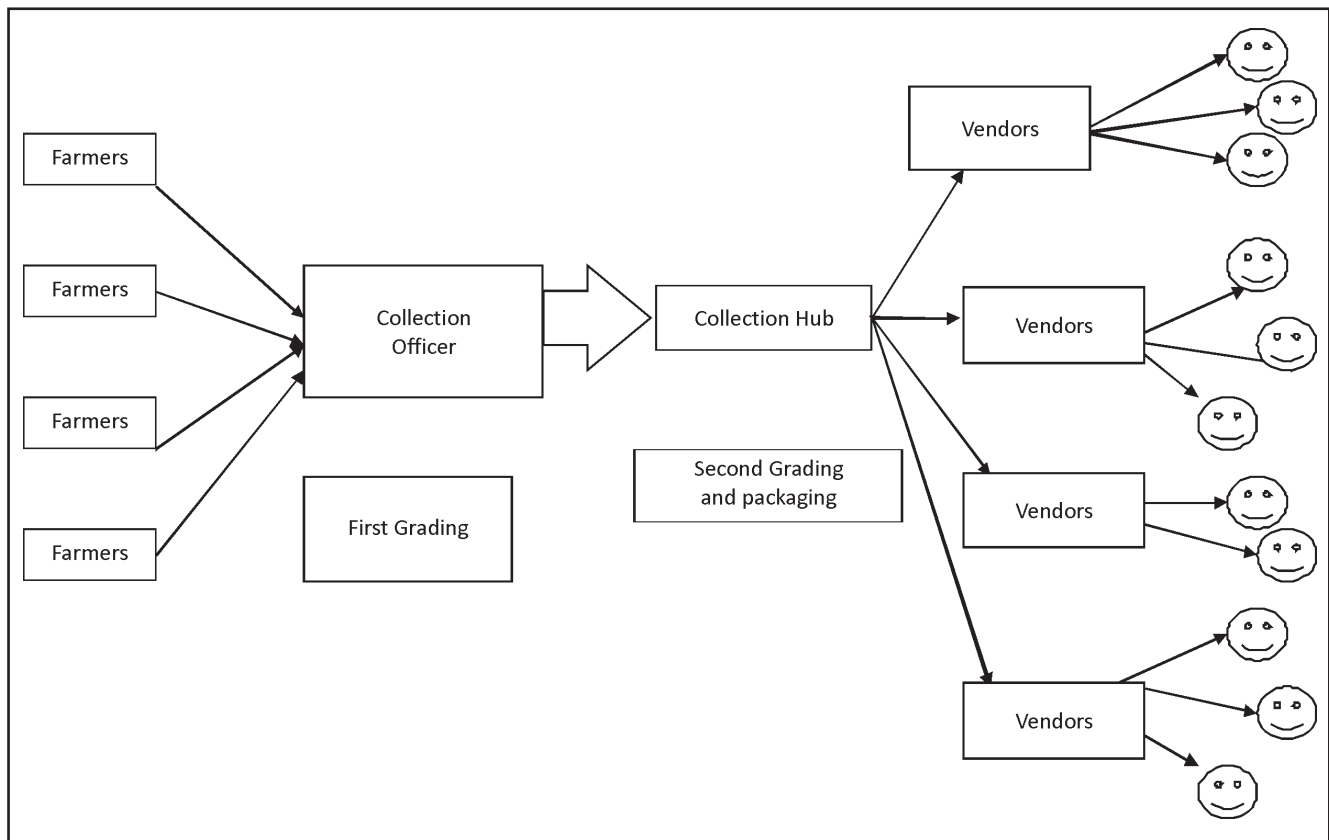
The above three-tier structure was set-up in order to delegate the various functions, milk collection is done at the Village Dairy Society, Milk Procurement and Processing at the District Milk Union and Milk and Milk Products Marketing at the State Milk Federation. This helped in eliminating not only internal

competition but also ensuring that economies of scale is achieved. As the above structure was first evolved at Amul in Gujarat and thereafter replicated all over the country under the Operation Flood Programme,

it is known as the 'Amul Model' or 'Anand Pattern' of Dairy Cooperatives.

Source: HBS Case, Amul and India's National Dairy development Board, 9-599-060

**Exhibit 9 - Process Flow of Operations**



Source:KGPL

**Bhawna Anjaly** (bhawna.anajaly09@bimtech.ac.in.) is a research fellow with Birla Institute of Management Technology, Greater Noida. Her research interest is in social entrepreneurship.

**Vaibhav Bhamoriya** (vaibhavb@iimahd.ernet.in.) is an Assistant Professor at the Centre for Management in

Agriculture at IIMA. He was earlier a faculty at IIM Indore. He is on the advisory board of Kaushalya Foundation. His research interests include Institutional Economics and Theory, Water Management, Agripreneurship, Livelihoods, Rural management and development.