Agro-man to Agro-Entrepreneurs

- A Suggestive model of Sustainable Livelihood for Tribal farmers of KBK Districts of Odisha

By.: Dr. Sanjeeb Kumar Jena[1]

ABSTRACT

Sadly, overall development of agriculture has been declining for many years in India and as well in the state of Odisha. Lack of investment and interest by general people, the stakeholders and business world for agriculture has led to stagnating productivity and a missed opportunity to take advantage of improved technologies. The productivity gains and innovation have been low due to lack of basic infrastructure, larger dependency on nature, limited financing, and poorly structured market access.

These are difficult issues. But in an ever-changing world, being effective requires that to listen to others, adapt to new conditions and develop ways to do things better. The shift from agricultural production to agro-enterprise is an example of such a fundamental change. The agro-enterprise approach has helped reinvigorate core areas of agricultural work. It has enabled to view the traditional areas of crop and livestock production in new ways, link with new partners, and foster collaboration between programs in agriculture and in other sectors, such as microfinance, emergency response, health, HIV and AIDS, and water. This new approach believes that placing markets at the heart of agricultural work is essential steps in helping poor tribal communities of Koraput district find those elusive but justifiable pathways out of poverty to a sustainable livelihood.

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By.: Dr. Sanjeeb Kumar Jena[2]

"To those who are hungry, God is bread" – Mahatma Gandhi, 1946

"Everything else can wait, but not agriculture"- Jawaharlal Nehru, 1947

Endeavours during the last two decades has been guided by the above words of the architect of our independence on the one hand, and by the prime mover of planned development designed to promote faster economic growth coupled with social and gender equity, on the other. The approach to the XI Plan is "faster and more inclusive growth". Obviously this aim should cover 70% of our population, who live in villages and whose major occupation is crop and animal husbandry, fisheries, agro-forestry and agro-processing.

Most of the agricultural investments made by the Government of India and the by the state Governments in the past focused on finding ways to increase crop production. But all too often this approach proves unsustainable, as farmers become dependent upon service providers to supply improved technologies and market access. In many cases, short-term success in raising production without complementary support to marketing can result in oversupplying local markets, which translates into volatile or reduced incomes for farmers. The result is that farmers do not learn how to compete in markets or work together to increase their market leverage, and see little value in investing to upgrade their products and market links.

There are countless cases where support agencies have encouraged farmers to produce for markets without understanding market conditions. After considerable investment and effort, farmers are stuck with unwanted crops that they are forced to sell at very low prices. The greatest example is the cotton farming in Gajapati district and Jatropha farming in Rayagada district of Orissa. In some sense this is a result of a simple imbalance of inputs: it is relatively easy to introduce improved technologies, but more difficult to empower communities with the skills required to understand, access, and adapt to dynamic markets.

The agro-enterprise approach is a means of refocusing production-based efforts within a market-based framework. It does not replace traditional agricultural development, but it does require a new way of thinking about agriculture: one that recognizes the market as the driver in the system and requires that investments be aligned with market needs and evaluated against market performance— i.e., sales volumes, product quality, profit, and timeliness.

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AGRICULTURE AND PRESENT ECONOMIC SCENARIO

Let us look at *roti* or food from the realm of *roti kapada aur makan* and the agriculture sector. The impact of the crisis on agriculture is much more severe than has been recognized. Cultivators in India have already been through more than a decade of agrarian crisis, which persisted even through the period of rising international crop prices. The problems of farming in India are both deep and varied. They include weather problems such as less reliable monsoons, more frequent droughts or floods, soil degeneration, lack of institutional credit and insurance leading to excessive reliance on private moneylenders, problems in accessing reliable and reasonably priced input, difficulties in marketing and high volatility of crop prices.

Except for the first set, these are all related to public policies from the early 1990s onwards, that systematically reduced the protection afforded to farmers and exposed them to import competition and market volatility; allowed private profiteering in agricultural input supply and crop purchases without adequate regulation; reduced critical forms of public expenditure; tried to cut subsidies by increasing the prices of important inputs like fertilizer and water and electricity rates, ran down or destroyed important public institutions that have direct relevance for farming, including public extension services and marketing arrangements; and did not adequately generate other non-agricultural economic activities.

At the same time that various forms of public protection for cultivation were being reduced, trade liberalization meant that Indian farmers had to operate in a highly uncertain and volatile international environment. They were effectively competing against highly subsidized large producers in the developed countries, whose average level of subsidy amounted to many times the total domestic cost of production for many crops. In addition to increasing the risks of farming, volatile crop prices also generated misleading price signals. Indian farmers tend to respond quickly and extensively to price signals by shifting to more high-priced crops. This caused large and often undesirable shifts in cropping pattern which ultimately rebounded on the farmers themselves.

In dry land areas, traditional staple crops such as millets and sorghum were abandoned in favour of oilseeds such as groundnut which require more irrigation and purchased inputs, and which have also faced major volatility in crop prices. As a result of the shift away from traditional staple grains to cash crops, there was much greater use of a range of purchased inputs, including new varieties of seed and related inputs marketed by major multinational companies.

Small cultivators, who took on debt (often from informal credit sources at very high rates of interest) in order to pay for these cash inputs, then found themselves in real difficulty if crops failed or output prices remained low.

So the inevitable uncertainties associated with weather fluctuations were compounded by further problems of extremely volatile crop prices, which were no longer inversely related to harvest levels but followed an international pattern. Further, this dramatic volatility of output prices was associated with continuously rising prices of inputs. This was especially marked because of

government attempts to reduce fertilizer subsidies, and progressive deregulation of supplies of inputs such as seeds and pesticides.

Such exposure to global price volatility was associated with a growing reliance on private debt, because of the lack of extension of institutional credit, coupled with growing inability to meet debt service payments because of the combined volatility of crops and prices. Farmers already had inadequate access to institutional credit, but things got much worse after 1993. Financial liberalization measures caused a significant slowdown in the growth of bank credit, particularly from commercial banks to rural areas, and a relative fall in proportion of bank credit flowing to the priority sectors, especially agriculture. The impact of the slowdown in rural banking fell disproportionately on poor and small borrowers.

Volatility of output prices remains a huge problem for farmers. And the central question of the huge burden of farm debt has really not been solved, despite the "loan waiver" for farmers announced in the 2008-09 Budget. This is because most farmers operate in the informal credit market, and go to private sources who are typically either rural moneylenders or input dealers. Marginal farmers, tenants and women farmers still remain outside the ambit of institutional credit, and most farm debt is informal. The real problems of rural debt cannot be addressed without dealing with cases of both public and private debt and recapitalizing the moneylenders to alleviate the problems of borrowers and keep private rural credit channels flowing.

Meanwhile, crop price volatility has become much worse in the past year, dramatically increasing the difficulties of cash crop producers. Globally, primary commodity prices zoomed upwards in 2007 and the first half of 2008, and then collapsed very rapidly, thereafter. So all the price gains of the period January 2007 to mid-2008 were wiped out by the later fall in prices. Farmers did not benefit from such a short-lived price boom, especially if they produced cash crops. Instead, they now face lower prices of their output even as food prices have continued to increase. This is particularly true for cultivators of cotton and oilseeds, prices of which have crashed compared to a year ago. Cultivators who opted to sow these crops when their prices were at their peak now face a completely different environment with very different configurations of costs and prices that could easily make the cultivation process financially completely unviable.

To stimulate pro-poor agricultural growth and rural development, India will need to make some strategic choices in the wake of the Global meltdown in recent years, the most crucial economic event of the century to provide an inroad to the agricultural development to increase its share in GDP to provide the people a food security as well as to enhance the ability to ensure a sustainable livelihood option to the farming communities.

OBJECTIVES OF THE STUDY

The agricultural and rural land use sectors are not insulated from broader economic change. The current downturn may result in financial stress for some agri-businesses, and lead to affect the livelihood of the poor farmers. The current paper aims to provide an

understanding into the agri-business activities of the poor tribal farmers of the KBK districts. The broad objectives of the present research paper are –

1. To study the present state of agro-entrepreneurship of the farmers of KBK Districts.
2. To analyse the agricultural productivity, poverty alleviation and social empowerment through agro-entrepreneurship in a selected village, Kokriguda, of Semiliguda Block of Koraput district of Odisha.
3. To suggest a model for agro-entrepreneurship for the sustainable growth of the farming – entrepreneurs, in the wake of global meltdown for a sustainable livelihood.

Why KBK Farmers? - The three undivided districts of Koraput, Bolangir and Kalahandi are amongst the most backward districts of the country (Debroy and Bhandari, 2003; Planning Commission, 2002).

- KBK districts have very high levels of poverty, 83 percent households accounting for 80 percent of the population lie below the poverty line
- Almost 5 times as many households in India and twice that in Orissa, go hungry
- More than half of the households in KBK districts do not own any of the assets
- Bolangir has greater poverty as well as greater asset ownership – this reflects greater inequality levels compared to Kalahandi and Koraput
- While only one fourth of India is employed as agricultural workers, in KBK districts half of the population is an agricultural worker. KBK districts have a higher share of agricultural workers and lower share of other workers as compared to rest of Orissa.
- Over the last decade the share of cultivators accounting for total agricultural workers has reduced drastically in the KBK districts, which has lesser percentage of cultivators but significantly greater number of agriculture workers indicating that the land is concentrated with a few.

KBK districts were purposively selected for the present study because it faces wide inequality, improper management and over-exploitation of natural resources and explosion of population. These have created a threat to ecological balance and economic as well as social status of households in different areas of the region. The persistently increasing inequality has become a big threat to the successful development of sustainable agricultural in this underdeveloped area.

Methodology: For the present study, the farmers of the Kokriguda village of Semiliguda blocks of the Koraput district were preferred as the post-super cyclone era is crafted as the most developmental stages of their growth in the agro-business undertakings, as under the patronage of Krishi Vigyan Kendra and Water Conservation Research and Training Organisation, under the Watershed Project 2001-2003. A group of 78 farmer household were selected randomly for this purpose and relevant data were collected through an open ended questionnaire and necessary statistical tools were used to find out the impact of change on their business and activities. Finally a suggestive model is crafted out for the sustainable development of KBK district farmer entrepreneurs through an in-depth study of literature and developmental strategies adopted by various countries and agencies throughout the world to fight the global economic change for a sustainable livelihood.

AGRICULTURAL ENTREPRENEURSHIP IN KBK – AN ANALYSIS

SWOT Analysis

Strength

- Rich bio-climate and biodiversity
- 2000 species of vascular plant of which 21 per cent are endemic and 13 per cent are Indian
- Affluent source of medicinal plant biodiversity
- Wide range of Non-Timber Forest Products and plantation crops
- Centre of origin of rice
- Sub-tropical climate with mild summer and a good monsoon (1400 mm annual rainfall) conducive to a wide range of crops including spices and condiments
- Assured surface water supply from perennial streams
- Well-drained deep red soils in the valleys
- Agro-ecology conducive for crop diversification
- Easy availability of labour
- Appreciable ITK base

Weakness

- Heavy soil erosion and land degradation
- Indiscriminate deforestation
- Cutting of land due to gullies
- High illiteracy, lack of awareness, malnutrition and poor health care support system
- Rigid tribal customs and taboo
- Small and marginal land holdings
- Lack of infrastructure support for agriculture and allied industries
- Poor soil fertility, low water retention capacity coupled with soil acidity
- Large unproductive cattle population with associated uncontrolled grazing

Opportunities

- Moderately high to medium moisture deficit zones
- Contribution o[winter rainfall towards post-monsoon cropping
- Number of central and state government sponsored watershed management programs requiring expert advice
- Introduction and research on multi-storied cropping, dry land horticulture, plantation crops agro- forestry and medicinal plants
- Refinement and blending of ITKs
- Survey and evaluation of cropping systems for resource conservation and scientific utilization
- Standardization of agronomic and soil conservation practices
- Water and nutrient management for jhola lands

Threats

- Shift towards non-agricultural occupations
- Changing climate
- Policy issues regarding tree cutting rights
- Immigration of outsiders for exploitation of natural resources
- Threat of Naxals

SOCIO-ECONOMIC STATUS OF THE RESPONDENTS

In the pre-project period, Kokriguda village was a tribal hamlet with scattered small earthen houses having thatched/tiled roof, with no potable water facilities, electricity connections, and with poor sanitation due to improperly maintained livestock shed co-existing with households. A primary school run by two teacher belonging to Semiliguda town in a two-roomed pucca house and an Anganwadi Kendra housed in asbestos roofed pucca house, being looked after by a supervisor from Integrated Child Development Scheme (ICDS) cater to the primary education, health needs of the village children. Based on the socio-economic surveys, general socio-economic conditions of the respondents are presented.

Land and Land Holding Distribution: Out of the total land area of the village, 50% is under private ownership and from the rest, 47% is government land. Most of the private land is in the upland with low fertility conditions and thus not much suitable for agriculture. About 26% of land holdings are in lowland, locally called as *jhola* with almost perennial water flow. Cultivated agricultural land is around 167.7 ha with 9% large farmers, 26% small and 59% belonging to marginal category. About 6% of the villagers are landless. Thus land distribution is quite skewed. Average land holding size is 2.15 ha. Male members take up hard farm operations while women folk are involved in other operations like weeding, transplanting and harvesting. Most operations are taken up in a collective manner, but the technology followed is indigenous and primitive without any mechanization and with very low fertilizer /pesticide application.

Table – 01: Land and Its Types

Land type	No. of plots	Percentage	Land type	No. of plots	Percentage
Jhola	165	26	Badi	80	13
Saria	167	26			
Pada	222	35	**Total**	**634**	**100**

Occupational Distribution: The primary occupation of the populace is agriculture and wage labour (88% of the respondents). As only a single crop is possible in the kharif season, most of the villagers go for daily wages to the nearby towns in the lean period.

Family Composition in Different Land Size Group: Average female number per family is marginally higher than average male members per family. The average family size is small (3.19) which indicate that there are nucleus families. In case of marginal farmers, the size is the lowest. Number of children per family is very less which shows that the young adult population is more. The reason behind least number of children among landless and lower number of children per family in the village is the mass family planning operation undergone by the villagers in late nineties mostly to avail monetary benefits.

Table – 02: Family size and its composition among sample households

Particulars	Size groups				
	Landless	**Marginal**	**Small**	**Large**	**Total**
No. of households	4	21	46	7	78
a) Total male	4	22	60	10	96
i) Average male / family	1	1.05	1.30	1.43	1.23
ii) Percentage	25 .00	40.00	40. 00	35.71	38.55

b) Total female	7	24	62	9	102
i) Average female/family	1.75	1.14	1.35	1.29	131
ii) Percentage	43.75	43.64	41.33	32.14	40.96
c) Total children	5	9	28	9	51
i) Average children	1.25	0.43	0.61	1.29	0.65
ii) Percentage	31.25	16.36	18.67	32.14	20.48
d) Total population	16	55	150	28	249
i) Average family size	4	2.62	3. 26	4	3.19
ii) Percentage	100	100	100	100	100

Education Level: In education terms, the village is highly backward as reflected from the figure that 80% are illiterate. Male and female literacy is 29.7 and 9.4%, respectively. Need of education is not properly realized. Small family size forces them to divert children to agriculture / livestock maintenance, wage earning, baby-sitting activities etc.

Women's share in different activities: In an average, a tribal woman in the village works for about 16 hours a day, much more than her male counterpart. She spends about one-sixth of her time on household duties and has to devote about one-sixth of time towards collection of fuel wood, which involves long gruelling walks along the slopes. She also spends a substantial time of about three hours daily to fetch water, wash utensils and clothes and ablution purposes. In spite of all this, she also contributes to farm activities (25% of her total time).

Livestock Resources: The ratio between human and bovine population in this region is 1: 0.55 as compared to 1: 0.52 in the state. Livestock breeds are indigenous; cattle are short and diminutive with poor health, and maintained mostly for manure and draught purposes. Cows are also used for ploughing. Cattles are less productive with an average of 4hr/day of ploughing. Milking, especially ill cows, is not allowed as per tribal taboos, which preach that milk is meant for the calf only. However, a few buffaloes are milked for market purposes. Lactation period is about 4 mouths and daily milk yield is 2.5 litres per buffalo. Indigenous breed and poor feed are the major reasons for short lactation period and poor milk yield. Per family per year milk production is 11.54 litres. Thus per family per day milk production comes to be 0.032 litres which is sold outside for money. The small ruminants are reared for urgent cash requirement. Lack of grazing lands and availability of fodder force the livestock to stray and damage any plantation activities, taken up in nearby areas. Tribes of this region do not easily adopt modem livestock technologies, making livestock management and improvement difficult.

AGRICULTURAL ACTIVITIES OF THE RESPONDENTS

Cropping Pattern: Ragi, rice and niger (*alsi*) are the major crop of the region covering 41.1, 20.6and 7.2% of total agricultural land (167.7 ha). Cropping intensity of 78% indicate that not all the area is put under crops even once a year. Further, relatively very little area is covered under crops during rabi and summer seasons. So, immense scope exists to introduce newer crops in winter and summer, and crop intensification in both space and time scales.

Major Crops: The major crops are as follows

Cereals - rice, maize, sorghum
Millets - Ragi (finger millet), *suan* (little millet)
Pulses Oil seeds – Arhar, black gram, *dangar rani* (rice bean), *moong*, soybean
Vegetables - Runner bean, tomato, chilli, cucurbits, potato, cabbage, cauliflower etc.
Cash crop – Ginger, groundnut, garlic, medicinal plants etc.

Out of 167.7 ha of arable land, 161.7 ha (96.4%) including *jhola* lands is rain fed. Irrigated area is only 6.0 ha (3.6%). Low level of awareness and one-day living attitude of the villagers contribute towards non-utilization of even irrigated area for double cropping and cultivation of cash crops, which has led to poverty, malnutrition and poor health of the inhabitants.

Crop Diversification: Mainly rice, ragi, niger, groundnut and barnyard millet, sweet potato, and some pulses are major field crops whereas tomato, chilli, runner bean, cucurbits are the chief vegetable crops. Because of congeniality of climate, there is good scope for introducing new field crops like maize, wheat, sunflower and vegetables like capsicum, French bean, ridge gourd, lady's finger, water melon etc.

Crop Yields: Yield of all the field crops and vegetables under cultivation at Kokriguda are low. Prime reasons for low productivity are use of long duration low yielding local varieties, lack of irrigation, low fertility of soils, low levels of input use and lack of knowledge on improved cultivation practices. Time trend of crop yield was drawn after getting the yield per hectare. The trend of crop yield showed that productivity of different crops is increasing.

Table – 03: Average Annual Productivity of various Crops

Field Crops		Vegetables	
Crops	**Yield (Quintal per hect.)**	**Vegetables**	**Yield (Quintal per hect.)**
Upland paddy	10	Runner beans	60
Jhola paddy	14	Tomato	90
Ragi	9	Cucurbits	120
Niger	3	Sweet potato	60
Little millet	2	Curly flower	90
Ground nut	10	Chilli	70
Boro-rice	7	Ginger and Other	130

Manures and Fertilizer Use: Use of manures and fertilizers is very low. However, ragi being staple food receives highest amount of Fodder yielded Manure (FYM) and fertilizers (Table 2.12). Vegetables, despite being highly potential and remunerative, receive lowest quantity of these inputs. This may be because vegetables are rarely included in the daily diet. Low purchasing power of the fanners is another important reason for low level of fertilizer application. FYM production per HH was estimated to be 5.4 tonne/ha/year as against requirement of 11.5 tonne/ha/year, considering single crop of ragi or rice per year. Although there is shortfall of FYM, about 40-50% of FYM is sold out to the resourceful and progressive farmers of the nearby villages. Rest of the quantity is used in ragi and rice and vegetables.

Cost of Cultivation of Crop: On an average, the human labour accounts for 81.5% of the total cost of cultivation of paddy followed by seed (5.6%) and FYM (5.3%) and net income received un all average is Rs. 1882/= per hector. One of the important features of paddy cultivation is that

the farmers use very little quantity of fertilizers. It may be due to the reason that the main rice lands (jhola lands) are considered to be fertile on account of the continuous deposition of organic and inorganic fragment being brought down by monsoonal inflows. Moreover, they are using scarce resources to supplement productivity of sloping *dangar* lands prone to soi1erosion.

Table – 04: Economy of Paddy Cultivation (Rs. per hector)

Input	**Farm Size**			**Average Expense / Gain**
	Large	**Medium**	**Small &Marginal**	
Bullock labour	131.3	133.3	159.0	141.2
Male labour	836.5	1497.4	1875.0	1403.0
Female labour	1753.8	1927.1	2572.5	2084.4
Seed	235.6	237.0	248.2	240.2
FYM	250.0	228.8	208.5	229.1
Fertilizer	174.45	184.10	186.9	181. 8
Total Cost	3381.5	4207.6	5250. 1	4279.7
Yield Grain (q/ha)	10.1	11.0	12.5	11.2
Straw (q/ha)	13.9	15. 1	16.4	15.1
Total product	5581.5	6075	6827.5	6161 .3
Net income	2200	1867.4	1577.4	1881.6

Markel price: Grain - Rs. 415 per quintal; Straw - Rs. 100 per quintal

On an average, human labour accounts for largest share (80.67%) of total cost of cultivation of ragi followed by FYM (8.58%), fertilizers (5.96%), seed (3.30%) and lastly bullock labour (1.49%). Net income received on an average is Rs 539/ha. The medium farmers recorded highest net income of Rs 633 /ha showing that they are more efficiently using the resources. However, all the category of fanners arc using fertilizers along with FYM showing the importance of the crop receive from the farmers, being their staple crop.

Table – 05: Economy of Ragi Cultivation (Rs. per hector)

Input	**Farm Size**			**Average Expense / Gain**
	Large	**Medium**	**Small & Marginal**	
Bullock labour	60	36	40	45.3
Male labour	787.5	845.7	1018.8	884
Female labour	1645	1470.7	1580	1568.2
Seed	99	98.8	102.8	100.2
FYM	300	275	205	260
Fertilizer	174.5	184.1	184.1	180.9
Total Cost	**3066**	**2919.2**	**3130.6**	**3038.6**
Yield Grain (q/ha)	6.9	6.6	6.5	6.7
Straw (q/ha)	15.7	15.2	15	15.3
Total product	**3682**	**3552**	**3500**	**3578**
Net income	**616.1**	**632.8**	**369.4**	**539.4**

Markel price: Grain - Rs. 400 per quintal; Straw - Rs. 60 per quintal

Agro-forestry: Traditional agro-forestry systems in the village include backyard / homestead agro-forestry and occasional trees on field bunds. The shifting cultivation on temporal agro-forestry (perennials and annuals grown in some form of the temporal arrangement other than

spatial arrangement) has long been stopped in the village. However, some hedgerow systems are observed in pediment slopes where along stone birds, species like *murrayakoengii, cipadessia, baccifena, lantana camara, carissaspinarum* are allowed to grow in a bush form to effect soil and moisture conservation. In the back-yard agro-forestry, miscellaneous trees (around 11 species) arc found to be grown in scattered form, but mostly concentrated on bunds. Eucalyptus, jack fruit and mango were the most preferred tree species.

THEIR PERFORMANCES: AN ANALYSIS OF CHANGES

"Indian agriculture and agro-entrepreneurs need to focus on innovation, educating people, and doing their bit for the community locally and worldwide." - Ganesh Natarajan

Low productivity and limited diversification are the general thread in agriculture, thereby contributing significantly to the declining competitiveness of agri-business. The primary data collected from the study area provides the following conclusions after analysis (Annexure - 1).

1. There is an upward trend in the production of various crops, which is significant statistically also. The cash crops like rabi crops (growth of 261%) and vegetables (174%) shows a higher growth. The paddy also shows a growth of 109%.
2. The agri-business also shows a rapid growth in last decades. The annual average paddy production registered a growth of 128%, rabi crops for 319%, vegetables for 234% and other crops for 103%. The cash crops like rabi and vegetables shows a remarkable higher growth of 276% in last decades. The positive growth in sale proceed of agri-business is also statistically significant.
3. The change in the agricultural productivity in this region is due to the use of modern equipment and tools in place of traditional and indigenous one. The use of tractor etc. shows a decadal growth of 1083%, irrigation tools by 641%, pesticides by 188%, fertilizers by 700% and seeds by 1083%.
4. The other factor of high growth of agri-business is due to diversification of paddy crops to rabi crops by 609%, paddy to agriculture by 1867% and paddy to other crops by 3700%. The cash crops like rabi crops, vegetables, flower and medicinal plants attracts the farmers to change their agricultural schedules. The farmers opt for one crop per year can shift to three crops in a year – paddy, rabi crops and seasonal vegetable and medicinal plants.
5. The financial pattern and uses of loan and sale proceed also registered a najor change. The farmers opted the loans from institutions like banks and SHGs (rise of 617%) rather than opt for other sources like moneylenders (decline of 75%), relatives (decline of 32%) and from vendors or suppliers (decline of 39%). The use of the sale proceed and the loans also registered a change as the farmers use them for agricultural uses (a growth of 350% for seeds, 275% for fertilizers / pesticides and 250% for other agricultural uses) rather than for uses like food or purchase of fixed assets for the family.

6. Payment of loan shows a remarkable statistics as a change of 274% of the farmers have paid their loan in time and all the farmers opined that they can pay their dues in future. The figures in defaulters also decrease. The change in this aspect is also statistically significant.
7. The employment opportunities provided to self (change from 180 to 285 days, + 58%), to the spouse (change from 180 to 270 days, + 50%), members of the family / relatives (change from 90 to 180 days, + 100%) and others (change from 120 to 195 days, + 63%) is also statistically significant.

FINDINGS OF THE ANALYSIS

The analysis of the data collected from the primary source, by observation of the activities and the changes and through a peer group discussion, it may be concluded that -

- The promise was fulfilled by achieving the objectives of the project which transform the farmers to the framer traders along with empowering them with higher income and better socio-cultural life style.

- Women have regained the equality in status and an environment for individual growth and prosperity. With the improvement in awareness, the sustainability of the change also marks a stable streak.

KEY ISSUES IN AGRARIAN SUSTAINABILITY IN KORAPUT DISTRICT

The process to upgrade agro-enterprise skills and learning how to link poor, smallholder farmers with a range of markets is a rewarding one for the society, the government, and the farming communities. It is still miles to go in the development of the poor tribal farmers of the KBK regions of Odisha, to be a part of the mainstream. Every project for development is an eye opener for the next plans and programs. The present study outlined the following some of the key issues of the present scenario -

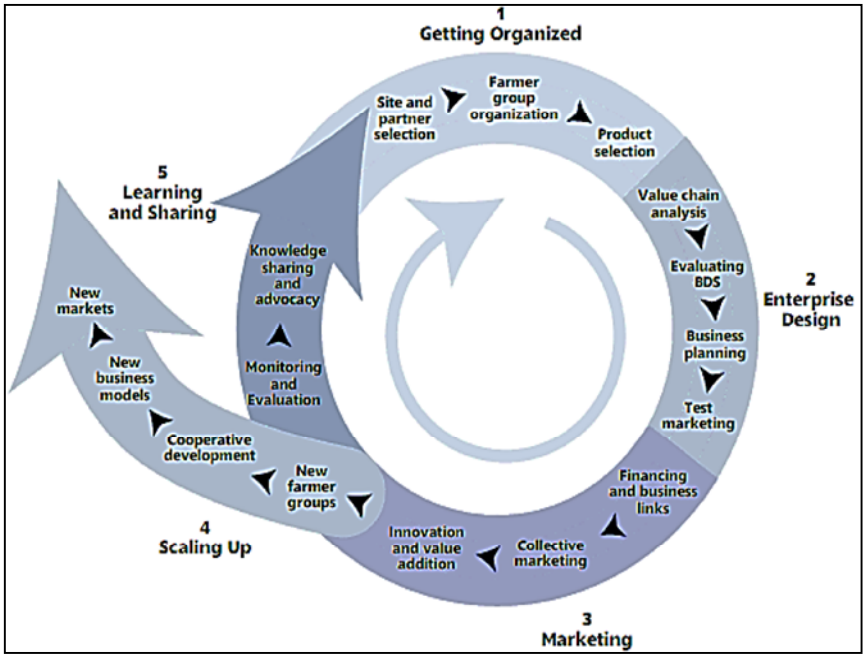
- Lack of land rights and exploitation of landlords during tenant farming.
- Scarcity of Collateral for the financing the activities and non-dependence on the indigenous money-lenders for short term loans
- Risks, Risks and More Risks as the whole process depends on nature and natural causes
- Challenge of Liquidity Management and the need for cash
- Absence of Risk-reducing Institutions like crop insurance etc. due to lack of awareness and knowledge
- Missing Opportunities in Agriculture Supply Chain for forward linkage and exploitation by the middlemen in the marketing process
- Regulation and Supervision Issues are coming to the forefront as the governmental intervention is very minimum and negligible
- Inclusion of ‘Financially Excluded’ is a matter of concern and an issue to be taken care of as the present situation is worsened due to lack of physical facilities and lack of awareness among the dominated tribal population
- Rescheduling of Loans of Farmers Affected by Natural Calamities

A SUGGESTIVE MODEL OF SUSTAINABLE LIVELIHOOD FOR TRIBAL FARMERS OF KBK DISTRICTS OF ODISHA

The economic prospects of millions of poor rural families in many parts of the developing world, and particularly in India, are not improving rapidly or even steadily. In many locations farm incomes are falling rather than growing, due to a combination of out-dated production technologies, poor infrastructure, and increasing competition from global markets. Millions of farming families do not know how to improve their market performance and remain trapped within an agricultural marketing system that they do not understand. The decline of government buying boards and their associated farmer cooperatives has left many farmers working on their own, supplying small amounts of poor-quality goods at irregular times to unfamiliar buyers. This opportunistic approach to the market can only result in low returns. Unless farmers can become more engaged in markets, their economic prospects are unlikely to improve.

In the poorer areas of India and especially in the poorest KBK districts of Odisha, few farmers receive visits from extension workers. Those extension workers who do enter those areas are trained in production and generally know very little about market linkage. Farmers therefore have limited access to improved production technologies, little information on markets and opportunities, and limited or non-existent options for financing. The task to empower local farming communities with the ability to harness the benefits of new production technologies with new forms of organization and market knowledge to engage with local, national and international markets, is the need of the hour to revive the agricultural sustainability and so a sustainable livelihood for the poor farmers.

"Produce what you can sell! Don't try and sell what you have produced"



The agro-enterprise approach is a systematic method of shifting from a food-security strategy focused on production to a market-oriented approach that emphasizes income generation and profit based on market demand and sales of agricultural products. Agro-enterprise aims to support poor farming communities. It is not commodity-specific. It incorporates ideas on chain-wide thinking, competitive production, collective marketing, product diversification, and adding value to construct a path out of poverty for farmers.

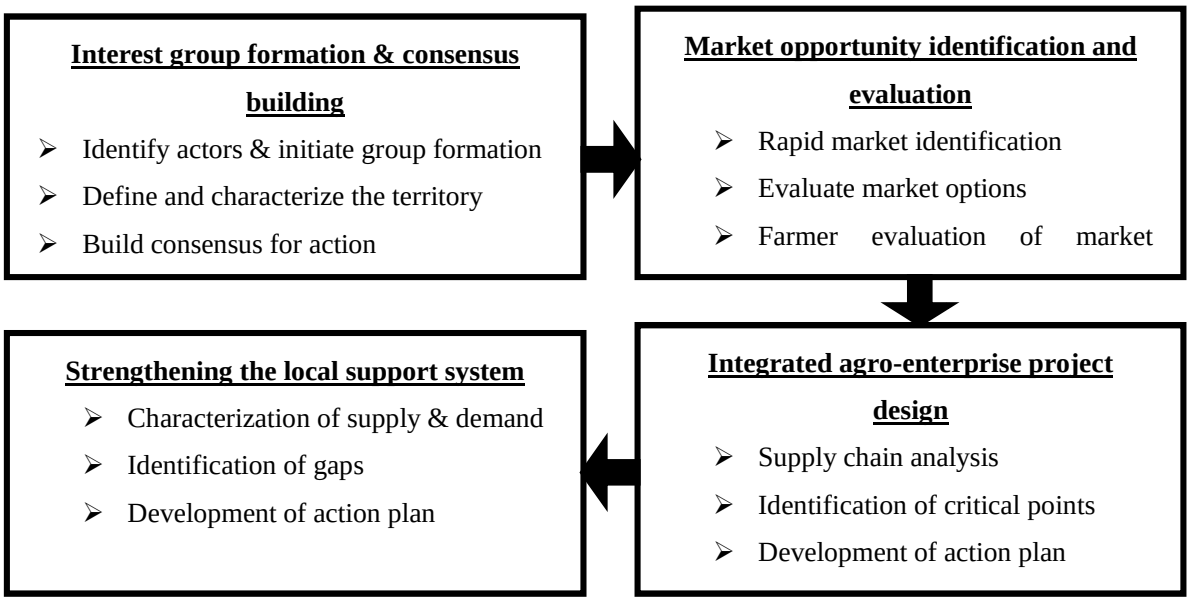
The term “agro-enterprise” refers to a business venture, typically small-scale. It may be an on-farm venture or a service that adds value to agricultural goods. An agro-enterprise generally involves groups of farmers and individual actors who provide services within the market chain, and builds relationships with the traders who buy the enterprise’s products.

“Agro-enterprise is not just a methodology. It’s an entire approach to doing agriculture.”
- Tom Remington, Principal Agricultural Adviser, CRS

Seven key objectives that encapsulate the value of Agro-enterprise development approach:

1. Helps poor rural households attain food security
2. Increases farmer incomes and improves access to food
3. Is highly participatory and empowers farmers
4. Has incentives, risks and rewards
5. Links smallholder farmers with local, national and global markets
6. Accelerates integration of sectors and partners within rural communities
7. Supports reinvestment and growth for sustainability

This road map on agro-enterprise development identifies four steps that can understand a local business climate, help farmers to identify market opportunities within a defined geographical area, and then produce agricultural goods or provide services based on market demand.



THE FINAL WORDS

There are countless cases where support agencies have encouraged farmers to produce for markets without understanding market conditions. After considerable investment and effort, farmers are stuck with unwanted crops that they are forced to sell at very low prices. In some sense this is a result of a simple imbalance of inputs: it is relatively easy to introduce improved technologies, but more difficult to empower communities with the skills required to understand,

access, and adapt to dynamic markets, when the response group is the traditional farmers of KBK regions. The agro-entrepreneurship approach is a means of refocusing the production-based efforts within a market-based framework. It does not replace traditional agricultural development, but it does require a new way of thinking about agriculture: one that recognizes the market as the driver in the system and requires that investments be aligned with market needs and evaluated against market performance—i.e., sales volumes, product quality, profit, and timeliness.

Still the areas of despondency to implement the suggestive model may be drawn -

- If no land right then a right to share the crops for landless tenant farmers to be enacted.
- Defining and finding an Agency Niche or focus, who are involved in the acts
- Formation of farmer groups and specialization of their activities
- Forming new business models for forward and backward linkage
- Sustainable presence of agro-enterprise planning
- Provisions for Business development services and its availability
- Who to have the participation - Experts or amateurs?
- Selection and focusing on a few commodities or crops
- Guidelines for the partnership with other agencies and Project working groups
- A streamlined financial support after completion of intervention or phasing out
- Integrating Agro-enterprises with other sectors and a diversification
- An effective presence of Market Information System
- Integration of MF with agro-business
- Use of Indigenous Knowledge and Practices

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ANNEXURE - 1

1. AGRARIAN PRODUCTION PER HOUSEHOLD (IN KILOGRAMS)

Types of crops	Annual Average production 2000-05	Annual average production 2005-09	Absolute change	%age Change
Paddy	185	387	202	109.19
Rabi crops	67	242	175	261.19
Vegetables	176	482	306	173.86
others	86	167	81	94.19

ANOVA AT 5% SIGNIFICANCE LEVEL

Source of Variation	d.f.	SS	MS	F	F crit	Omega Sqr.
Between Groups	1	72962	72962	6.143134	5.987378	0.391317
Within Groups	6	71262	11877			
Total	7	144224				

2. SALE VOLUME PER HOUSEHOLD (IN KILOGRAMS)

Types of crops	Annual Average production 2000-05	Annual average production 2005-09	Absolute change	%age Change
Paddy	145	330	185	127.59
Rabi crops	52	218	166	319.23
Vegetables	134	448	314	234.33
others	81	165	84	103.70

ANOVA AT 5% SIGNIFICANCE LEVEL

Source of Variation	d.f.	SS	MS	F	F crit	Omega Sqr.
Between Groups	1	70125.13	70125.13	7.911414	5.987378	0.463498
Within Groups	6	53182.75	8863.792			
Total	7	123307.9				

3. USE OF VARIOUS MODERN TECHNOLOGY

Types of modern tools	Number of farmers during 2000-05	Number of farmers during 2005-09	Absolute change	%age Change
Tractor etc.	6	71	65	1083.33
Irrigation tools	12	89	77	641.67
Pesticides	34	98	64	188.24
Fertilizers	12	96	84	700.00
Seeds etc.	9	78	65	1083.33

ANOVA AT 5% SIGNIFICANCE LEVEL

Source of Variation	d.f.	SS	MS	F	F crit	Omega Sqr.
Between Groups	1	12888.1	12888.1	99.4836	5.317655	0.90782
Within Groups	8	1036.4	129.55			
Total	9	13924.5				

4. AGRIAN CHANGE OR DIVERSIFICATION

Change / diversification	Number of farmers during 2000-05	Number of farmers during 2005-09	Absolute change	%age Change
Paddy to Rabi crops	11	78	67	609.09
Paddy to vegetables	3	59	56	1866.67
Paddy to others	1	38	37	3700.00

ANOVA AT 5% SIGNIFICANCE LEVEL

Source of Variation	d.f.	SS	MS	F	F crit	Omega Sqr.
Between Groups	1	4266.667	4266.667	19.92218	7.708647	0.759251
Within Groups	4	856.6667	214.1667			
Total	5	5123.333				

5. LOAN FROM VARIOUS SOURCES

Sources of Loans	Number of farmers during 2000-05	Number of farmers during 2005-09	Absolute change	%age Change
CBs through SHGs	12	86	74	616.67
Indigenous Moneylenders	72	18	-54	-75.00
Relatives etc.	34	23	-11	-32.35
Vendors / Suppliers	56	34	-22	-39.29

ANOVA AT 5% SIGNIFICANCE LEVEL

Source of Variation	d.f.	SS	MS	F	F crit	Omega Sqr.
Between Groups	1	21.125	21.125	0.025474	5.987378	-0.13871
Within Groups	6	4975.75	829.2917			
Total	7	4996.875				

6. USE OF LOANS AND SALE PROCEED

Sources of Loans	Number of farmers during 2000-05	Number of farmers during 2005-09	Absolute change	%age Change
Purchase of Fixed assets	56	92	36	64.29
Seeds	18	81	63	350.00
Fertilizers / pesticides	21	75	54	257.14
Other agricultural uses	10	35	25	250.00

ANOVA AT 5% SIGNIFICANCE LEVEL

Source of Variation	d.f.	SS	MS	F	F crit	Omega Sqr.
Between Groups	1	3960.5	3960.5	7.671671	5.987378	0.454731
Within Groups	6	3097.5	516.25			
Total	7	7058				

7. PAYMENT OF LOANS

Payment of Loans	Number of farmers during 2000-05	Number of farmers during 2005-09	Absolute change	%age Change
Payment in time	23	86	63	273.91
Outstanding for one year	46	23	-23	-50.00
Major defaulter	46	9	-37	-80.43
Cannot Pay	8	0	-8	-100.00

ANOVA AT 5% SIGNIFICANCE LEVEL

Source of Variation	d.f.	SS	MS	F	F crit	Omega Sqr.
Between Groups	1	3.125	3.125	0.003368	5.987378	-0.14231
Within Groups	6	5567.75	927.9583			
Total	7	5570.875				

8. EMPLOYMENT OPPORTUNITIES

Employment opportunities for	Average man-day per year during 2000-05	Average man-day per year during 2005-09	Absolute change	%age Change
Self	180	285	105	58.33
Spouse	180	270	90	50.00
Family members	90	180	90	100.00
Relatives	90	180	90	100.00
Other people	120	195	75	62.50

ANOVA AT 5% SIGNIFICANCE LEVEL

Source of Variation	d.f.	SS	MS	F	F crit	Omega Sqr.
Between Groups	1	20250	20250	8.61244	5.317655	0.43222
Within Groups	8	18810	2351.25			
Total	9	39060				

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