



**SFAC**  
लघु कृषक  
कृषि व्यापार संघ

**MANAGEMENT @ GRASSROOTS**



# Curriculum for Community Enterprise Systems (FPOs/POs/PCs)

An SFAC- XIMB Initiative

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A multi disciplinary team of experts from three different domains viz., Management, Agriculture and Social Work have contributed to the development of this curriculum. A nation wide consultative process was followed to bring in the suggestions from academicians, policy makers, entrepreneurship development professionals, resource organizations working with farmer producer organizations and producer companies. Two national level workshops were also organized to create platforms to discuss and refine the contents and pedagogy of this management curriculum.

We would like to thank those who participated in the workshop with their valuable suggestions - Fr. P D Thomas SJ (XIMB), Dr. Aurobindo Behera (Govt. of Odisha), Fr. Raphson (OCD), Fr.K.L Joy (Nava Jyoti PC Ltd.), Prof. Banikanta Mishra , Prof.C.Shambu Prasad, Prof. Kajri Mishra, Prof. D.V.Ramana & Prof. Shridhar Dash (faculty from XIMB), Prof. D.P.Mishra (IRMA), Prof.S.K.Dash (CYSD), Mr. A P Das and Mr. D P Das (NABARD), Mr. Madhumurthy and Mr. G V Krishnagopal (ALC India), Mr. Pranaya Parida (TRIPTI/NRLM, Odisha), Mr. Basant Mohanty (CARE), Mr. Sushant Bhagat (DPS, Kalinga), Mr. C.R. Patnaik (EDI), Mr. M.P. Singh (AFC India Ltd.), Dr. Alok Srivastava (Synergy Technofin), Mr. Amar Patnaik (AG Odisha), Prof. B P Shrivastava (XISS), Dr. Balaram Sahu (OUAT), Mrs. Gayatri Patnaik (OSAMB), Mr. Sanjeev Gupta (SFAC), Prof. Nabor Soreng & Prof. Sashmi Nayak (NISWASS) and Mr. J. Pradhan (Enterprise Solutions). We also thank Mrs. Moupalli Sengupta and Mrs. Bithika Digal for their secretarial assistance in organizing the workshops. We greatly thank Mr. C. D. Kuruvilla, the Research Associate of this project without whose diligent work and coordination, we would not have been able to complete this work on time. The course designers would like to thank everyone else involved whose names have not been mentioned here and express deep gratitude for their valuable thoughts, support and cooperation.

Amar KJR Nayak,  
On behalf of the Course Designers  
December 28, 2012

## **Introduction: Purpose, Process, Principles & Framework**

This management curriculum has been developed based on the experience of developing a curriculum for rural youth of a community based, community owned and community managed producers' organization and pilot teaching the same at Xavier Institute of Management, Bhubaneswar. Our previous twenty five years of training development professionals and qualified students to work with rural communities and the high attrition rate of these professionals in rural communities was also a primer to this initiative. Further, the gradual shift in the content of rural management curriculum towards industrial organizations in market based economy from its original focus of community organizations based in social economy settings has been the key driver to this initiative. The timely financial support from the Small Farmers' Agribusiness Consortium (SFAC), Government of India, made it possible to take forward this initiative.

This curriculum has been an effort to develop a fit between the rural management curriculum and the needs of the rural agricultural communities in terms of the kind of organization that will be suitable for agricultural communities, the areas of activities they usually engage in, the various functional capability needs of the communities, the need for management routines and innovations for greater efficiency, effectiveness and sustainability of small producers and rural communities.

Appreciating the purpose of the course and the target participants viz., the rural youth who would participate, the curriculum, content and pedagogy has been designed keeping five key principles in mind. The courses needs to be (a) simple and fewer covering the fundamental principles of management, agriculture and social work, (b) In order for the subject to be simple, it has to be scientific so that it is understandable, (c) for science or rationality to be acceptable by people in a social economy, it has to be spiritual and built on high moral ground, (d) to manage the complexity and asymmetries of smoothly connecting the social economy with local market economy, the size of organization and membership need to be small or optimally sized, and (e) the overall objective of the curriculum is aimed at transforming rural agricultural clusters to become sustainable in their respective ecosystems and market landscape.

We hope that this curriculum would be suitable for different community enterprise systems including Farmer Producer Organization, Producer Organizations, Primary Agricultural Cooperatives, and Producer Companies working in rural agricultural settings.

## **Design of Community Enterprise System**

The small farmer/producer is like a mini enterprise engaged in multiple activities of production, operations, marketing, finance, and external linkages for his/her livelihood. The challenges of engaging in multiple functions in an environment of growing specialization due to industrialization and globalization for a small producer are enormous. Neither the small producer can sufficiently leverage the natural resource base nor can he/she add sufficient value to it to be able to get better prices for the products.

For efficient production of farm and off farm produce, the producer essentially has to walk in tandem with the seasons of his/her micro-ecology to be able to obtain resources from nature, all the 365 days of the year. It is the ability of the farmer to strategically integrate the various resource bases of the micro-ecology to enhance his total production. Agriculture is indeed an integrated activity. Therefore the strategy of the small producer ought to integrate natural farming with livestock, horticulture, minor forest produce, and other allied activities. Practising integrated farming will reduce the cost of agriculture, increase productivity, and generate a basket of products instead of one product in mono cropping practices. A broad category of produces/products of small farmers/producers in different ecosystem will include items as shown in **Exhibit 1.0**. The consumption and nutritional needs of the producer family is usually met; which is the primary objective of a small producer. The surplus produce of the farmer and its subsequent value addition and marketing activities can be undertaken by the **local producer organization** (*Small Farmers' Agribusiness Unit*) of the farmers/producers. The contents of curriculum should adapt accordingly to fit to the needs of different trainees of different clusters with different produce/product basket.

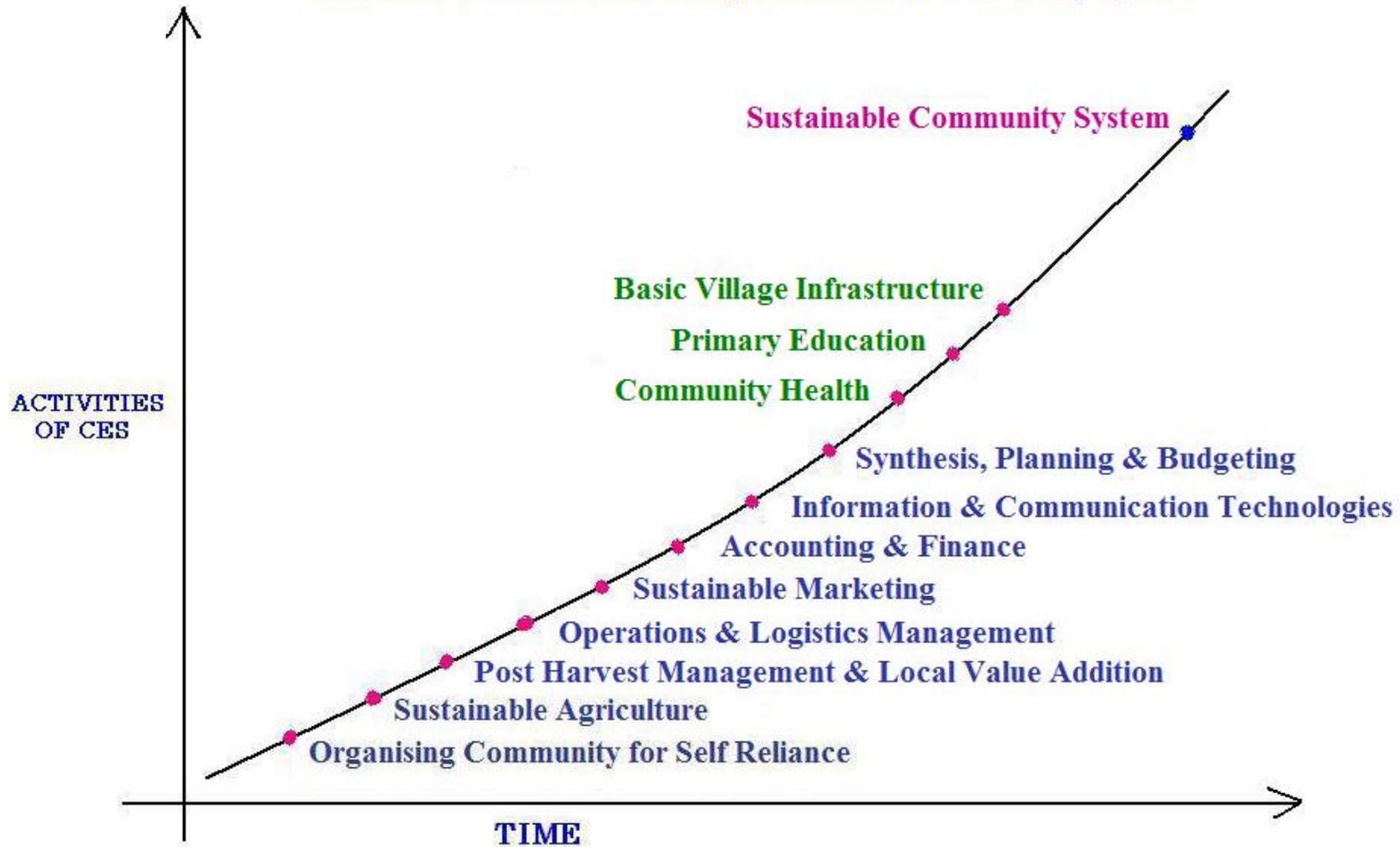
### **Exhibit 1 : Product portfolio across different agro ecologies.**

CEREALS:	Rice, Maize and Wheat
MINOR MILLETS :	Ragi, Bajra, Finger Millets, Fox tailed Millets.
PULSES:	Arhar, Horsegram, Cowpea / Jhudungo, Biri, Mugo
SPICES:	Haldi / Turmeric, Ginger, Chilly.
OILSEEDS :	Sesame, Niger, Sunflower, Castor, Tulo.
HORTICULTURE PRODUCTS AND FRUITS:	Mango, Banana, Lemon, Orange, Papaya
TUBER CROPS AND VEGETABLES :	Brinjal, Ladies finger, Sweet potato, Pumpkin, Desi Alu.
MINOR FOREST PRODUCE :	Hill Broom, Harida, Bahad, Amla, Jamun, Dates
LIVESTOCK :	Goat, Cow, Sheep, Chicken, Duck.
ART, CRAFT AND OTHERS :	Income generating products.

The integration of the production activities at the farmer/producer level and separating the post harvest, value addition, and marketing activities from the small farmer/producer can bring in much higher efficiency to the producer organization of the small producer/farmer. The combination of the above two steps can greatly improve the sustainability of the small farmer/producer in the rural agricultural settings. The Producer organization (Community Enterprise System) however has to play the overall role for both integration and separation of activities. The ability to do this depends on the developing the capabilities of local human resources or the rural youth and their capacity to develop simple management routines to systematically and professionally manage the activities of an enterprise including value addition, marketing, book keeping, supply network management, documentation and convergence of resources for medium term and long term community development.

The areas of engagement of the producer organization is envisaged to be in a variety of activities including organizing the community for self reliance, agricultural production using appropriate technology, post harvest management, local value addition, sustainable marketing, accounting and finance, use of information communication technologies, synthesis planning and budgeting, community health, primary education and basic rural infrastructure. Accordingly, the curriculum has been conceived and designed. **Exhibit 2.0** shows the critical activities to enhance the value creation of small producers in a rural agricultural community.

**Exhibit 2: Phases of Recreating a Sustainable Community System**



## **Need for Local Human Competences**

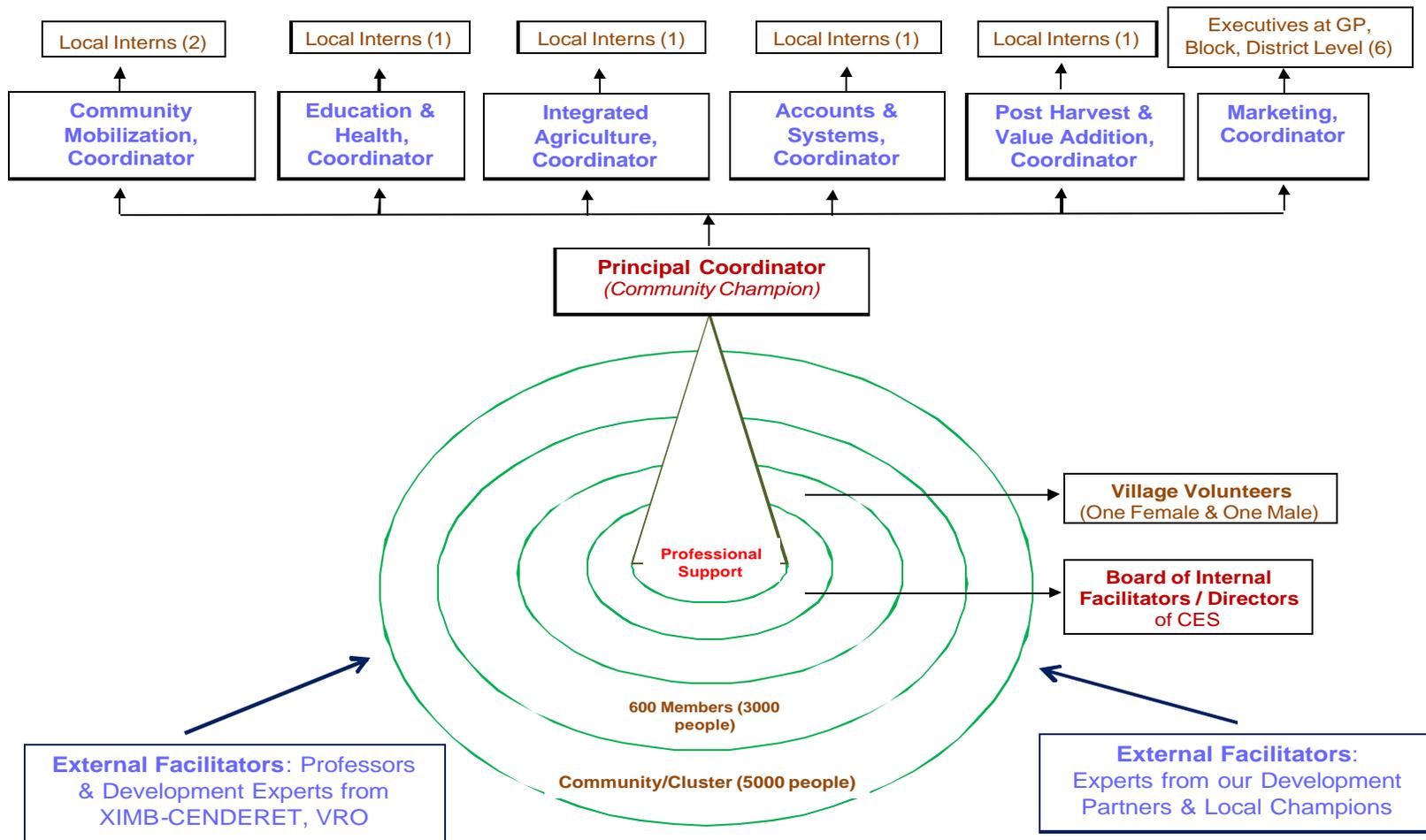
Development of local human competences is a critical step towards catalyzing and sustaining cooperative actions in the community enterprise systems or producer organization in rural agricultural settings. Grass rooting the democratic process for good self governance and imbibing professional managerial skills to operate a community enterprise system require systematic development of local human competences.

Competence development of both the local or **community champions** who shall take charge of the Board of Directors on the governance issues as well as of the **local youth** who shall be groomed to work as volunteers, facilitators or executives of the community enterprise system is required.

Training of local youth to be able to professionally operate the enterprise system on a day to day basis will be fundamental to the sustainable operations of the farmer/ producer enterprise system. The technique for identification and selection process could involve seeking village level volunteers for the enterprise system. From among the volunteers, a few may be chosen to work as interns with a few other outside professionals/facilitators of the enterprise system. The local interns are to be trained-on-job on different functions of the Producer Organization (enterprise system) for a few years before they are given full responsibility of different executive functions. The local interns are to be paid a stipend during their internship and later paid salary by the producer organizations.

While a number of systems and procedures have to be evolved through active participation of the members or people, the institutional champions have to identify and post suitable professionals in the community enterprise system. These outside professionals are to guide the members and help the local interns to learn to gradually evolve appropriate norms, systems and procedures for different functions of the enterprise system. The training through the curriculum is therefore aimed to groom the local interns to graduate to become different functional coordinators over a period of 2-3 years of handholding through on-job-training. The interns and coordinators required for a community enterprise system are shown in **Exhibit 3.0**.

## Exhibit 3.0: Organizational Structure of FPOs/CES



Routines relating to various functional areas viz., farming/production, operations, marketing, book keeping, finances, human resources, net incomes to the farmer/producer members, communitarian spirit, external linkages, etc need to be documented and used in the subsequent stages of the community enterprise system. As the community enterprise system undertakes or integrates other activities like community health and primary education, etc, it needs to develop the systems and processes for the same. In other words, for every activity that the enterprise undertakes, a member approved system and procedure needs to be developed. The capabilities of the local youth need to be developed in order to strengthen the system & processes of community enterprise system.

### **Appropriate Management Curriculum**

The curriculum, the concepts, tools and techniques for the current MBA/Diploma in Business Management and Rural Management are usually designed to improve the efficiency of for profit large industrial organizations. These programmes are also designed for people with a minimum graduate level of education or at least a class XII pass candidate for the programmes like BBA. Neither the students who pass out from these programmes have sufficient financial incentives and the inclination to work in rural areas in agricultural settings nor do the producer organizations of the small farmers have the capacity to pay the salary demands of these management professionals. The employee turnover of these professionals are usually higher and such a trend would cost very dearly to small producer organizations that would lose a lot of both explicit and tacit knowledge base in this process.

Most importantly, the management curriculum of traditional business schools are oriented to the methods, tools and techniques that are suitable for industrial organizations that works best on large size, high scale of operation (say mono-cropping), higher technology (leading to higher precision and high input cost for agriculture), large capital/resource/asset base, higher competence of managers, etc which are indeed rare for the small and marginal farmers.

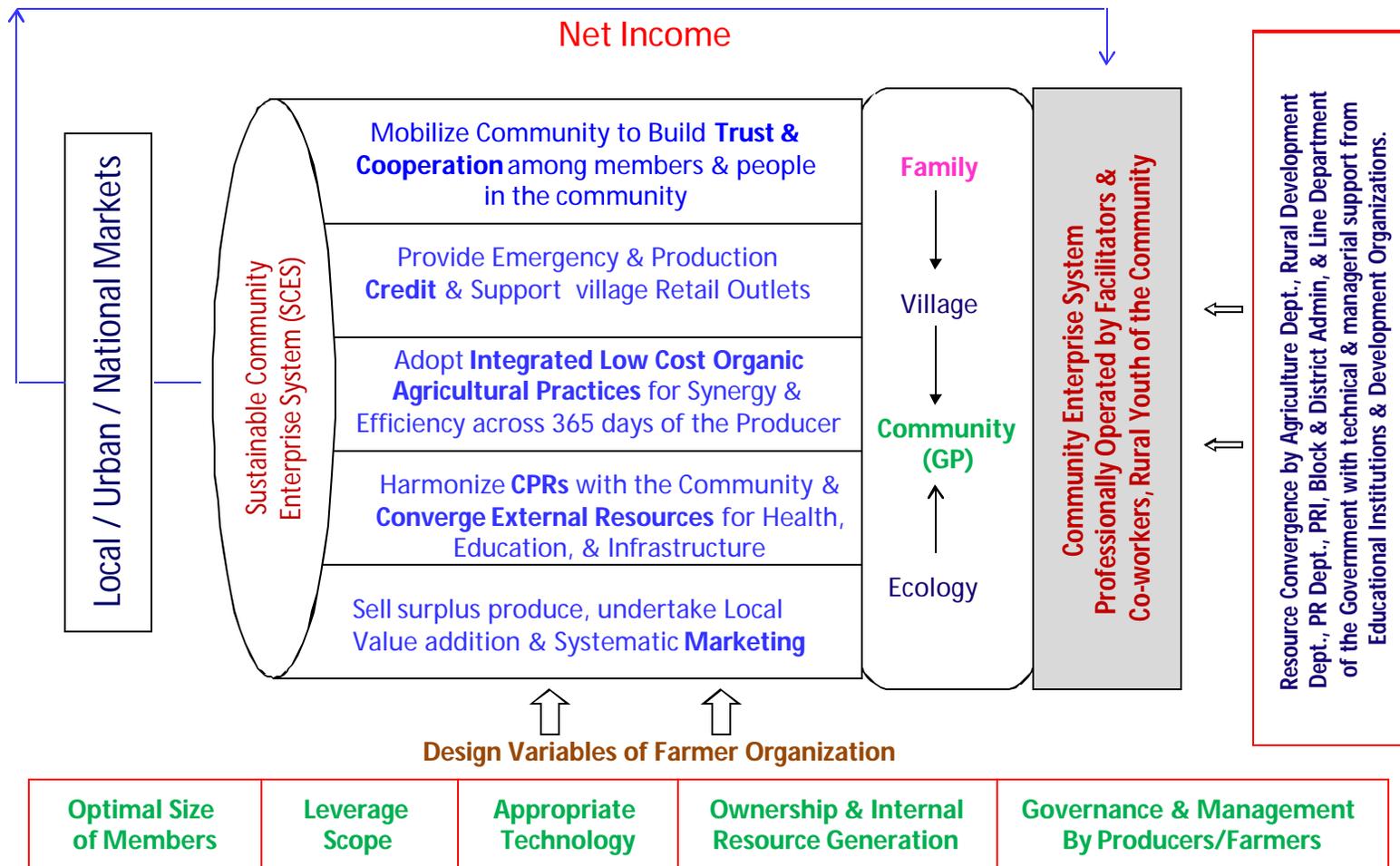
The overall design, functions, resources, markets, & management of a farmer/producer organization is shown in **Exhibit 4.0**. The proposed curriculum is aimed at professionalizing the management methods and processes of a farmer/producer organization by developing the capabilities of the rural youth both men and women. The eight key management areas or topics of the training module will include:

- (a) Organizing Community for Self Reliance
- (b) Sustainable Agricultural Management
- (c) Post Harvest Management & Local Value Addition
- (d) Operations & Logistics Management
- (e) Sustainable Marketing
- (f) Accounting & Finance
- (g) Information & Communication Technologies
- (h) Synthesis, Planning & Budgeting

It is also advised that the participants of this programme titled as “Management @ Grassroots” are not to be issued “Certificate of Participation” on completion of about six weeks of training. Instead, following these inputs and training in class, the suitable candidates are to be given on-job training over a period of 3-4 months, the local youth would then work as interns with their respective ‘Community Enterprise Systems’ under the guidance of external management and development professionals for about three years. By the end of three years, these trained local youths are expected to independently manage a Community Enterprise System with a turnover of about INR 1.0 crore community-cum-market transactions.

The impact of the training could be assessed at three levels, namely (a) Improvement in Knowledge and Skill level (at the completion of the six week training), (b) Improvement in attitude to professional work in the community (within one month of the training), and (c) Improvement in work practices (within three months of the training) . It is also to be noted that the course will ultimately be taught by Master Trainers in order to meet the huge needs of farmer/producer organizations across the country. The Master Trainer should therefore attempt to convert as much of the tacit methods, processes, and knowledge in explicit form so that most of the ideas of the course designer is shared with the rural youth under training.

To aid the master trainers of this curriculum, additional support documents and manuals are provided along with the curriculum outline. The additional resources include (a) Detailed Manual for each course with (b) Instruction to the Master Trainer on the content and pedagogy and (c) Power point Presentation of the sessions along with videos, photos and documentaries if any. The copies of the power point presentations are to be shared with the rural youth/participants of the training, and one complete set of course manuals and reference materials is to be given to the principal facilitator of each cluster.



**Exhibit 4.0: Design , Functions, Marketing, & Management of a Farmer Organization**

Source: Nayak, Amar KJR (2010), Optimizing Asymmetries for Sustainability: A Prism for Agriculture & Rural Development in India, DEAR, NABARD Seminar, Mumbai.

Each Master Trainer is required to read the book “Implementing Community Enterprise System for Sustainability of Agricultural Communities – A Manual” to get an overall perspective to the overall purpose, concept, principle and value base of the community enterprise system and the appropriate management curriculum for the same.

For additional reading materials and reference for greater clarity on market landscape for small producers, optimal size of community, optimal scope of product basket, appropriate technology, issues of resource convergence, concept of efficiency and sustainability, language, logic and value for building sustainable communities, etc, the Master Trainers can contact Professor Amar KJR Nayak at XIMB-CENDERET.

# **ORGANIZING COMMUNITY FOR SELF RELIANCE**

## **Course Designer**

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# **ORGANIZING COMMUNITY FOR SELF RELIANCE**

## **1.0 Course Objective:**

This course is aimed to provide a clear understanding of the nature of the community organization, its roles and responsibilities in the light of the resource base and capability base of the community and the demands of engaging in a market based economy. It will provide simple but scientific basis and the practices in operating a community enterprise system that will achieve critical size and speed towards making a rural agricultural community sustainable over a period of 5-7 years. The course will broadly cover the following key issues, viz.,

1. Who are we?
2. What are our problems?
3. What are the keys to sustainably organizing for self-reliance?
4. How can we change and improve our situation?
5. How should we sustainably organize, plan and undertake activities for self-reliance of our community in say 5-7 years?

## **2.0 Key Concepts/Issues to be covered:**

The key concepts of this course include the following:

- a) Understanding the Identity of the Community (Individual, Family, Village, GP)
- b) Understanding core values and culture for sustaining cooperation in the community,
- c) Understanding the Internal Context in terms of resources & capabilities
- d) Understanding of the External Market Economy and Institutional Arrangements
- e) Understanding the Needs & Challenges of the communities & Plan for Action
- f) Optimal design issues of Community Enterprise System for balancing community capabilities and need with demands of a market economy
- g) Implementing and stabilizing a community organization as a single window for integrated and holistic development of a cluster/community/GP
- h) Approaches to sustain and replicate cooperation in the adjacent communities

## **3.0 Pedagogy:**

The learning and teaching method in every session will include opening remarks, brainstorming on key concepts/issues of a session, followed by discussions, group exercise, questions and answers through a dialectic method, and summarization.

#### 4.0 Detailed Session Plan:

Session No	Topic	Specific Concepts & Issues	Teaching Methods
Part 1: Contextual ( <i>Internal &amp; External</i> ) Analysis of the Cluster			
Session 1: 3hours	Vision, Purpose & Values of Community Organization	<ul style="list-style-type: none"> <li>• Significance of Vision, Purpose &amp; Values</li> <li>• Coherence in the purpose &amp; values</li> <li>• Difference between short term, medium term and long term Goals &amp; Objectives</li> <li>• Differences and relationship between social capital and financial capital</li> <li>• Value and Ethical Base, Culture, &amp; Communitarian Spirit</li> <li>• Faith, Trust &amp; Cooperation: Key to Community self reliance, Identity, Dignity &amp; Happiness.</li> <li>• Voluntarism &amp; Sacrifice</li> </ul>	Presentation, Q, A & Q (Dialectic method), Group Exercise & Discussion  Group Exercise: <b>Visioning Exercise</b> <i>for the cluster</i>
	Internal Community-Cluster Context	<ul style="list-style-type: none"> <li>• Identity Issues: Self Identity, Social Structure of Village &amp; GP/Cluster</li> <li>• Diversity &amp; Bountifulness of Common Resources &amp; high degree of Social Capital</li> <li>• Psychological strength &amp; weakness, Process of social exclusion and inclusion, Individual economic poverty and relative poverty</li> <li>• Relationship between social groups</li> <li>• Communication Patterns</li> <li>• Challenges and situation of small farmers/producers</li> </ul>	Presentation, Q, A & Q (Dialectic method),  Group Exercise:
Session 2: 3hours	Resources & Capability Mapping	<ul style="list-style-type: none"> <li>• Understanding Natural Resources of villages in the cluster</li> <li>• Understanding the man-made common properties of the villages &amp; respective GP</li> <li>• External Resources &amp; Capabilities</li> </ul>	Q, A & Q (Dialectic method),  Group Exercise & Discussion

<b>Session 3: 3hours</b>	Institution Mapping	<ul style="list-style-type: none"> <li>• Understanding Relationship</li> <li>• Norms &amp; Rules of institutional relationship</li> <li>• SHG, Farmers Club, VDC, etc</li> <li>• Local PRI structures &amp; members</li> <li>• Administrative structures from BDO to Collectors that is from Block to District Development Agencies</li> <li>• Local Resource Persons</li> <li>• Local Academic Institutions</li> <li>• Local Educational Institutions</li> <li>• Local Health &amp; Medical Institutions</li> </ul>	Q, A & Q (Dialectic method),  Group Exercise & Discussion
	Market Economy Context	<ul style="list-style-type: none"> <li>• Understanding the local Market Economy; Sahukar, Local Traders, Large Traders, &amp; Large Corporations</li> <li>• Key Factors of Local Market Economy: Input Factor Market &amp; Product Market</li> <li>• Market Boundaries</li>   <li>• Differences in Cooperative &amp; Competitive Models</li> <li>• Balancing the Community Values with the Market Values</li> </ul>	Presentation, Q, A & Q (Dialectic method), Group Exercise, & Discussion
<b>Session 4: 3hours</b>	Community Organization <i>(as a single window service for a community)</i>	<ul style="list-style-type: none"> <li>• Individual/Familial commitment, attitude and role.</li> <li>• Activities required at the village and cluster level for self reliance</li> <li>• Need for Community Organization or a local Institutional Platform,</li> <li>• Roles, Responsibilities &amp; Accountability of the Community Organization</li> <li>• Features of Community Enterprise System</li> <li>• Type of people or Resource Persons required for CES</li> </ul>	Q, A & Q (Dialectic method), Group Exercise Discussion
<b>Part 2: Design of Community Organization (CES)</b>			
<b>Session 5: 3hours</b>	Size of CES	<ul style="list-style-type: none"> <li>• Optimal Size</li> <li>• Size of Membership in CES, Number of villages in a cluster</li> <li>• Size of geography, number of villages and the extent of natural resource base</li> <li>• Size &amp; Complexity</li> </ul>	Presentation, Q, A & Q (Dialectic method),  Group Exercise & Discussion

		<ul style="list-style-type: none"> <li>• Size &amp; Democratic Decision Making</li> <li>• Size &amp; Depth of Relationship among members in the villages/cluster</li> </ul>	
	Scope	<ul style="list-style-type: none"> <li>• Micro-ecosystem</li> <li>• Micro climatic condition</li> <li>• Seasonal Variations</li> <li>• Scope of Products and Activities to align with small farmers/producers</li> <li>• Leverage the economies of scope of small Producer in selecting the product mix</li> </ul>	
	Technology	<ul style="list-style-type: none"> <li>• Type of Agricultural Inputs</li> <li>• Type of equipments and machinery for Agricultural Production</li> <li>• Nature of Technology for post harvest management and value addition</li> <li>• Integrated Low cost Agricultural Practices</li> <li>• People friendly, Eco-friendly, Simpler Technologies</li> </ul>	
<b>Session 6: 3hours</b>	Ownership & Internal Resource Generation	<ul style="list-style-type: none"> <li>• Ownership Issues: Individual &amp; Community ownership</li> <li>• Ownership of resources at village level and at cluster level</li> <li>• Membership fee as a contribution to the equity at the cluster level</li> <li>• Shramadan at village level and at cluster level as contribution to equity</li> <li>• Contribution of a part of the additional income/profit to the equity at the cluster level</li> <li>• Voluntarism for information sharing, management and capacity building at the village and cluster level.</li> </ul>	<p>Presentation, Q, A &amp; Q (Dialectic method),</p> <p>Group Exercise &amp; Discussion</p>
	Governance Structure & Process	<ul style="list-style-type: none"> <li>• Governance Issues: Internal Facilitators from the community</li> <li>• Selection Process of Internal Facilitators (Directors &amp; Volunteers)</li> <li>• External Facilitators from educational institutions, Government, NGOs, &amp; members of local PRI</li> <li>• Facilitating the interaction between</li> </ul>	

		<ul style="list-style-type: none"> <li>internal &amp; external facilitators</li> <li>• Gender Representation in Governance</li> <li>• Internal Communication</li> </ul>	
	Management Structure & Process	<ul style="list-style-type: none"> <li>• Key Activities of CES</li> <li>• Functions of different Coordinators &amp; their responsibilities</li> <li>• On job training &amp; ways to build multi-tasking capacities of rural/local youth</li> <li>• Gender Representation in Management</li> </ul>	
<b>Part 3: Transition Strategy for Sustainability of a Community</b>			
<b>Session 7: 3hours</b>	Management Functions, Systems and Processes	<ul style="list-style-type: none"> <li>• Developing discipline &amp; timeliness among the interns and coordinators</li> <li>• Follow the Reporting Systems</li> <li>• Developing Documents to monitor Activities &amp; Budget of CES</li> <li>• Daily Record Keeping of CES</li> <li>• Accounting &amp; Bank transactions</li> <li>• Documenting in Hard Copies</li> <li>• Documenting in Soft Copies</li> <li>• Accountability</li> </ul>	<p>Presentation, Q &amp;A (Dialectic method),</p> <p>Exercises on Record Keeping &amp; Documentation</p>
<b>Session 8: 3hours</b>	Integration of Activities at the Producer level	<ul style="list-style-type: none"> <li>• Mapping the Activities of a small farmer/producer in a year</li> <li>• Understanding the Synergy &amp; Economies of Scope for a small farmer</li> <li>• Measures to enhance total net income &amp; sustainability of the small producer</li> </ul>	Presentation, Discussions & Group Exercise
	Separation of Activities at the Cluster / Coordinator level	<ul style="list-style-type: none"> <li>• Appreciation of separation of activities for greater efficiency</li> <li>• Identify the roles for the producers and the facilitators of CES</li> <li>• Functions of the Coordinators/Interns in the CES</li> </ul>	Presentation, Discussions & Group Exercise
	Stages of Intervention	<ul style="list-style-type: none"> <li>• Understanding the interrelationships among the different development activities</li> <li>• Appreciation of the Sequence of events/engagements</li> <li>• Stages of Intervention over a 7 year period.</li> </ul>	Presentation, Discussions & Group Exercise

<b>Session 9: 3hours</b>	Legal Aspects to forming a Producer Organization	<ul style="list-style-type: none"> <li>• Different types of Producer Organizations</li> <li>• Preparation of MOA &amp; MOU</li> <li>• Documents requirement for Registration</li> <li>• Process of Registration</li> <li>• Cost of Registration of the chosen Producer Organization</li> <li>•</li> </ul>	Presentation, Q & A (Dialectic method), Discussion & Exercises
<b>Session 10 3hours</b>	Sustaining Cooperation	<ul style="list-style-type: none"> <li>• Action &amp; Output as demonstration of Cooperation</li> <li>• Logic of Cooperation</li> <li>• Cooperation as a basis for sustainability of small farmers/producers</li> <li>• Faith &amp; Trust: Keys to Cooperation</li> </ul>	Discussion & Group Exercises
	Replicating Cooperation	<ul style="list-style-type: none"> <li>• International Principles of Cooperation</li> <li>• Replication as a mechanism for sustaining cooperation</li> <li>• Role of a successful CES in replicating cooperation in adjoining communities</li> </ul>	Discussion & Group Exercises

### 5.0 Expected Outputs/Outcomes:

- After the completing this course, the participants should be able to appreciate the strength of the community in terms of resources and capabilities and develop a sense of responsibility and ownership to rebuild his or her community.
- The participants should be able to organize the community for making themselves sustainable.
- The participants should also be able to differentiate the traditional private enterprise design from a community enterprise design that works for the well being of the small and marginal farmers/producers and the economically poor.
- The participants are also expected to understand the sequence of events and activities to be undertaken for implementing a holistic integrated development plan.
- The participants develop confidence and a working capacity to undertake the activities of the community enterprise system (FPOs/POs/PCs/Producer Cooperatives)
- After the on-job training for 2-3 years after undergoing through this training programme, the participants should be able to emerge as local champions to make cooperation work for the people of their community/cluster.

### 6.0 Text Book/Reading Materials:

Implementing Community Enterprise System for Sustainability of Agricultural Communities: A Manual, Nayak, Amar KJR (2012)

# **SUSTAINABLE AGRICULTURE**

## **Course Designers**

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# SUSTAINABLE AGRICULTURE

## 1.0: Course Introduction

This course will cover about 12 sessions of conceptual, human and technical inputs for the core facilitators called as *coordinators, managers and representatives of different types of Community Enterprise Systems* of Farmer Producer Organizations including Farmer Producer Companies working in a cluster of villages say in one GP as a basic unit.

The course curriculum is specially designed keeping in view various challenges faced by farmers and farmers groups in the country and aimed at helping them to intensify their agricultural production and continue feeding our population in a sustainable manner. The key topics envisioned to be covered during the training course are;

- i. Integrated Agriculture Systems
- ii. Soil Health & Agro Forestry
- iii. Water Conservation & Management
- iv. Seed and Crop Varieties
- v. Plant Protection; an Eco-system Approach.
- vi. Farm Mechanisation
- vii. Animal Husbandry & Livestock Management.

The course would follow some of the best training methodologies and methods practiced across the globe like those of Dr. Peter Kenmore, Dr. Cho's Global Natural Farming Technologies, Dr. Subhas Sharma, Dr. Om P Rupela, Mr. Subhas Palekar and several local experts in the field of agriculture and include the observations and frameworks prepared by FAO and several other scientists on the subject.

The course was pilot tested with the coordinators/managers of Nava Jyoti producer company, Odisha. After pilot testing of the contents and the pedagogy, the course got several new insights and was standardized for training the Master Trainers who could teach to potential managers from among the rural youth across the communities in India, where producer groups are organized and formed.

## 2.0: Course Objectives:

- I. To encourage the participants develop their basic understanding on the concepts of low-cost, integrated (organic) agriculture technologies related to integrated agriculture, soil health & agro forestry, water conservation, seed and crop variety, plant protection & integrated live stock planning and management.
- II. To enhance and upgrade their know-how and do-how skills (*technical skills*) as key facilitators to promote farmer driven enterprises.

- III. To sensitise them to various sustainable agriculture technologies and enable them to make their attitudinal changes to aid and assist the farmers groups who venture into sustainable food production in clusters at Gram Panchayat level.
- IV. To motivate them to transfer the inputs to the farmers' groups to consolidate their key learning and facilitate them to carve out appropriate strategies and plan proposals to develop similar low cost, but local specific and integrated agriculture enterprises to be viable and sustainable at community level.

### 3.0: Pedagogy:

- It will follow a balanced blending of theory and practice with demonstration through highly interactive sessions covered with video clips, PPTs, lab tests, games & practical field exposure visits.
- However, there will be a few conceptual sessions coupled with case analysis, demonstrations from farmers' point of view and field exposure to some successful farming practices.
- Prior to the onset of training, there would be a pre course assessment and an evaluation at the end of the entire 12 sessions.
- The sessions will include multi-media use with display of best practices across the country focusing on several best experiments and practices.
- The training will have a total of 12 training sessions having 90 minutes each.

### 4.0: Detailed Session Plan:

Session 1.	Sub-topics	Methodology	Resources
Pre-course assessment	<ul style="list-style-type: none"> <li>• Participants' self-assessment on the existing livelihood options in a village situation through a mapping exercise.</li> <li>• What are the major <b>Problems/Bottlenecks/ Challenges of agriculture</b>?(Give Reference to the Green revolution technologies vs Natural farming technologies.)</li> </ul>	<ul style="list-style-type: none"> <li>• <b>TNA-</b> Training Need Assessment; Exercise.</li> <li>• Analysis &amp; sharing of key findings.</li> <li>• Brainstorming</li> </ul>	Broad Questions made to the participants.
	<b>Coverage</b>	<b>Methodology</b>	<b>Resources</b>
<b>Session 2</b>	Introduction to the Course : It's background - (with reference to impact	Starting with a farm picture & an introductory	LCD projector& materials

	of Climate change & bio-diversity on farming & means of livelihood related to various forests produces & non-farm products).	video; Theory & Demonstration with PPTs.  Success stories of Natural farming practitioners.	
	<b>Sub Topics.</b> <ul style="list-style-type: none"> <li>• CREDO of rural development.</li> <li>• <b>Low cost, integrated (organic/ natural) agriculture- an overview</b>, A Paradigm Shift in Farm &amp; Non-Farm Agriculture/ Enterprises with reference to the current scenario covering Global, Indian &amp; Local contexts).</li> <li>• <b>Agriculture &amp; Allied Sectors -an Integration</b> through horticulture, agro-forestry, Silvia-pasture, fishery, BIG, bee keeping and their means of production such as soil, seed, water etc.</li> <li>• <b>Technologies Enriching the Soil Health</b> including BIG-Bio Intensive Gardening.</li> <li>• <b>Water Conservation Measures&amp; Management Techniques.</b></li> <li>• <b>Improving Seed and Crop Varieties.</b></li> <li>• <b>Plant Protection</b> and Eco-system Approach.</li> <li>• <b>Integrated, diversified &amp; sustainable Livestock Management Techniques</b> and Tools.</li> <li>• <b>Reshaping the Key issues on Project design</b> –keeping the small farmers in sustainable agri-business.</li> </ul>		
	<b>Coverage</b>	<b>Methodology</b>	<b>Resources</b>
<b>Sessions 3 &amp; 4</b>	<b>Technologies Enriching the Soil Health&amp; agro forestry.</b>	Theory & Demonstrations with PPTs. Group exercise & presentation	LCD projector & teaching materials.
	<b>Sub Topics :</b> Definition and concept of soil health. <b>Natural Farming inputs</b> for soil health; <ul style="list-style-type: none"> <li>• IMO-indigenous Micro Organisms.</li> <li>• IMO-1, Imo-2, Imo-3 &amp;Imo-4.</li> <li>• Fermented Plant Juice.</li> <li>• Fermented Fruit Juice.</li> <li>• Oriental Herbal Nutrient.</li> <li>• Fish Amino Acid.</li> <li>• Lactic Acid Bacteria.</li> <li>• Water soluble potassium.</li> <li>• Water Soluble Calcium Phosphate.</li> <li>• Brown rice Vinegar.</li> <li>• Sea water and Fermented Sea water.</li> </ul>		

	<ul style="list-style-type: none"> <li>• <b>What is Agro forestry ? It's Need &amp; Importance?</b> Models of Agro forestry; 2 tier, 3 tier &amp; 60:40.</li> <li>• How healthy soil and agro forestry are integrated and contribute to sustainable agriculture?</li> <li>• <b>In view of the constraints / dangers/ major challenges in your cluster in relation to soil health, what measures can best up keep the soil health?</b></li> </ul>		
<b>Sessions 5 &amp; 6</b>	<b>Coverage</b>	<b>Methodology</b>	<b>Resources</b>
	<b>Water Conservation &amp; Management Techniques</b>	Theory & Demonstration with PPTs. Group exercises & presentations.	LCD projector & materials
	<p><b>Sub Topics :</b></p> <ul style="list-style-type: none"> <li>• Concept, need &amp; importance of water conservation for integrated agriculture.</li> <li>• Rainfall data-an overview. Different conservation techniques and methods such as; Ploughing across the slope, Continuous Contour Pit/trench, Loose bolder check dam, Jaladhara model, 5% model, striguard trenches, percolation tank, diversion wear, check dam, water harvesting structures</li> <li>• Sub-surface cut-off, catchment treatment, farm pond, drainage line treatment, vegetative measures.</li> <li>• How different conservation measures contribute to sustainable agriculture?</li> <li>• <b>In view of increasing water scarcity in the globe and especially in relation to your area, what are measures you would like to take that are suitable for sustainable agriculture?</b></li> </ul>		
<b>Sessions 7 &amp; 8</b>	<b>Coverage</b>	<b>Methodology</b>	<b>Resources</b>
	<b>Improving Seed and Crop Varieties</b>	Theory & Demonstration with PPTs.  Group exercise & presentation.	LCD projector & materials.

<b>Sessions 7 &amp; 8</b>	<b>Sub topics.</b> <ul style="list-style-type: none"> <li>• Concept, need &amp; importance of seeds for integrated agriculture.</li> <li>• Conservation of traditional seeds through seed banks.</li> <li>• Strengthening traditional seed campaign.</li> <li>• Promotion and distribution of improved variety of traditional seeds.</li> <li>• Treatment, preservation and storage of traditional seeds to withstand vagaries of nature.</li> <li>• Specific crop varieties as GI-Geographical indicators (Stds).</li> <li>• How improved seeds and crop varieties are integrated and those contribute to sustainable agriculture?</li> <li>• In view of the impact of climate change and several other reasons, different traditional varieties of seeds and crops are vanishing fast, do you find your area is facing similar situation? If so, what steps you prefer to take as safe measures to protect those varieties to withstand impending future dangers?</li> </ul>		
<b>Session 9</b>	<b>Coverage</b>	<b>Methodology</b>	<b>Resources</b>
	<b>Plant Protection and Eco-system Approach.</b>	Theory & Demonstration with PPTs.  Group exercise & presentation.	LCD projector & materials.
	<b>Sub topics.</b> <ul style="list-style-type: none"> <li>• Concept, need &amp; importance of plant protection for integrated agriculture in bio-diversity &amp; ecological world &amp; its inter-relationship.</li> <li>• Nutritive Cycle theory and other measures for disease control.</li> <li>• Integrated bio-pest management, prevention &amp; replant measures etc.</li> </ul> <p>How can plant protection be integrated with bio diversity protection and contribute to overall sustainable agriculture &amp; sustainable human development?</p>		
<b>Sessions 10 &amp; 11.</b>	<b>Coverage</b>	<b>Methodology</b>	<b>Resources</b>
	Integrated, diversified & Sustainable Livestock's & Animal Husbandry Management.	Theory & Demonstration with PPTs.  Success stories from Natural livestock farming practitioners.  Group exercise & presentation.	LCD projector & materials

<b>Sessions 10 &amp; 11.</b>	<b>Sub Topics.</b> <ul style="list-style-type: none"> <li>• Definition, Concept, features, need &amp; purpose of livestock management in integrated agriculture.</li> <li>• Integrated crop &amp; livestock farming system.</li> <li>• The Technique and tools; Bio-dynamic process of Agriculture.</li> <li>• Integration of farm animals and crops-some success cases; a sharing.</li> <li>• Health of Animals &amp; Birds; incorporating Local breeds &amp; varieties of Livestock types; Disease prevention &amp; Management.</li> <li>• Care of land and herbal compost in integrated agriculture.</li> <li>• Traditional methods of astronomical farming etc.</li> <li>• Advantages and constraints.</li> <li>• Integration of livestock with farming and its contribution to sustainable agriculture?</li> </ul> <p>In view of climate change and several other reasons, different traditional varieties of local animals and birds are on the verge of extinction, do you find your area is victim to a similar situation? If so, what steps you prefer to take as safe measures to protect those local varieties lived with the farmers of past generations to withstand dangers of climate change?</p>		
<b>Session 12</b>	<b>Coverage</b>	<b>Methodology</b>	<b>Resources</b>
<b>Key issues in Project design.</b>	<ul style="list-style-type: none"> <li>• <b>Reshaping Key issues in Project planning &amp; design.</b></li> <li>• Course Evaluation.</li> </ul>	<b>Key questions on the course;</b> Group exercise & discussion. <b>Presentation of group works in plenary.</b>	

### 5.0: Expected Outcomes

1. Help participants develop clarity in understanding Low Cost, Integrated Organic Agricultural System in relation to the global, national and local specific issues the farmers facing.
2. Undertake hands-on-practice of various low cost and integrated farming and non-farming technologies.
3. Develop their role clarity as core facilitators and became ready to aid and assist the farmers groups prepare appropriate action plan proposals with budget to make successful and satisfactory grounding of the program at back home situation.

## **6.0 Text Book/Reading Materials:**

- a. **Save and grow** - A new paradigm of agriculture by Peter Kenmore;
  - i. [www.fao.org/ag/save-and-grow/](http://www.fao.org/ag/save-and-grow/)
  - ii. <http://www.fao.org/agriculture/crops/agp-home/en/>
- b. Cho's Global Natural Farming, Rohini Reddy, 2011
- c. Implementing Community Enterprise System for Sustainability of Agricultural Communities – A Manual, Amar KJR Nayak, 2012

# **POST HARVEST MANAGEMENT AND VALUE ADDITION OF AGRICULTURAL PRODUCE**

Course Designer

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# POST HARVEST MANAGEMENT AND VALUE ADDITION OF AGRICULTURAL PRODUCE

## Introduction:

Post harvest management and value addition of agricultural produce are critical to saving enormous losses, increasing shelf life of products, increasing acceptance by buyers and ultimately enhancing the net income from the farm and off farm produce for a small farmer/producer based in rural agricultural settings. This course is aimed at providing the awareness and skills to the rural youth who will be or are working as coordinators/interns/managers/facilitators of farmer producer organizations based in rural agricultural settings.

## Course Objective:

- To sensitize the participants on the importance of proper post harvest management and value addition of agricultural commodities.
- To explain the points where there is loss of food and there is scope of value addition in the post harvest chain.
- To explain the proper method(s) of processing and value addition for a specific commodity grown in their area.
- To explain the participants on how to start and operate a small scale unit for food processing

## Pedagogy:

The course will be taught using multiple methods viz., lectures, discussions, demonstration, and laboratory practice. Each session will have duration of 90 minutes.

## Detailed Session Plan.

<i>Session No.</i>	<i>Topic to be discussed.</i>	<i>Key Issues to be covered.</i>
1.	<b>Introductory Session: Problems faced by small farmers after harvest of crops.</b>	a) Pre-training assessment b) Collection and analysis of information from participants regarding the problems related to post harvest management and losses of food c) Summing up of the problems

<i>Session No.</i>	<i>Topic to be discussed.</i>	<i>Key Issues to be covered.</i>
2.	<b>Post harvest management and its importance.</b>	<ul style="list-style-type: none"> <li>a) Importance of Post Harvest Management</li> <li>b) Post harvest handling steps for a typical commodity</li> <li>c) What are food spoilage agents and how do they spoil food?</li> <li>d) Basic post harvest operations</li> <li>e) Primary, secondary and tertiary processing.</li> <li>f) The post harvest operations differ with commodities</li> </ul>
3.	<b>Principles of PHM of foodgrains.</b>	<ul style="list-style-type: none"> <li>a) Processing of grains</li> <li>b) Cleaning, sorting and grading <ul style="list-style-type: none"> <li>a. Cleaners</li> <li>b. Identification of proper screens for needs?</li> </ul> </li> <li>c) Maintenance the optimum performance of grain cleaners?</li> <li>d) Accessories to improve efficiency of screen cleaners</li> <li>e) Destoner <ul style="list-style-type: none"> <li>a. Other devices for cleaning, sorting and grading</li> </ul> </li> <li>f) Drying of food grains <ul style="list-style-type: none"> <li>a. Benefits of drying food grains</li> </ul> </li> <li>g) Moisture content determination <ul style="list-style-type: none"> <li>a. Methods for drying grains</li> <li>b. Different types of hot air dryers for grains</li> </ul> </li> <li>h) Factors affecting selection of dryers</li> </ul>
4.	<b>Milling of grains &amp; oil seeds.</b>	<ul style="list-style-type: none"> <li>a) Rice milling <ul style="list-style-type: none"> <li>a. Rice hullers</li> <li>b. Modern rice mill</li> <li>c. Modernisation of hullers</li> <li>d. Factors affecting rice outturn during milling</li> <li>e. Parboiling and curing of rice</li> </ul> </li> <li>b) Dhal milling <ul style="list-style-type: none"> <li>a. Milling methods and equipments</li> <li>b. Small capacity dhal mills</li> </ul> </li> <li>c) Oil Milling <ul style="list-style-type: none"> <li>a. Equipment for oil milling <ul style="list-style-type: none"> <li>Mechanical pressing</li> <li>Solvent extraction</li> </ul> </li> <li>b. Refining of oil</li> </ul> </li> </ul>
5.	<b>Value added products from food grains</b>	<ul style="list-style-type: none"> <li>a. Puffing , Flaking Extrusion &amp; Malting</li> <li>b. Value added products from wheat, corn and other important crops of the specific locality</li> </ul>

<i>Session No.</i>	<i>Topic to be discussed.</i>	<i>Key Issues to be covered.</i>
<b>6</b>	<b>Storage of food grains</b>	<ul style="list-style-type: none"> <li>a) Basic principles for grain storage</li> <li>b) Grain storage structures <ul style="list-style-type: none"> <li>i. Traditional storage structures</li> <li>ii. Improved storage structures such as metal bins, Cement bin (Pucca kothi), Improved ring bin, Pusa bin, etc.</li> </ul> </li> <li>c) Control of grain spoilage factors</li> <li>d) Some basic requirements/ considerations during storage in godowns/ large bins and silos</li> <li>e) Recommended indigenous storage practices</li> </ul>
<b>7</b>	<b>Post harvest management of fruits and vegetables</b>	<ul style="list-style-type: none"> <li>a) Objectives of PHM of fruits and vegetables</li> <li>b) Influence of varieties, pre-harvest parameters and harvesting methods on PHM</li> <li>c) General unit operations in PHM <ul style="list-style-type: none"> <li>a. Pre-cooling, Cleaning, Sorting</li> <li>b. Sorting by size- screens</li> <li>c. Sorting by size- grizzly</li> <li>d. Small tools for sorting by size</li> <li>e. Aspiration and floatation sorting</li> <li>f. Weight sorting</li> </ul> </li> <li>d) Transportation of fresh fruits and vegetables</li> <li>e) Peeling</li> <li>f) Size reduction (Cutting, slicing, shredding, g) crushing, etc.)</li> <li>h) Blanching &amp; Sulphuring</li> <li>i) Ripening of fruits</li> </ul>
<b>8</b>	<b>Storage and Packaging of fruits and vegetables</b>	<ul style="list-style-type: none"> <li>a) Refrigerated storage</li> <li>b) Some basic rules for storage of fresh commodities in cold stores</li> <li>c) Evaporatively cooled storage</li> <li>d) Frozen storage</li> <li>e) Controlled atmosphere (CA) and modified atmosphere (MA) storage</li> <li>f) Food Packaging</li> </ul>
<b>9</b>	<b>Value addition of fruits and vegetables</b>	<ul style="list-style-type: none"> <li>a) General methods for preservation and value addition</li> <li>b) Drying and dehydration</li> <li>c) Canning, sterilisation and pasteurisation</li> <li>d) Preservation by using chemicals</li> <li>e) Value added products from different commodities</li> <li>f) Preparation of dried fruits and vegetables</li> </ul>

		g) Preparation of tomato sauce, squashes, jams, jellies, pickles, etc. h) Processing of fruit juices i) Preparation of ginger powder j) Minimal processing
<b>Session No.</b>	<b>Topic to be discussed.</b>	<b>Key Issues to be covered.</b>
<b>10</b>	<b>The last words</b>	a) Basic considerations for starting a food processing enterprise b) Unique features of food processing enterprises c) Scope and opportunities of food processing in India

### Further Reading :

Bhole NG, Sarkar BK 1983. Modern Rice Milling Machinery Manual. RESC, Post Harvest Technology Centre, IIT, Kharagpur. 54p.

Chakraverty A, De DS 1981. Post Harvest Technology of Cereals, Pulses and Oilseeds. Oxford and IBH Publishing Co, Calcutta. 296p.

Singh KK, Sahay KM 1994. Unit Operations in Agricultural Process Engineering. Vikas Publishing House, New Delhi, 340p.

Dash, SK, Bebartta J P, Kar A 2012. Rice processing and allied operations. Kalyani Publishers, Ludhiana

Srivastava RP & Sanjeev Kumar. 1994. Fruit and Vegetable Preservation.Principles and Practices. International Book Distr.

Sumanbhatti & Uma Varma. 1995. Fruit and Vegetable Processing. CBS Publishers.

Verma LR & Joshi VK. 2000. Post Harvest Technology of Fruits and Vegetables. Vols. I-II. Indus Publ.

### Expected Outcomes:

At the end of the course, the participants will be in a position to

- Understand the importance of proper post harvest management and value addition of agricultural commodities.
- Identify the points where are there losses and where there is scope of value addition .
- Identify the proper method of processing and value addition for a specific commodity grown in their area and can do the job independently.
- Start and operate their own unit for value addition and to prevent losses.

# **OPERATIONS & LOGISTICS MANAGEMENT**

Course Designer

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# Operations and Logistics Management

## Background and Relevance

Operations management is the management of resources used to create salable products and services. It consists of those tasks necessary to turn business inputs into more valuable outputs. Several resources which we need to manage may extend beyond the walls of a business. They include resources used to transport products from a supplier to a customer, or to store products somewhere in between. The management of the interactions between businesses has come to be known by many businesses as Supply Chain Management (SCM). Operations and supply chain effectiveness plays a very vital role in growth and sustainability of an organization. The term 'Logistics Management' is the part of Supply Chain Management that plans, implements, and controls the efficient, forward, and reverse flow and storage of goods, services, and related information between the point of origin and the point of consumption in order to meet customer's requirements.

Community enterprise has a very diverse portfolio of products which includes output from farm, forest and livestock. The operations and logistics issues become fairly complex when we deal with seasonal products and that too in relatively smaller volume. Moreover, inadequate production, storage and logistics infrastructure may add to these challenges. We need to look for creative solutions which are low cost but effective to meet these challenges. The key challenge is to deliver high quality products to meet ever-changing customer demands in a timely and cost-effective manner.

**Key Learning Objectives:** After completion of this module, participants should be able to

- Map individual processes and as well as complete supply network.
- Diagnose current operations problems and suggest solution for improvement
- Understand how an optimum supply network can enhance productivity and profitability
- Use scientific tools to analyze a problem and suggest feasible solutions

## Training Methodology:

This training will be spread over 12 sessions each of 75 minutes. The pedagogy will involve lectures, field visit and study of real-life operations and logistics management issues. Participants will also be encouraged to bring issues related to current supply chain practices for discussions in the classroom.

*This course should ideally be offered after completion of the marketing module. The pre-programme assignments given in marketing course will also be very useful for this course.*

## Detailed Session Plan

Session No	Agenda and Coverage	Key concepts and its application
1 & 2	Overview of Operations and Logistics Management in the context of community enterprise	What is Operations & Logistics Management ? Operations decisions <ul style="list-style-type: none"> <li>• Product design</li> <li>• Process selection and process design</li> <li>• Capacity decisions</li> <li>• Location and Layout decisions</li> <li>• Sourcing, transformation and storage</li> <li>• Quality of inputs and finished products</li> <li>• Materials handling</li> <li>• Logistics</li> </ul>
3 & 4	Farm, Forest and Livestock products – Operations and Logistics Management challenges	<ul style="list-style-type: none"> <li>• How resources are converted into products</li> <li>• Key differences in farm and non farm products from operations perspective</li> <li>• Identification of risks at various stages of the conversion process</li> <li>• How operations problem may lead to erosion of product value</li> </ul>
5 & 6	Managing collection and logistics of farm, forest and livestock products Best practices in procurement management	<ul style="list-style-type: none"> <li>• Tools for process mapping</li> <li>• Tools for mapping a supply chain</li> <li>• Each participant will study at least one process in detail and draw a comprehensive process map for analysis and improvement</li> <li>• Small group of participants will also map complete supply chain for both farm and forest products</li> </ul>
Participants may be given 2 weeks of time to prepare for the next class		
7 & 8	Managing product quality during collection, handling and distribution	<ul style="list-style-type: none"> <li>• How to analyse a process and identify the bottleneck</li> <li>• What metrics can be used to measure quality of different products</li> </ul>
9 & 10	Idea generation for key process improvement	<ul style="list-style-type: none"> <li>• Brainstorming</li> <li>• Reframing matrix</li> <li>• Round-robin brainstorming</li> </ul>
Participants may be given 2 weeks of time to prepare their presentations		

Session No	Agenda and Coverage	Key concepts and its application
11 & 12	Presentation by participants on improved processes and supply chain models	<p>Each participant/ group of participants will make presentations to demonstrate how to manage operations and logistics issues for their products and services.</p> <p>This should also be an opportunity to celebrate the spirit of continuous improvement – the improvement which are feasible and possible to implement by using available resources.</p>

# SUSTAINABLE MARKETING

## Course Designer

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# SUSTAINABLE MARKETING

## Marketing Orientation – Background & Relevance

This fifteen hour training session is designed for the community coordinators and representatives of producer organisations. This training programme tries to facilitate a process of learning and reflection for these disadvantaged groups. It calls for the development of curriculum that appreciates their context, empathizes with their constraints and harnesses their indigenous knowledge and skills.

## Understanding the Marketing Role of Participants

The community coordinators are representatives of the community and represent their rights, interests and aspirations. Given below is an indicative list of current & potential roles envisaged for these rural youth:

- Acting as a representative of the community for interactions and transactions with suppliers, clients, consumers/ customers
- Act as the eyes & ears of the community for mapping opportunities and garnering resources
- Understanding current & potential shifts in the value chains
- Become community resources persons for technical and process upgradation in the value chain

Thus, they have a mission critical role to play as transaction and transformation catalysts, they have to act as a bridge to the community, they need to know the pulse of the market and they need to have the capabilities to independently initiate and complete transactions. This training programme is an important starting point to build capabilities, enhance conceptual clarity and inspire confidence amongst these young coordinators from within the community.

## Key Programme Objectives

- To enhance the ability of participants to understand and visualize agricultural value chains and markets
- To develop an understanding of consumer & customer needs, tastes and preferences
- To build basic skills in sales planning & management
- To build confidence and pride in the participants who will become the face of the community

## Training Programme – Proposed Approach

This orientation to the marketing function & value chain management will be spread over 12 sessions each of 75 minutes duration. The programme would use a careful blend of pre-programme assignments, lectures, in session activities in the form of games and role plays, urban retail & wholesale location field visits and field based assignments.

Pre- Programme Assignment

- Products - programme participants must make a detailed listing of the various products that are being sold and have the potential to be sold through the community enterprise system
- Participants – programme participants must make a detailed checklist of each of participants( intermediaries) for each of these products

Training Programme- Session Plan

<b>Module 1 –Understanding a Market Ecosystem</b>		
<b>Session No</b>	<b>Agenda &amp; Coverage</b>	<b>Key Activities &amp; Topics</b>
1	Understanding the Market- I	<ul style="list-style-type: none"> <li>• Understanding key concepts – Markets and value chains</li> <li>• Mapping a market &amp; value chains</li> <li>• Questions &amp; answers</li> </ul>
2	Understanding the Market- II	<ul style="list-style-type: none"> <li>• Activity 1- Mapping the Navajyoti Value Chain &amp; Market Eco-system</li> </ul>
3	Understand the Market- III	<ul style="list-style-type: none"> <li>• Presentation on activity 1</li> <li>• Synthesizing the various groups learnings</li> <li>• Rounding of the discussions on the value chains &amp; market ecosystem</li> </ul>
<b>Module 2- Understanding Agricultural Products</b>		
4	Understanding Agricultural Products & Markets – I	<ul style="list-style-type: none"> <li>• Agricultural Products – Introduction, Types &amp; Issues</li> <li>• Value addition in agricultural products</li> </ul>
5	Understanding Agricultural Products & Markets- II	<ul style="list-style-type: none"> <li>• Agricultural Products – Pricing &amp; distribution</li> </ul>
<b>Module 3- Understanding Buyers of Agricultural Produce</b>		
6	Understanding Agricultural Product Buyers – I	<ul style="list-style-type: none"> <li>• Who are the buyers?- Retail &amp; Wholesale- Consumers &amp; Customers</li> <li>• What are the key buyer characteristics?</li> </ul>
<b>Market Exposure Visits – Modern Retail , Urban Informal Retail Markets, Central Municipal Markets, Institutional Buyers, Small Retailers , Prominent Commodity</b>		

<b>Wholesalers and Haat Markets</b>		
7	Understanding Agricultural Product Buyers - II	<ul style="list-style-type: none"> <li>• Presentations on Visit to Field Locations</li> <li>• Comparison- Finding the commonalities &amp; differences amongst buyers, markets and scale</li> </ul>
<b>Module 4 – Managing Marketing &amp; Negotiation</b>		
8	Introduction to Sales & Marketing Planning – I	<ul style="list-style-type: none"> <li>• Key aspects of sales &amp; marketing planning</li> <li>• How to make a sales plan?</li> </ul>
9	Introduction to Sales & Marketing Planning – II	<ul style="list-style-type: none"> <li>• Presentation by the Team</li> <li>• Questions &amp; Answers</li> <li>• Feedback</li> </ul>
10	Managing Selling & Negotiation – I	<ul style="list-style-type: none"> <li>• What is negotiation?</li> <li>• Introduction to Negotiation techniques</li> </ul>
11	Managing Selling & Negotiation – II	<ul style="list-style-type: none"> <li>• Role plays in selling &amp; negotiation</li> <li>• Debrief of role plays</li> <li>• Questions &amp; answers</li> </ul>
12	Course Recap	<ul style="list-style-type: none"> <li>• Clarifying doubts</li> <li>• Questions &amp; Answers</li> <li>• Closing the sessions for the programme</li> </ul>

### Envisaged Learning Outputs & Outcomes

This training programme strives to make a meaningful contribution to the achievement of the following outputs and outcomes:

- Building conceptual clarity, knowledge, skills and attitudes necessary for achieving success in the marketing domain
- Facilitating the creation of a virtuous cycle of learning, action & relearning where participants take accountability for enhancing their capacity
- Creating a draft template for future trainings and orientations at the community level
- Creating a draft sales and marketing plan for the current financial year

# **ACCOUNTING & FINANCE**

**Course Designer**

**Prof. P.K. Mohanty**  
**Email: [pkm@ximb.ac.in](mailto:pkm@ximb.ac.in)**

# ACCOUNTING & FINANCE

## Course objective:

The objective of this course is to provide the participants with a basic and clear understanding as to why accounting is necessary in a community enterprise. This course will explain the process of recording transactions and familiarize them with various books of accounts. This course will explain and help the participants appreciate the purpose of preparing the financial statements.

## Pedagogy:

The teaching method would include discussions of various topics in a very simplified manner with examples, individual as well as group exercise. After class-room training, on-the-job training will also be imparted.

## Session Plan .

Session	Topics	Key points
1	What is Accounting?	<ul style="list-style-type: none"><li>• Introduction</li><li>• Need and meaning</li><li>• Objectives of accounting</li><li>• Role of an accountant</li><li>• Users of accounting information</li></ul>
2	Practical base of accounting	<ul style="list-style-type: none"><li>• Origin of business transactions</li><li>• Analysis of business transactions</li><li>• Accounting equation</li></ul>
3	Financial statements	<ul style="list-style-type: none"><li>• Balance sheet</li><li>• Income statement</li></ul>
4	Recording business transactions	<ul style="list-style-type: none"><li>• Double entry system</li><li>• The T-account</li><li>• Principles and conventions of accounting</li><li>• Journal entries</li></ul>
5	Books of accounts	<ul style="list-style-type: none"><li>• Cash book, ledger, sales register etc.</li><li>• Posting of transactions in books</li></ul>
6	Trial balance	<ul style="list-style-type: none"><li>• Closing and balancing of accounts</li><li>• Locating and correcting errors</li><li>• Preparation of trial balance</li></ul>
7	Income statement	<ul style="list-style-type: none"><li>• Recognition of revenue and expenses</li><li>• Depreciation</li><li>• Preparation of income statement</li></ul>
8	Balance sheet	<ul style="list-style-type: none"><li>• Recognition of assets, liabilities, and equity</li><li>• Preparation of balance sheet</li></ul>

9	Bank transactions and bank reconciliation	<ul style="list-style-type: none"> <li>• Need for reconciliation</li> <li>• Causes of difference in passbook and cash book balance</li> <li>• Procedure for bank reconciliation statement</li> </ul>
10	Distribution of profit	<ul style="list-style-type: none"> <li>• Determination of distributable surplus</li> <li>• Basis of distribution</li> </ul>

**Learning Outcomes:**

- After going through the course, the participants should be able to record the business transactions and prepare the financial statements.
- They should be able to appreciate the various uses of accounting information.
- They can be expected to plan for the future based on the past year's accounting data.
- They can be expected to deal with outside world in a more convincing manner year after year.

# **INFORMATION & COMMUNICATION TECHNOLOGIES (ICT)**

## **COURSE DESIGNERS**

**Prof. Rahul Thakurta: E- mail – rahul@ximb.ac.in**

**Prof. Umesh H. Rao: E- mail – umesh@ximb.ac.in**

# INFORMATION & COMMUNICATION TECHNOLOGIES (ICT)

## Background & Relevance

This fifteen hour training session tries to facilitate a process of learning and reflection for the coordinators of the different types of producer organizations in the country. The training programme is a starting point to provide the participants basic understanding of computer systems to develop the requisite capacities and instill confidence amongst these young coordinators.

## Course Objectives

- To provide basic knowledge on computers
- To introduce the key components of computer infrastructure
- To develop basic competencies in using internet
- To develop basic skills related to searching information, recording information, processing data, and presenting information

## Training Programme – Proposed Approach

This orientation on computers and information technology will be spread over 15 sessions each of 75 minutes duration. The programme is to be delivered in a lab equipped with a personal computer for each participant. The programme would use a careful blend of pre-programme assignments, lectures, and in-session assignments. The course facilitator is expected to ensure that the topics mentioned in the session plan are explained to the participant. To this extent, flexibility has been provided in ensuring that the latest resources from the internet and other sources are used to enrich the learning of the participants. A set of textbook references have been provided which the participants could refer to during and after the course.

## Pre- Programme Assignment

- Programme participants must make a listing of the different type of information that needs to be recorded as part of various activities related to community enterprise system.

## Textbook References.

Access to Computer Education, Dr.N. Subramanian and S.Chitra, *series published by* Oxford University Press.

Fast Forward, Alka Sabharwal & Sangeeta Panchal, *series published by* Oxford University Press.

## Training Programme - Session Plan

<b>Module 1 – Basics of Computer</b>		
<i>Session No</i>	<i>Agenda &amp; Coverage</i>	<i>Key Activities &amp; Topics</i>
1	What is a Computer?	Generation / History, Definition, H/w, S/w, Firmware, Practical hands on experience.
2-4	Different Computer Applications	S/w Applications, Programming, Record maintenance, Calculating, Forecasting, Day to day activity, Web Search, Bank Balance, Ticket Booking etc.
	Understanding Hardware & Software	Understanding of H/w, S/w & Firmware used in PC's & computer networks.
5	Income generating activities using computers	Generate revenue by developing s/w applications and providing it as a service, Software as a Service (SaaS)
<b>Module 2- Basics of MS Office</b>		
6	Working with MS Word	<ul style="list-style-type: none"> <li>• Launching Ms Word Application</li> <li>• Creating, modifying, and saving MS applications</li> </ul>
7, 8	Working with MS Excel	<ul style="list-style-type: none"> <li>• Launching Ms Excel Application</li> <li>• Using Ms Excel for carrying basic computations</li> </ul>
9	Fundamentals of MS Powerpoint	<ul style="list-style-type: none"> <li>• Using Ms PowerPoint to prepare graphical representations</li> </ul>
<b>Module 3 - Internet and Internet Applications</b>		
10	Connecting to internet	Connecting to internet for better facilitation of work & time & cost benefits. Web applications, chat, blog, email, etc.
11	Basic search utility	Google search, Bing Search etc
12	Google Apps, Google satellite, maps, etc	Facilitate & optimize the search utility by Google apps. Locate the area through Google maps. GIS based application usages
13	Using E-Email	<ul style="list-style-type: none"> <li>• Creating e-mail accounts</li> <li>• Sending and replying e-mails</li> </ul>
<b>Module 4 – E-governance Applications</b>		
14	Accessing different E-Governance applications	<ul style="list-style-type: none"> <li>• Introducing different E-Governance applications</li> <li>• Demonstrating how the different E-Applications can be processed</li> </ul>
15	E-Enabled Activities	<ul style="list-style-type: none"> <li>• Filling complaints</li> <li>• Locating government offices</li> </ul>

### **Envisaged Learning Outcomes.**

This training programme strives to make a meaningful contribution to the achievement of the following outcomes:

- Developing basic understanding of a computer system.
- Building basic knowledge, skills and attitudes for using computers in order streamline information documentation, processing and retrieval
- Facilitate storage of all essential information so as to reduce chances of information loss

# **SYNTHESIS, PLANNING AND BUDGETING**

## **Course Designer**

**Amar KJR Nayak**  
**Professor of Strategy & NABARD Chair Professor, XIMB**  
**Email: [amar@ximb.ac.in](mailto:amar@ximb.ac.in)**

# **SYNTHESIS, PLANNING AND BUDGETING**

## **1.0 Course Objective:**

This course is aimed to help the participants to integrate and synthesize all the subjects studied in the context of the cluster of community where they are going to engage with. It should also help the participants of a specific cluster to learn to plan for activities and budget the time and expenses with specific goals and objectives of improving the well being of economically poorer and politically weaker families in the community/cluster.

## **2.0 Key Concepts/Issues to be covered:**

The key concepts and areas of this course will include the following:

- (a) Inter relationship of different courses in the context of sustainable community systems
- (b) Methods to Assess the Needs at the Village level & Cluster level
- (c) Planning of Activities at Village Level and Cluster Level
- (d) Planning the Product Basket
- (e) Time, Cost, Resource Budgeting
- (f) Sources of Resources & Capabilities – Internal & External
- (g) Develop a three Year Plan for the Cluster
- (h) Methods for Monitoring & Evaluation through Baseline Indicators

## **3.0 Pedagogy:**

The learning and teaching method in every session will include opening remarks, brainstorming on key concepts/issues of a session, followed by discussions, cluster wise exercises, questions and answers through a dialectic method, feedback on presentations and summarization.

## 4.0 Detailed Session Plan:

Session No	Topic	Specific Concepts & Issues	Teaching Methods
Session 1: 3 hours	Summary & Synthesis	<ul style="list-style-type: none"> <li>• Summary &amp; Synthesis of all the 7 courses covered prior to this course</li> <li>• Relationship among different courses and their linkage with the value chain analysis within a cluster/community</li> <li>• How to take this forward in the context of the respective clusters</li> </ul>	Cluster wise Exercise, Discussions & Feedback
Session 2: 3 hours	Need Assessment & Baseline Study Indicators	<ul style="list-style-type: none"> <li>• Need Assessment</li> <li>• PRA Tools</li> <li>• Baseline study of the community/cluster of people where the participants will be working.</li> <li>• Village Resource Mapping</li> <li>• Producer Mapping</li> <li>• Institutional Mapping</li> </ul>	Cluster wise Exercise, Discussions & Feedback
Session 3: 3 hours	Plan of Activities	<p>Areas of Planning</p> <p>Production, Value addition, Marketing, Accounting, Organizing Community, etc</p> <p>Health Education Basic Infrastructure</p> <p>Level of Planning Village Level Cluster Level</p> <p>Planning for Responsibilities (for coordinators and facilitators)</p>	Cluster wise Exercise, Discussions & Feedback

<p><b>Session 4: 3 hours</b></p>	<p>Product Basket Planning Planning for Local Value Addition Selection of Appropriate Product &amp; Process Technology</p>	<p>Analyze the broad product categories in cluster specific agro-climatic condition Product Basket Planning for specific cluster and its agro-climatic condition Areas for complementation to enhance diversity, increase productivity, and net incomes on the same land base Analyze the possible value addition of produce for greater shelf life and for sale in local markets.</p>	<p>Cluster wise Exercise, Discussions &amp; Feedback.</p>
<p><b>Session 5: 3 hours</b></p>	<p>Time, Cost &amp; Resource Budget Sources of Funds, Information, and Technical Capabilities</p>	<p>Analyze a Holistic Development Proposal, Activities involved, Resources and Cost and Time Budget Analyze the different sources of Funds available with the Government and Development Agencies Plan for internal Resource Generation from the members, villages and the local community Identify the local institutions that can support with the relevant technical expertise for the CES</p>	<p>Cluster wise Exercise, Discussions &amp; Feedback.</p>
<p><b>Session 6: 3 hours</b></p>	<p>Interaction with resource persons from the local government and NRLM.</p>	<p>Sharing of information on government schemes for rural development and their experiences.</p>	<p>Resource Persons to be invited.</p>

<b>Session 7: 3 hours</b>	Interaction with resource persons from NABARD and NGO's in the rural development sector.	Sharing of information on government schemes for rural development and their experiences.	Resource Persons to be invited.
<b>Session 8: 3 hours</b>	Three Year Plan & Budget	Develop a three year plan and budget for the respective clusters  Presentation by the participants on the three year plan and budget.	

## 5.0 Expected Outcomes:

- Preparation of a three year Plan of Action, Budget and Repayment schedule
- Tentative Manpower Planning & Responsibilities

## 6.0 Text Book/Reference Materials:

Implementing Community Enterprise System for Sustainability of Agricultural Communities: A Manual, Nayak, Amar KJR (2012)

A Proposal for Holistic Development at a GP Level for Long Term Sustainability of Small and Marginal Farmers/Producers in the GP, Amar KJR Nayak (2011)

Ongoing Programmes & Schemes of the State Government and the Central Government, Rabindra Kumar Gouda (2012)

Business Plan of Nava Jyoti PC, 2011

Projected Statement of Accounts, Nava Jyoti PC, 2011

**Management Curriculum Development for  
Farmer Producer Organization (Community Enterprise System)**  
An SFAC-XIMB Initiative

	<b>Course Title &amp; Designer(s)</b>	<b>Reference Group</b>
1	<b>Community Organization for Self Reliance</b> Prof. Amar KJR Nayak	Dr. H Siddiqui, Professor of Social Work, Maulana Azad National Urdu Univ. Dr. Anup K Dash, Professor of Sociology, Utkal University Dr. Kajri Mishra, Associate Professor of Rural Management, XIMB Dr. S Peppin, Professor, Dean, School of Rural Development, TISS Tuljapur Dr. Sashmi Nayak, Reader, Social Work, NISWASS Late Fr. (Prof.) Sirinus, Professor of Rural Management, XIMB Dr. Ratan Das, Gandhian, Educationist & Social Worker Mr. Bipin Das, Associate Professor, School of Rural Development, TISS Tuljapur
2	<b>Sustainable Agriculture</b> Mr. LD Swain & Mr. SK Das	Mr. Abhaya Mishra, Organic farming specialist, Bhubaneswar Dr. Om Rupela, former principal scientist, ICRISAT & consultant to World Bank on Sustainable Agriculture Dr. Peter Kenmore, FAO India representative, New Delhi Mr. Subash Sharma, Organic Farmer, Vidharbha, Maharashtra Dr. Balaram Sahu, OUAT, Registrar, Odisha Veterinary Council.
3	<b>Post Harvest Management &amp; Value Addition of Agri-Products</b> Prof. Sanjaya K Dash	Prof. Shambu Prasad, Professor of Rural Management, XIMB Mr R.K. Gouda,
4	<b>Operations and Logistics Management</b> Prof. W S William	Mr. Asish Kumar Panda, FPM Scholar, XIMB Mr. C.D. Kuruvilla, Research Associate for the curriculum development project.
5	<b>Sustainable Marketing</b> Prof. Jeevan J Arakal	Prof. Amar KJR Nayak, Professor of Strategy, XIMB Mr. G.V. Krishnagopal, Chief Executive, Access Livelihoods Consulting, Hyderabad Mr. C.D. Kuruvilla, Research Associate for the curriculum development project.

	<b>Course Title &amp; Designer(s)</b>	<b>Reference Group</b>
6	<b>Accounting &amp; Finance</b> Prof. P K Mohanty	Prof. D.V. Ramana, Professor of Accounting & Finance, XIMB Fr. Alex Mascarenhas SJ, Loyola Nivas, Jamshedpur. Mr. J Pradhan, Chartered Accountant, Enterprise Solutions, Bhubaneswar
7	<b>Information &amp; Communication Technologies (ICT)</b> Prof. Rahul Thakurta & Prof. Umesh H Rao	Dr. Dipak Misra , Associate Professor, Information Systems, XIMB Mr. Dillip Rath, Computer Professional, Computer Center, XIMB
8	<b>Synthesis, Planning &amp; Budgeting</b> Prof. Amar KJR Nayak	Late Fr.(Prof.) Sirinus, Professor of Rural Management, XIMB Mr. K K Gupta, CGM, NABARD Mr. Amar Patnaik, Accountant General, Odisha Mr. R K Gouda Mr. K K Jha, Deputy CEO, ORMAS Mrs. Gayatri Patnaik, Manager, Marketing, OSAMB Dr. D P Dash, AGM, NABARD Mr. A P Dash, AGM, NABARD

## Profiles of Course Designers

**Amar KJR Nayak** : Professor of Strategy, NABARD Chair Professor & Coordinator, Centre for Development, Research & Training (CENDERET), XIMB. Professor Nayak works on optimization issues of organizational asymmetries and institutional asymmetries for sustainability. He has been working on an action research to develop organizational and institutional designs for sustainable community systems. He has also been working on the vocabulary, logic and value base for Sustainability. He has published four books and several articles and cases in national and international journals. He is currently the NABARD Chair Professor at XIMB and serves in the board and committees of several organizations. He also coordinates the Centre for Development, Research & Training at XIMB. He teaches Strategic Management, International Business, Indian Multinational Strategies, Research Methodologies, and Non Competitive Strategies.

**Jeevan J Arakal** : Jeevan has been with XIMB for the last 3 years and is currently Assistant Professor in the rural management area. He offers courses focused on inclusive markets, consumer behaviour and marketing decisions. He is currently pursuing a PhD on marketing collaboration in producer organisations at SJMSOM, IIT- Bombay. Jeevan has presented papers on inclusive value chains and producer organisations at reputed conferences nationally and internationally. At XIMB he has been part of the coordination team for campus placements and rural immersions for students for the last three years. Jeevan's training, research and consulting interests focus on the issues of value chains, business development services, marketing and networks and producer empowerment. Before joining XIMB Jeevan was part of the start up team of the Centurion School of Rural Enterprise Management (CSREM), Paralakhemundi-Orissa. At CSREM he worked on rural cluster promotion, microfinance & rural skill building for more than 4 years. He has been involved in training programmes for the Western Orissa Rural Livelihoods Programme (WORLP) and has been a resource person for course material development in Rural Marketing for the Indira Gandhi National Open University (IGNOU). He started his career with Pratham India Education Initiative, one of the largest primary education focused initiatives in the world. At Pratham he worked on the issues of village education committee activation and ASER, a nationwide citizen driven initiative to measure learning in schools.

**Laxmidhar Swain** : Born and brought up in Odisha, he studied 'Youth & Development' in the Commonwealth (Asian) countries with wide exposure in low cost integrated agriculture in Philippines, Sri Lanka and India. He possesses a multidisciplinary background in Social Sciences, Community Health & Human Development and has thirty years of work experience. He has worked with CARE India, XIMB, IRRM & CYSD and as a Consultant worked with UNICEF, WCD, Tata Steel, SIRD, UN. He continues to Practice and promote 'Dr. Chow's Global Natural Farming Technologies' in India as a trainer-manager especially in AP, Chhattisgarh & Tamil Nadu through South Asia Rural Reconstruction Association, Bangalore. He has presented papers to United Nations on 'Tribal Youth Perspective in India' contributing to its 12<sup>th</sup> Five Year Plan in September 2012 and another paper to International Fund for Agriculture Development & OTELP on 'Family – based Low Cost Integrated Agriculture' for their strategy plan 2013- 17. He is also associated with 'Nava Jyoti' PC Ltd. – a CBO working in tribal areas of Rayagada District.

**P K Mohanty** : Associate Professor in Accounting and Finance at XIMB. He has served many organizations at senior executive level and possesses many years of corporate experience before coming to academics. He has 8 years of teaching experience. He has participated and presented papers in national and international seminars. He is a member of Indian Accounting Association.

**Rahul Thakurta** : Assistant Professor of Information Systems at Xavier Institute of Management Bhubaneswar(XIMB), India. He received his Fellowship in Management Information Systems from Indian Institute of Management Calcutta. He teaches courses pertaining to Information Systems (IS) and Decision Science (DS) disciplines. His broad research interests include areas like planning and implementation of IS infrastructures, management of software ventures, impact of information and communication technologies on the society, and technology adoption and diffusion. He has been the recipient of Infosys Research Fellowship and DAAD Short Term Research Scholarship. He is currently the Managing Editor of Research World journal published by XIMB.

**S K Das** : He founded Sabuja Biplav in 1996 and started his career in the Odisha Forest Department. He served for about 15 years in the KBK area where his experience transformed him to an expert in Silvi-culture and NTFP based livelihoods. He worked as a consultant to 'Poverty and Human Development monitoring agency' of GoO. He is well known for his association with MAP (Medicinal & Aromatic Plants) Odisha which have contributed to Odisha greenery program. His unique achievements are continuing with practicing Integrated Agriculture along with NRM in rural Odisha. To his credit, he is continuing with developing the decentralized district plan for GoO. One of his achievements has been the bringing of sustainability to 62 rural villages through NRM and integrated agriculture.

**Sanjaya Kumar Dash** : He heads the department of Agricultural Processing and Food Engineering at College of Agricultural Engg. & Technology Orissa University of Agriculture & Technology (OUAT), Bhubaneswar. His research areas include 'Value chain management of ginger and ginger products', "Modified atmosphere packaging", Rice Milling, Fruits and Vegetables processing, Food Packaging and Modeling of thermal environments. He has worked on several projects in different capacities. As Co-Principal Investigator, NAIP subproject entitled "A Value Chain of ginger and ginger products" (Project period 2008-2012), as Co-Scientist of the Govt. of India, DBT sponsored project on "Rural Bio-resource Complex in villages of Puri district" (Project period: 2006-2010), as Principal Investigator, Experiential learning facilities on Model Agro-Processing Centre (Project funded by the Indian Council of Agricultural Research) and also as Programme I/C of the IGNOU programme study centre. He has published more than 30 research papers in peer reviewed journals and several other articles. He has received several awards, honours and fellowship including the 'Best Teacher' Award, 2008-09, Orissa University of Agriculture and Technology and the Indo-US AKI Fellowship for the project entitled "Teaching and learning excellence: a capacity building model" and been a visiting scholar, Ohio State University, Columbus, USA, 2008.

**Umesh Hodeghatta Rao** : Associate professor in the area of Information Systems at Xavier Institute of Management, Bhubaneswar. Prior to XIMB, he has held technical and management positions at Wipro Technologies, McAfee, Cisco Systems and AT&T Bell Laboratories, USA. Prof. Umesh was also an adjunct faculty in New Jersey, USA. He has published journal articles in international journals and conferences. He has graduated with master's degree from

Oklahoma State University, USA (MSEE) and pursuing Phd at Indian Institute of Technology, Kharagpur.

**W S William :** He started his professional career with Engineers India Limited, New Delhi and was involved in planning and monitoring of several mega projects. Subsequently, he joined as faculty member in National Institute of Industrial Engineering (NITIE), Mumbai, to fulfil his passion for teaching, research and consultancy. He joined Xavier Institute of Management Bhubaneswar (XIMB) in November, 1994 and is currently a Professor in the Operations Management and Decision Sciences area. He has been Dean (Academics) and Secretary to the Board of Governors at XIMB for seven years (2002-2009). He teaches Operations Management, Project Management and Supply Chain Management to postgraduate students of management. He received the IBM Faculty Award in 2007 for initiating a course on Services Operations Management .He has been consulting for several organisations in the domain of operations management.