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Localised Subscription Based Agricultural Marketing

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Abstract

Traditional Agricultural Marketing strategy in Goa has always been adhering to door to door selling of products by the cultivators themselves. Due to sporadic, uncontrolled urbanisation of the rural areas, precisely, due to the mushrooming of Gated Societies, such traditional system has been rendered non-workable by the replacement of traditional home typologies as well as blocking of traditional direct paths due to Gated Developments. The nature of terrain, vegetation and settlements pattern in Goa, does not make it feasible to drive motor vehicle to every door, compared to the effectiveness of the foot access. Because of the changes in nature of settlements, the agricultural activity has been impacted and needs new strategy in marketing of agricultural produce to the consumers, who are inclined towards accepting locally produced fresh products at affordable rates.

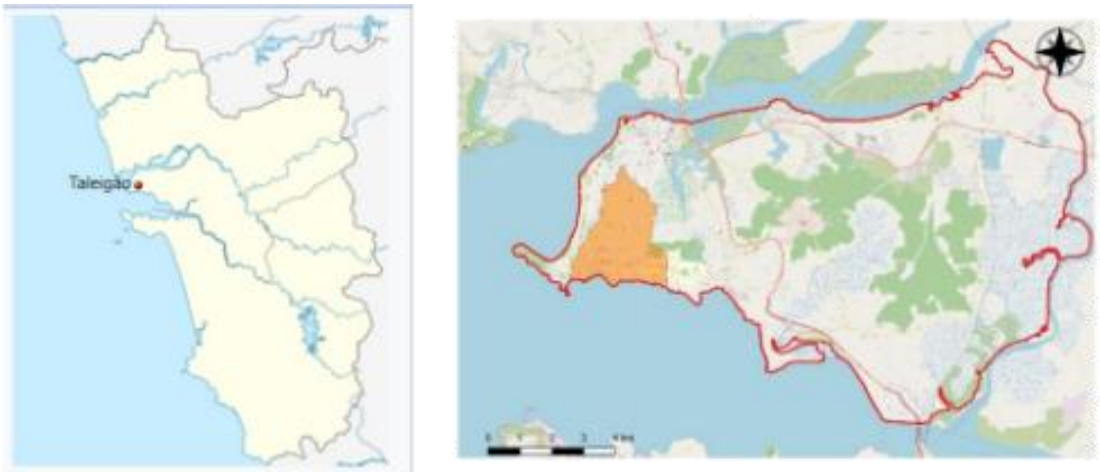
Keywords: Agriculture, Economics, Marketing, Strategy. Subscriber, Aggregation

1. INTRODUCTION

The sporadic urban sprawl and the indiscriminate development of gated communities has disturbed the traditional home-delivery driven economy of Goa. This is a low emission system where the seller goes from house to house on foot or a single vehicle, instead of many vehicles coming to the mart for daily essentials. The old system also promoted local agriculture within easy deliverable limits. The gated developments, within old settlement as well as in new areas which are remotely located and only accessible through private vehicles make it hard for the traditional economics to work. They also are found to block the traditional paths to the settlements which provided faster, shorter accesses. So, it needs an equally modern economic solution to counter arrest and improve such losses for sustainable future.

2. CASE OF TALEIGAO VILLAGE

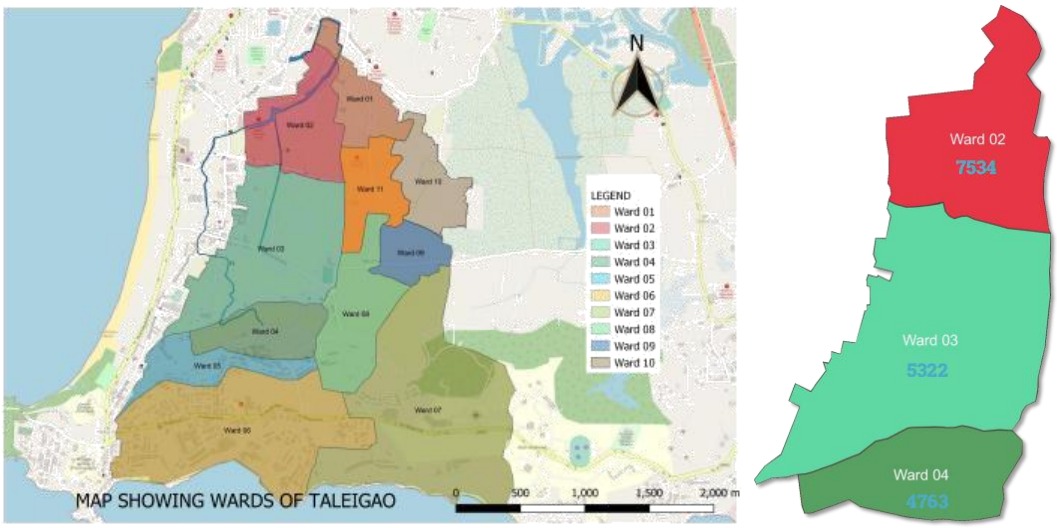
The village of Taleigao is located in Tiswadi taluka of Goa, India; which has a total population of 25811 with 13500 households. Population growth rate is 3.0042% from 1991-2011. Projected population for Taleigao in 2041 using linear progression method is 43,960.



Source: Openstreetmap, Author

Figure 1.1 Location of Taeigao Village

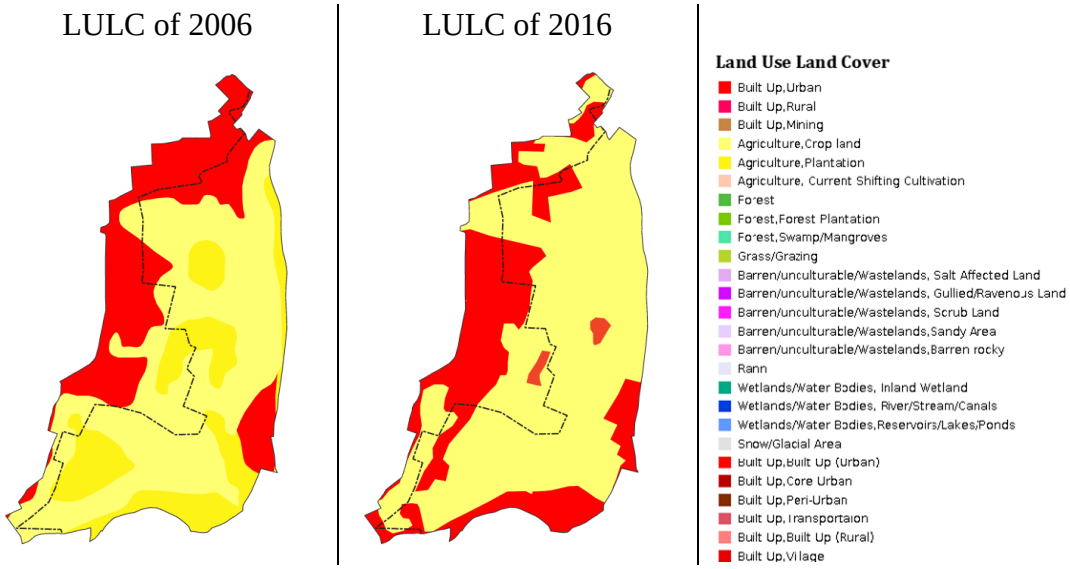
The wards numbered 2, 3 & 4 are significant as the last remaining large cultivable area in the village of Taleigao.



Source: Taleigao Village Panchayat, Author

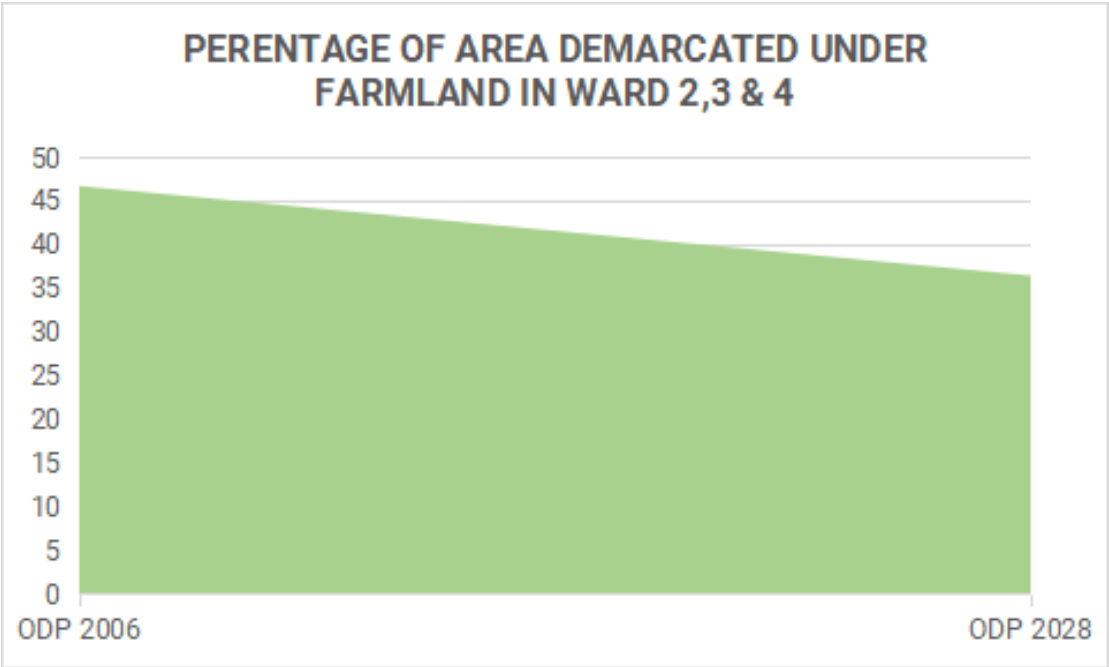
Figure 1.2 Ward Map of Taleigao Village with projected population for 2040

Comparison of land use land cover sourced from ISRO's Bhuvan portal as seen in **Fig 1.3** shows significant urban sprawl and thus spread of development in the village has been exponential in the decade between 2006 and 2016.



Source: Bhuvan by ISRO

Figure 1.3 Land use Land Cover Map of Ward 2,3, 4 of Taleigao Village



Source: Town & Country Planning Department Goa, Author

Figure 1.4 Outline Development Plan Analysis of Ward 2,3, 4 of Taleigao Village

Reduction in agricultural activity can be observed from the period beginning in 2006, as Gated Housing Complexes which are main typologies of construction which spread sporadically in the village.

2.1.1. REASONS FOR OVERALL REDUCED AGRICULTURAL ACTIVITY

i. Low productivity of most of the crops cultivated
ii. High cost of labour and their poor availability in agriculture in allied sectors
iii. Lack of cold storage and warehouses, small scale paddy processing units, etc.
iv. Lack of awareness and capacity building of farmers, youth, field veterinarians about improved animal husbandry practices
v. Lack of slaughter houses/meat processing units for small animals
vi. Farmers also expressed issues like capacity building of weaker sections, attracting youths to agriculture, and publications of success stories, providing agriculture inputs and providing facilities for by products processing (Source: ICAR)

Census	No. of operational holdings	% variation	Area operated (in Ha.)	% variation
1970-71	68961	---	92421	---
1976-77	72403	(+) 4.99	82667	(-) 10.55
1980-81	75537	(+) 4.33	89656	(+) 8.45
1985-86	75619	(+) 0.11	78129	(-) 12.86
1990-91	71922	(-) 4.89	66529	(-) 14.85
1995-96	70399	(-) 2.12	59022	(-) 11.28
2000-01	64080	(-) 8.98	53924	(-) 8.64
2005-06	52821	(-)17.57	60742	(+)12.64

Source: ICAR, Agricultural Census of Goa

Figure 1.5 Decade-wise change in Operational Agricultural Land Holdings in Goa

It is estimated in the 70th round of NSSO that the average income of farmers in Goa is Rs. 91,098 of which Rs. 16,893 is through farming, 15,097 is through Dairying, Rs. 12,243 through non-farm activities and 46,865 through wage labour and salary.

"It is unfortunate that due high increase in labour costs, low returns on produce and the fact that our youth on receiving a good education aspire to achieve good and stable careers for their future, that the traditional agriculture and horticulture as occupations are not sustainable any more;"-Taleigao VP

3. SUBSCRIBER BASED MARKETING STRATEGY

The development strategy needs to be multi-layer and addressing three key issues faced by the rural economy right now i.e. to protect and increase farmland in village, increased returns in Primary sector of the economy and provide employment for the educated youths in the village in Tertiary sector.

The Subscription based model will focus on selling the products by the farmer, in advance, as a token; even before seeds are sown. So, that the farmer gets capital in hand to conduct the agricultural process. Once, the produce is harvested, the sold products can be delivered to the token holder or the buyer. In short term crops this waiting period can range from 15 days-one month to a season in case of cereals. 15 days is usual time of delivery taken by e-commerce enterprises in India.
The delivery process can give rise to service industry, locally, creating jobs in tertiary sector for the youths.

3.1. CO-OPERATIVE FARMING MODEL

3.1.1. FARM PRODUCTS AGGREGATION

To counter the high labour costs, decreasing land-holdings under agriculture, low income and middleman charges; a system of aggregation of farm products should be introduced.
The farms should not be aggregated and ownership remains with the respective owners but the all the workforce associated with the co-operative should have equal rights and returns. This includes the labourers, land owners, farmers and other groups associated at all stages of farming. It reduces upfront labour charges and gives equity and dignity to farm labour.
But it must be warned that the government still has to look into the aspect of providing affordable rental housing for the labour through suitable private partnership. Otherwise, it can lead to emergence of slums or squatter settlements due to in-affordability.

3.1.2. APP FOR SUBSCRIPTION BASED SALE OF PRODUCTS

The subscription based sale in the form of packages, not only helps in estimating demand but also generates advanced payment for the farmers even before seeds are sown as products are pre-sold a season in hand. An advanced payment along with monthly subscription charges will keep the payment and delivery flow seamless.

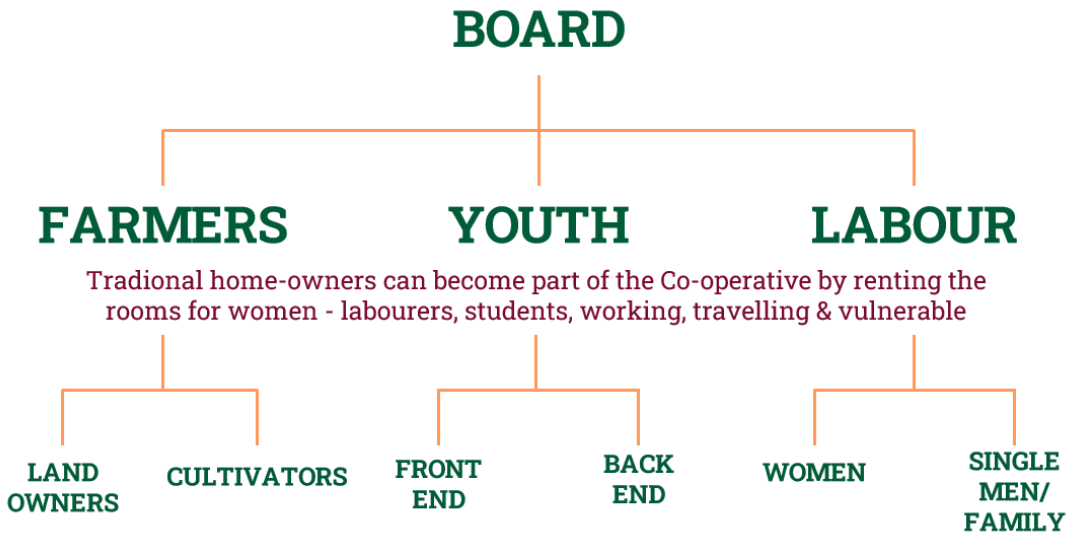
3.1.3. MONTHLY/WEEKLY/DAILY HOME DELIVERY OF FRESH PRODUCTS

The subscribing consumers in the village will benefit from fresh and home delivered farm products for their healthy lifestyle while contributing for the future of the village. It will also generate jobs as delivery mechanism and storage facilities will be developed. Various types of farm products which will need to be delivered whether at monthly or weekly or daily interval to the subscribers.

3.2. INFRA-STRUCTURE NEEDED FOR THE CO-OPERATIVE

i. Farmers to come together to form co-operative with board.
ii. Delineation of farmland to zone various crops.
iii. App for sale managed by youths.
iv. Office space for the management of the operations.
v. Housing for labour.
vi. Storage infra-structure.
vii. Delivery routes.

viii. Renewable energy infra-structure.
ix. Irrigation Supply Network.



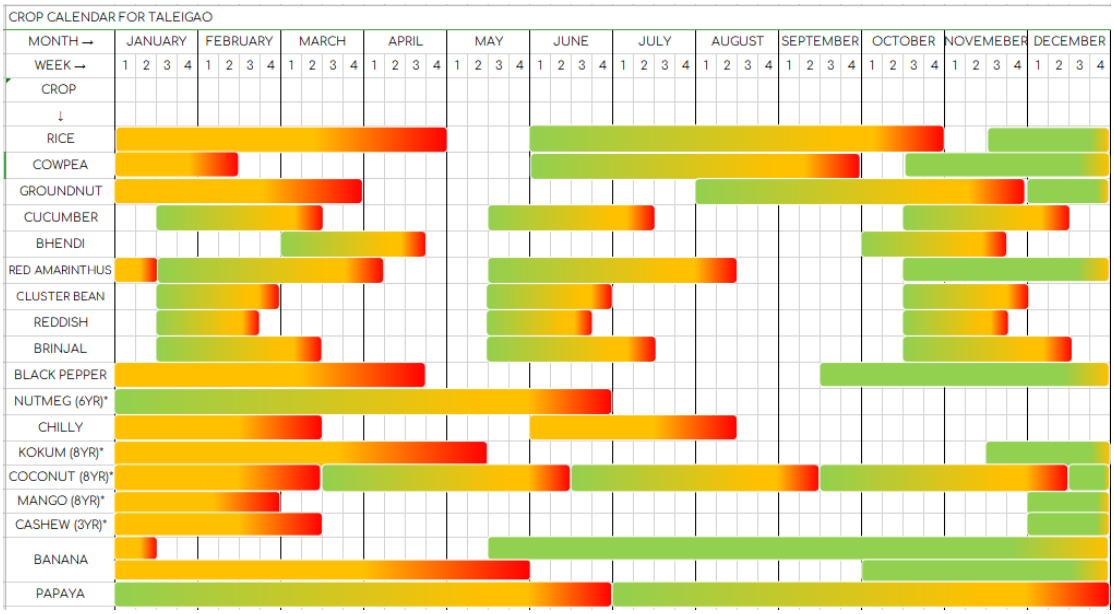
Source: Author, Graphic Theme by slidershare.net

Figure 1.6 Organizational Chart of the Farm Co-operative

3.2.1. CROP CALENDAR

A suitable crop calendar has to be prepared to understand the needs and to give transparent ideas to the consumer about the products delivery schedules. It will also help to understand the storage needs and yield pattern in addition to the necessary planning of the deliverables.

The calendar also provides transparency to the consumer about the delivery schedule as when they can expect the deliverables at their doorstep.



Source: Author, Data from Goa State Horticulture Department (Green is time of sowing the seeds while red indicates the time of harvesting of crops)

Figure 1.7 Crop Calendar of Various Crops in Goa

3.2.2. CROP ZONING

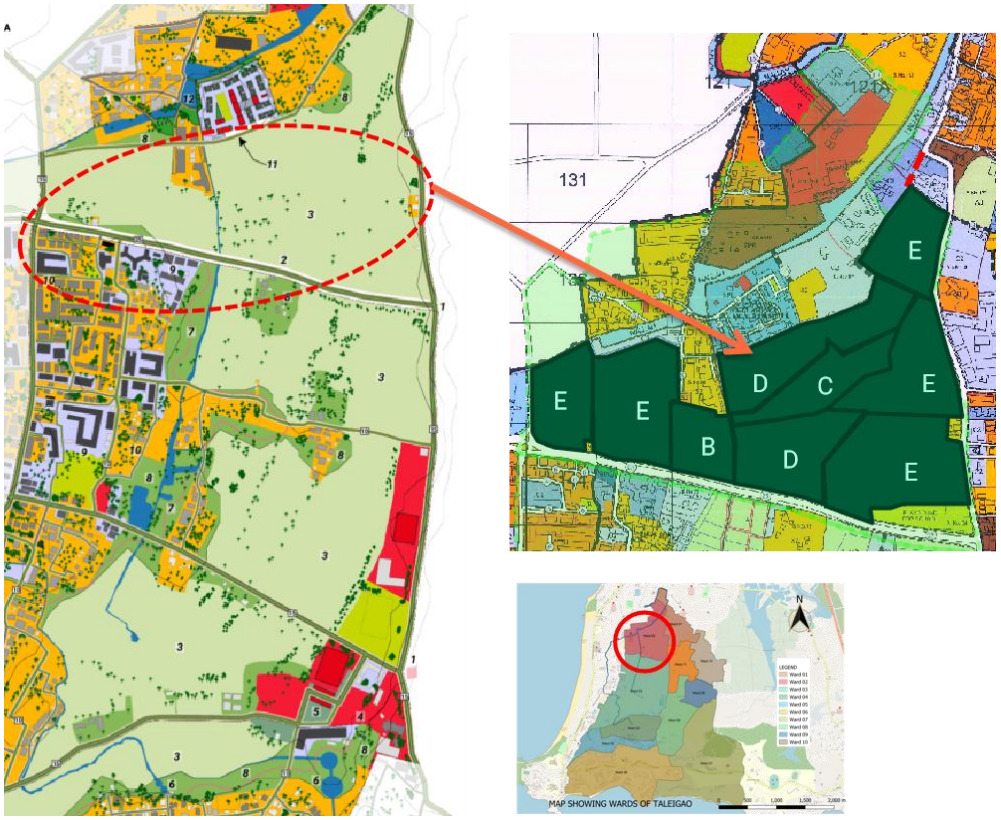
Delineation of farmland to grow various crops simultaneously on farm parcels is important so that the supply of deliverable farm products remains continuous. Each parcel can be zoned under various categories according to the supporting conditions like soil quality, water table, orientation, nearness to the settlement etc.

Following categorization has been created by the State Horticulture Department can be an example to follow, under this following categories are prescribed and can be demonstrated in the masterplan for ward 2, 3 & 4 of Taleigao as seen in **Figure 1.8**.

A system of zoning which maximises area under agriculture is also required to be adopted by the Planning Authority. An orchard zone in area between settlements and farmland which also acts as a buffer can be created until the lowest contour line, beyond which the fields start. Existing fallow lands in the higher areas can be brought under intense tropical cash crops using modern methods of plantation and irrigation.

ZONES

A-FRUITS
B-SPICES
C-FLOWERS
D-VEGETABLES
E-FOOD GRAINS



Source: Author, Openstreetmap, Town & Country Planning Department

Figure 1.8 Example of Proposed Crop Zoning in Ward 2, 3 & 4 of Taleigao

3.2.3. IRRIGATION INFRA-STRUCTURE

Through scientific watershed management and neighbourhood planning the ground water and surface water recharge can be achieved in areas receiving rainfall while a reuse approach can be adopted in rain deficit area like that of using of treated water from Sewage Treatment Plants wherever they exist.

The pollution of fields caused by uncovered waste-water flowing through storm water drains can be filtered using separation and purification using techniques like floating island so that any water coming into the farmland does not affect it's soil quality.

3.3. PACKAGING OF THE SUBSCRIPTION MODEL

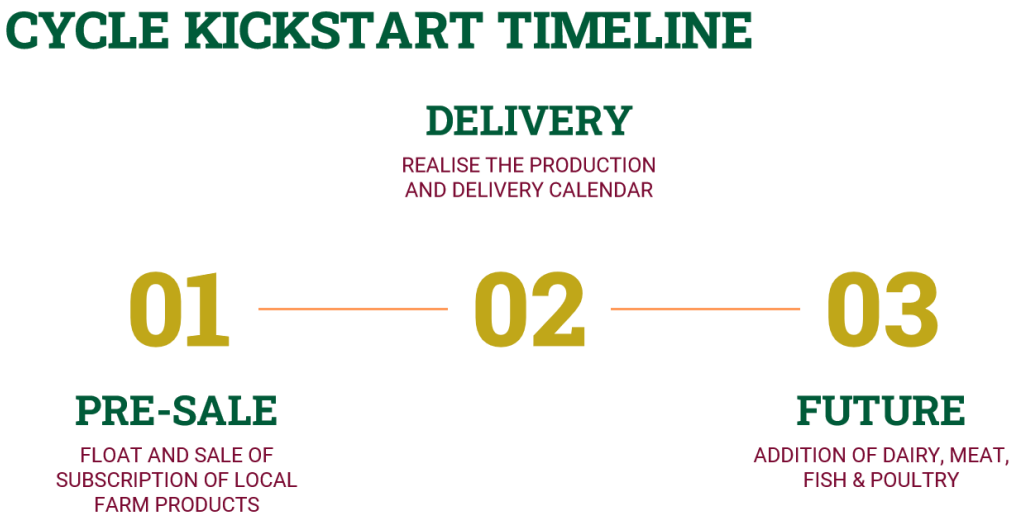
Various deliverables can be combined together and sold as packages using the App. An example of such grouping is given below. Yearly subscription package can be sold in advance wherein subscription money is to be deducted at beginning of month/year in addition to the initiation cost. Full year cost of packages can be cheaper than monthly ones to encourage long term stable clientèle. It will also help in estimating demand for the products thus avoiding overgrowing and losses. As the familiarity within the village provides mutual trust based relationship between stakeholders, it will enhance community interaction even further.

Source: Author, Graphic Theme by slidershare.net

Figure 1.9 Packages to be Sold through Subscription based localised App

3.3.1. CYCLE KICK-START TIMELINE

While some part of capital can be raised through crowd funding in the form of pre-sold subscriptions, assistance from various government schemes can be availed for the start of the operations.



Source: Author, Graphic Theme by slidershare.net

Figure 2.0 Subscription Cycle Kickstart Timeline

3.3.2. VARIOUS AVAILABLE GOVERNMENT SCHEMES

A. Paramparagat Krishi Vikas Yojana (PKVY): To avail the scheme, each cluster or group must have 50 farmers willing to take up organic farming under the PKVY and possess a total area of at least 50 acres. Each farmer enrolling in the scheme will be provided INR 20,000 per acre by the government spread over three years time.
B. Pradhan Mantri Fasal Bima Yojana (PMFBY): Scheme for insuring the crops.
C. Gramin Bhandaran Yojna: Sheme to assist in creation of scientific storage capacity with allied facilities in rural areas
D. Micro Irrigation Fund (MIF): The fund has been set up under NABARD, which will provide this amount to states on concessional rate of interest to promote micro-irrigation.

3.3.3. RENEWABLE ENERGY

Solar and wind power is abundant in the region and can be set up using subsidised schemes which will return investment too if surplus can be produced.

3.4. BENEFITS OF THE LOCALISED SUBSCRIPTION BASED MARKETING

3.4.1. FOR VILLAGERS/CONSUMERS

i. Consumers will benefit by getting freshly harvested organic farm products

delivered directly to their homes by familiar faces. It will enhance the healthy lifestyle and increase community interaction while promoting local agriculture.

ii. As products are directly delivered to the consumers through App without any middlemen involved, the will benefit largely from better rates for the same products compared to the retail market.

3.4.2. FOR FARMERS AND FARM-OWNERS

i. Capital for business through pre-sale of the product subscriptions such that the farmer gets investment for the products even before seeds are sown.
ii. There will be better profit margin through direct sales due to lack of involvement of any middlemen agencies.
iii. Security of sale of products is ensured as the packages are pre-sold as subscription.
iv. Lower power costs can be achieved by using renewable energy & labour costs can be reduced by providing them housing as well as providing equal opportunities to the more permanent workforce.
v. Protection of farm-land will be ensured once the returns from the farmland comes under profitable margins.

3.4.3. FOR EDUCATED YOUTH

i. The involvement of youth in front-end and back-end management, financing, accounting etc of the co-operative and it's app will create village level job opportunities for the youth in service sector operations.

3.4.4. FOR GOVERNMENT

i. It will reduce un-employment thereby removing excess stress on government agencies to create jobs for the working population.
ii. Government will also benefit from formalisation of primary sector as it can become a tax contributing sector for the economy.

4. CONCLUSION

The Primary sector of our industry has been disturbed by unplanned development, while large amount of subsidies and schemes provide heavy respite to the farmer in production phase; as well by declaring Minimum Support Price from time to time for various crops in marketing phase, but the necessary amount of procurement from the government is far from achieved.

	Procurement (1)	**Production (2)**	**(1) as % of (2)**
Rice	51.38	118.43	43.38
Wheat	38.99	107.59	36.24
Cotton	104.62*	354.50*	29.51
Chana	2.10	11.35	18.47
Arhar/Tur	0.72	3.83	18.80
Moong	0.14	2.46	5.69
Mustard	0.80	9.12	8.78
Groundnut	0.71	10.10	7.03
Milk**	18.53	187.75	9.87

**Lakh boles of 170 kg each (All figures in million tonnes)*
Source: Food Corporation of India, NAFED, Cotton Corporation of India, National Dairy Development Board, Ministry of Agriculture & Farmers' Welfare and Department of Animal Husbandry & Dairying, Published by Times of India.

Figure 2.1 Crop Procurement by the Government in the year 2018-19

Thus, farmers are left to the mercy of private sector. So, such localised, community models are need of the hour to not only increase the income of the farmers but also to achieve the Sustainable Development Goals, that includes healthy individuals and hunger free society. It will be better to develop independent marketing strategy like this one instead of depending on Government procurement system in order to counter the competition management strategies that private corporations tend to bring from time to time.

Finally, food safety is essential for human development and agricultural sector needs to be turned into healthy return providing enterprise, which, currently has been struggling and needs introduction of localised solutions instead of over dependence on centralised solutions.