



**Post Graduate Diploma in Agricultural Extension Management (PGDAEM)**

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**Post Graduate Diploma in Agricultural Extension Management  
(PGDAEM)**

**Course code: AEM 203**

**Course Title: Planning for Agricultural Development (4 Credits)**



**National Institute of Agricultural Extension Management**

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**AEM 203: Planning for Agricultural Development (4 Credits)**

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**BLOCK I: Planning for Agricultural Development**



## UNIT 1

### INTRODUCTION TO AGRICULTURAL PLANNING

#### Highlights of the unit

- Objectives
- Introduction
- Planning and agricultural planning
- Planning – steps and process
- Agriculture ecosystem
- Agricultural Risk Management
- Development of Agricultural Plan
- Let's Sum up
- Check Your Progress
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#### 1.0 OBJECTIVE

*“How Planning helps in putting Agricultural Resources into Use and Maximize Income”*

- To understand about planning and agricultural planning
- To understand about income maximization through resources use optimization
- To understand about internal and external environment to agriculture when agriculture is treated as business.
- To understand about agricultural risk management
- To learn ‘how to’ develop agricultural plans.



## 1.1. INTRODUCTION

Agriculture involves making use of resources, mostly natural and scarce, to produce output that can be used for human or animal consumption either directly or after processing. The agricultural products are also used as raw material in many industries. At the national level agriculture continues to be an important sector as it feeds the nation's population and provides employment to more than half of its population. Above all with majority of the farmers being of small and marginal category and agriculture being their livelihood, it is important that the scarce and limited resources available are 'objectively' and 'optimally' used so as to maximise the returns to the farmers while minimizing the associated risks. Thus there is exists need for planning.

There can always be significant difference when a task is undertaken with a plan when compared to a scenario when the same task is undertaken without a plan. A planned approach generally involves assessment of available resources, the options on using such resources, the approaches to use the resources, how returns can be maximized with thrust on increasing income, optimising costs, maximizing productivity and how associated risks can be better assessed and managed. Thus planned way of work can help in optimizing use of resources. It may be the case that unforeseen and unexpected events can impair production and returns; still planning remains important so as to be prepared, to the extent possible, for such unforeseen and unexpected events.

Agriculture and allied activities are dependent on variety of natural factors and phenomenon and thus it stands out as a peculiar industry where occurrence of events that are beyond the control of farmer-producer can significantly impair the production and thereby net returns while rarely bringing in positive effects.



## 1.2. PLANNING AND AGRICULTURAL PLANNING

According to Harold Koontz, Cyril O'Donnel and Heinz Wehrich<sup>1</sup>, the five essential functions of management are Planning, Organising, Staffing, Leading and Controlling

“Planning is not only the most basic of all the management functions, since it involves selecting from alternative future course of action, it also determines how the four other functions of the manager will be implemented. Thus a manager organizes, staffs, leads and controls in order to assure the attainment of goals according to plans.

Planning involves selection of enterprise and departmental objectives as well as determination of the means of reaching them, it is thus a rational approach to preselected objectives. Since this approach does not take place in a vacuum, good planning must consider the nature of the future environment in which planning decisions and actions are intended to operate. In other words, planning must involve an open-system approach to managing.”

### 1.2.1 Importance of Planning:

Planning is beneficial as all the efforts are directed towards set goal/s;

- It helps in decision making;
- It helps in putting the resources into optimum use;
- It helps in managing risks;
- It helps in facing unforeseen and unexpected events;
- It helps in eliminating unwanted and non-productive processes or resource use;
- It helps in encouraging or experimenting with innovative approaches or ideas;
- It sets benchmarks and thereby instituting monitoring and evaluation mechanisms that help in efficiency in plans implementation as well as strengthening the future plans.

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<sup>1</sup> Management by Harold Koontz, Cyril O'Donnel and Heinz Wehrich pp 153, 1980 edition



### **1.2.2 Challenges in planning:**

While the planning has so many advantages there can be challenges if not evolved and made use of through systemic approaches and when external factors negatively impact beyond assumptions made.

- The first challenge emerges if plans do not provide required flexibility and prepared with somewhat rigidity; further challenges include:
- If the entity operates in dynamic environment where variables movement is volatile, the plans may pose challenges if the sensitivity analysis undertaken is limited;
- Planning can involve costs depending the market research, forecasts to be done and detailing required and thus shall be in need of balancing costs on planning and perceived benefits;
- The process use to develop plans may take longer time than desirable and may restrict innovation; and finally
- All activities may not happen as planned and may face challenges in attaining targets or results aimed at achieving.

### **1.2.3 Why learn about Planning Process?**

In the light of the challenges of planning as mentioned above, it is desirable to be clear about the planning process and working on the same using scientific approach and managerial expertise. While the planning as such is known process, the approaches used for planning usually vary depending on peculiarities associated with the activity/business such as type of agriculture or crop.

Example: In the same village, progressive farmers are usually found to be working with innovative and desired business acumen and thus benefit with agriculture; while some farmers face challenges at every step and their agricultural activity may end up in losses. Some employees in an organization engage themselves with systemic approach to their





job while some can be highly confused and worried creating problems for themselves and others. Thus it is important to learn about planning process.

### 1.2.4 Need for Agricultural Planning:

Planning when applied to Agriculture helps in understanding and undertaking Agricultural Planning. In general Planning is choosing out of alternatives and planning involves assessment of resources and their use through best of the options; from this point of view, planning involves and helps in decision making. A farmer may have alternatives to make use of the available land in the given agro climatic conditions subject to ability to cultivate selected crops, availability of required inputs and feasibility to sell such output at a remunerative price.

A farmer needs to seek answers to critical questions; some questions and alternatives as examples are stated hereunder:

S. No.	Questions	Alternatives
1.	What is to be achieved?	<ul style="list-style-type: none"><li>• More income per season or per year?</li><li>• Sufficient production to meet the food needs of the family?</li><li>• Quality production that can be marketed better?</li><li>• Produce required quantity while minimizing cost of cultivation?</li><li>• Produce as per the specific needs of buyers or processors, with or without formal marketing arrangements.</li></ul>
2.	How to work on farming?	<ul style="list-style-type: none"><li>• Should be engaged with cultivation or should lease out the available land?</li><li>• Should lease-in more land and cultivate in larger area?</li></ul>



		<ul style="list-style-type: none"><li>• Should work with manual processes or use more mechanized approaches like tractors, de-weeders, power sprayers, harvesters etc.?</li><li>• Should be cultivating traditional crops or should diversify to other crops that can fetch higher income? Or have better market prospects?</li><li>• Should consider inter-crops so as to put the available land into optimum use?</li></ul>
3.	How to maximize income?	<ul style="list-style-type: none"><li>• By increasing production?</li><li>• By producing multiple products?</li><li>• By producing products of better quality that can be differentiated and fetch higher price?</li><li>• By producing products that meet requirements of specific buyers or customers or markets?</li></ul>
4.	How to optimize costs?	<ul style="list-style-type: none"><li>• By sourcing inputs from better sources?</li><li>• By sourcing quality inputs that increase productivity?</li><li>• By choosing inputs of quality that meet requirements?</li></ul>
5.	How to minimize risks?	<ul style="list-style-type: none"><li>• By assessing and understanding the associated risks?</li><li>• By taking appropriate insurance cover?</li><li>• By obtaining information on weather conditions consistently and taking appropriate measures.</li><li>• By obtaining market information on inputs, outputs and other resources and using the same appropriately for decision making?</li></ul>
Such Others.....		



### 1.3 RESOURCES

Planning essentially involves putting into use the available resources and maximize the income while minimizing the associated risks. It is essential to identify, access further resources based on need, assess and put into use the available resources.

- ✓ **Identification:** What all resources are available to be engaged on agriculture or any allied or other economic/business activity?
- ✓ **Access:** How to mobilize any further resources? Example to hire/use any farm equipment like Harvester; availing loan/credit from any bank or cooperative society. Can more land be used accessed through lease-in option? What are the sources of irrigation and what more can be explored to meet irrigation needs. What are the best options to access inputs like fertilizers, pesticides, advisory services, facilities like logistics, nursery etc.
- ✓ **Assessment:** What are the different options available to make use of the available resources? Example: what all crops can be cultivated in the available land that can fetch best possible net income?
- ✓ **Use:** Based on the assessment, how each resource or resources together are better used to earn maximum net income? What all is needed to be done, how and when?

*The resources in the context of agriculture include land, water for irrigation, inputs such as seeds, fertilisers, pesticides etc., labour, equipment, finance and other support facilities or services like Nursery, Warehouse, Transport, Pack House or other Primary Processing centers and such Others. Agricultural Planning helps in putting into use the resources available and accessible to optimize the earnings and minimize risks.*

#### 1.3.1 Land

Land is a critical resource as the available land for agriculture per farmer or per household is limited. A farmer or household has option to cultivate in more land if lease-in option is exercised. While at farmer or his/her household level land availability can thus be more or less based on exercising lease-in or lease-out options, at higher levels i.e.



a village or block or state or national level the area of land available for agriculture is fixed subject to variations arising out of land use changes for other purposes like housing, industries etc. or bringing additional land under agriculture through improvements in irrigation or other means.

### **1.3.2 Water for Irrigation**

Agriculture is undertaken either as rain-fed or with water supply for irrigation through an irrigation system. The areas under rain-fed cultivation are susceptible to changes in actual rainfall as they same can vary in terms of timing and quantum of rainfall i.e. the rainfall may take place when required or later or earlier; there can be excess rainfall or shortfall. Such variations can significantly impact agriculture.

To support agriculture through any irrigation system, sources include canal or flow irrigation system (FIS); Open well; lift irrigation system (LIS); tanks; shallow tube well (STW); deep tube well (DTW) and others. These are further classified under major or minor irrigation schemes and are mostly supported by the State or community with some exceptions of private sources.

### **1.3.3 Inputs**

The inputs required for agriculture primarily include seeds or planting material, fertilizers and pesticides. The seeds include varieties or hybrids and can be approved GMOs. The fertilizers and pesticides include chemicals or natural or organic.

### **1.3.4 Techno-managerial Advisory**

The farmers are in need of techno-managerial advisory on various activities undertaken throughout the crop cycle, post-harvest and till the produce is sold either in the raw or value added form. The advisory includes on soil testing, soli treatment based on the findings of the soil testing, land preparation as per the requirements of proposed crop and on various other aspects. These are basically around questions like *what to do; what not to do; when to do; how to do; who should do* etc.



### 1.3.5 Labour

Agriculture requires labour with specific skills depending on the type of work to be undertaken at various stages of the crop cycle till the post-harvest management and for processing if any value addition is involved. Labour availability or non-availability is often reported as a major issue in certain parts of the country and such scenarios are prompting farmers to consider mechanization wherever feasible. The costs on labour are also reported to be scaling higher as labour markets are becoming competitive with alternative options for workforce to engage themselves.

### 1.3.6 Support Facilities and Services

The farmers are in need of access to a variety of support facilities and support services. Under support services only services are accessed and support facilities offer services. Some are illustrated as under:

✓ **Support services**

- Farm Management Services (FMS)
- Mechanized operations
- Input linkages
- Output / Market linkages
- Market Intelligence
- Techno-managerial support services including on:
  - Crop Management
  - Risk Mitigation
  - Efficient Land Use
  - Efficient Water Use
  - Efficient Inputs Use



- Productivity Management (Yield and/or Factor level)
- Farm Mechanization
- Availing State/Program/Schemes support
- Legal/regulatory compliance
- Access to Laboratory or testing services
  - Soil testing and Soil Management
  - Water treatment and Water Management
- Capacity building
  - Seed treatment; handling of seeds and/or planting material
  - Pre and Post-Harvest Practices
  - Resource optimization
  - Economic Literacy
  - Others
- Logistics - Transport; Storage; Packing; Packaging
- Nursery services
- Certification: Organic or Others
- ✓ **Support facilities**
  - Nurseries
  - Warehousing
    - Dry storage (Traditional)
    - Dry Storage (Silos)
    - Product specific storage
  - Specialized storage facilities



- Modified Atmosphere Storage;
- Controlled Atmosphere Storage
- Cold stores.
- Cold chain
- Ripening Chambers
- Pack Houses
- Farm Implements, Equipment, Machinery, Tools, Spares, Maintenance support
- Soil testing or other laboratories
- Water testing and advisory services on water treatment
- Training Centers

### **1.3.7 Access to Finance**

The farmers are in need of access to a variety of financial services including credit (short term loans, medium term loans and long term loans), remittance, insurance (life insurance, general insurance, health insurance and crop insurance), savings, payments and pension. The acronym used to refer to these with their first letters is CRISP (credit, remittance, insurance, savings and payments or pension). Of these the short term loan or crop loans are the most popular and predominantly accessed service in India whereas the crop insurance is also used to certain level, notwithstanding the challenges often mentioned about its effectiveness in addressing the farm level risks.

The medium term loans and long term loans are mostly targeted to meet investment purpose. The investments include: purchase of equipment like tractors, harvesters etc., land development, development of long gestation period crops like Mango, Oil Palm, Coconut, Coffee, Cocoa etc.

Other financial services that are usually needed include life insurance, general insurance to cover assets like house, pump sets, tractors etc., health insurance; remittances to be made to any other agencies/individuals, payments to be made towards taxes or others and pension services subscribed by the farmer or household.

#### 1.4 Resources use optimization

The most important question for any business is “how and how best the resources are to be used so as to maximize net benefit and minimize risks, out of such resources use?”

In this context, the important features with reference to land are the soil type and soil characteristics. The type of crops that can be cultivated depends on these parameters. *The same land parcel can be used to cultivate a variety of crops subject to:*

- *The existence of favourable agro climatic conditions,*
- *Access to irrigation/other inputs and support facilities/services*
- *Access to desired techno-managerial advisory services*
- *Farmer’s ability to cultivate the crop/s,*
- *Produce having market and*
- *Produce expected to fetch remunerative price.*

The question for critical evaluation is: “*for how many seasons in a year and for which crops in each season the land shall be used so as to optimize the **net returns** out of the cultivation in the given land over a year?*”. This evaluation can help farmers in making best out of their land; however the output expected out of the proposed crop should have market at the time of harvest and it should fetch remunerative price. Similarly depending on irrigation source and water availability, which crops are to be cultivated in each of the seasons over a year, needs critical evaluation.

Seeds, fertilizers, pesticides and such other inputs use also needed to be assessed so as to enhance the production, reduce the cost of cultivation, minimize the risks, maximize market access/realization and thereby optimize the returns. Which variety and how





much quantity of any input is required to be used for a particular crop in a particular area is the important question that needs assessment.

With reference to all the resources, the essential desirables are:

- i. Enhanced productivity i.e. higher production per unit of resource/s used or same production per unit of lesser quantity/amount of resources used.
- ii. Quality of the output or produce as per market or buyer's or user's requirements
- iii. Higher income through improved productivity, better market access and higher price realization when sold.
- iv. Optimum need for crop protection measures and thus savings in cost of cultivation without impairing quality of produce and productivity.
- v. Maintaining productivity of land and its soil fertility over the years.
- vi. Conservation of natural resources while ensuring sustainability with due regard to the framework of PPP (People, Planet and Profit) and
- vii. Following suggested practices under Climate Smart Agriculture as the challenges under Climate Change are visible and inevitable.

*The essence of the message is that:*

- *"The short term target is net income optimization during each season; while,*
- *The long term goals are sustainability of agriculture as a remunerative economic activity over the future years and compliance with environment safeguards."*

## **1.5 AGRICULTURE AND PLANNING**

The available resources for agriculture and need for their optimum use reinforce the need for planning, as planning can help in meeting the objectives such as enhanced productivity, higher net income and minimizing risks.

### 1.5.1 Agricultural Income Optimization:

The desired objectives of agriculture:

- At farmer level is to optimize the *net* income from agriculture on a sustainable basis with desired growth year after year.
- At the national level is to ensure sustained production to meet the food and nutritional security of the nation's population and also to meet the needs of industry as well as to be able to export surplus production with or without processing.
- Overall: Ensure sustainability of agriculture as it secures farmers' socio-economic interests, provides employment to nearly fifty percent of the population while also being the largest livelihood provider.

### 1.5.2 Stakeholders of Agriculture

Planning for agriculture varies with reference to each of the stakeholders associated with agriculture. The major stakeholders of agriculture include farmers, government/s, buyers/processors, vendors, traders, lenders, inputs/service providers and research institutions.

The interests of farmers and the interests of government, to some extent, are already detailed earlier. The plans of the governments are also focused on support to agriculture with irrigation, power for irrigation, supply of inputs through public and private channels, access to desired support facilities/services, access to finance, support through programs/schemes, policies and regulations, investments required, infrastructure like rural roads, power, communication systems, irrigation systems, marketing infrastructure and such others.

The processors or buyers would be interested in expected production, variants, and supply schedule, availability for their own processing and marketing or otherwise. The processors and buyers would also be interested in market opportunities for the products – both in raw and processed form. The inputs suppliers and services providers would be



keen about demand for their products and services with focus on quality, quantity, and timing. Thus agricultural planning encompasses '*interests*' of several stakeholders whereas this note is focused mostly on the farmers and to some functions of the government.

## 1.6 PLANNING - STEPS AND PROCESS

The earlier sections contained details about planning and need for planning; this section details the steps involved and suggested process for planning.

### 1.6.1 Steps in Planning

The steps involved in planning are:

- ✓ To be clear about the opportunities available; what all resources are available and how they can be used? In case of farmers maximizing net income on a sustainable basis and from the view of the government sustainability of agriculture, welfare of the farmers, food and nutritional security of the people and economic gains out of agriculture can be stated as targets.
- ✓ To be clear about what we want to achieve. How to use the resources so as to obtain maximum benefit out of their use.
- ✓ To make assumptions that are realistic and practical based on which the plans are to be developed.
- ✓ To search for various alternatives available to work on attaining set achievement.
- ✓ Evaluation of various identified alternatives so as to be able to take a rational decision.
- ✓ Selecting one or more options to pursue further.
- ✓ To be clear about basic and associated plans that are to be developed as part of the overall planning process.



- ✓ To add estimates in terms of numbers in support of the plans or as set outcomes of the plans.

### **1.6.2 Essentials in Planning**

The following are some of the essential requirements in any plan:

- ✓ Be clear about the purpose, why the plan/s are being made.
- ✓ Stated goals and clarity in goals; what are set to be achieved.
- ✓ Practical and realistic assumptions
- ✓ Clarity in proposed approach to work on the plans.
- ✓ Collection of required data/information and systemic analysis of the same
- ✓ Consultations among the stakeholders so as to ensure that all are in agreement with the final plan.
- ✓ Sharing of the final plans among interested, to the extent the plans are not confidential.

### **1.6.3 Process of Planning**

The process to be followed to work on the plans is simple and clear as under:

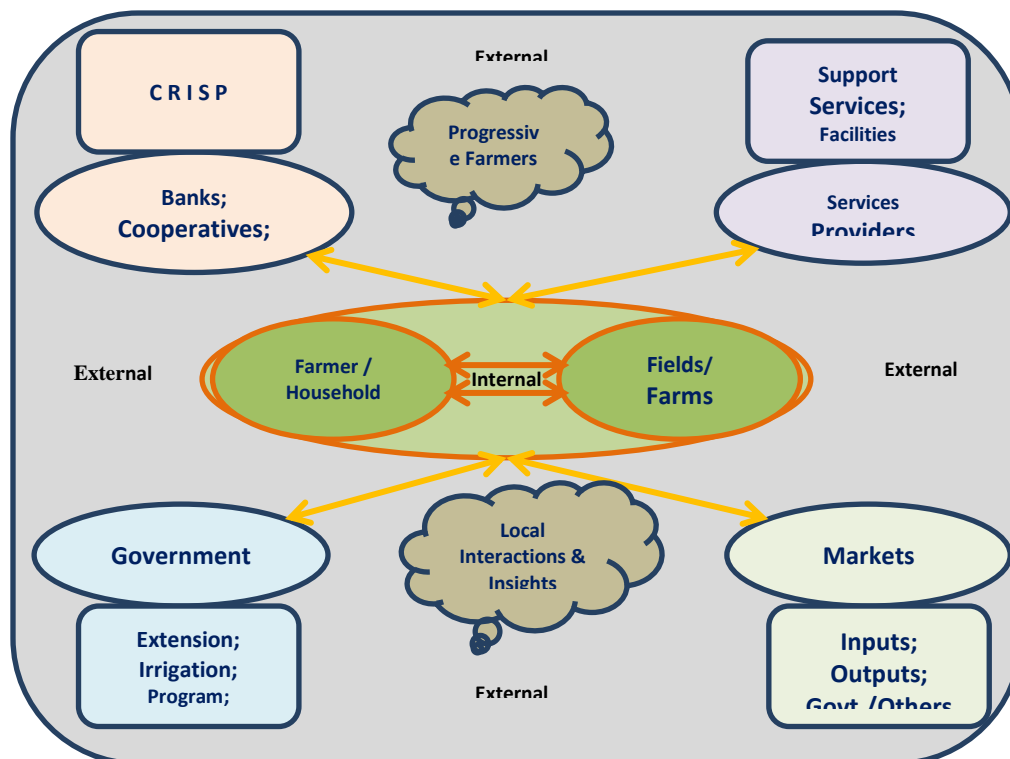
- i. Setting the Vision/Mission/Goals/Objectives
- ii. Collection of data/information as required for the development of plans.
- iii. Analysis of the data/information
- iv. Preparation of draft plans.
- v. Discussions among stakeholders on the draft plans
- vi. Review and revise the draft plans based on the feedback received from the stakeholders
- vii. Final plans, as approved and their dissemination.

These are detailed further under the section “Development of Agricultural Plans”

### 1.7 AGRICULTURE ECOSYSTEM

Agriculture can be stated to be a work in an environment wherein there are things that the farmer can manage by himself or herself by accessing required support/inputs from different sources and by own supervision of the total activity.

- The processes where the farmer and farmer’s household have control can be termed as internal to the farming environment.
- The activities or processes where the farmer or farmer’s household relies on others like vendors, banks, service providers and government can be termed as external to the farming environment.
- The processes or activities where the farmer or farmer’s household may not have any control like weather/nature can also be termed as external to the farming environment.



**Fig.1 Note: CRISP stands for Credit, Remittances, Insurance, Savings and Payments/Pension**

**1.7.1 Internal to Farmers (Area Profile; Agro systems etc. socio-economic culture)**

The farming ecosystem internal to the farmer or farmer's hold includes land with known characteristics of each land parcel with other features like irrigation access, access to roads, neighbours' lands and their usual uses etc. The farmer and his/her household's capability to work on agriculture including experience/expertise to cultivate proposed crops, own supervision, own labour, access to inputs and ability to raise resources like finance.

**1.7.2 External to Farmers (Techno-managerial advisory; research/academic systems; markets, logistics, infrastructure etc.)**

Farming involves sourcing of inputs, accessing support services and facilities, availing loans or other financial services, availing support under various programs/schemes of the Government and selling of output in the market, all these are part of the external systems to the farming. The external systems also include weather and nature that has immense bearing on the crop management and yields.

**1.7.3 Actors and Activities (Value Chain Approach in simple words)**

Farmers in general are engaged in agriculture by sourcing all inputs required from accessible sources and selling the produce in one or the other markets. The relationship between the farmers and other actors like suppliers, customers, service providers, banks etc. is transaction driven and begins and ends with the transaction.

On the other hand in situations where the relationships are continuous and in addition to the movement of material or services they work with communication channels, sharing of information and structured arrangements for the movement of materials and services as well. The arrangements are structured from end to end and all the actors throughout the chain work on adding value while also benefitting out of participation in the activities

along with other actors; such chains are termed as integrated value chains. In contrast what are generally observed where the actors work by themselves can be termed as fragmented or disintegrated value chains. Select definitions of value chains and agri-value chains are stated hereunder:

- ‘Value Chain’ describes the full range of value-adding activities required to bring a product or service through the different phases of production, including procurement of raw materials and other inputs, assembly physical transformation, acquisition of required services such as transport or cooling and ultimately response to customer demand
- “Value Chains focus on Value Creation typically via innovation in products or processes, as well as marketing – and also on the allocation of the incremental value. Value Chains include all the vertically linked, interdependent processes that generate value for the consumer, as well as horizontal linkages to other value chains that provide intermediate goods and services<sup>2</sup>”

#### 1.7.4 Features of Value Chains:

- Value addition happens at each node of the value chain
- The aggregate value addition from end to end is much more than the arithmetical summation of value addition at each node
- So the stakeholders tend to gain much more than what they gain by working in their individual capacities.
- Risks and Vulnerability are less when the stakeholders are part of a Value Chain.

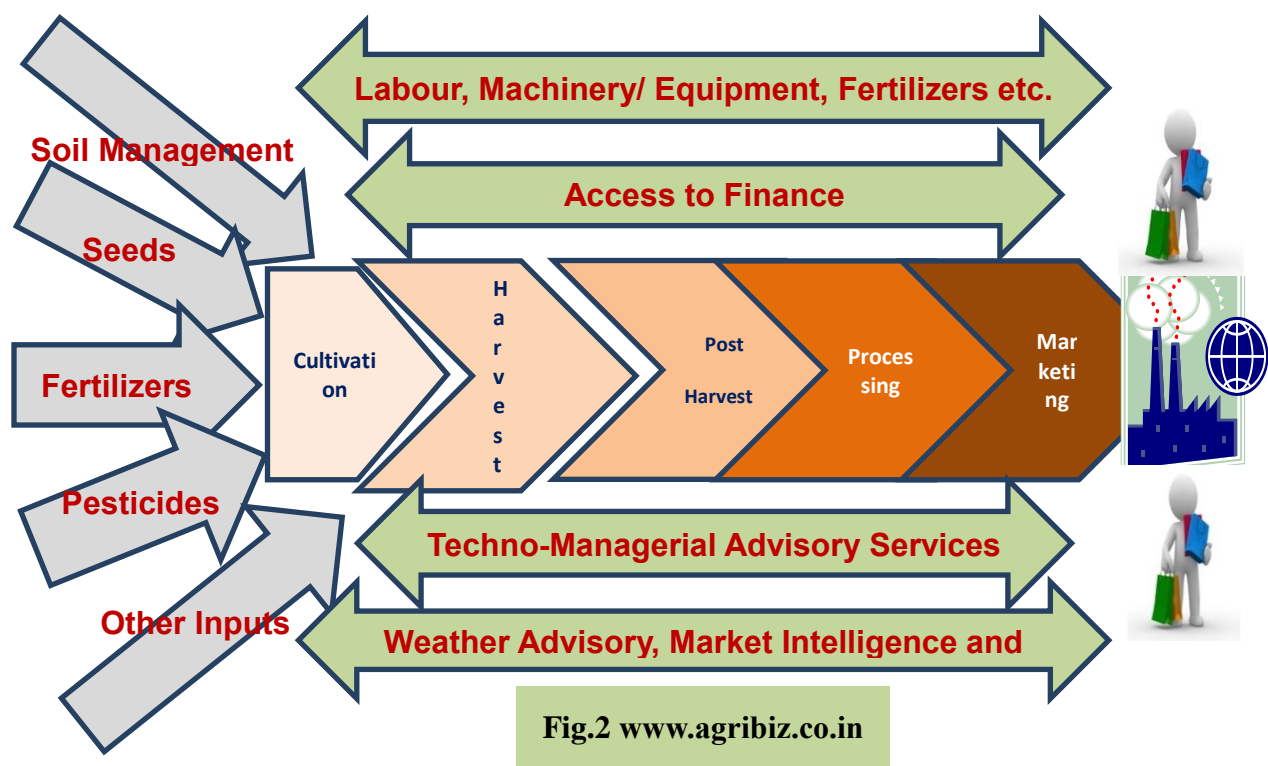
A value chain is different from supply chain, a Supply Chain encompasses every logistical and procedural activity involved in producing and delivering a final product or service “from the supplier’s supplier to the customer’s customer”.

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<sup>2</sup> Building Competitiveness in Africa Agriculture, a Guide to Value Chain Concepts and Applications, World Bank, 2010

A value chain is also different from clusters, as “a cluster represents a collection of firms and institutions that display horizontal and vertical links and produce a single or closely related product or service.<sup>3</sup>”

“An agricultural value chain is a way of describing the different links required to take a product from the farm to the customer<sup>4</sup>” An illustrative agriculture value chain using Michael Porter’s framework is presented hereunder:



### 1.7.5 Markets (Inputs; Outputs; Resources)

In the context of agriculture three markets are important and needed to be understood. These are with reference to inputs, outputs and resources.

✓ **Inputs markets:** Sources from where the various inputs can be procured in the normal course. These include local retailers, dealers, distributors or

<sup>3</sup> Building Competitiveness in Africa Agriculture, a Guide to Value Chain Concepts and Applications, World Bank, 2010

<sup>44</sup> Agricultural Value Chain Guide for the Pacific Islands, Andrew McGregor & Kyle Stice, Koko Siga Pacific, 2014





manufacturer/processor/marketing entity directly and also the primary agriculture credit cooperatives (PACS) or Farmers Producer Organisations/Companies or other collectives of farmers. Procurement of inputs from some of these sources are highly desirable while others or not; the essential factors to be taken into consideration are quality of input, time of supply, adequacy of quantity and consistent supplies whenever needed.

- ✓ **Outputs Market:** The buyers or earmarked places where agricultural produce can be sold. The primary places are the market yards under Agricultural Produce Marketing Committees and others where the produce can be sold. Subject to the regulation produce can be sold through established market linkages. Globally several product aggregators like Dryfuss, OLAM International are well established; Some of them are operating in India and several other local players are actively engaged with farmers through variety of models wherein the farmers produce products as per give specifications and schedule and make supplies at agreed prices/terms.
- ✓ **Resources Markets:** Agriculture requires access to several resources (A2R) like finance, labour, equipment, support facilities and support services. Understanding these markets is very important as these resources are essential for the agricultural activities. Accessing finance at required time and required amount can be often challenging and similarly labour markets may not be favourable, limiting availability or increasing the costs.

#### 1.7.6 Policies and Programs (State and Central Governments)

The governments of the respective State offer support to agriculture through several programs and schemes in addition to services provided through their departments like extension services, irrigation, inputs supplies (with or without subsidy), procurement of produce, training, access to testing facilities like soil testing and research facilities and such others. The programs and schemes can be aimed at support with material like supply of crates or seeds at subsidized rates or schemes aimed at farmers' collectives and



their conduct like strengthening PACS, FPOs etc. and programs can also be in support of mechanization with incentives to procure equipment or establish poly houses or green houses etc.

### **1.7.7 Need for Convergence**

Agriculture involves use of resources with systemic and planned approach so as to be able to manage the activities with the aim of maximizing production with focus on quality of the produce. The use of resources can be better and improved when support under various programs/schemes and support from various Departments of the Government are well coordinated.

## **1.8 AGRICULTURAL RISK MANAGEMENT**

If surplus amount available is put into a fixed deposit with a bank the amount remains safe but the returns are fixed at certain level; whereas if the same amount is invested in share market or such other options, the risks can be higher and the returns also can be higher. Any economic activity is exposed to certain risks. Business in general is associated with risks. It is essential to assess, understand and manage the risks associated with any economic activity. Risk management is a specialization by itself and agriculture risk management requires specific focus.

### **1.8.1 Agricultural Risks**

Risks associated with agriculture may be classified under the broad categories:

- ✓ Production Risks
- ✓ Market Risks
- ✓ Nature or weather related risks

The production related risks include those associated with inputs being used viz., quality of seeds or fertilizers etc., infestation, timely and adequate irrigation etc. and these finally result in impacting cost of cultivation and yield.



Market risks are generally associated with access and use of inputs and outputs. Access to quality inputs of required quantity at optimum pricing is desirable. Similarly the produce from agriculture is associated with certain risks on access and pricing. The farmer should be able to sell the produce whenever the same is to be sold at remunerative price. Markets of other resources like finance, labour etc. may also be associated with certain risks with reference to access, price/costs or terms of access.

Natural or weather risks are generally known and often referred to and these include cyclones, floods, excess rainfall or drought or untimely rains or challenging temperatures, snow fall or fog, earthquakes, volcano eruptions, twisters etc.

### 1.8.2 Risk Assessment

The risk assessment essentially involves three stages:

- ✓ **Identification of uncertainties:** Agriculture is associated with several uncertainties as most external systems are beyond the control of the farmer.
- ✓ **Analysis risks:** Considering the uncertainties associated with agriculture, the risks can be analysed.
- ✓ **Prioritisation of risks:** Some of identifies risks require greater attention as compared to others. For example yield loss due to poor quality of seeds can be addressed through procurement of quality seeds from reliable sources; weather related risks can be mitigated through weather insurance cover; hence the identified risks can be prioritized based on their possibility, magnitude and opportunities available to manage the same.

Assessment of the various risks forms the first step in managing risks. It is essential to assess and understand various risks to which agriculture is generally exposed to. Every type of risk can be subjected to assessment. These are explained with the following examples:



**Inputs:** Sources from which the seeds are proposed to be procured or arranged. Crops are generally exposed to seed borne diseases, soil borne diseases and air/environment borne diseases. The rate of germination of the seeds may alter the quantity of seeds require per unit of land. These may increase the cost of cultivation. The yield also depends on the quality of seeds.

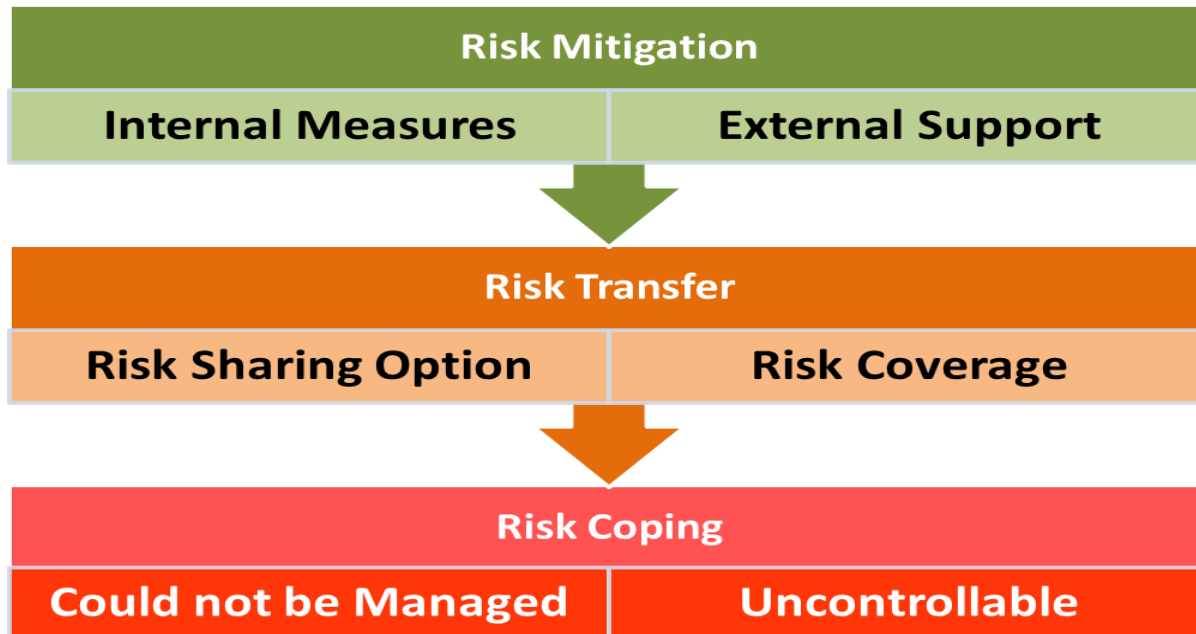
Thus with reference to every input or resource being used, the associated risks are to be assessed and mapped so as to be able to formulate ways in which the risks can be mitigated or managed.

### 1.8.3 Risk Management

Risk management is generally through mitigating risks to the extent possible through internal measures and external support as well as taking insurance cover for such risks that are usually covered by any insurance services provider. The risk management is illustrated as under:

Internal measures include purchase of quality inputs from reliable sources, following generally prescribed and accepted good agricultural practices (GAP), referring to standard protocols or package of practices; seeking timely and quality advisory throughout the crop phenology; adherence to standard post-harvest management practices and such others. External support includes accessing support available from various programs/schemes of the government or others which can help in minimizing the risks.

Risk transfer is a generally accepted risk management measure wherein identified risk is transferred to an insurance services provider by taking an insurance cover (policy). Two forms of insurance covers are popular in India and these are Agricultural Insurance or Crop Insurance and Weather Index Based Insurance.



The former covers the risk of crop loss, subject to conditions, season-wise. The latter was propagated by many institutions including by World Bank and the same takes into consideration the weather related risks and the crop loss due occurrence or otherwise of 'defined events' is measured and farmer gets compensation, subject to certain conditions. Under weather index insurance, a generally defined event is rainfall i.e. required rainfall at select stages of the crop cycle. Two other forms of insurance under use in some of the countries include 'yield loss cover' and 'loan loss insurance'. The latter is generally mandated by lenders while extending credit or loans to farmers.

#### 1.8.4 Others

Other risks include those arising from changes in policies, regulation, political, social or others that occur outside the control of the farmers and exposing the farming to certain risks. For example, fertilizer availability may be challenging as government may have restricted imports. Similarly the markets for certain produce may not be encouraging as the government allows imports from external markets. These are broadly covered under the market risk but arise mostly with change in policies or regulation.



## 1.9 DEVELOPMENT OF AGRICULTURAL PLAN:

Plans are for future and the future is always uncertain. The uncertainties associated with agriculture are peculiar and specific. In general every business or economic activity functions in an environment peculiar to it and with associated risks; but the peculiarity with agriculture is that nature and weather have significant impact on agriculture and these can seldom be predicted notwithstanding the developments in the area of predicting their affects. However, as already stated planning can help in dealing with such unforeseen and unexpected events as compared situations where there are no plans.

### 1.9.1 Set the Goal/Objective (Planning for Returns and Development)

Planning is choosing out of alternatives/options and to work on the chosen alternative/s so to maximize the returns or income and minimizing the risks. The planning process helps in approaching the exercise of development of plans in a systemic way. The first step in development of plans is to be able to derive and state the Goal/Objective.

**Goal:** The goal of agriculture is to maximize productivity, production and optimize the 'net income' to the farmer on a sustainable manner. The higher levels of production contributes to the nation's food and nutritional security as well as economic growth; the higher level of productivity ensures effective use of resources and sustainability ensures protected environment. Thus the goals from different perspectives can be illustrated as under:

- ✓ **Farmer:** Maximum production from available land that can be sold at remunerative prices to optimize net income.
- ✓ **Nation:** Maximum production of required agricultural produce on a sustainable basis.

**Objectives:** The objectives from different perspectives are illustrated as under:

- ✓ **Farmer:** To earn as higher income as possible, with increased production per unit of resource used while minimizing costs and risks. The production to help in meeting



household food and socio-economic needs and thus ensuring livelihood security and access to essential and other needs.

- ✓ **Nation:** The agricultural production to contribute to meeting food and nutritional security of its people and surplus contributes to the economic growth through domestic and export business opportunities.
- ✓ **Environment:** To ensure sustainable agriculture with environment friendly practices and approaches to agriculture.

### 1.9.2 Collect Data/Information

The next step in developing plans is to collect required data/information. The required data/information is presented under two sets.

#### **Farmers:**

- ✓ Total agricultural land available;
- ✓ Soil type and characterization of each land parcel
- ✓ Irrigation source and availability for each of the seasons and for every proposed crop in each land parcel
- ✓ Access, price and other terms of access for each of the inputs and resources required for agriculture like seeds, fertilizers, pesticides, labour, finance etc.
- ✓ Farmer's own experience and capability to cultivate a particular crop
- ✓ Availability and access to required support services and facilities.
- ✓ Availability and timely access to weather information and market intelligence
- ✓ Programs and schemes of Government available to seek support and procedures to comply with to avail needed support from Government.
- ✓ Testing of soil, water any others on need basis and processes to access such services



## Government

- ✓ Total agricultural land available: Village-wise; Block-wise; District-wise and agro-climatic zone wise.
- ✓ Soil types and characteristics for the agricultural lands available.
- ✓ Crops that can be cultivated and cultivated in the past years.
- ✓ Inputs required per unit of land for the crops that can be cultivated.
- ✓ Availability of support facilities and services area-wise and with details on their capacity or capabilities
- ✓ Programs and schemes in support of agriculture with details on eligibility, procedures and budgets.

### 1.9.3 Consultations

Farmers when engaged in development of plans for their agriculture may engage in consultations as under:

- ✓ With progressive or other farmers in the area to ascertain their plans and details required like variety of seeds to be used and their preferred sources; fertilizers required and their preferred sources and expected schedule of availability; crop protection and management measures required under normal conditions; expected challenges and ways to address such challenges; post-harvest management; where, when and how to sell the produce after harvest.
- ✓ Departments of Government: Any advisory from the Government on crops to be cultivated in the ensuing season; advisory on availability of inputs, fertilizers and others in the ensuing seasons; programs and schemes available as support from Government; any training or awareness programs or demonstrations proposed to be organized by the Government.





- ✓ Suppliers; Vendors; Services Providers: Any updates/information on products and services availability for the ensuing season and specific crops; any support expected to be available like training programs or awareness programs or demonstrations etc.
- ✓ Agricultural Universities; Agricultural Research Centers; KVKs; Scientists; Agri Clinics: Any training or awareness programs or demonstrations proposed to be organized; any specific support or services expected to be available; any advisory or forecast with reference to crops or areas on matters related to agriculture.
- ✓ Buyers; Markets: Prevailing and expected scenario for agricultural produce of interest to the farmer; market forecast on demand and supply for the produce expected to be harvested by the farmer - season wise; Any advisory from the market/buyers on the produce like quality, supply schedule, post-harvest practices; residue levels, packaging, storage etc.

The Departments of Government and their representatives when engaged in development of plans for agriculture may engage in consultations as under:

**Farmers:** Regarding their experiences, expectations and plans for each of the agriculture year in advance. This should help in assessing the expected land-use, crops for cultivation, inputs required, irrigation requirements and such others as well as market scenario as can be foreseen combining the inputs from the local area and domestic and overseas markets.

**Within the Government:** Proposals and plans of various Departments of the Government - State and Central; Budgetary support and allocations available and proposed; Infrastructure and other support available and proposed to be made available. Proposals and plans on inputs like seeds, fertilizers and procurement of produce with MSP and others.

#### 1.9.4 Analysis

Analysis of the data/information collected towards development of plan. This is generally undertaken with a variety of tools available like SPSS etc. based on need.



However, the analysis can also be undertaken with simple processes like tabulation, correlation and study of the data. The data/information collected based on interactions (primary study) with farmers, buyers, traders, processors, inputs suppliers, services providers, representatives of government, researchers or such others can be further studied in the context of data/information available from other sources (secondary study) like reports, documents, publications or such others.

### **1.9.5 Draft Plan**

Drafting of the plan taking into consideration the data/information gathered and analysed and insights available from consultations and secondary research. The first step in the drafting of the plan is to frame the structure of the report that contains the broad contours of the plan. Share the report with interested stakeholders and elicit their feedback and suggestions which can be taken into consideration to revise or modify the draft plan.

### **1.9.6 Final Plan**

The final plan as revised and modified with the feedback and observations received from various stakeholders is taken forward for approval of appropriate authority.

### **1.9.7 Approval and Sharing of Plans**

The approved plans are shared with stakeholders and taken forward for implementation.

### **1.10 Let's Sum Up:**

- Planning is essential for development and sustainability of agriculture; agricultural plans can be developed for the use of farmers, the Governments and other stakeholders.
- Agricultural planning involves assessment of resources, their use and development of plans using scientific approach.

### **1.11 Check Your Progress**

1. Develop a document stating need for agricultural plans for your operational area.



2. Develop a document detailing resources available for agriculture in your operational area and how best they can be used to benefit the farmers and the State.
3. Develop an agricultural plan for your operational area.

**Self-Assessment Question/s:**

Answer “Y” for Yes or “N” No and evaluate your answer by referring to the material of the theme.

S.No.	Self-Assessment Question	Answer: Y/N
A.	Planning involves choosing out of choices/ options	
B.	Plans are always for future	
C.	Budgets are not plans	
D.	Agriculture involves use of scarce resources	
E.	Resources use can be planned so as to optimize net income to the farmers	
F.	Agricultural Planning helps in assessing and addressing the risks	
G.	Planning involves collection and analysis of data/information	
K.	Actual performance need not always be as per plans and hence planning is not always advisable	
L	Plans can be developed without any interactions with key stakeholders	
M	Plans need not be approved and need not be shared with key stakeholders	

**Answer the following questions:**

- a. What is planning and why planning is essential?
- b. Are there any weaknesses associated with planning and whether planning would still be relevant, if yes why?
- c. How planning can be useful for farmers and those associated with agriculture?



- d. What are critical resources for agriculture?
- e. What is resources use optimization and how this can benefit farmers?
- f. What are steps involved and process to develop plans?

**1.12 F**

**urther Readings/ references/ links:**

1. Management by Harold Koontz, Cyril O'Donnell and Heinz Weihrich
2. Managing Agricultural Production Risk, World Bank; 2005
3. Strategic Planning for Agriculture Development by Dr. M A Kareem, MANAGE.



## UNIT 2:

### ASSESSMENT AND PRIORITISATION NEEDS

#### Highlights of the unit

- Objectives
- Introduction
- Assessment – process and purpose
- Resources and returns (income)
- Rationalization of resources use
- Access to other resources
- Farmers' collectives
- Decision making
- Let's Sum up
- Check Your Progress
- Further Readings/references/links

#### 2.0. OBJECTIVE

- To learn about assessment of access to and use of resources/inputs for agriculture and thereby prioritize needs.
- Towards the above, understand the access to resources/inputs, assess their rational use and associated costs and work on optimizing net income from agriculture.
- To be able to prioritize resources use and make decisions in the light of assessment

#### 2.1 INTRODUCTION

At the farmer level agriculture is the livelihood activity, can be the primary source of income and also supports to meet the basic household needs. Agriculture is also significant to meet the food and nutritional security of a nation in addition to contributing



to the nation's economy. The earlier section focused on alternatives available on resources use and working with plans to choose out of alternatives to maximize the income and minimize the risks. In this section the discussion is on *associated costs and benefits, thus assessing the chosen option/s and thereby targeting optimum agricultural income.*

There is a difference between maximizing income and optimizing the returns. An economic activity may fetch maximum income but at certain level of costs and thereby net income may not be highest; whereas in another scenario the income generated may be lesser but costs are much lesser and thus net income can be the highest. This scenario can be called as 'optimum returns' level while the first scenario represents the maximum income level. Increased costs on pesticides may not result in increased income but balanced application of pesticides may fetch higher *net* income from agriculture.

Given the increasing costs on cultivation *emphasis is required on production of marketable products, accessing better markets, selling at higher prices (net), increasing productivity, work on value addition and optimizing net income out of available and accessible resources.* The only other important area that needs focus is risk management, in particular risks arising out of external and uncontrollable factors.

## **2.2 ASSESSMENT - PROCESS AND PURPOSE**

The dictionary meaning of assessment is "the action of assessing someone or something". Assessment is taking into consideration all options and approaches available to work on an economic activity so as understand and arrive at the best possible decision. In the area of agriculture the assessment is taking into consideration the land, water and other resources/inputs required and deciding on how to use them so as to get highest *net* income.

The process in general is to collect information and analyze the same to work on assessment; whereas in the case of agriculture, collection of data on all agricultural resources and inputs required and assess their possible uses so as make decisions on crop and scheduling (timing).The purpose of assessment is to know about resources/inputs

required, their availability, associated costs, possible product quality and yields, *net* income out of such crop/production and with the knowledge of associated risks.

## **2.3 RESOURCES AND RETURNS (INCOME)**

Resources when used efficiently with planned approach can help in optimizing the net returns (net income over a crop season and total of all seasons during a year) subject to weather and other external conditions being favourable.

### **2.3.1 Agricultural Resources – Deriving Financials**

The section 4.1 contained details on resources that are important in the context of agriculture and these include land, water for irrigation, inputs such as seeds, fertilizers, pesticides etc., labour, finance and other support facilities or services.

The land available and accessible through lease-in is limited and can be used to cultivate only certain crops given the constraints like agro climatic conditions, irrigation facility, expertise, access to inputs, farming capability, access to markets and prevailing or expected prices and such others. The other resources access and use also is associated with factors that are essential to be taken into consideration. The section 1.2.3 discussed about need for resources use optimization and its importance to maximise income.

Businesses engaged in manufacturing of products and selling the same or providing services or trading or in simple words, organizations working “for profit” prepare “Profit and Loss Account” to ascertain net profit after deducting all expenses from total income (revenue). However, there are organizations that function as “not for profit” and such organizations may generate surplus where receipts or income is more than payments or expenses; these organizations usually prepare “Statement of Receipts and Payments” and/or “Income and Expenditure Account”.

Profit and Loss Account, Income and Expenditure Account and Statement of Receipts and Payments are generally prepared statements to ascertain the net amount out of the



activities either termed as profit/loss or surplus/deficit. However, in the context of agriculture, there can be challenges in preparing any of these statements as:

- i. Total production may not be sold and part may be retained for self-consumption as to meet household needs or towards seeds for the next cropping.
- ii. The farmer and his/her family may work on the fields and thus contributing towards labour and supervision that shall otherwise form part of costs.
- iii. Some of the inputs may be out of own sources without involving cash outgo; these may include seeds, farm yard manure etc.
- iv. Other costs like storage, transportation, communications etc. can be self-supported without involving cash out go or form part of other household or personal cash management.
- v. Such others.

In addition to the above, the development professionals these days are professing **people, planet and profit** (PPP) framework based considerations to evaluate accrued benefits, as a holistic approach. A similar approach is Triple Bottom Line method. These suggest that agriculture should be *sustainable, environment friendly and economically viable forever; but not just about profit or surplus.*

Thus in the context of agriculture, to ascertain the benefits accruing to the farmer and his/her household is complex even when agriculture is treated as agribusiness. The following options merit consideration:

- ✓ **Resources Use:** Are all the resources available and accessible are being made use of. Whether all agricultural land/s available are being used to cultivate one or the other crop and during all seasons of a year? Based on need and capability, can additional land be taken on lease and used to cultivate one or the other crop or for more seasons in a year?
- ✓ **Production:** How much is the production value and after meeting internal needs (captive needs like household food needs, animal feed and seeds for next season etc.) surplus available for sale and what is the expected income out of selling the surplus.





- ✓ **Productivity:** How much is the production per unit of land, per unit of water used, per unit of inputs used, per Rupee of amount spent throughout the crop cycle till the produce is sold/used and per day of the time spent by the farmer? (Using Key Factor Analysis can help in optimizing the overall returns)
- ✓ **Net Cash Surplus:** What is cash surplus generated – total cash received/receivable by sales of agricultural produce minus total payments towards agricultural activities (paid or to be paid towards supplies on credit). The receipts shall include all amounts received and still to be received; similarly payments shall include amounts paid and still to be paid. Cash receipts or payments associated with cultivation and sale of the produce shall be considered but not ‘investment or loan repayment’ cash flows like purchase of equipment, construction of warehouse etc.
- ✓ **Net Profit/ Loss or Surplus/ Deficit:** This can be the comprehensive approach where all incomes and expenses are considered to derive the net profit/loss or surplus/deficit. (Profit or loss is usually calculated for any business activity; surplus or deficit is usually calculated for any entity mostly engaged as ‘not for profit’ but engages with economic activity and sustains on surplus generation.). In this scenario even notional costs, like own labour, own seeds, manure etc., are considered with their notional monetary value for the purpose of deriving total cost/expenditure; similarly income includes value of total production before reducing the quantity retained for self-consumption or requirements and also any amount realized/realizable on sale of any byproduct or left overs. Example Paddy straw can be sold to fetch extra income.

A business entity sustains based on profitability and growth; these in turn demand ability to raise required resources and putting the resources into productive use. Whereas a farmer aims at:

- Production that helps in meeting household food needs (family and animals being reared),
- Produce retained as seeds for next cropping and

- Surplus is sold to serve the monetary purposes of the family towards meeting needs on health, education, housing, clothing etc.

However, *if one was to apply Maslow's hierarchy theory of needs, a farmer should as well aspire to move up from meeting the basic needs to psychological needs to self-fulfillment needs.*

Thus the aim shall be to initially meet basic needs and then move up by working on achieving higher productivity and moving up through the value chain to optimise 'net income' vis-à-vis the resources available/used. This needs understanding and application of concepts related to costs, rationalization of resource use and decision making on resources access and use.

### 2.3.2 Cost of cultivation

The cost of production in the context of any industrial product can be stated as:

- ♣ Cost of Raw Material plus labour costs plus other costs like administration, transportation, packaging, interest, selling and distribution and any other costs.

The cost of cultivation consists of costs related to:

- ✓ **Land preparation:** soil testing, management, leveling, ploughing etc.
- ✓ **Seeds** - sourcing and treatment
- ✓ **Nursery** - raising nursery if needed till the stage of transplantation.
- ✓ **Fertilisers** - Chemicals; biological or natural or others
- ✓ **Pesticides:** Chemicals; natural/biological
- ✓ **Equipment:** Tractors, sprayers, harvesters etc.
- ✓ **Labour:** To work on various activities throughout the crop cycle till the produce is sold.
- ✓ **Finance:** Interest on crop loans availed to meet the finance needs during the crop management for both the seasons; interest and charges on other loans availed towards any development work or to purchase any equipment etc.;



- ✓ **Insurance:** Insurance premium paid to cover the crop; equipment like tractor or pump-set or such others; any other insurance premium paid with reference to agriculture. (Lenders/banks may cover the life risk of the farmer and charge the premium amount to farmer's account.)
- ✓ **Packing Material:** The costs on primary packing material like jute bags, poly bags or netted bags or bamboo baskets or crates etc., secondary packing material like tarpaulins to cover on the top etc. and others like threads etc.
- ✓ **Transportation:** The costs on transportation include on inputs movement, output movement from fields to warehouse and thereafter to the market or directly to the market; any transportation costs on movement from one field to another or one warehouse to another or to the market etc.
- ✓ **Storage:** The storage costs generally consist of costs on storage of output in a warehouse but sometimes production meant for seeds is stored in special warehouse so as to ensure their quality; costs on storage of inputs may also be possible.
- ✓ **Testing charges:** The costs on testing of soil or water or seeds any others.
- ✓ **Advisory Services:** Farmers may avail techno-managerial advisory services from Farm Management Services (FMS) providers or others. The charges are usually per season basis and these can vary. Support on marketing may involve charges like commission on per unit of produce sold or realization.
- ✓ **Others:** Any other costs that are directly associated with cultivation till the produce is sold.

### 2.3.3 Notional Costs

Notional costs are considered wherein the resources used do not involve any payment or obligation towards payment. These include on:

- Own labour of the farmer or his/her family or relatives or friends while working on various activities on the farm;



- Own seeds used either from earlier crop or sourced from relatives or friends or any other source without any obligation for payment;
- Farm yard manure or other inputs used from sources that does not involve any payment;
- Any other own inputs or resources used that do not involve any payment/cost.

### **2.3.4 Post-Harvest Management and Primary Processing**

There can be additional costs if any further processes are undertaken after harvest. This may be on cleaning, grading, sorting or de-shelling (like groundnut – removing nuts from the pods) or milling, any others based on specific needs of the product or buyer or market.

### **2.3.5 Marketing Costs**

The costs on marketing generally include any commission or cess or other charges paid while selling the produce. Specific costs on transportation, packing and storage may also be classified as marketing costs, if these are incurred as per buyer or market requirement. Example: Gunny bags used to pack Paddy; transporting Paddy bags to market.

### **2.3.6 Realisation and Surplus**

It is important to note that there can be time-lag between sale of the produce and receipt of amount towards the sale - either in cash or by way of credit into the bank account of the farmer. The fund management cycle and the economic activity concludes only with the actual receipt of amount towards the sale of the produce by the farmer.

The surplus generated can be presented in two different forms:

- ✓ The cash surplus/deficit generated: The amount of receipts on sale of produce after meeting/deducting all payments towards cost of cultivation, post-harvest management, marketing and any others.
- ✓ The profit/loss or surplus/deficit: This is derived by deducting all costs including notional costs (in addition to those involving payment) from all incomes including



total value of the production notwithstanding whether some of the produce is used for household consumption or as seed for next cropping or others.

#### **2.4. RATIONALISATION OF RESOURCES USE:**

An economic activity is undertaken with the use of fixed and working capital. In the case of agriculture the fixed capital is the investments made and available in the form of land, equipment and other long term assets (assets which have life of more than an year), if any, are available and used by the farmer for agriculture. The working capital in use for agriculture consists of amounts spent throughout the crop cycle (during a crop season) up-to the time the produce is sold and amounts towards the sale are realized. If the farmer secures and uses any loan to meet the seasonal expenses for the crops or receives any input or others on credit such amount along with his/her own resources contribute towards working capital.

In any business the focus is on enhancing the Return on Investment (RoI) wherein the investment consists of fixed and working capitals (net). In the case of agriculture the critical question, thus is, *“how and how best the resources are to be used so as to maximize benefit out of such resources use?”* The benefit shall be the net cash generated out of the sale of the produce after meeting all payments towards the crop and its sale OR the benefit shall be the net profit generated after deducting all costs including notional costs out of the total income which is the value of total production.

The net cash surplus or net profit, if surplus/profit is generated, as a percentage of the investment (net fixed and working capital) represents the Return on Investment for the season or the year as the case may be. If the farmer experiences cash deficit or loss during a season or year, there is no Return on Investment (RoI) or RoI is negative.

The resources use can be said to be optimum where the RoI is the highest either it is for a season or year or over a set of seasons or years.

- The selection of crops to be cultivated in the available land shall aim at maximizing the RoI from the land over a season or a year, if land is the critical resource.

- If the farmer has limited financial resources, the crop that generates the maximum return per rupee invested in the cultivation of the crop till its sale shall be considered.

Similar analysis can be undertaken with reference to other resources being used and final choice of crop/s to be cultivated is decided.

#### 2.4.1 Critical Resource/s

*“A limiting factor is one which stands in the way of accomplish a desired objective. If these factors are clearly recognized, managers will confine their search for alternatives to those which will overcome the limiting factors. In choosing from among alternatives, the more an individual can recognise and solve for those factors which are limiting or critical to the attainment of the desired goal, the more clearly and accurately he or she can select the most favourable alternative....The discovery of the limiting factor or factors may not be easy, since these are often obscure. The search for and recognition of limiting factors in planning never ends.”<sup>5</sup>*

Any business has to be conscious of its resources use as the economic benefits are a result the resources use. Agriculture uses natural and scarce resources. Hence so much emphasis on the resources use and needed efficiency in the resources use. This emphasis drives to next level to increase net returns out of agriculture in the form of following questions:

- i. RQ – Right Quantity*
- ii. RQ – Right Quality*
- iii. RT – Right Time*
- iv. RC – Right Cost*
- v. RS – Right Source*

- ✓ When land available is limited; should we NOT try and maximise the net income from each unit of land?
- ✓ When water available for irrigation is scarce; should we NOT try and maximise the net income from each unit of water used for irrigation? (More crop per drop!)
- ✓ When inputs availability for agriculture are limited; should we NOT try and maximise the net income from each unit of specific input?

<sup>5</sup> Management by Harold Koontz, Cyril O’ Donnel and Heinz Weihrich, 7<sup>th</sup> Edition p.240-241



- ✓ When finance available for agriculture is limited; should we NOT try and maximise the net income from each rupee of finance used?
- ✓ When labour availability for agriculture is limited; should we NOT try and maximise the net income from each unit of land?

The answer brings focus on the following important message:

- ✓ During each season and for each crop, wherever net income per unit of a particular resource is highest, that crop should be cultivated.
- ✓ For example, during a season, net income per unit of finance used is highest for Maize, then the finance available shall be used to cultivate Maize; if net income from Vegetables is highest per unit of land, then Vegetables shall be cultivated in that land. After assessing for all resources, the combined effect helps in deciding which crop is to be cultivated. This is a complex analysis.

In Indian context, mostly land is considered as the critical resource and hence whichever crop is expected to benefit with maximum *net income per acre or per hectare*, that crop is cultivated. All other resources are assumed to be of same value generators for any crop. This may not be true, but as the complete analysis is complex, this simple analysis with assumption that land is the critical resource is normally followed.

#### **2.4.2 Criticality of Access to Resources (A2R)**

It is important that land is put into best use in a particular season by cultivating a crop that fetches optimum net income per unit of land used. To achieve this target, the agro climatic conditions have to be favourable and all other needed inputs like seeds, fertilizers, pesticides or others and finance are adequately accessible when needed and at favourable terms. This makes Five R's as important and these are:

The importance of these can be highlighted as follows: The 'quality seeds' of 'required quantity' at 'best price' from 'reliable source' are required when the land is prepared and ready for cultivation with desired conditions like moisture level, climate etc.



It is essential to purchase from reliable source so that germination rate is good, free of seed borne diseases and yield can be higher. The cost of cultivation can be minimized with the use of quality seeds at appropriate time as required crop protection measures may be minimum. This along with higher yield from use of quality seeds can help in increasing net income.

### 2.4.3 Productivity Improvement

*A measure of the efficiency of a person, machine, factory, system, etc., in converting inputs into useful outputs. Productivity is computed by dividing average output per period by the total costs incurred or resources (capital, energy, material, personnel) consumed in that period<sup>6</sup>.*

“In order that we may produce a product or provide a service, we must have resources in the form of men, machines, materials money etc. In a broad sense, productivity means goods and services produced in relation to the resources utilized in producing the same. *Productivity is thus implied in every economic activity and is defined as the ratio of output to input.* This simply means that in order to produce a product or service, either in the field, factories, offices or any other place of economic activity certain resources would have to be employed in the form of inputs (or facilities) to obtain output, and productivity takes into consideration both these aspects simultaneously.

*Productivity is not production. Production merely means output. Production can be increased without consideration of cost by increasing input of labour, material and equipment. Productivity is not merely volume of output but output in relation to resources employed or inputs used. Productivity may increase without increase of production; productivity increases when lesser quantities of inputs are employed for the same production. Productivity also increases when more output is turned out for the same resources<sup>7</sup>”.* Example more yield per acre with the same or lesser quantity of seeds or fertilizers. In the context of agriculture,

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[www.businessdictionary.com/definition/productivity.html](http://www.businessdictionary.com/definition/productivity.html)





- In the same land and with the use of same resources if production increases, then productivity also increased. Or,
- With lesser land and lesser use of overall resources if same (earlier) production is achieved, then also productivity increased.

Hence it is important to *achieve more production for the same or lesser use of land, water, seeds, fertilizers, labour, finance etc. without impairing quality.*

#### **2.4.4 Rationalisation of Resources**

The focus on productivity brings emphasis on rationalization of resource use. When the land available is same, water availability is scarce, agro climatic conditions impose constraints due to climate change or otherwise and there are challenges in accessing other resources like seeds, fertilizers, labour and finance, their use has to be rational and justified vis-à-vis the expected production and net income that the farmer can be expected to derive.

#### **2.4.5 Optimisation of Costs**

Productivity also brings focus on costs associated with agriculture. Saving costs may not necessarily always advisable. The efforts on saving costs should not impair quality or yield/production. Notwithstanding the savings in costs, same or higher production and of similar or higher quality of production can be achieved, then focus is required on such savings.

Thus the efforts on controlling costs shall ensure production in volume and quality of production and results shall be:

- ✓ **Same** volume of production with lesser costs; while quality is same or better.
- ✓ **Higher** volume of production with same costs, while quality is same or better.
- ✓ **Same** quality of production with lesser costs; where quality helps in securing better market access and price.



- ✓ **Better** quality of production with same costs; where quality helps in securing better market access and price.

*Important assumptions* here are:

- ♣ Total production can be sold in the market at remunerative prices, or market access is assured at remunerative price.
- ♣ Emphasis on quality of production helps in securing market access and remunerative price

Hence, the focus on costs need not always be to minimize the same but should also focus on effects of such costs on volume of production, quality of production and their marketability; this is where optimization of costs becomes important rather than minimization of costs<sup>8</sup>.

#### 2.4.6 Maximisation of returns

The focus on productivity, quality of production and management of costs is with thrust on maximizing net income to the farmer and maximizing production of variety of agricultural products in the interests of the nation.

To emphasize again, essentially a farmer should be able to choose one or more crops to be cultivated in each of the land parcels in a given agro climatic condition based on expected RoI from the crop or crops during a season or year. The analysis is based on net cash surplus generated or net profit earned during a season or year with the cultivation of such crop or crops in that land parcel. While working on such analysis focus shall NOT be lost on:

- Quality of production; Quality of the produce SHALL be as per market/buyer needs.
- Marketability of the Produce; Market ACCESS *at the time of harvest* is essential.

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<sup>8</sup> It is interesting to study and understand the words cost control, cost reduction, cost cutting and cutting the corners within the overall framework of productivity.



- Expected PRICE REALIZATION for the produce, should be able to sell at REMUNERATIVE PRICE, hence assess and understand EXPECTED PRICE for the produce at the TIME OF HARVEST is important

#### 2.4.7 Access to Finance (A2F) by Farmers or Farmers' Collectives

For many of the 1.1 billion people currently living in extreme poverty, economic growth based primarily on agriculture and on non-farm rural activities is essential to improve their livelihoods. The majority of poor people live in rural areas. Promoting agricultural growth in these areas and giving rural people better access to land, water, credit, health and education, is necessary in order to alleviate poverty and hunger.<sup>9</sup>

Access to Finance (A2F) generally refers to accessing financial services like Credit, Remittances, Insurance, Savings and Payments/Pensions (CRISP). In the context of agriculture too, all are important but Agriculture finance generally attracts more attention.

Agricultural finance in general is construed as a subset of rural finance whereas rural finance can be broader to meet the finance needs of farm based activities, non-farm based activities and others including development activities. Agriculture Finance can be referred to financing needs of activities related to agriculture and agribusiness. This is in turn assessed and structured in different ways like:

- Crop loans / KCC Loan
- Value Chain Finance
- Term loans: Short Term; Medium Term and Long Term
- Infrastructure finance
- Other/specific financing

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<sup>9</sup> A DID Position Paper on credit gives a general presentation of the principles and approaches in credit prioritized by DID. This Position Paper on agricultural credit seeks to develop the specificities of the sector.

- Warehousing Receipt Finance
- Others

Agricultural financing largely depends on needs, borrowers and their bankability.

#### **2.4.7.1 Need for Finance**

Financing needs of agriculture, as can be the case with any other finance, have to be assessed on a case by case basis and with reference to given geography, agro climatic conditions and associated agricultural products/activities. Some of the needs, in general terms and not necessarily as per applicable guidelines, are presented as under:

##### Short Term

- To meet the financing needs throughout the crop cycle viz., land preparation; procurement of seeds, fertilizers, pesticides etc., accessing services like soil testing, water testing, nursery services, technical or other advisory or such others, accessing facilities like warehousing, transportation, any processing etc. till the marketing of the produce.
- Specific short term activities like filling the farm with tank silt or such others
- Other working capital needs if one is engaged with trading activities; procurement of produce, processing and then marketing the end product either in raw or value added form etc.

Usually the loan tenor (period during which the total loan along with applicable interest has to be repaid) is within 6 to 12 months<sup>10</sup>.

##### **Medium Term:**

- Plantation development or such others that have gestation period of longer than a year.

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<sup>10</sup> Based on available documents review



- Procurement of equipment of not high value so that loan repayment can be within the tenor. The usual loan tenor is 18 months to 5 years.

**Long Term Finance:**

- Acquisition of any equipment like Tractor, Harvester, Transport vehicle etc.
- Acquisition of any other agriculture assets of higher value.
  - Construction of Warehouse
  - Construction of Pack House for Fruits and Vegetables
  - Construction of cooking and drying facility for Turmeric
  - Construction of drying platform for Chilly, Turmeric or others
- Development of long gestation period crops like Mango, Oil Palm etc.
- Such others as per eligibility

The usual loan tenor is more than 5 years.

**2.4.7.2 Sources of Finance**

Sources of finance largely depend on the need and purpose as well as the borrower's classification. Here the same are presented with reference to farmers and farmers' collectives (FPOs).

**Farmers:**

*The most common and usual form finance is 'internal resources' or farmer's own accumulated money or out of own/family resources.*

The usual external sources of finance for farmers include:

- **Institutional/Formal**
  - Primary Agricultural Cooperative Credit Societies (PACS)
  - Other Cooperatives (like Farmers' Service Societies)
  - District Central Cooperative Banks (DCCB)



- Banks – Public Sector Banks; Private Sector Banks, Regional Rural Banks or Others.
- Programs/Schemes of Governments (State or Central Government)
- Micro Finance Institutions (MFIs)
- Non-Banking Finance Companies (NBFC)
- Fintechs operating under multiple models including as NBFC, MFI or even as Crowd Fund based.
- **Non-institutional/informal**
  - Friends/relatives
  - Money lenders
  - Traders
  - Commission Agents
  - Land lords/Others

Finance support from development agencies or institutions is significant some of the developing and least developed countries outside India but can be stated as not that significant in India as direct finance. Such support in India is mostly in the form of capacity building, enhancing productivity or market access and such others. Even such support is mostly channeled through government institutions or programs or non-government organizations (NGOs) or such others but not directly to farmers.

### **Farmers' Collectives (FPOs)**

Financing needs of Farmers' Collectives like FPOs include:

- To meet requirements of working capital either engaged with trading or processing and marketing or such others
- To meet investment needs based facilities or equipment or services that the FPO proposes to associate with.
- To invest in business promotion and building institutional capability



- To support farmer-members with need based finance.

*The most common and usual form of finance is 'internal resources' or FPO's own accumulated retained profits or surplus over the years along with cumulative Share Capital subscription received from Member-farmers. Thus the internal resources generally include:*

- **Share Capital** – subscribed and received from member-shareholders towards equity share capital; amounts received towards share capital contribution from institutions like Small Farmers Agribusiness Consortium (SFAC)
- **Accumulated profits/surplus** (retained profits after taxes, dividend payment and patronage bonus, if any)
- **Reserves** – set aside and accumulated

The usual external financing sources of FPOs include:

- Working capital as Overdraft or Cash Credit Limit to meet short term business operations/cycle needs.
- Term Loans to meet investment needs to establish Warehouse, Processing facilities, Pack Houses, Laboratories or such others or procurement of Vehicles, Farm equipment etc.
- Bulk loans as Term Loan to extend financing support to farmer-members
- Specific finance to support business promotion, market promotion, brand promotion or such others which generally the FPO cannot afford to spend but essential and may not result in returns on investment.
- Structured Finance to meet a combination of financing needs or specific purpose based needs.

#### 2.4.7.3 Financing Costs

Availing finance is usually associated with certain costs and the significant one is interest that the borrower is expected to pay over the loan tenor or till the loan amount is repaid

in total along with interest due. However it is essential to recognize and understand all costs associated with availing finance or credit.

- Interest charges on the loan/credit availed.
- Processing fee (charges payable towards the processing of loan/credit application)
- Other charges, if any. (Sometimes certain hidden costs.)
- Prepayment charges, if applicable when the loan is repaid in advance.
- Bank charges, if any.
- Travel and other costs incurred while pursuing the loan process and disbursement.
- Margin money retained by the lender or deposited in advance by the borrower to draw the loan.

One of the costs often discussed is “Opportunity Cost” but it assumes a debatable form. To avail loan from certain sources the farmer may have to visit the lender several times; during such visits the farmer will have to keep himself/herself away from the farming/other activities and benefits foregone to pursue the loan processing and disbursement are to be considered as opportunity cost. The actual cost of borrowing will increase when these are taken into consideration. However, usually loans from such sources are accessible at favourable terms.

#### **2.4.7.4 Mapping Sources and Needs**

It is essential to analyse the finance needs and map the specific sources to meet specific needs. These are again presented hereunder with reference to farmers and their collectives as under:

##### **Farmers:**

- To take care of the finance needs during a season or year – the sources are crop loans or other short term loans from PACS or Banks are preferred as they are usually associated with nil or competitive rate of interest whereas the same from MFIs or NBFCs or Fintech are at higher rate of interest/other costs.





- To meet the investment needs of farmers with gestation periods of an year or more, medium term (MT) or long term (LT) loans from PACS, DCCB, Land Development Banks or other Banks may be preferred as these are likely to be accessible at competitive terms of lending. Availing finance from MFIs or NBFCs or Fintech are usually at higher rate of interest/other costs. Availing support from Government programs/schemes is also preferable as the same are usually structured in the interests of the farmers.

### **Farmers' Collectives (FPOs)**

- To take care of the initial costs on promoting an FPO and nurturing the same during the “Early Stage” and part of the “Formation Stage” it is essential to avail support available from NABARD or Government or any Development Agency/Institutions etc. as otherwise the FPO is likely to spend out of the Equity Share Capital amounts received from member-farmers and thus eroding the capital. Ideally such capital shall be retained to meet the finance the business activities or investment needs.
- To meet the finance needs of business cycle needs or business transactions like purchase and sell; purchase-store and sell; purchase-process and sell, it is essential to avail Working Capital limits in the form of Over Draft (OD) or Cash Credit (CC). The needs here are to purchase the products from member-farmers, take care of storage or processing costs and sell on credit, if needed and rotate the cycle till the sales proceeds are realized. The most important precaution here is that the sales shall generate surplus or profit, otherwise the FPO will experience erosion of its funds.
- To meet the investment needs like establishing facilities like Nursery, Warehouse, Pack house, Processing units, Custom Hiring Center (CHC) or Common Facilities Center (CFC) etc. or procurement of equipment, vehicles etc. it is desirable to use out of internal resources and access Term Loans when needed and can be serviced. (Loan servicing means, to be able to repay the loan installments when due, to be able pay the interest whenever due – till the loan is repaid in total along with interest due.)



- To meet the needs like building institutional capability, business promotion, market promotion, brand promotion or such others which are like investments for future business and may be the beyond the affordability of the FPOs, at least the initial years, it is preferable to avail support under any government program/scheme or support from any development/multilateral institution or NGOs.

#### 2.4.7.5 Cash Flows

Cash management is the lifeline for any business or economic activity. It is usual to notice businesses that often face challenges to work on transactions as funds required to purchase inputs or to meet labour costs may not be available. Most individuals including farmers generally do not have habit of keeping record of cash inflows and outflows and rely on memory in managing cash. However it is advisable to adopt practices of maintaining record of all cash inflows, cash outflows, amounts receivable and amounts payable. If records are maintained for the assets, liabilities and maintenance needs of equipment the farmers can have total control on their income, expenditure, assets and liabilities. With the digitization of land records and increase in digital transactions management of assets and cash can be better with maintenance of necessary records.

Farmers may be encouraged to participate in financial literacy programs, organized with focus on enhancing their awareness about access to a variety of financial services and their use. If aspects on resources use and their optimization can also be incorporated into such programs and organize the same on the lines of programs on “Economic Literacy” the benefits to participating farmers can be much more significant.

#### 2.4.7.6 Access to other Financial Services

The farmers in general need awareness about accessing and using a variety of financial services available from financial services providers (FSPs). These include:

- **Savings:** Opening of a savings account with a bank and maintaining available funds with banks is secure and also generates interest income. Whenever surplus funds are



available for longer duration, practices of savings in the form of term deposits (TDRs/FDRs), recurring deposits (RD), daily deposits or such others are desirable.

- **Remittances/Payments:** Transfer of funds from one account to another account or to another location or to make payments to suppliers; payment of taxes or insurance premium or loan repayment or such others through bank account are to be practiced.
- **Insurance:** Subscribing to insurance cover for life of the farmer or lives of family members; health of farmer and his/her family members; assets like pump set, tractor, crop insurance etc.
- **Pension:** Subscribing to pension plans secures the future and during old age when the farmers' ability to engage with any economic activity may be limited; hence such practices desired attention.

## 2.5 ACCESS TO OTHER RESOURCES:

### 2.5.1 Need for Other Inputs

The farmers are in need of several inputs like seeds, fertilizers, pesticides, labour services, advisory services etc. Their need needs systemic assessment, a suggested approach is as under:

- **Crop:** On the strengths of land type and characteristics of each land parcel, prevailing agro climatic conditions, access to irrigation, availability of seeds etc. it is essential to choose any crop that can be cultivated in each land parcel. The final choice shall be based on market access at remunerative price.
- **Variety:** The next step is to identify the variety of a crop that is to be cultivated based on market opportunities for example whether to cultivate processing variety or table-top variety.
- **Fertilizers:** Based on the particular crop and variety cultivated, fertilizers to be used at various phases of the crop. These may include chemicals or natural or bio fertilisers. With increasing emphasis on health and environment concerns, natural or bio



fertilisers may need further consideration. Some of the governments are also encouraging Zero Budget Natural Farming.

- **Pesticides:** The crop protection measures as per the Package of Practices or any infestation observed in the field require certain pesticides either chemicals or natural or bio pesticides.
- **Labour:** At every stage of crop cycle there will be need for labour with specific skills.

### 2.5.2 Assessment of Sources

The assessment of the inputs needed is preferably undertaken through appropriate analysis, a suggested framework is as under:

**Table 2.1 Suggested Framework for Assessment of resources**

Inputs	Critical question	Parameters for assessment
i. Land	Which crops are to be cultivated during a particular season of the year in each of the land parcel?	i. Land type and characteristics ii. Agro Climatic conditions iii. Irrigation support iv. Access to required inputs v. Market access for the output at remunerative price, as forecast at the time of harvest.
ii. Crop	Which seed or which variety to be used?	i. Market preference and estimated demanded when harvested. ii. Seed required per unit of land; iii. Seed cost and cost of other inputs. iv. Expected yield v. Costs on crop protection



		vi. Post-harvest management vii. Shelf life or storage related aspects
iii. Access to Inputs	Which all inputs are required and their access?	i. Availability of inputs and how to source them? ii. Costs and other terms of sourcing iii. Quality of supplies iv. Consistency in supplies v. Reliability of supplies
iv. Access to support services or facilities	What all support services are required? How to access the same?	i. Availability in the local area ii. Whether the facility suits the requirement iii. Ability to access and use iv. Cost and terms of access v. Incremental costs and incremental benefits.

### 2.5.3 Cost Benefit Analysis

Cost Benefit Analysis (CBA) is an important tool used in taking investment decisions as well as while committing on any expenditure. In simple terms it can be stated *the benefit assessed to be derived on making an investment or by spending certain amount on any purchase or proposed expenditure.*

The following are important considerations while working on Cost Benefit Analysis:

- All benefits and expenses are to be considered in terms cash including paid or payable and received or receivable.

- It is advisable to measure the benefits and costs on incremental basis viz., additional benefits that accrue by incurring the additional costs. Incremental Revenue (IR) or Benefit by deciding to invest or spend shall always be more than the Incremental Cost (IC).

#### **2.5.4 Management of Sourcing**

Sourcing of inputs needs focus and attention in the light of the following:

- Seeds procured from non-reliable sources may not perform well on the field and result in increased cost of cultivation and reduced yield; thus the net income from the farming may be negatively affected from income side as well as expenditure side.
- Fertilizers sourced from non-reliable sources may not be of desired quality and thus will result in increased cost of cultivation but may not result in increased production.
- Similar experiences can be observed with other inputs as well and, hence need for sourcing required inputs from reliable source and of adequate quantity, when needed and at optimum costs

#### **2.5.5 Management of Stocks**

The sourcing of all inputs is required to be handled with caution so as to be sure of procuring required quality input of needed quantity at right time and from reliable source. In addition to the above, once sourced they have to be stocked and maintained properly so that their utility value remains and there are no storage losses.

For example, seeds may have to be stored in proper conditions otherwise their quality can be affected and thus increasing cost of cultivation and reducing yield. Similarly it is essential to be careful about the shelf life of pesticides otherwise the farmer will be facing dual challenge of losing money paid for the pesticide and additional cost to purchase the pesticides again.

Many cooperatives in the country faced challenges in “dead stock” and thus the farmers and farmers’ collectives have to be conscious of procuring and stocking only that much



quantity of inputs as per need/demand and manage their stocks properly. Maintenance of records is also important.

### 2.5.6 Make or Buy decisions

The farmers and FPOs often face challenges on taking decisions on whether to establish own support facility or acquire an asset or access such facility/service on use and pay basis. This is better illustrated as under:

- Whether to construct a godown/ warehouse to store the output or to store the output in a godown/warehouse facility available in the area. In the earlier scenario investment in the construction will high but asset will be created however usage is important to justify the investment. In the latter case access to warehouse depends on space availability and costs are limited to transportation and rent or other charges. If add on services like access to commodity exchanges or collateral management, these need further consideration as these may be better feasible to access from third party warehouse.
- Whether to establish a pack house or access the services available from an established pack house on use and pay basis?
- Whether to establish a nursery or access the services available from an established pack house on use and pay basis?
- Whether to purchase and own a tractor or harvester or such other equipment or access the services available from an established pack house on use and pay basis?

The decisions are better assessed considering the investment required including other expenditure to be incurred, their utility and justification of investment vis-à-vis access on 'use and pay' basis. Cost Benefit Analysis of both the scenario helps in taking judicious decision in addition to other assessment parameters and these are detailed in the section on development of plans.

## 2.6 FARMERS' COLLECTIVES:

The individual farmers come together and work as a group, they tend to benefit out of collective strengths in negotiating selling price for their produce as well to source quality inputs as per requirement. Sourcing of inputs includes access to credit, insurance and other need based financial services at affordable terms. In addition to these other advantages include using experts as advisors, extension services support or access to techno-managerial services, market linkages, value addition etc.

A variety of initiatives as projects to essentially encourage individual producers or growers to come together as collectives and benefit out of such functioning are experienced in various parts of India and elsewhere. Some of the popular forms in which the producers are experienced to come together and work as collectives in India include as Farmers Clubs, Producers Groups, Self Help Groups (SHG), Joint Liability Groups (JLG), Tenant Farmers Groups (TFG), Producer Companies etc. and the more than a century old form of Cooperatives. The farmers' collectives often referred to as FPOs present themselves as a model to address challenges being faced by farmers - in particular small and marginal farmers.

### 2.6.1 Feasibility of forming a Collective/ Farmers Producer Organisation (FPO)

The feasibility to establish and manage an FPO largely depends on certain essentials and these include:

- **Membership:** The FPO's ability to attract desired number of members. The number of members with the FPO is important to attain required scale of business as well as to be able to raise equity share capital to take care of funding needs.
- **Members' Commitment:** The member farmers of an FPO do not just represent *ownership* but they are also *suppliers* when they supply their produce to the FPO and can be *customers* when they purchase inputs from the FPO as per their needs. These are measured through Members' Patronage.
- Members are also expected to be actively associated with the governance and management of the FPO for its efficient and effective functioning on a sustainable



basis. The subscription to membership and its sustenance largely depends on support offered by FPO and benefits that accrue to the farmers including through patronage bonus.

- **Business opportunities** available to the FPO have to be assessed to be able to identify the business activities of the FPO and frame the Business Model and Revenue Model for the FPO as these define the sustainability and viability of the FPO.
- **Scale of Business** expected to be achieved, whether the same would be sufficient enough for the FPO for its sustainability and viability while generating benefits to the Members.
- **Profitability:** Assessment of proposed business activities of the FPO and whether the same will generate surplus or profits over the years.
- **Feasibility assessment** with reference to technology, commercials, financials and marketing.
- **Access to Resources** required by the FPO including human resources, finance and others.
- **Sustainable and viable functioning** of the FPO over the years.

### 2.6.2 Social Mobilisation

The decision to form an FPO leads to the next step of mobilising members as owners of the FPO and shareholders of the FPO. These are usually undertaken through:

- Sensitisation of members through village level meetings
- Accessing support from line departments of the Government.
- Support available under programs/schemes of Government, NABARD and NGOs.
- Use of techniques like Participatory Rural Appraisal (PRA) that help in understanding and assessing reality better and make use of the insights gained to promote and nurture the FPO.



### **2.6.3 Essentials for the Success of FPO**

The following are stated as essential strategies for the successful and sustainable functioning of an FPO.

- Follow set protocol to assess feasibility of establishing an FPO that shall function sustainably and profitably.
- FPO formation is undertaken following guidelines on “Preparatory Phase” on the principle of “First Things First”
- FPO is committed to the “Non-Negotiables” and to follow stated Best Practices.
- FPOs emphasis on Best Practices begins with ensuring “Good Governance and Management”
- FPO functions as a Business Entity. Professionally managed and with thrust on Value Addition and optimising Returns to Member-shareholders.
- FPO shall function Sustainably and Profitably with optimised Resources Access and Use

### **2.7 DECISION MAKING**

“Decision making - the selection from among alternatives of a course of action – is at the core of planning. A plan cannot be said to exist unless a decision – a commitment of resources, direction or reputation – has been made. Until that point we have only planning studies and analysis. Managers sometimes see decision making as their central job because they must constantly chose what is to be done, who is to do it, and when, where and occasionally even how it will be done. Decision making is however, only a step in planning, even when done quickly and with little thought or when it influences action for only a few minutes. It is also part of everyone’s daily living. A course of action can seldom be judged alone because virtually every decision must be geared in with other plans.



Given an awareness of an opportunity and a goal, the core of planning is really a description of the decision process. Thus in this context, decision making might be thought of as

- (1) Premising,
- (2) Identifying alternatives,
- (3) Evaluation of alternatives in terms of the goal sought, and
- (4) Choosing of an alternative that is, making a decision.

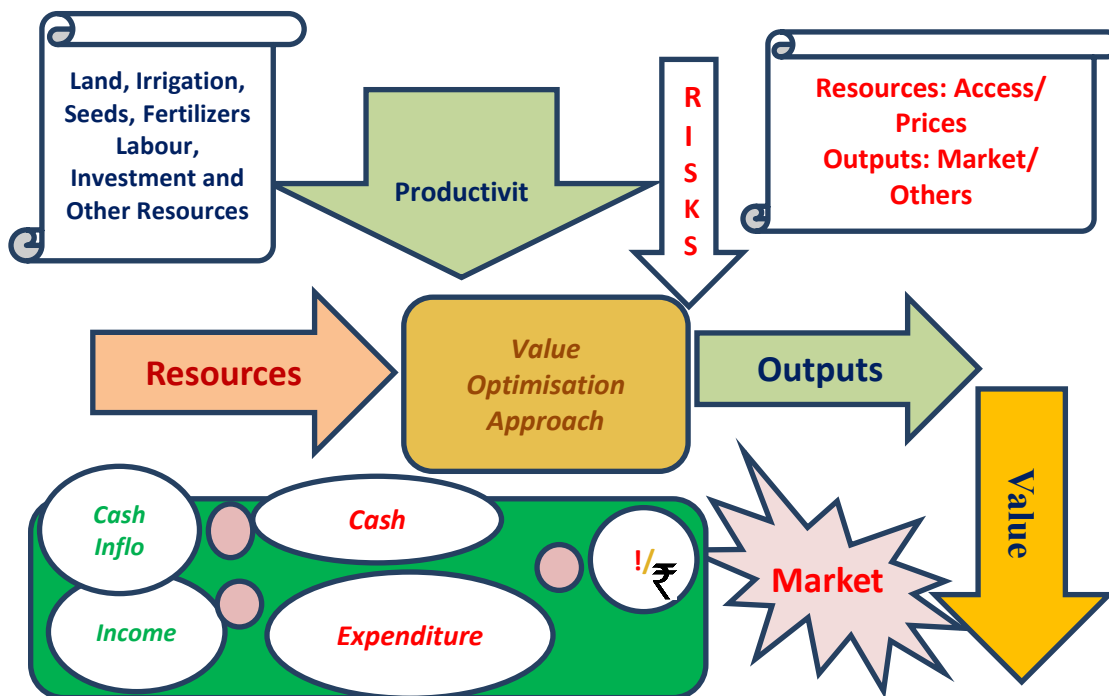
### **2.7.1 Options and Opportunities**

Planning for agriculture primarily deals with assessing resources available, putting them into best possible use with insights on known and unknown challenges and constraints and aim at achieving best possible returns in the form of “net income” and “minimizing risks” - on a sustainable basis duly ensuring concerns on environment. Thus the understanding of available resources, their characteristics, access, associated costs and assessment of their use takes center stage.

The important resources in the context of agriculture include land, water for irrigation, inputs such as seeds, fertilisers, pesticides etc., labour, finance and other support facilities or services.

### **2.7.2 Assessment**

The assessment of the resources shall be with the use any rational framework, one is as suggested here under:



### 2.7.3 Prioritisation

It is important to be focused on the goal and be very clear about the goal while the goal can be specific for each individual, household, village/hamlet or cluster. Some illustrations on goals are:

- Achieving production that helps in meeting household food needs (family and animals being reared),
- To retain some produce as seeds for next cropping
- To be able to sell surplus production to serve the monetary purposes of the family towards meeting needs on health, education, housing, clothing etc.
- To be able to move up the needs-scale in meeting other needs as professed under Maslow’s hierarchy theory of needs or a farmer may as well aspire to move up from meeting the basic needs to psychological needs to self-fulfillment needs.

Thus the aim shall be to initially meet basic needs and then move up by working on achieving higher productivity and moving up through the value chain to optimise ‘net



income' vis-à-vis the resources available/used. Hence it is essential to prioritise the resource use so as to be able to march towards achieving set goal.

#### **2.7.4 Sustainability; PPP Concepts**

The essence of agricultural planning is much more than optimizing the net returns to the farmers while minimizing risks. The critical resources mostly being natural and scarce, it is essential to ensure their availability and access over the future years to come. This brings focus on sustainable agriculture and approaches like Landscape Management; People, Planet and Profit (PPP) or Triple Bottom Line (TBL). In the light of concerns on use of chemicals, water use for agriculture including by exploiting ground water, challenges on soil fertility/management and such others, the approaches such as landscape management and PPP are important.

#### **2.8 LET'S SUM UP:**

- Evaluation and planning for access to resources is important so as to be able to optimize the returns to farmers and farmers' collectives
- Thrust on enhancing farm level productivity, optimization of costs, maximization of price realization contributes to the enhanced farm level income and benefits to the member farmers of an FPO.
- Surplus or deficit and profit or loss from agriculture can be assessed and ascertained in multiple ways by taking into consideration income accrued/received and various costs associated with agriculture.
- Farmers' collectives like FPOs benefit farmers but there are certain essentials that require attention while forming and managing an FPO.

#### **2.9 CHECK YOUR PROGRESS**

The following exercises in the form of assignments, self-assessment questions and narrative questions are suggested to assess the learning through this module.



**Assignments**

- Develop a document highlighting the possible income and expenditure/cash outflows associated with agriculture in your operational area considering an average farmer.
- Develop a document on access to resources (A2R) and access to finance (A2F) by famers of your operational area.
- Develop a proposal to promote one or more FPOs in your operational area with justification and plans to manage the same to ensure benefits to member-farmers.

(The documents shall be with 750 to 1,500 words and shall state the source for the data/information used)

Self-Assessment Question/s: Answer “Y” for Yes or “N” No and evaluate your answer by referring to the material of the theme.

Sl. No.	Self-Assessment Question	Answer: Y/N
A.	Return on Investment can be assessed even when a farmer or FPO incurs loss or experiences deficit	
B.	Profit and Loss statement cannot be prepared for a farmer on his/her farming activities	
C.	Profit and Loss statement cannot be prepared for an FPC.	
D.	Cost of cultivation can include notional costs like own labour, own seeds etc.	
E.	Surplus or profit with reference to each crop in each land parcels has to be assessed to take up such crop which generates highest surplus or profit	
F.	Farm level productivity improvement helps in increasing income to the farmers and sustainability of farming in the country.	
G.	Savings in costs is always possible and shall be targeted.	



H.	Accessing loans or credit from the right source helps in savings	
I	An FPO can be formed when a group of farmers are willing to farm the same notwithstanding whether their number is too small	
J	Cost Benefit Analysis helps in decision making	

Answer the following questions:

1. Explain some of the approaches to state whether farming is viable or not?
2. What is Return on Investment and how the same can be used in agricultural plans?
3. What is Cost Benefit Analysis?
4. What is PPP and why this is important?
5. How to calculate the Cost of Cultivation?
6. What is Productivity and how agricultural productivity can be improved?
7. What are the various finance needs of farmers and FPOs and what are the suggested sources to meet such needs?
8. Explain decision making by farmers or FPOs with examples.

**2.10 Further Readings/ references:**

1. Cost Accounting, Pankaj Publications
2. Maheswari S. N. "Principles and Practice of Cost Accounting".
3. Khan M. Y. and Jain P. K. "Financial Management".

## UNIT 3

### PREPARATION OF PLANS, DEVELOPMENT OF PLAN (DPR)

#### Highlights of the unit

- Objectives
- Introduction
- Plans
- Process to develop plans
- Annual and rolling plans
- Need for planning
- Plan period
- Development of proposals, business plans/ DPRs
- Monitoring, Evaluation and Learning (MEL)
- Let's Sum up
- Check Your Progress

#### 3.0 OBJECTIVES

This unit helps to gain insights on plans and to work on development of plans

- To understand what are plans and types of plans
- To recognize the need for plans when we treat agriculture as business or essentially an economic activity.
- To learn how to prepare some of essential plans while engaged with farmers and farming including for any agribusiness.

#### 3.1 INTRODUCTION

Agriculture is important for India primarily for two reasons – one to meet the food needs of the nation's population and the second is that it provides employment to nearly half of its population. In other words livelihood of nearly fifty percent of India's population



is depending on agriculture. A livelihood activity essentially involves engagement with economic activity and earning money to meet essential needs as well as generating surplus that can meet other needs of present or future. In other words, agriculture can be an income generation activity while also meeting the food needs.

*My own future plan is to keep active and work for as long as the good Lord will permit me, which cannot be very long; and not to retire. I wouldn't know what to do - so to continue to work as long as people like you want me to talk to them, as long as my plans still come to me (and they do), as long as I still can teach, I hope I will be able to continue. It can't be very long, but as long as the good Lord gives me, my plans are to keep on trying to make a tiny little contribution in this very dangerous world. They are my plans. – Peter Drucker when asked about his plans by Danica Purg (Manage Yourself and Then Your Company – Set an Example, lecture on 10<sup>th</sup> Anniversary of IEDC, October 1996)*

Any income generating activity involves making use of resources and working on activities that result in output. In other words while 'making money through agriculture' is a present intent, several activities are undertaken throughout the crop cycle, after harvest, till the produce is sold either in raw or value added form and the sale proceeds are realized either in cash or otherwise. When a set of activities are to be undertaken, in a manner to minimize the risks over a period of time and increase the production and thereby the earnings, there is need for plan.

A plan is a document that contains goal(s), objective(s), strategies and various activities to be undertaken to achieve a set goal or meet a purpose and thus contains details on what to be done, when to do, how to do and who will do, among others. A well thought out and well documented plan helps us to reach where we want to be from where we are.

Often, a point is raised that things actually may not occur as planned and hence whether plans are required.

***“Plans are only good intentions unless they immediately degenerate into hard work.”***

***“Long-range planning does not deal with the future decisions but the future of present decisions”***

***- Peter Drucker***

It is true that actual occurrences may be different from what was planned but without plans one may not know where and how the resources are being used and the efforts made are in the right direction or not. Hence, notwithstanding the deviations of actual events from planned, plans are essential.

## **3.2 PLANS**

### **3.2.1 Need for Plans**

The agreement with the statement “Let us treat agriculture as business<sup>11</sup>” leads to consideration that agriculture requires business plan and its stakeholders<sup>12</sup> need to prepare plans to actively associate with agriculture.

A farmer engaged with agriculture can be called ‘agri-preneur’ and be treated on par with any other entrepreneur; and any entrepreneur is advised to work on his/her business with a plan which necessarily helps in taking informed decisions and approach.

One or more farmers or farmers’ collective working on mechanization or such other ways of modern agriculture or innovation or value addition in any form are likely to make investments that they are not familiar with and thus require plans; individuals and institutions engaged in supporting farmers need to prepare plans.

### **3.2.2 Types of Plans**

Plans can be many in variety but primarily based on the purpose for which plan is prepared or required, proposed activities and their horizon. Some of the important forms of plans, as may be required by farmers or their collectives (cooperatives or farmers’ producer organizations – FPOs or farmers’ producer companies - FPCs) in the context of agriculture or agribusiness are cited hereunder:

- Concept Note

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<sup>11</sup> Mr. Vilas Shinde of Sahyadri Farms as quoted by Jayashree Bhosale.

<sup>12</sup> A stakeholder is a person or entity having interest in or concerned about something, usually a business; as compared to shareholders who are investors in a business by subscribing to the capital of the business. Examples to stakeholders are employees, suppliers, customers, lenders etc.



- Proposal
- Business Plan
- Implementation Plan
- Detailed Project Report (DPR)

In the context of government, three types of plans can be stated as important with reference to agriculture or agribusiness and these are:

- Budgets
- Annual Plans/Rolling Plans
  - Administrative Plans
  - Functional Plans

The usual process is to secure in principle approval by submitting a Concept Note and then submit a Proposal seeking approval or support in principle or others. When the proposed project or work is part of business activities, development of Business Plan or Detailed Project Report (DPR) may be the next steps to secure required resources support including financial resources. A brief on each of the above types of plans is presented hereunder.

### **3.2.2.1 Concept Note:**

A Concept Note contains details on the project/activity/idea that one intends to work on either by oneself or in association with others. The purpose of concept note may be to secure in principle approval and thereafter submit a detailed proposal or to seek quick assessment of the proposed project/activity/idea whether the same is suitable for further action or not. A concept note hence, may be seeking financial or other support or administrative or budgetary or other approvals, after quick assessment.

In other words the Concept Note can be an informal document that contains details on one or more ideas that are aimed at solving one or more problems. It basically consists of



‘pitching’ support for the proposed idea/s. Thus it basically details the identified problem/s that needs solution/s and also contains idea/s proposed to be taken forward to work on the solution.

There is so strict format to be followed to draft a Concept Note. However different donor agencies or entities including those belong to the Governments may have their prescribed formats of Concept Notes. A samples structure of a Concept Note<sup>13</sup> sourced from World Bank is as under:

- i. (Proposed) Task Objective
- ii. (Proposed) Task Description including activities; problems; proposed solutions
- iii. Expected Output Results
- iv. Contribution to Local Area/population or other Target Groups or Beneficiaries or economy etc.; who will benefit and how when the solution works.
- v. Gender Strategy
- vi. Environment Protection
- vii. Scalability and Sustainability

### 3.2.2.2 Proposal

A proposal is a plan or an idea, often a formal or written one, which is suggested for people to think about and decide upon. ([www.collinsdictionary.com](http://www.collinsdictionary.com))

A proposal is a formal document submitted either in a prescribed format or otherwise but essentially contains details about the proposed project/activity/task, resources required, how the resources are expected to be mobilized and expected returns out of the resources proposed to be deployed, among others. A proposal is submitted to individuals or entities including those belonging to the Governments seeking approval and/or support with resources – financial or others.

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<sup>13</sup> Source: [http://siteresources.worldbank.org/WBI/Resources/Partnerships/KP\\_BNPPconceptnote1.pdf](http://siteresources.worldbank.org/WBI/Resources/Partnerships/KP_BNPPconceptnote1.pdf)



### 3.2.2.3 Business Plan

A business plan represents a document prepared to present an organization or businesses' intent or goal, feasibility assessment and proposals to achieve the set goal/objectives with needed resources and how to access such resources; it would also contain the expected results over the plan period, in terms of financials and others, through the implementation of the plan subject to stated assumptions.

A business plan is prepared to present the business or a proposed project; its feasibility – technical, commercial, marketing and institutional – strengths of the promoters; vision, mission, objectives, strategies and action plans; resources required and how the same are proposed to be accessed; marketing strategies, expected returns and financial analysis and such others.

A business plan is not just prepared to raise financial resources but primarily as guiding document of any business either new or expansion/ diversification of the existing business. A business plan can also help in bringing new technologies and expert resources at various positions, among others. Budgets are generally prepared as annual plans either for the business as a whole or for each of the functions like sales/marketing, human resources, production, cash/funds management, capital expenditure and such others.

Thus it is important to be aware of the purpose for which a Business Plan, as different from Budgets, is prepared. Notwithstanding the importance of such purpose, business plan being a plan comes with characteristics of planning within the sphere of management. The most important characteristics being “*Plans are always for future and Future is always Uncertain*”; still plans are essential as otherwise businesses may be managed without direction and purpose.

A few other definitions of business plan as extracted from internet based sources:



A *business plan* is a written document that describes in detail how a *business*, usually a new one, is going to achieve its goals. A *business plan* lays out a written *plan* from a marketing, financial and operational viewpoint. ([www.investopedia.com](http://www.investopedia.com))

A *business plan* is a document demonstrating the feasibility of a prospective new business and providing a roadmap for its first several years of operation. ([www.Techtarget.com](http://www.Techtarget.com))

A written document describing the nature of the *business*, the sales and marketing strategy, and the financial background, and containing a projected profit and loss statement.

A *business plan* is also a road map that provides directions so a *business* can *plan* its future and helps it avoid bumps in the road. (<https://www.entrepreneur.com>)

A business plan is any plan that works for a business to look ahead, allocate resources, focus on key points, and prepare for problems and opportunities. Unfortunately, many people think of business plans only for starting a new business or applying for business loans. But they are also vital for running a business, whether or not the business needs new loans or new investments. Businesses need plans to optimise growth and development according to priorities. ([www.Bplans.co.uk](http://www.Bplans.co.uk))

*Caveat: "What is wrong with most business plans? The answer is relatively straight forward. Most waste too much ink on numbers and devote too little to the information that really matters to intelligent investors." Prof. William A Sahlman, Professor of Business Administration at Harvard Business School, Boston.*

**Detailed Project Report (DPR):** A DPR is much more detailed document as compared to a business plan. In addition to the contents that a Business Plan is expected to contain, the DPR will have complete techno-commercial details including designs, technical specifications, indicative commercial terms, quotations and implementation schedule/plan.

Detailed project report is prepared for the investment decision-making approval, but also execution of the project and also preparation of the plan. Detailed project report is a



complete document for investment decision-making, approval, planning. Detailed project report is based document for planning the project and implementing the project. ([www.nisg.org](http://www.nisg.org))

**Implementation Plan:** Implementation plan is a document that contains processes and steps to be followed for the implementation of the plans prepared to achieve set goal/s. It details the manner in which the prepared plans are to be implemented as per given schedule.

Implementation involves execution of prepared plans, practically working on a plan or any programme design, or proposed idea with evolved models and approaches etc.

**Budget:** “A budget is primarily a blueprint of a projected plan of action of a business for a definite period of time. Its fundamental purpose is to aid in securing control over the different parts of business. This is done by comparing actual attainments against the budgetary figures and using the latter as a basis of comparisons or yardsticks in determining the efficiency of operations.<sup>14</sup>”

A budget generally contains expected sales during a period and also allocations under various heads of accounts i.e. towards materials, labour, travel, salaries or others. A capital budget contains allocations for any capital items like machinery, buildings, furniture, computers etc.

**Administrative Plan:** A plan prepared with reference to the administrative aspects of the job/office/activity. The administrative aspects include official travels, reports to be submitted, draws and disbursements, progress on Program/schemes etc.

**Functional Plan:** A functional plan contains details on functional aspects of the job like extension services to be provided, support to the farmers in their farming as per the job mandate, propagation and implementation of various Program and schemes of the Governments, conduct of awareness Program or training Program etc.

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<sup>14</sup> Cost Accountants Handbook by Theodore Lang

### 3.3 PROCESS TO DEVELOP PLANS

The process to develop a plan is generally with the following steps:

- Setting the goal/s, targets and objectives and stating the same in clear and unambiguous terms. Be clear about the purpose of the plan to be prepared. It is desirable to undertake a 'Visioning' exercise, derive and state the Vision, Mission, Goal/s and Objectives - basically as targets or milestones to be achieved - with reference to the proposed business or economic activity/activities.
- Collection of required data and information.
- Analysis of the data/information collected.
- Consultations with interested stakeholders, based on need.
- Drafting of the plans.
- Presenting the draft plan to the stakeholders, subject to confidentiality.
- Final plan and sharing with others, as may be required.

#### 3.4.1 Stakeholders of Plans

A stakeholder is a person or entity having interest in or concerned about something, usually a business; as compared to shareholders who are investors in a business by subscribing to the capital of the business. In the context of agriculture and farmer/s the stakeholders include the farmer, his/her family members, traders/vendors/suppliers of inputs, lenders like Primary Agricultural Cooperative Society (PACS), Bank or others, buyers/traders who purchase the output from the farmer/s and representatives of the departments of Government like Agriculture, Horticulture, Marketing, Cooperation, Revenue, Irrigation and such others. Development entities or non-government organizations (NGOs) actively engaged in supporting agriculture can also be interested stakeholders of agriculture and the plans for agriculture/agribusiness.

The farmer/s or his/her/their families are the primary stakeholders. In the case of farmers' collectives/organizations the primary stakeholders are the farmers, their





households and the farmers' organization/collective. Their interest is in putting the available land to the best possible use over the year and optimize the returns, net income earnings to the farmer/family. The traders or vendors or suppliers are interested in their business of selling required inputs like seeds, fertilizers, pesticides etc., or the provision of services as per the needs of the farmers.

The traders or buyers or processors are interested in the expected production of variety of crops, their surplus expected to be marketed by the farmers in the raw or processed form. These inputs help them in planning for their business activities.

The concerned Departments of Government are interested in assessing the needs of farmers and plan for government's support as per the budgets and policies of the government.

### **3.4.2 Organising for the Plans**

The development of plans demands efforts to pursue the process, if necessary, with support of external agencies like government agencies or development entities or NGOs. The support is generally needed in assessing and understanding the resources available, how best the resources can be used, the possibility and schedule of irrigation support or expectations on rainfall, availability of seeds and their varieties or expected scenario with reference to other inputs and output.

Market intelligence is one of the important aspects on which external support is required. The intelligence inputs and insights are required with reference to output (as expected at the time of harvest); inputs (as expected at the time of crop-cycle when each of the inputs may be needed) and resources like finance, labour, warehouses etc. The farmer or representatives of the farmers' organization/collective have to organize themselves while working on development of plans including on:

- Who will work on development of plan and when?
- Whose support will be required and how to approach for such help?



- Preparatory steps required like soil testing etc. required so as to be ready with essential data/information to work on planning.
- In case of farmers' organization, village level meetings are suggested to be organized in advance to elicit the views of member-farmers that can be considered while developing plans.

#### 3.4.2.1 Project based approach

The term 'Project' is used to mean working on a specific task or investment or establishment of facility or acquiring (purchasing) a machine/equipment like Harvester, Tractor or many such.

A quick glance at some of the definitions of project as under:

"Planned set of interrelated tasks to be executed over a fixed period and within certain cost and other limitations<sup>15</sup>"

"An individual or collaborative enterprise that is carefully planned to achieve a particular aim"<sup>16</sup>.

"A project is a temporary endeavor undertaken to create a unique product, service or result"<sup>17</sup>

"A project is a time and cost constrained operation to realize a set of defined deliverables (the scope to fulfill the project's objectives) up to quality standards and requirements"<sup>18</sup>

The "Project Management" based approach ensures certain essentials that make planning scientific and objective, including:

- The intended "to be achieved" on the strengths of the plan is/are clear. These are stated as the goal or objectives to be achieved in the plan; at higher level these may have been stated as Vision or Mission as well.

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<sup>15</sup> [www.businessdictionary.com](http://www.businessdictionary.com)

<sup>16</sup> <https://en.oxforddictionaries.com>

<sup>17</sup> A Guide to the Project Management Body of Knowledge, Project Management Institute

<sup>18</sup> IPMA Competence Baseline, International Project Management Association.



- The approach or process to be pursued to achieve the set goal/objective are also clear.
- Thus, what, how, when, who and where such types of questions with reference to the proposed activities are usually clear, as these are integral part of Project Management.
- Supports in execution or implementation with the help of a schedule and thus timely completion of the project.
- The resources required, their justification for use and proposed use are also assessed and allocated judiciously.
- Monitoring and evaluation (M&E) is an integral part of project management. Within this stating the Key Result Areas (KRAs) and Key Performance Indicators (KPIs) to serve as important tools in assessing the progress and achievement vis-à-vis the targets set as part of the project.
- The Key Result Areas (KRAs<sup>19</sup>) may include Farmer satisfaction or Member satisfaction, Value addition, Customer satisfaction, Quality of products, On-time delivery and such others.
- Key Performance Indicators (KPIs<sup>20</sup>) may include Sales, Profit, Returns on Investment measured in proportion to Investment or Net Present Value or Internal Rate of Return, Economic Rate of Return (ERR) and such others.
- The project based approach also helps in making use of management tools that can be useful in assessment, analysis, development of plans and working on planned activities/businesses. Some of such tools are:
  - SWOT Analysis: Analysis of Strengths, Weaknesses, Opportunities and Threats; the first two are mostly internal to the business or organization whereas the latter two are external to the business or organization.

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<sup>19</sup> Key Result Areas refer to general areas of outputs or outcomes for which the department's role is responsible. Key Performance Areas are the areas within the business unit, for which an individual or group is logically responsible

<sup>20</sup> KPI is a quantifiable measure used to evaluate the success of an organization, employee, etc. in meeting objectives for performance



- PESTLE Analysis: Analysis of aspects related to Political, Economic, Social, Technological, Legal and Ethical/Environmental with reference to the business or organization.
- PERT: Programme Evaluation and Review Technique which helps in monitoring and evaluation of project implementation.
- CPM: Critical Path Method (CPM) which helps in time and cost optimistaion in scheduling and meeting timelines with due recognition to cost, resources access/use and other aspects.
- LFA and WBS: Logical Framework Analysis (LFA) and Work Breakdown Structure (WBS) are mostly used in development projects in their design and management.
- PRA: Participatory Rural Appraisal (PRA) is an approach used to collect data, insights and views including from stakeholders of proposed or ongoing programme or project. Some of the tools used are Social Map, Resource Map, Transect Walk, Timeline and Seasonal Map<sup>21</sup>.
- Business Model Canvas (BMC)
- OCAT: Organisational Capacity Assessment Tool, using the framework of McKinsey.
- Value Chain Analysis using the framework of Michael Porter.
- Five Force Model: Competition Analysis using Michael Porter's Five Force Model.
- McKinsey' 7S Framework
- BCG Matrix
- Others

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<sup>21</sup> Note on PRA by NIRD ([www.nird.org.in/nird\\_docs/gpdp/prs.pdf](http://www.nird.org.in/nird_docs/gpdp/prs.pdf))

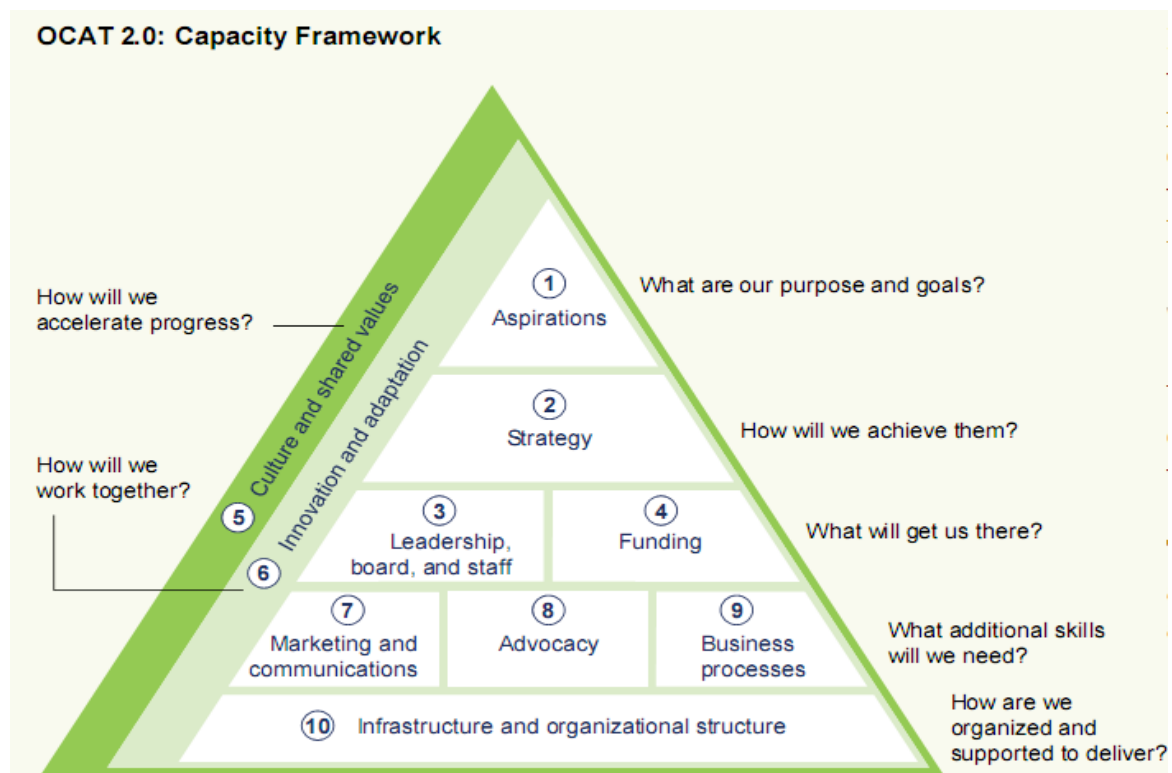
### 3.5. ANNUAL AND ROLLING PLANS

An Annual plan is a plan for the administrative and functional aspects of a function/job. A business plan is prepared for a business whereas an Annual Plan is to be prepared for the administrative and functional support to be rendered to the farmers and others engaged with agriculture.

The section on Annual Plan focuses basically on how best to discharge the duties/functions so as to be able to support agriculture and its stakeholders (farmers, their collectives/organizations and others) from the point of 'Extension Services', as otherwise the Annual Plans are very extensive and encompass several aspects.

### 3.6 NEED FOR PLANNING

Agriculture is important for a nation as it helps in meeting the food and nutritional security of its people and it also supports the livelihood of a larger section of population. A farmer is engaged on agriculture primarily contributes by putting to use land and labour and accessing other inputs like seeds, fertilizers, irrigation etc. from external sources.





Government support to agriculture is essential as the farmers engaged with agriculture are mostly small and marginal with small land holding and viability of agriculture by itself is also not often feasible and challenging. Government direct support to agriculture is generally through irrigation systems and inputs access; other support includes by investing in support systems like research, academics, extension, warehousing, market yards, testing laboratories, mechanization/equipment, procurement and such others.

The function of agricultural extension requires working on several activities. Thus there is need for preparing seasonal and annual plans so as to be able to provide the extension services as per the needs of the farmers and as aligned to the agro climatic conditions of the local area. It is essential to list various activities that are required to be undertaken in

"Participatory Rural Appraisal (PRA) recently renamed Participatory Learning for Action (PLA), is a methodological approach that is used to enable farmers to analyse their own situation and to develop a common perspective on natural resource management and agriculture at village level." PRA is an assessment and learning process that empowers farmers to create the information base they need for participatory planning and action. Outsiders contribute facilitation skills and external information and opinions. Many different tools have been developed for use in PRA. There are four main classes: tools used in group and team dynamics; tools for sampling; options for interviews and dialogue; and options for visualisation and preparing diagrams. (Source: <https://www.betterevaluation.org>)

each season and throughout the year and prepare plans for each of the seasons and for the year.

The support to farmers and farmers' collectives such as cooperatives or farmers' producer organizations (FPOs) or groups or clubs is generally by Departments of Agriculture, Horticulture, Irrigation, Marketing, Animal Husbandry, Food Processing and such others. These departments are in need of administrative plans to support farmers, their collectives and others engaged with agriculture including with budgetary support.

### 3.7 PLAN PERIOD

The plan period for an Annual plan can be:



- The financial year, with reference to financial support as per budgetary allocations; this is generally from 1<sup>st</sup> April of the year to the 31<sup>st</sup> March of succeeding year.
- Agriculture year which generally is aligned to the seasons and considered from July to June of consecutive years.
- The plan period may also be considered for each of the seasons and further aggregated either for financial year or agriculture year.

**Rolling Plans:** The annual plans when carried forward or rolled over to next plan period makes the exercise as part of preparing rolling plans.

### 3.7.1 Process

The process for the development of plans typically differs based on the position for which the plan is being prepared and the activities associated with the position. These may be broadly treated in two different ways.

**Activities depending on budgetary allocations:** In these cases, the plans are prepared to undertake such and such activities that may have to be performed at various stages of the programme/scheme or part of the year or seasons. Wherever the budgetary allocations are in response to proposals submitted (bottom-up approach), the planning relies on the basic work performed while preparing the proposals.

If the budgetary allocations are based on decisions taken at higher levels – top down approach – the planning involves detailing the activities to be undertaken, in the local context, at various stages of the programme/scheme or part of the year or seasons.

In either case, based on need, additional data/information may have to be collected and interactions may have to be held with stakeholders like farmers, their collectives, representatives of other departments, inputs suppliers, services providers etc.

Using the guidelines or programme/scheme implementation process and local insights including those gained through data collection and interactions the plans are to be derived.

**Routine job related activities:** These activities like visits to certain locations, campaigns, participation in meetings, development of proposals, submission of reports, clarifications, replies to questions raised in the house/s of legislation etc. are to be performed as part of routine job related activities. The plans for these activities are to be developed as per need and dovetailing the same into plans developed for activities related budgeted Program/schemes etc.

### **3.7.2 Essentials**

The essentials that require attention while developing these plans include:

- Compliance with official protocols and procedures as these are binding on each position of the Governance.
- Compliance with guidelines as applicable to each of the programme/scheme or budgetary sanctions or directives from the General Administration Department or Finance/Treasury of such others.
- Compliance with applicable laws of the land and constitutional provisions,
- Ensuring that the activities are aligned to the local socio-economic conditions or in other words 'being politically correct'; while following the applicable guidelines.
- Assessment of human resources' time and other resources available/accessible and balancing their use/allocation.

### **3.7.3 Development of Annual Plans**

The purpose of the Annual Plans is to be able to perform the assigned activities and to support the farming and farmers in the operational areas. In other words the Annual Plan consists of plans related to administrative and functional aspects of a function/job. These when aggregated for all the positions in a department, make the Annual Plan for the Department.

**Step 1:** Assess, identify and state various activities to be performed as part of the job.





**Step 2:** Ascertain details on applicable guidelines and procedures as applicable and relevant to undertake such activities

**Step 3:** Identify and state the jurisdiction of the job in terms geography and authority.

**Step 4:** Identify and state various stakeholders like farmers, farmers' organizations, representatives of other departments, inputs suppliers, services providers and others with whom interactions or engagement is required.

**Step 5:** Disaggregate and detail the functions as much as may be desired so as to be able to state the activities and sub-activities to be undertaken.

**Step 6:** Cluster the activities geography-wise and stakeholder-wise so as to be able to calendar the same week-wise, month-wise, season-wise and for the year.

**Step 7:** Estimate the time in terms of person days required with reference to each of the calendared activities.

**Step 8:** Estimate the associated financials like travelling, local conveyance, stationery, program/scheme related etc. as may be required for the calendared activities.

**Step 9:** Identify and state support or association required from representatives of other departments, inputs dealers, service providers or others and plan for communicating such requirement to them in advance and need based follow-up.

**Step 10:** Documentation of the calendared activities and seeking approval of the appropriate authority.

**Step 11:** Sharing of the approved Annual Plan with authorized stakeholders like Pay and Accounts Office, Supplies department, transport department etc.

**Step 12:** Periodic monitoring of the progress with reference to the plans.

**Roll-over:** The progress on activities brings out whether work is completed in full or part or programs/schemes that will continue to be supported/undertaken during the next plan period. The activities that are carried forward or programs/schemes that are rolled



over to the next plan period form part of the Rolled over plans and this forms part of preparing Rolling Plans.

### 3.7.4 Review and Revision of Annual Plans

Review and revision of the administrative plan periodically so as to be able to work on updated plan based on the progress, developments and other changes.

Each of the revised plans has to be approved by appropriate authority and circulated among authorized authorities.

## 3.8 DEVELOPMENT OF PROPOSALS

Proposal is “a plan or suggestion, especially a formal or written one, put forward for consideration by others<sup>22</sup>”. In the context of working on a project or a new or innovative task or any activity, in general, the first step is to prepare a Concept Note and seek administrative or in principle approval to take the initiative forward; the next step is to prepare a Proposal or Business Plan or Detailed Project or all of these, as may be relevant in the given context and for the business/activity.

The proposal is the simplest of all and sometimes the required support is accessed on the strengths of the Proposal itself without need for development of Business Plan or DPR.

### 3.8.1 Need

The need to prepare and submit a proposal may arise in different scenarios from the point of farmers, farmers’ organizations and representatives of Government.

**Farmer:** A farmer may be required to prepare and submit a proposal seeking support on agriculture, sourcing of inputs or equipment or introducing new crops or practices, establishment of any facilities, accessing support under any programme/scheme of the government etc.

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<https://dictionary.cambridge.org>



**Farmers' Producer Organisation:** A farmers' organization (FPO) like cooperative or producer company (PC) may seek support on accessing support under programme or scheme of the government, to take up any activity or initiative to support the member-farmers or as part of its organizational activities and such others.

**Representatives of Government:** The representatives of Departments of Government may have to prepare and submit proposals to obtain approvals internally or under any programme or scheme of the Government or to undertake any work or activity to support farmer/s or farmers' organization or agriculture in one or more areas.

### 3.8.2 Types of Proposals

The proposals to be prepared may of different types including:

- Seeking administrative approval or sanction
- Seeking financial or other support
- Seeking administrative approval and financial or other support
- Seeking access to any of the facilities or services
- Seeking permission to sell produce with such permission
- Seeking permission to introduce any new crops or practices that need sanction/approval.
- Such others

### 3.8.3 Process

The process to prepare and submit any proposal, in general, is as under:

- Assessment of need to prepare and submit the proposal
- To collect applicable forms and details on procedure, if any is applicable
- To collect necessary information or data, if required including about any Program, schemes or budgetary allocations etc.



- To prepare the proposal, if necessary with external support
- To submit the proposal along with necessary support documents or proofs.
- To obtain acknowledgement of the proposal submission

#### **3.8.4 Essentials of proposals**

The submission of proposals shall comply with certain essentials including:

- To be clear about the purpose of the proposal.
- To prepare the proposal as required under applicable procedures or guidelines along with necessary attachments or documents or proofs etc.
- To submit the proposal as per prescribed procedure or guidelines, to the appropriate authority either on-line or hard copies or both and obtain acknowledgment.

#### **3.8.5 Follow up and Action Taken Reports**

The proposals submitted may have to be followed-up for their approval or to provide any further information or details.

The proposals once approved are to be monitored for their progress or tasks to be performed. If the departmental processes may need submission of reports on action taken against the proposals sanctioned.

### **3.9 DEVELOPMENT OF BUSINESS PLANS/ DPRS**

*'A Business Plan is a Plan for a Business'*. A plan is document prepared in advance containing what is intended to be achieved, how it is proposed to be achieved, what all activities will be undertaken, what all resources are required, how these resources will be accessed, who all will be working on the activities, who will lead and scheduling of proposed activities and such others.

A business consists of one or more economic activities or transactions undertaken with the available and accessed resources with the intention of generating surplus for the business in the short term, sustainability and growth of the business over the years.

Thus business plan, in simple terms, is prepared in advance for a business, in pursuit of set objectives and it may be for an existing business or any new business or activities or modernization or expansion or such others.

A business plan represents a document prepared to present an organization or businesses' intent or goal, feasibility assessment and proposals to achieve the set goal/objectives with needed resources and how to access such resources; it would also contain the expected results over the plan period, in terms of financials and others, through the implementation of the plan subject to stated assumptions.

A business plan is prepared to present the business or a proposed project; its feasibility - technical, commercial and marketing - strengths of the promoters; vision, mission, objectives, strategies and action plans; resources required and how the same are proposed to be accessed; expected returns and financial analysis and such others.

On the other hand, a DPR (Detailed Project Report) is a comprehensive document with added details on techno-commercials like designs, drawings, specifications, indicative commercial terms, possible sources, quotations, implementation schedule/plan and such others. It is not unusual to notice that requirement of Business Plan is often referred to as DPR but there exists clear difference between the two.

Detailed project report is prepared for the investment decision-making approval, but also execution of the project and also preparation of the plan. Detailed project report is a complete document for investment decision-making, approval, planning. Detailed project report is base document for planning the project and implementing the project. ([www.nisg.org](http://www.nisg.org))

### **3.9.1 Purpose**

A business plan is better prepared with clarity on 'why the business plan is prepared'. A business plan, in general contains details it is expected to contain; however based on the specific purpose for which the business plan is prepared, there is need to put emphasis

on certain aspects. Some of the purposes, generally stated, as purposes for which a business plan/DPR is prepared:

- **Focus on Business:** To be able to manage the business to achieve the set target/s; to be able to implement or work on the proposed business or project as intended; DPRs are mostly prepared to work on projects including on new businesses or modernization or expansion.
- **Focus on Finance:** In general most business plans/DPRs are prepared to access finance or loans from banks or other financial institutions.
- **Focus on Resources:** In addition to access to finance (A2F), business plans/DPRs help in accessing variety of resources like technology, equipment, human resources and such others.
- **Focus on Program/Scheme based support:** Business plans/DPRs are also required to be prepared and submitted to access support available under certain programs/schemes.
- **Focus on Implementation:** Business plans/DPRs help in undertaking various activities or projects as per schedule and hence optimizing resources and time elapsed.
- **Focus on Monitoring and Evaluation:** Business plans/DPRs support in monitoring of implementation as well as evaluation either during the course of implementation or after completion of implementation.

### 3.9.2 Stakeholders

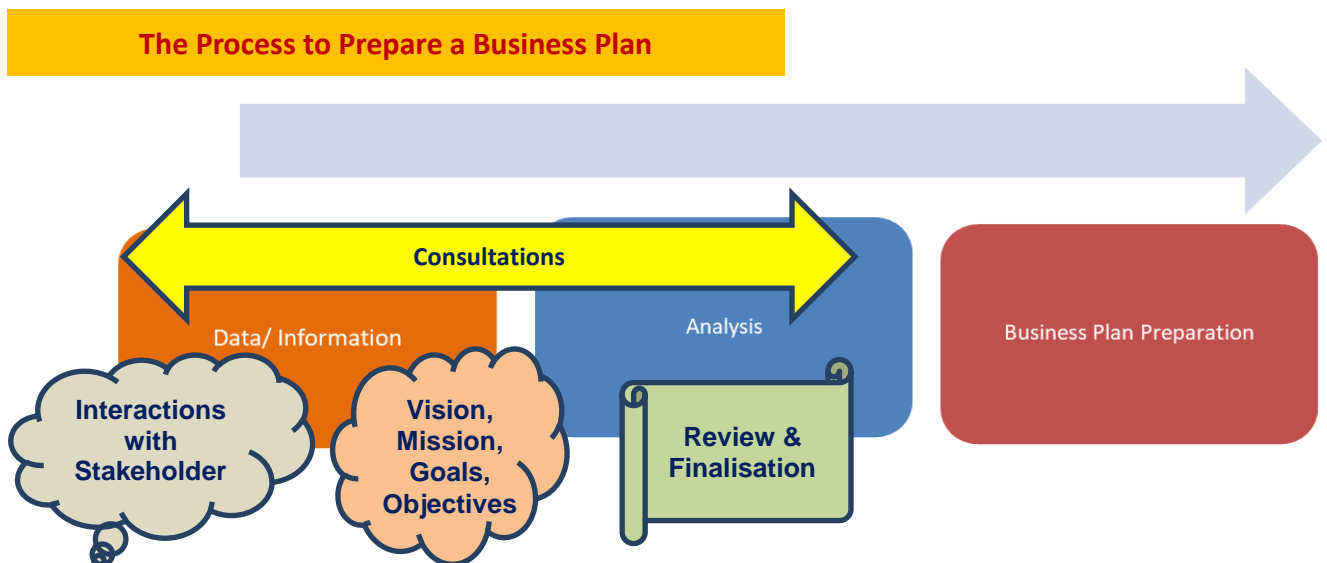
In the context of business plans or DPRs for agriculture or farmers or farmers producer organizations (FPOs), stakeholders primarily include:

- Farmers and his/her/their households.
- Boards of Directors, Management and employees of FPOs

- Lenders like banks, PACS, DCCBs, NABARD or such others offering loans/credit and other financial services to farmers and FPOs.
- Insurers offering insurance or pension services to farmers and FPOs.
- Vendors/traders/suppliers/service providers to farmers and FPOs.
- Buyers/traders/processors/exporters dealing with farmers and FPOs.
- Representatives of various Departments of Government like Agriculture, Horticulture, Marketing, Animal Husbandry, Revenue, Irrigation etc.

### 3.9.3 Process

The process of preparing Business Plan or DPR involves collection of data/information, analysis of data/information, interactions with interested stakeholders, preparation of draft plans/reports, engaging desired stakeholders in reviewing the draft plans/reports, finalization of plans/reports and their sharing with required stakeholders. The process is illustrated as under:



### 3.9.4 Essentials

The work on development of Business Plans or DPR needs understanding and commitment to certain essentials as under:

- **Clarity in purpose:** The reason why the Business Plan or DPR is being prepared and who will be using the same and for which purpose.
- **Resources and Impact:** The quantum of resources proposed to be deployed and expected impact of the project or business over the years.
- **Risk Profile:** It is essential to profile the associated risks vis-à-vis the risk bearing ability of the farmer or FPO or others associated with the business or project.
- **Time horizon:** Time period that is estimated to elapse during the plan period, viz., whether the business or project requires plan for one year or two years or three years or more. In general a business plan is prepared for three years but sometimes a plan for eight years may have to be prepared based on the 'gestation time' and 'loan tenor'.
- **Resources required:** Assessment of resources required and options on raising or accessing required resources 'cost-effectively' or at competitive terms.
- **Responsibility:** Who will work on the development of the plan/DPR and who will be responsible for the implementation of the plan
- **Scheduling:** Assessment of the scheduling of the different activities and ensuring the same best fits to the needs of the farmer or FPO or others.

### 3.9.5 Development of Business Plan/ DPR

The work on development of a Business Plan or DPR involves a step by step process as outlined in the section 4.6.3; and in this section the "how" part is detailed i.e. the activities to be undertaken at each stage of the process to develop a Business Plan or DPR.

**Step 1:** The development of the Business Plan or DPR begins with clarity on the purpose or need for the Business Plan or DPR. This is generally decided at the level of the Board of Directors for any organization, while the necessity for the same may be initiated by the Chief Executive Officer (CEO) or Secretary or the President or Chairman. If the organization has Sub Committee of Directors dealing with Investments, such Sub Committee may lead the process.





If the Business Plan or DPR is required by a farmer or his/her household, the farmer or his/her household shall take and state the decision to develop Business Plan or DPR and purpose of the Business Plan or DPR.

**Step 2:** The task of development of Business Plan or DPR shall be the responsibility of one person or position of the organization. It may be the Chief Executive Officer (CEO) or Secretary or the President/Chairman or one of the Directors on the Board or it may be vested with the Sub-Committee of the Board dealing with Investments.

If the Business Plan or DPR is prepared to meet the requirement of a farmer or his/her household, the farmer or assigned person the farmer's household shall be responsible for the preparation of Business Plan or DPR.

**Step 3:** The development of Business Plan or DPR requires a plan i.e. a step by step plan including scheduled milestones to be achieved with reference to development of Business Plan or DPR. This is generally drafted by the person responsible for the development of Business Plan or DPR and approved by appropriate authority like President/Chairman or Board of Directors.

**Step 4:** The development of Business Plan or DPR begins with collection of data/information as may be required for the same. These may be collected in a variety of ways and using appropriate tools that are referred to under section 4.2.6. The generally suggested requirements are as under:

- Details about proposed investment or acquisition or activity or business.
- Details about members/shareholders of the FPO or household of the farmer – landholding, agricultural lands, production, marketing, ability to invest etc.
- Details in support of inputs required, their access and terms of access.
- Details about resources like land, water, labour, technology, power, finance etc. and costs associated with them.



- Details about markets – inputs markets, outputs market and resources markets – their present and expected scenario.
- Details about competition in the local area or whichever markets are targeted.
- Details about Program/schemes or other support from Government.
- Such others.

The general approaches to obtain such details include by undertaking:

- Village profiling or Area profiling – where the business/agriculture/activity is expected to be undertaken.
- Livelihood profile of the area – to ascertain details so that the proposed business/activity is aligned to the activities of the members or villagers or household's activities and thus ensuring their commitment to the proposed business/activity.
- Gender profiling to ascertain the activities of females in the area or of the households and how the females can be actively associated with the proposed business/activities.
- Opportunity assessment to ascertain the business or activities as opportunities available for the organization or farmer or his/her household and short-listing identified opportunities.
- Preliminary assessment of short-listed opportunities including feasibility and market assessment and bring focus on select products or activities (preferably one or two) that can be taken forward for detailed planning.

**Step 5:** Once products or activities are identified, it is desirable to undertake detailed Value Chain Analysis so as to be able to obtain the required details.

**Step 6:** The commitment of all the members or stakeholders of the FPO or the farmer's household is important. Hence it is generally suggested to deliberate and state the Goal and Objectives to be achieved by working on the business or activities for which the Business Plan or DPR is to be prepared. In case of an FPO, it is generally suggested to undertake a Visioning Exercise to deliberate and the Vision and Mission for the FPO.



**Step 7:** Analyse the data/information collected through various approaches/means. The derived insights and inferences shall support in evolving strategies, methodologies, action plans and such others while working on the development of the Business Plan or DPR.

**Step 8:** Stakeholders' Inputs: Engage stakeholders, based on need and often, to elicit their views or inputs in the process of development of Business Plan or DPR.

**Step 9:** To ascertain details on machinery/equipment, available sources, their technical details, commercial terms, quotations etc. If the task is to develop a DPR, the needed techno-economic detailed will be very elaborate as compared to needs for development of Business Plan.

**Step 10:** Preparation of a draft business plan. This generally begins with evolving structure of the contents and then detailing under each head/sub-head of the structure. There is no standard format to prepare but certain essentials are required to be contained in the Business Plan or DPR and these include:

- Summary
- Introduction
- The Project and the Proposal
- About the Organization (Brief plus Annex)
- About Promoter (Brief plus Annex)
- Vision/Mission/Goals and Objectives
- Feasibility Assessment (Detail with Annexes support)
  - Marketing feasibility
  - Technical feasibility
  - Commercial feasibility



- Financial feasibility
- Institutional feasibility
- SWOT/PESTLE Analysis
- Business Model/Revenue Model
- Risk Management (Detail with Annexes support)
- Strategies, Activities and Action Plans
- Resources Mobilization
- Plan Implementation; Monitoring and Evaluation
- Financials (Three years History and Five Years Projections)
- Annexes

**Step 11:** The stakeholders of the FPO or in general the Board of Directors of the FPO in case of an FPO or the farmer and his/her household members in the case of a farmer shall review the draft Business Plan or DPR and suggest changes/modifications or improvements required and deliberate on the same.

**Step 12:** The final Business Plan or DPR is compiled after taking into consideration the feedback on the draft Business Plan or FPO. The final Business Plan or DPR is presented to the Board of Directors to be taken forward for implementation. Other stakeholders like lenders (Banks or Cooperative or others), respective Departments of Governments or Gram Panchayat or Pollution Control Board or Electricity supply authorities or such others are to be provided with required details out of the Business Plan or DPR.

*It may be noted here that a Business Plan or DPR is generally confidential to the business and hence it can be shared - in full or part - only if required and after ensuring that the confidentiality will be protected. In case required an NDA (Non-Disclosure Agreement) has to be signed before sharing details out of the Business Plan or DPR.*



### 3.10 MONITORING, EVALUATION AND LEARNING (MEL):

The Food and Agriculture Organization FAO of the UN states that Monitoring and Evaluation (M&E) is a continuous management function to assess if progress is made in achieving expected results, to spot bottlenecks in implementation and to highlight whether there are any unintended effects (positive or negative) from an investment plan, programme or project (“project/plan”) and its activities<sup>23</sup>.

The three terms Monitoring, Evaluation and Learning in the context of project management are defined by Network of International Development Organizations in Scotland (NIDOS), as under<sup>24</sup>:

**Monitoring** refers to the routine monitoring of project resources, activities and results, and analysis of the information to guide project implementation.

**Evaluation** refers to the periodic (mid-term, final) assessment and analysis of an on-going or completed project

**Learning** is the process through which information generated from M&E is reflected upon and intentionally used to continuously improve a project’s ability to achieve results.

MEL helps in assessing the project management and project performance, generally on parameters such as: Relevance, Efficiency, Effectiveness, Results, Impact and Sustainability. The findings are further used in managing the ongoing projects and designing the future projects taking the learnings into consideration wherever relevant.

More details on Monitoring and Evaluation are presented under Theme 6 of this document.

### 3.11 Let’s Sum Up:

Planning is essentially a document prepared with approaches and activities to achieve set targets/goals. Plans are of different types and prepared based on need. With reference

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<http://www.fao.org/investment-learning-platform/themes-and-tasks/monitoring-and-evaluation/en/>  
[https://www.intdevalliance.scot/application/files/5715/0211/8537/MEL\\_Support\\_Package\\_4th\\_June.pdf](https://www.intdevalliance.scot/application/files/5715/0211/8537/MEL_Support_Package_4th_June.pdf)



to Agriculture, Annual Plans are prepared to provide support to farmers and farming based on their needs and also as envisaged in the budget of the governments. Proposals, Business Plans and Detailed Project Reports (DPRs) are developed by farmers or their collectives (like cooperatives or farmers producer organizations etc.) as part of businesses or agriculture that they would like to pursue or any investments that they intend to make. These may also be prepared to submit to banks or government seeking financial or other support. The development of plans is suggested to be undertaken through a structured approach.

### 3.12 Check Your Progress

The following exercises in the form of assignments, self-assessment questions and narrative questions are suggested to assess the learning through this module.

#### *Assignments*

- Develop a Proposal seeking administrative sanction to evaluate the opportunity to form a farmer producer organization (FPO) in a cluster in your operational area.
- Develop a Business Plan for an FPO to establish a Custom Hiring Center (CHC) with financial assistance from NABARD under its schemes.
- Develop a Detailed Project Report (DPR) to establish a Primary Processing Center at a selected FPO.

#### *Self-Assessment Questions*

Sl. No.	Self-Assessment Question	Answer Y/N
A	There are many types of Plans	
B	A Plan is always prepared in advance and always for the future	
C	Business Plan and DPR are different types of plans	
D	Project Management approach helps in scientific planning	



E	Annual Plans are prepared by FPO	
F	Annual Plan can derive support from Budgetary allocations.	
G	Monitoring and Evaluation can be part of planning	
H	Plans are prepared to achieve set targets or goals.	

*Answer the Following Questions*

1. What are different types of Plans?
2. What is the process to develop a Plan?
3. What are the steps in development of Annual Plans?
4. Explain the suggested process to develop a Business Plan/DPR.
5. What are the steps in the development of a Business Plan/DPR?

**3.13 SUGGESTED READINGS/ REFERENCES:**

1. Development of Business Plan and DPRs by Gopala Krishna Ayitam
2. Projects: Planning, Analysis, Selection, Financing, Implementation and Review by Dr. Prasanna Chandra.



## **BLOCK II: IMPLEMENTATION MANAGEMENT**



**UNIT I:****CHALLENGES, CURRENT SCENARIO AND DEVELOPMENT  
POTENTIAL OF AGRICULTURE****Highlights of the unit**

- **Objectives**
- Introduction
- Current scenario of agriculture:
- Challenges faced by agriculture sector in India
- Value addition and marketing of agricultural commodities
- Risk management in agriculture
- Let's Sum up
- Further Suggested Reading/references/links

**1.0 OBJECTIVES**

- To know about the current scenario of agriculture in India
- To understand the current challenges of agriculture
- To suggest the suitable corrective and remedial measures

**1.1 INTRODUCTION**

India is principally agricultural country. Agriculture is the only means of living for almost two-thirds of the employed class in India. It constitutes the most significant part of Indian Economy. Agriculture, along with its allied sectors, is unquestionably the largest livelihood provider in India. The share of agriculture in the GDP has been declining from 51 per cent in 1995 to 14 per cent in 2018-19. In terms of employment and livelihood still around 54 percent workforce is engaged in agriculture as their principal

occupation (MoA &FW, 2017-18). Even now, nearly 72 per cent of our population lives in rural areas majority of them engaged in agriculture for their livelihood either directly or indirectly especially in rural areas, where poverty is more pronounced, (Rai, 2006). During last one and a half decade several challenges have surfaced in Indian agriculture which are becoming more and more severe with the passage of time. These relate to growth of output, efficiency, equity, sustainability and sharp decline in growth rate of agriculture sector experienced after mid-1990s. This is considered a major factor for large scale rural distress in various parts of the country. The situation calls for improving competitiveness of Indian agriculture which requires improvement in efficiency in agricultural production, marketing, transport etc.

## **1.2 CURRENT SCENARIO OF AGRICULTURE**

India's economic security continues to be predicated upon the agriculture sector, and the situation is not likely to change in the foreseeable future. Even now, agriculture supports 58 per cent of the population, as against about 75 per cent at the time of independence (MoA & FW, 2017-18). In the same period, the contribution of agriculture and allied sector to the Gross Domestic Product (GDP) has fallen from 61 per cent to 18 per cent in 2017-18. As of today, India supports 16.8 per cent of world's population on 4.2 per cent of world's water resources and 2.3 per cent of global land. And per caput availability of resources is about 4 to 6 times less as compared to world average. This will decrease further due to increasing demographic pressure and consequent diversion of the land for non-agricultural uses.

Around 51 per cent of India's geographical area is already under cultivation as compared to 11 per cent of the world average. The present cropping intensity of 136 per cent has registered an increase of only 25 per cent since independence. Further, rain fed, dry lands constitute 65 per cent of the total net sown area. There is also an unprecedented degradation of land (107 million ha) and groundwater resource, and also fall in the rate of growth of total factor productivity. This deceleration needs to be arrested and agricultural productivity has to be doubled to meet growing demands of the population



by 2050. Efficiency-mediated improvement in productivity is the most viable option to raise production (Saxena and Chand, 2017).

The country recorded impressive achievements in agriculture during three decades since the onset of green revolution in late sixties. This enabled the country to overcome widespread hunger and starvation; achieve self-sufficiency in food; reduce poverty and bring economic transformation in millions of rural families. The situation, however, started turning adverse for the sector around mid-nineties, with slowdown in growth rate of output, which then resulted in stagnation or even decline in farmer's income leading to agrarian distress, which is spreading and turning more and more serious.

Natural resource base of agriculture, which provides for sustainable production, is shrinking and degrading, and is adversely affecting production capacity of the ecosystem and environment. However, demand for agriculture is rising rapidly with increase in population and per caput income especially middle class of Indian and growing demand from industry sector.

There is, thus, an urgent need to identify severity of problem confronting agriculture sector to restore its vitality and put it back on higher growth trajectory. The problems, however, are surmountable, particularly when new tools of science and technology have started offering tremendous opportunities for application in agriculture.

### **1.3 CHALLENGES FACED BY AGRICULTURE SECTOR IN INDIA:**

- Challenges of Production
- Challenges of marketing
- Technological challenges
- Ecological Challenges
- Economic challenges
- Social Challenges

### 1.3.1 Challenges of Production:

#### **Largely depends on monsoon:**

As a result, food-grains production fluctuates year after year. A year of abundant output of food-grains is often followed by a year of acute shortage. This, in its turn, leads to regional and seasonal price fluctuation and instability in farm income and employment.

#### **The use of poor quality seeds and neglect of crop rotation:**

In India, not much use has been made of improved varieties of seeds. The main cereals (rice, millets and pulses) are still grown chiefly with unimproved seeds. Successful conduct of agricultural operations depends upon a proper rotation of crops. If cereals are grown on a plot of land its fertility is reduced to some extent. This can be restored if other crops such as pulses are grown on the same plot on a rotational basis. But the majority farmers in India are illiterate and do not understand this important point. Since they are not aware of the need for crop rotation they use the same type of crop and, consequently, the land loses its fertility considerably which leads to decline in the productivity and ultimately make farming not viable enterprises.

#### **Inadequate water supply:**

Farmers also suffer due to lack of irrigation facilities. Moreover, ordinary varieties of seed can be replaced by better varieties if there is an assured supply of water. The need for the construction of minor irrigation works of a local nature is both urgent and pressing. In fact, the total water potential in the country is more than adequate to irrigate the whole areas under cultivation. However, the present problem is one of discovering cheap and easy methods of utilizing these vast supplies of water.

#### **Inadequate use of efficient farm equipment:**

The method of cultivation in most areas of India are still primitive or traditional method. Most farmers continue to use native plough and other accessories. However, the problem is not one of shortage of modern machinery. The real problem is that the units of cultivation are too small to permit the use of such machinery.



### **Fragmentation of Holding:**

Due to the growth of population and breakdown of the joint family system, there has occurred continuous sub-division of agricultural land into smaller plots. At times small farmers are forced to sell a portion of their land to repay their debt. This creates further sub-division of land.

Sub-division, in its turn, leads to fragmentation of holdings. When the size of holdings become smaller and smaller, cultivation becomes uneconomic. As a result a major portion of land is not brought under the plough.

Such sub-division and fragmentation make the efficient use of land virtually impossible and add to the difficulties of increasing capital equipment on the farm. All these factors account for the low productivity of Indian agriculture.

### **Land Ownership**

Although the ownership of agricultural land in India is fairly widely distributed, there is some degree of concentration of land holding. Inequality in land distribution is also due to the fact that there are frequent changes in land ownership in India. It is believed that large parcels of land in India are owned by a- relatively small section of the rich farmers, while the vast majority of farmers own very little amount of land.

Moreover, most holdings are small and uneconomic. So the advantages of large-scale farming cannot be derived and cost per unit with 'uneconomic' holdings is high, output per hectare is low. As a result peasants cannot generate sufficient marketable surplus. So they are not only poor but are often in debt.

### **1.3.2 Challenges of agricultural marketing**

One of the major causes of low income of the Indian farmers is the difficulty in marketing their crops. Due to the small size and scattered nature of agricultural holdings, the productivity per acre is low. Consequently, the collection of these surpluses for the purpose of marketing presents a serious problem. Agricultural marketing problems arose due to the lack of communications, i.e., connecting the producing centres with the urban areas which are the main centres of consumption. The difficulty of communication prevents the farmer from marketing his own produce. So he has to rely on a number of middlemen (intermediaries) for the disposal of “his crops at cheap prices

#### **Limited Access of agriculture produce markets**

There is a huge variation in the density of regulated markets in different parts of the country, which varies from 118 sq. km. in Punjab to 11,214 sq.km. in Meghalaya

#### **Licensing barriers**

The compulsory requirement of owning a shop/go down for licensing of commission agents/traders in the regulated markets has led to the monopoly of these licensed traders acting as a higher entry barriers in existing APMCs for new entrepreneurs thus preventing competitions.

#### **Lack of market infrastructure in agriculture market**

Studies indicate that covered and open auction platform exists only in two-thirds of the regulated markets, while only one-fourth of markets have common drying yards. Cold storages units exist in less than one tenth of the market and grading Facilities in than one third of the markets. Electronic weigh-bridge is available only in a few markets.

#### **High incidence of market charges**

APMC's are authorized to collect market fee ranging between 2 to 5 per cent of the sale value of the produce. In addition commission charges vary from 1 per cent to 2.5 per cent in food grains and 4 per cent to 8 per cent in fruits and vegetables. Further other charges such as purchase tax, weightment charges and manual charges are also required



to be paid. In some states this works out to total charges of about 15 per cent which is excessive.

### **Illiteracy and lack of unity among farmers**

The Indian farmers are illiterate who are easier be fooled by the money lenders, traders, middlemen, due to their simple nature. Similarly, lack of unity among farmers also causes their exploitation because Indian farmers are spread in distant areas in rural places. They are unable to meet with each other and resolve their problems, as a result they do not get a fair price for their produce.

### **Low marketable surplus of agricultural goods**

The number of small and marginal farmers is more in India. These farmers hardly produce for the market. The market, therefore, depends more on big farmers. The output of these few big farmers will have to reach different markets. The net result is that the quantity of agricultural goods available will be inadequate in relation to the demand.

### **Producer does not determine the price**

In the case of consumer and industrial goods, it is only the producer who determines the basic price of the product. He is also sure of his margin. In contrast to this, the producer of agricultural goods does not know the price at which his produce would be sold to the ultimate consumer. It is not something decided by the farmer. It is only the intermediaries who determine the final price in marketing agricultural goods. The grower, in fact, is not sure of his revenue also.

### **Lack of grading**

Standardization enables the producer of consumer or industrial goods to get the right price for his products. Standardization has no relevance for agricultural goods. But they can be graded according to their size, shape and so on. But in the market, little importance is given for grading the produce and as a result the producer gets the same price for different varieties of goods.

### **High wastage in supply chain:**

The post-harvest losses of various commodities range from 3.9 to 6 per cent for cereals, 4.3 to 6.1 per cent for pulses, 5.8 to 18 per cent for fruits and 6.8 to 12.4 for vegetables. The total post harvest losses of agriculture commodities have been estimated at about Rs. 44,000 crores at 2015 whole prices.

#### **1.3.3 Technological challenges:**

Adoption of modern agricultural practices and use of technology is inadequate, hampered by ignorance, high costs and impracticality in the case of small land holdings. In India, farming practices are too haphazard and non-scientific and need some forethought before implementing any new technology. The screening of technology is important since all innovations are not relevant or attractive to all areas. It is important to screen them according to the geographical area and the local context of agriculture.

#### **1.3.4 Ecological challenges:**

- Climate change induced frequent drought (Vidarbha, Marathawara, west Rajasthan, South West UP) and Floods(Bihar, Assam, Odisha etc.)
- Declining land fertility
- Declining ground water level (Punjab, Haryana)
- Frequent pest attack(Whitefly-cotton)

#### **1.3.5 Economic challenges:**

- Declining farmer income
- Declining farm productivity
- Post-harvest loss
- Huge debt





### 1.3.6 Social challenges:

- Rising farmer suicide
- Rising male migration towards urban area lead to feminization of agriculture
- Ineffective land reform

## 1.4 VALUE ADDITION AND MARKETING OF AGRICULTURAL COMMODITIES

Value is the process of changing a product from its original state to a more valuable state. A broad definition of value added is to economically add value to a product by changing its current place, time and from one set of characteristics to other characteristics that are more preferred in the marketplace. The value addition of coupled with marketing has huge potential of solving the basic problem of agriculture surplus and produce wastage and it also create rural jobs and provide the remunerative price for the farmers.

### 1.4.1 Supply Chain Management in Agriculture:

Supply Chain management (SCM) in agriculture is a chain of activities of procurement, order fulfillment, product design and development, distribution, delivery, shipping and customer service, executed by two or more separate organizations in the agribusiness industry, to fulfill customer orders. Main focus of SCM is on the cost and efficiencies of supply, and the flow of materials from their various sources to their final destinations. Efficient supply chains reduce costs.

### 1.4.2 Why supply chain in agriculture:

- Seasonality in production
- Localized production
- Perishable nature
- Post-harvest losses at various magnitude
- Poor price realization
- A lot of intermediaries

**1.4.3 Advantages of supply chain management:**

Individual suppliers, producers and marketers who are associated through a supply chain can coordinate their value creating activities with each another and, in the process, create greater value to their products than they can operate independently. Supply chains create synergies as follows:

- Reduction of product losses in transportation and storage
- Aims to increase the sales.
- Dissemination of technology, advanced techniques, capital and knowledge among the chain partners.
- Better information about the flow of products, markets and technologies.
- Better control of product safety and quality
- Large investments and risks are shared among partners in the chain.

**1.4.4 Value Chain Management in Agriculture:**

The concept of agricultural value chain covers the full range of activities and participants involved in moving agricultural products from farm gate to the consumer's table.

**1.4.5 Importance of value chain in agricultural marketing:**

Value chains play an important role in transforming agricultural commodities from raw material to end products demanded by the consumers. There are a number of stakeholders involved in the agricultural commodity value chains and the partitioning of gains among the stakeholders along the chain is often debated and analyzed. Farmers, traders, wholesalers, retailers, big retail chains and consumers are major actors in the value chain. With the collective enlightenment of all stakeholders, proper enabling environment (institutions, infrastructure and policy) will be created in which various actors of value chain are functioning and mutually befitting to each other which ultimately lead to increase the producer share in consumer's rupees.



#### **1.4.6 Benefit of value chain management in agriculture:**

- Agricultural value chain includes the full range of activities and participants involved in moving products from input suppliers to farmers' fields, and ultimately, to consumers.
- Each stakeholder in the chain has a link to the next in order to form a viable chain. By understanding the complete production to consumption system of crops, it is possible to determine how the marketing and value-addition activities take place and who shares how much benefit from such activities.
- linkage of farmers to the markets through efficient value chains would reduce the use of intermediaries in the chain, and strengthen the value-adding activities
- This process of value addition can raise the income of farmers and will provide an incentive for improving their management practices towards higher farm productivity
- The income of the farmers can be enhanced by increasing production, value addition, and better marketing options.
- The strengthening of value chains by some sort of contract between producers and firms will benefit both producers and firms that are involved in input/technology supply and output marketing.

### **1.5 RISK MANAGEMENT IN AGRICULTURE**

Risk is a situation where all possible outcomes are known for a given management decision and the probability associated with each possible outcome is also known. Risk refers to variability or outcomes which are measurable in an empirical or quantitative manner. Risk is insurable.

#### **1.5.1 Types of risks**

##### **Production Risks**

Agriculture is often characterized by high variability of production outcomes or production risk. Unlike most other entrepreneurs, farmers are not able to predict with



certainty the amount of output that the production process will yield due to external factors such as weather, pests, and diseases. Farmers can also be hindered by adverse events during harvesting or threshing that may result in production losses. Development and adoption of innovations also add to production risk in agriculture. In India, more than 60 percent of land is vulnerable to droughts. Droughts lead to economic losses resulting from low agricultural production, loss of animal wealth, reduced nutrition and loss of health of workers.

### **Price or Market risks**

Uncertainty in the Market for commodities such as changes in the prices of inputs or outputs. The market risks result from fluctuations in the prices of inputs and outputs, outside competition, changing supply and demand, market imperfections, changing consumer preferences, etc. Sale of farm produce under distress may take place due to lack of post-harvest processing and lack of infrastructure storage facilities.

### **Financial and Credit Risks**

Many agricultural production cycles stretch over long periods of time, and farmers must anticipate expenses that they will only be able to recuperate once the product is marketed. This leads to potential cash flow problems exacerbated by lack of access to insurance services, credit and the high cost of borrowing informal sources. This also creates an obligation to repay debt. Rising interest rates, the prospect of loans being called by lenders, and restricted credit availability to the farmers lead to financial risks.

### **Institutional Risks**

Important source of uncertainty for farmers is institutional risk, generated by unexpected changes in regulations that influence farmers' activities. Changes in legal policies, regulations, financial services, level of price or income support payments and subsidies can significantly alter the profitability of farming activities.

### **Personal Risks**

This risk refers to factors such as problems with human health or personal relationships that can affect the agriculture. Agricultural households, as any other economic entrepreneur, are exposed to personal risks affecting the life and the wellbeing of people who work on the farm, as also asset risks from floods, cyclones and droughts and possible damage or theft of production equipment and any other farming assets.

### **Resource Risks**

The resource risks include uncertain supply or non-availability of labour (skilled labour), credit and irrigation water and also timely supply of desired seed, fertilizer or plant protection chemicals. Supply of spurious seeds and plant protection chemicals pose a great risk to the producers. Failure of crops due to sub-standard seed or spurious plant protection chemicals causes drain of resources of the farmer. It inflicts considerable damage on the psyche of the farmer sometimes leading to suicides by the farmers.

### **Assets Risks**

The trade-off is most acute for small farmers because their opportunities for ex-post management of risk through credit are limited. When all other measures fail, farmers have no option but to sell their assets (principally livestock) or to migrate out to regions with better work opportunities.

### **Technology Risks**

Like most other entrepreneurs, farmers are responsible for all the consequences of their activities. Adoption of new technologies in modernizing agriculture such as in introduction of genetically modified crops causes an increase in producer liability risk.

### **Methods of reducing risk and uncertainty**

The various methods which can be used to reduce risk are discussed hereunder

- 1. Diversification:** Production of two or more commodities on the farm may reduce income variability if all prices and yields are not low or high at the same time.



2. **Stable enterprises:** Irrigation will provide more stable crop yields than dry land farming. Production risk can be reduced by careful selection of the enterprises with low yield variability. This is particularly important in areas of low rainfall and unstable climate.
3. **Crop and livestock insurance:** For phenomena, which can be insured, possible magnitude of loss is lessened through converting the chance of large loss into certain cost.
4. **Flexibility:** Diversification is mainly a method of preventing large losses. Flexibility is a method of preventing the sacrifice of large gains. Flexibility allows for changing plans as time passes, additional information is obtained and ability to predict the future improves.
5. **Spreading sales:** Instead of selling the entire crop output at one time, farmers prefer to sell part of the output at several times during the year. Spreading sales avoids selling all the crop output at the lowest price of the year but also prevents selling at the highest price.
6. **Hedging:** It is a technical procedure that involves trading in a commodity futures contracts through a commodity broker.
7. **Contract sales:** Producers of some specialty crops like gherkins, vegetables often sign a contract with a buyer or processor before planting season. A contract of this type removes the price risk at planting time.
8. **Minimum support price:** The government purchases the farm commodity from the farmers if the market price falls below the support price.
9. **Net worth:** It is the net worth of the business that provides the solvency, liquidity and much of the available credit.

### 1.6.2 Risk management strategies

There is a broad range of tools that can be employed in agriculture to manage risks. Tools for managing risks in agriculture can be split into those that reduce or mitigate risk or those for coping with risks. First, risk reducing strategies are generally preventative



measures aimed at reducing overall risk exposure e.g. vaccination of livestock to promote herd immunity to disease. Second, risk-mitigating strategies allow farmers to lessen the potential effect of remaining risks, such as insurance against disease outbreaks. Finally, risk coping strategies involve measures to assist in dealing with the impacts of risk once an adverse event has occurred e.g. disaster relief payments in the event of a disease outbreak.

**Table 1 Summary of risk management tools in agriculture**

	<b>Farm / household / Community</b>	<b>Market</b>	<b>Government</b>
Risk Reduction	<ul style="list-style-type: none"> <li>▪ Technological choice</li> </ul>	<ul style="list-style-type: none"> <li>▪ Training on risk management</li> </ul>	<ul style="list-style-type: none"> <li>▪ Macro policies</li> <li>▪ Disaster prevention (flood control...)</li> <li>▪ Prevention of diseases</li> </ul>
Risk Mitigation	<ul style="list-style-type: none"> <li>▪ Diversification in production</li> <li>▪ Crop sharing</li> </ul>	<ul style="list-style-type: none"> <li>▪ Futures /options</li> <li>▪ Insurance</li> <li>▪ Vertical Integration</li> <li>▪ Production/ market contract</li> <li>▪ Spread sales</li> <li>▪ Diversified finance</li> <li>▪ Off-farm work</li> </ul>	<ul style="list-style-type: none"> <li>▪ Tax system income smoothing</li> <li>▪ Counter-cyclical Programme</li> <li>▪ Border and other measures in the case of contagious disease outbreak</li> <li>▪ Market-price support (intervention buying, buffer stocks)</li> </ul>
Risk Coping	<ul style="list-style-type: none"> <li>▪ Borrowing from</li> </ul>	<ul style="list-style-type: none"> <li>▪ Selling financial assets</li> </ul>	<ul style="list-style-type: none"> <li>▪ Disaster relief</li> <li>▪ Social assistance</li> </ul>

	neighbours / family ▪ Intra-community charity	▪ Saving / borrowing ▪ Off-farm income	▪ All agricultural support programs
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**Table 2 Types of risk management strategies:**

Informal Mechanism	Formal mechanism	
	Market Based	Publically Provided
<ul style="list-style-type: none"> <li>• Avoiding exposure to risk</li> <li>• Crop diversification and inter-cropping</li> <li>• Plot diversification</li> <li>• Mixed farming</li> <li>• Diversification of income source</li> <li>• Buffer stock accumulation of crops or liquid assets</li> <li>• Adoption of advanced cropping techniques (fertilization, irrigation, resistant varieties)</li> </ul>	<ul style="list-style-type: none"> <li>• Contract farming</li> <li>• Feature contract</li> <li>• Insurance</li> <li>• Credit</li> </ul>	<ul style="list-style-type: none"> <li>• Agricultural extension</li> <li>• Supply of quality seeds, inputs etc</li> <li>• Pest management systems</li> <li>• Infrastructures (roads, dams, irrigation systems)</li> <li>• Rescheduling loans</li> <li>• Agricultural insurance</li> <li>• Supply of fodder</li> </ul>

**1.7 LET'S SUM UP:**

There are many policy challenges for growth of Indian agriculture including both price and non-price factors.

The current major challenges of agriculture in India are:

- (a) Shrinking farm size
- (b) Dry land farming or dependency on monsoon





- (c) Volatility in prices, and
- (d) Environmental stress.

Small farmers are certainly going to remain in India the next decade or more. The main challenges are improving productivity and moving towards high-value agriculture and promote rural non-farm sector by maintaining food security for reducing poverty and hunger. Deficiency in agriculture and rural infrastructure is the biggest problem for agricultural development. There is a need for massive increase in outlays for agriculture and rural infrastructure by simultaneously improving the delivery systems. The government should give large push to core issues like public investment in infrastructure, land and water management, including rain water conservation and watershed development, research and extension, price stabilization, etc. to make cultivation viable and profitable. There is a need to concentrate on delivery systems also. India's large number of farmers and poor can benefit if there are right policies and their effective implementation.

### **1.8 CHECK YOUR PROGRESS**

- 1) Write down the Benefit of value chain management in agriculture?
- 2) Explain the different methods of reducing risk and uncertainty?

### **1.9 SUGGESTED READINGS/ REFERENCES/ LINKS**

1. Chand, R., S.S. Raju, S. Garg, and L.M. Pandey. 2011. Instability and Regional Variation in Indian Agriculture.
2. Chandan Sen Gupta, "Conceptualizing Globalization", Economic and Political Weekly, August, 2001
3. Deshpande, R S and Saroj Arora (Ed.) (2010). Agricultural Crisis and Farmer Suicides. New Delhi.
4. Government of India (Various issues) National Accounts Statistics. Ministry of Statistics and Programme Implementation, New Delhi.



5. Saxena, R. and Chand, R. (2017) Understanding the Recurring Onion Price Crisis: Revelations from Production-Trade-Price Linkages. Policy Paper (Forthcoming) ICAR-National Institute of Agricultural Economics and Policy Research (NIAP), New Delhi.

## UNIT 2

### IMPLEMENTATION MANAGEMENT

#### Highlights of the unit

- Objectives
- Institutional framework
- Mechanism for implementation of planning
- Funding mechanism
- Project sustainability
- States support in project planning
- Sustainability of watershed projects: A study
- Let's Sum up
- Further suggested readings/links

#### 2.0 OBJECTIVES:

- To understand the institutional framework of project planning.
- To understand the role of stakeholders.
- To understand the mechanism of implementation of project planning.
- To analyze the sustainability issues in project planning.

#### 2.1 INSTITUTIONAL FRAMEWORK

Institutional framework refers to a set of organizational structures, laws, rules and regulations, procedures, informal norms for service provision that shape socio-economic activity and behaviors. A well-developed institutional framework is the pre-condition for the implementation of any policy and program. Institutions provide human and technical support to implement the policies by clearly defining their roles and responsibilities to each stakeholders in the structure. Institutional structures vary across the region and type of organization but its primary objective is to pass on the



information and responsibilities. It provides the balance in workload and discipline within the organization.

Agriculture in India has been a subject of government intervention because more than 50 percent of population directly and/or indirectly depends on agriculture. Agriculture is practiced in rural areas, therefore it requires a strong institutional framework for the better implementation of government policies and interventions. For the implementation of technical change in agriculture, a multi-institutional model of organization and management is required. The model of single institution is not enough given the size, diversity and complexity of the agricultural sector (Desai *et al.*, 2011). Lack of coordinated institutional framework lead to the failure of policy. Development of the agricultural extension is the key element in the agricultural development planning. In India, agricultural extension has been delivered by the public sector with line department of state government as its primary engine. An elaborated institutional structure is involved in performing various extension activities from national to village level.

## 2.2 Institutional Framework of Agricultural Extension in India

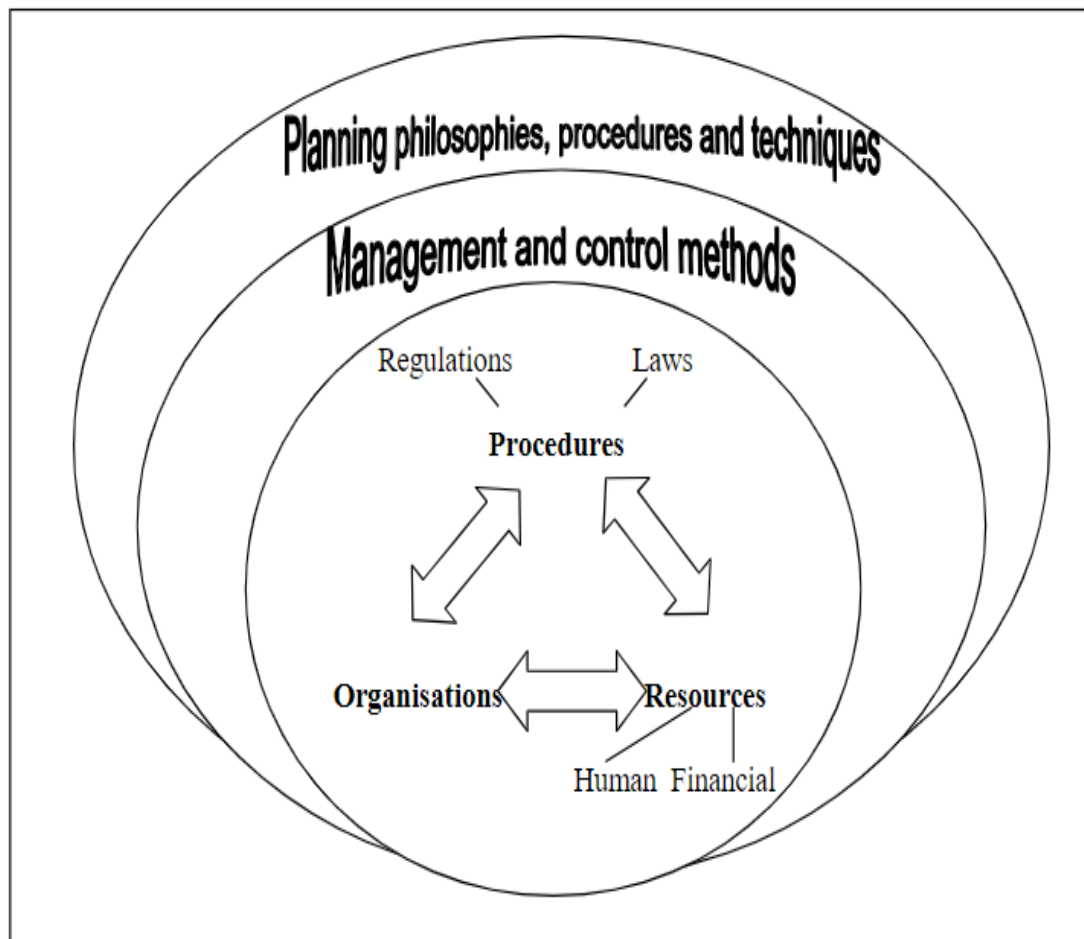
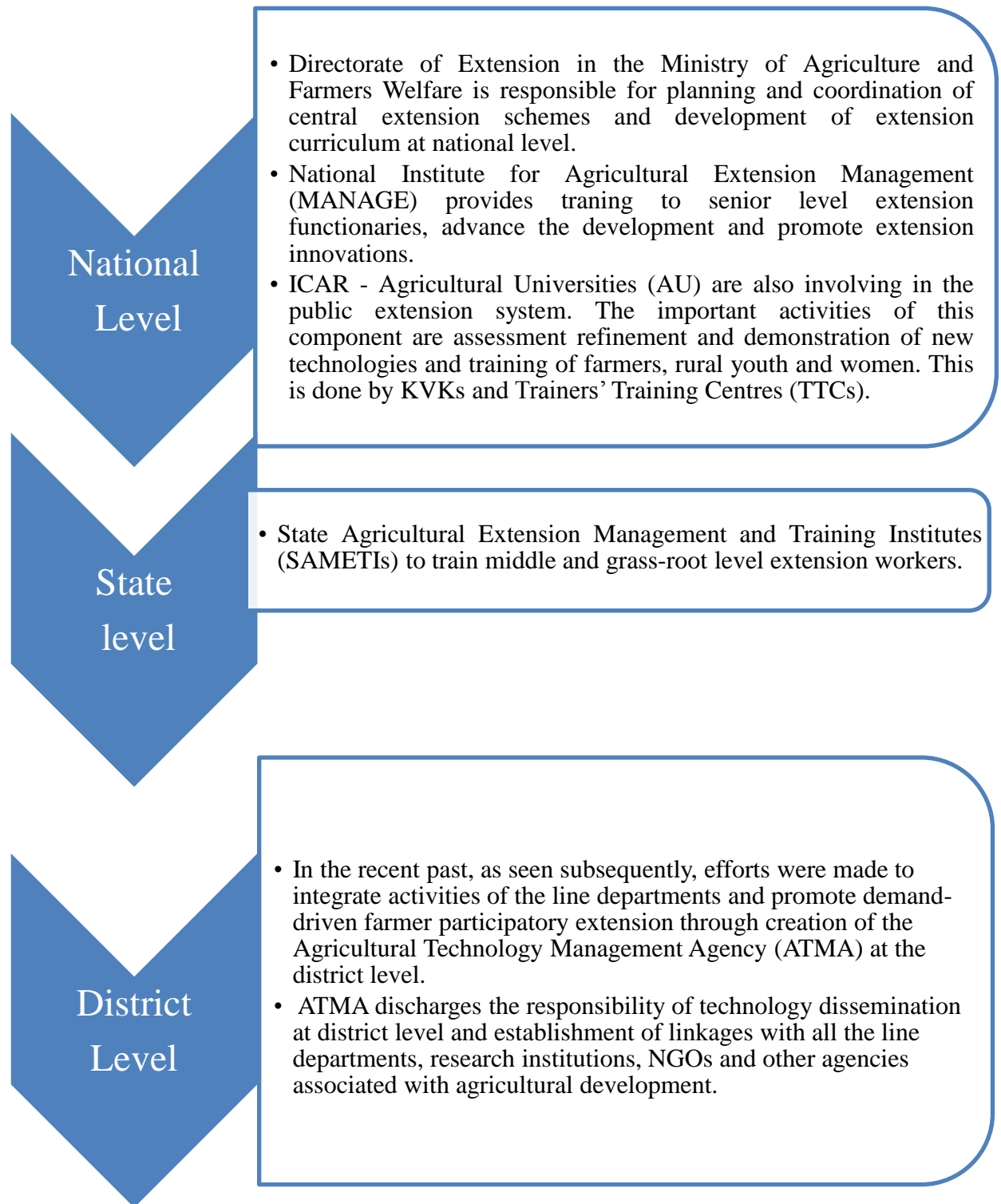


Figure 1: Components of the Institutional Planning Framework. (Adapted from Figure 7.1 of Barat, 1990)





## 2.3 MINISTRIES AND PUBLIC INSTITUTIONS INVOLVED IN THE DEVELOPMENT OF AGRICULTURAL POLICY IN INDIA (SUMMARY)

**Table 5.1 Summary of Ministries and Public Institutions involved in the Development of Agricultural Policy in India**

Subject	Central Ministries, with responsibility for implementing Departments	Selected other implementing institutions
<i>Input and production</i>		
	<ul style="list-style-type: none"> <li>• Min. of Agriculture and Farmers' Welfare</li> <li>• Min. of Water Resources, River Development and Ganga Rejuvenation</li> <li>• Min. of Food Processing Industries</li> <li>• Min. of Power</li> <li>• Min. Chemicals and Fertilizers</li> <li>• Min. of New and Renewable Energy</li> <li>• Min. of Environment, Forest and Climate Change</li> <li>• Central Water Commission</li> <li>• State level counterparts to center level Departments</li> </ul>	<ul style="list-style-type: none"> <li>• Central Water Commission</li> <li>• State level counterparts to center level Departments</li> </ul>
<i>Price</i>		
	<ul style="list-style-type: none"> <li>• Min. of Agriculture and Farmers' Welfare</li> </ul>	<ul style="list-style-type: none"> <li>• Commission for Agricultural Costs and Prices (CACP)</li> </ul>



	<ul style="list-style-type: none"><li>• Min. of Commerce and Industry</li></ul>	<ul style="list-style-type: none"><li>• State level counterparts to center level Departments</li></ul>
<i>Credit</i>		
	<ul style="list-style-type: none"><li>• Min. of Finance Reserve Bank of India</li></ul>	<ul style="list-style-type: none"><li>• National Bank for Agricultural and Rural Development (NABARD)</li></ul>
<i>Marketing, procurement</i>		
	<ul style="list-style-type: none"><li>• Min. of Agriculture and Farmers' Welfare</li><li>• Min. of Food Processing Industries</li><li>• Min. of Consumer Affairs, Food and Public Distribution</li><li>• Min. of Textiles, Agricultural and Processed Food Products</li></ul>	<ul style="list-style-type: none"><li>• Food Corporation of India (FCI)</li><li>• Cotton Corporation of India (CCI)</li><li>• Jute Corporation of India (JCI)</li><li>• NAFED</li><li>• APEDA</li><li>• Central Warehousing Corporation (CWC)</li><li>• National Dairy Development Board (NDDB)</li><li>• Small Farmers' Agri-Business Consortium (SFAC)</li><li>• Commodity boards for various plantation crops</li><li>• Special marketing and processing corporations</li><li>• Agricultural Cooperative Marketing Federations</li></ul>





		<ul style="list-style-type: none"> <li>• Tribal Cooperative Marketing Development Federation</li> <li>• State level counterparts to center level institutions</li> </ul>
<i>Public distribution</i>		
	<ul style="list-style-type: none"> <li>• Min. of Agriculture and Farmers' Welfare Development</li> <li>• Min. of Consumer Affairs, Food and Public Distribution</li> <li>• Min. of Human Resource Development</li> <li>• Min. of Women and Child</li> </ul>	<ul style="list-style-type: none"> <li>• Food Corporation of India (FCI)</li> <li>• NAFED</li> <li>• Central Warehousing Corporation (CWC)</li> <li>• State level counterparts to center level Departments and Institutions</li> </ul>
<i>Trade</i>		
	<ul style="list-style-type: none"> <li>• Min. of Commerce and Industry</li> </ul>	<ul style="list-style-type: none"> <li>• Agricultural and Processed Food Products Export Development Authority (APEDA)</li> <li>• National Agricultural Cooperative Marketing Federation of India Ltd. (NAFED)</li> <li>• Commodity boards</li> <li>• Agri-export zones (AEZ)</li> </ul>



		<ul style="list-style-type: none"> <li>• Food Safety and Standards Authority of India (FSSAI)</li> </ul>
<i>Research, education, extension</i>		
	<ul style="list-style-type: none"> <li>• Min. of Agriculture and Farmers' Welfare</li> </ul>	<ul style="list-style-type: none"> <li>• Indian Council of Agricultural Research (ICAR)</li> <li>• Veterinary Council of India</li> <li>• Indian Council of Forest Research</li> <li>• Central and deemed agricultural universities</li> <li>• Indian Institute of Management (IIM)</li> <li>• Agribusiness management institutes</li> <li>• State level counterparts, e.g. State Agricultural Universities (SAU), Krishi Vigyan Kendras (KVK), agricultural science centres), Krishi Gyan Kendra (KGK, agricultural knowledge centres)</li> </ul>

Source: Elaborated from Arora (2013).

## 2.4 INVOLVEMENT OF STAKEHOLDERS FOR INSTITUTIONAL FRAMEWORK

### 2.4.1 Major Actors in Institutional Framework

A comprehensive institutional framework is required for successful implementation of agricultural planning from national to local level, which needs a number of stakeholders

or actors in term of organization and individuals such as Service providers, Regulatory and enforcement bodies, Financial institutions, Civil Society Institutions (CSIs), Non-Governmental organizations (NGOs), Farmers Producer Organizations (FPOs), Community-Based Organizations (CBOs). To achieve desired outcome, involvement of all stakeholders with full commitment throughout all the stage of planning, monitoring, evaluating, learning and improving is essential.

#### 2.4.2 Stakeholder analysis

Stakeholder analysis is done to examine values, interest, potential risks, opportunities and goal of the stakeholders for achieving smooth and transparent dialog between the parties. It also confirms the existing pattern of communication between the stakeholders. SHA helps in understanding the distributional, social and political impact of the planning and policies thus works as a conflict resolution technique.

Various tools have been used to examine the type of stakeholders their extent of involvement at various stages of management such as planning, implementation, monitoring, and evaluation. These tools are:

- Basic consultation.
- Focus group discussion (FGD).
- Workshop for complex project or program.

#### Type of Stakeholders in term of involvement

- **Primary stakeholders:** Primary stakeholders are those which are ultimately affected and have direct interest in the policies.
- **Secondary stakeholders:** Secondary stakeholders do have any direct interest in the policies and planning but they are concern with the way of resources management and utilization.

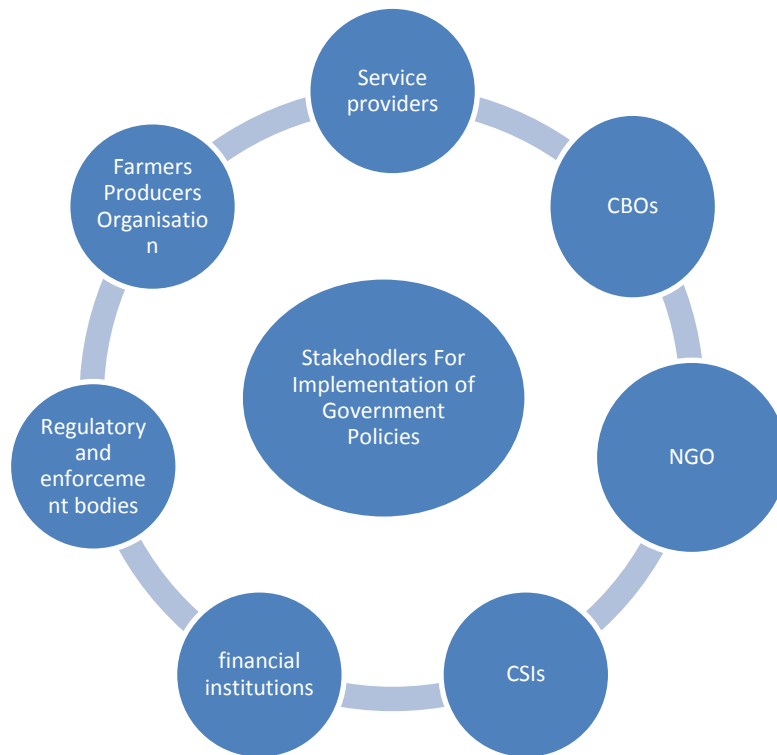


- **Key stakeholders:** They influence the policies and planning and are important for the successful completion of programs.

### 2.4.3 Type of Stakeholders based on involvement in activity

There are different type of stakeholders involved in agricultural planning based on level of involvement. They are:

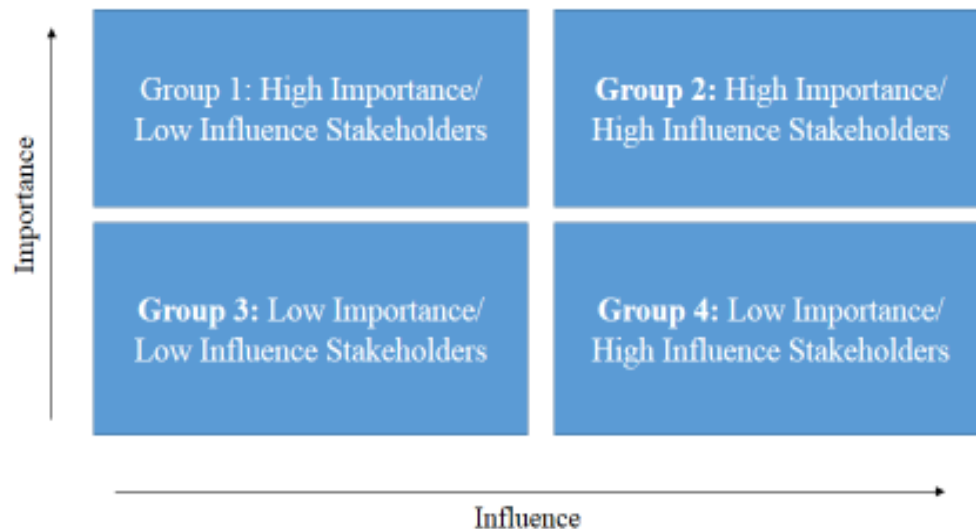
- **Observers:** They are not actively involved, but scrutinize the policy assessment process and play an active role in finding any surprising information during the assessment. But they do not provide complete information.
- **Listeners:** Listeners are those stakeholders that are informed but they do not actively participated in the policies and project.
- **Reviewers:** They are actively involved in the policy and project assessment and provides the ideas and materials.
- **Advisors:** They are willing to be involved in policy making and implementation and contribute their own energy and time.
- **Originators:** They are much involved stakeholders in the policy and planning and create options.
- **Decision-makers:** These type of stakeholders are involved in the voting when some control decision are made.



**Figure 1. Stakeholders for implementing the government planning and policies**



Figure 2: Stakeholders in implementation of the DAESI program



Source: UNDP (2009) HANDBOOK ON PLANNING, MONITORING AND EVALUATING FOR DEVELOPMENT RESULTS

Figure 3 Stakeholder importance and influence matrix

**A** - Stakeholders of high importance to the project, but with low influence. Special initiatives are required to protect their interests.

**B** - Stakeholders appear to have high influence and appear to have high importance for success of the project. Construct good working relationship with them.

**C** - Stakeholders of high influence, can therefore affect project output, but their interests are not the target of the project. Source of significant risk, need careful monitoring and management.

**D** - Stakeholders with low influence and are important to project objectives. They are unlikely to be the subject of project activities and management. Require limited monitoring / evaluation.

## 2.5 MECHANISM FOR IMPLEMENTATION OF PLANNING

Implementation of any policy and plan is the actual realization of the policy at grass root level. Implementation strategy includes restructuring the existing and creating



the new organizations which deal with the different genuine issues with the implementation of policy and planning (Alexander, 1995, 1998). According to Fullan (2001, p 69) “implementation consists of the process of putting into practice an idea, program or set of activities and structures new to the people attempting or expected to change”. Weak and ineffective implementation mechanism is the major reason for failure of any agricultural policies or plan. Hence effective implementation has to be guided by the clear vision that government actually framed. Agricultural schemes are implemented in dynamic and complex transitional environment. Therefore, planning is at risk of failure due to changing environment. Such situation requires flexibility to shift in planning and implementation as per the local level conditions with altering the vision of the planning. The implementation strategies of planning are documented in structured coordinated action plan so that the senior officials, decision makers and local level actors can easily identify the steps that are necessary to achieve the vision of policy and planning and prioritize the actions for implementation. Successful implementation depends on many factors, such as government playing a leading role, a relatively stable security and political situation, and transparent decision-making and adequate flow of information among stakeholders. Other factors that have considerable importance in implementation includes joint linkages and implementation with partners, institutional arrangements, strengthening community-based approaches, a sound staffing strategy, measures to build/strengthen capacities, and clarity in the roles of partners.

Past experience reveals that poor project formulation due to inadequate field investigation, lack of adequate data, inadequate analysis of environmental and rehabilitation implications, changes in prices and exchange rate regimes, etc. are the major causes of delay in project and program completion. In addition, sometimes delays in clearance from different regulatory authorities in land acquisition, poor coordination among involving agencies and untimely procurement of materials are potential reason for time overruns. Many time management issues such as such as

personnel, labour and contractor disputes, mismatch of equipment, inadequate and untimely release of funds are leading to ineffective implementation of project or program.

Once the strength, weakness, opportunity and threat (SWOT) analysis of any planning is carried out, then the strategy for implementation of planning will be prepared. A typical implementation plan consists of detailed document of instructions, diagram and charts.

It contains the following components.

- A detailed description about the project and plan
- Mission, vision, goal and objectives, and detailed implications of the plan
- Resource availability in terms of budget, staff, infrastructure and other facilities
- Scheduling of the project
- Description of action taking authorities
- Flow of plan implementation
- How the planning will be managed
- Hierarchical arrangement for reporting and review
- The evaluation plan to measure success rate
- Alternate and contingency plans

Maund, Gajendran and Brewer (2018) summarize the 10 preconditions to perfect policy implementation:

**Table 5.1 Ten Preconditions to perfect policy implementation**

S. No.	Precondition	Explanation
1	Precondition 1	External constraints do not impact the implementing agency
2	Precondition 2	Time and sufficient resources are available





3	Precondition 3	Combination of resources is available
4	Precondition 4	Policy is based upon a valid theory of cause and effect
5	Precondition 5	Cause and effect relationship is direct with minimal intervening link
6	Precondition 6	There are minimal dependency relationships
7	Precondition 7	Objectives are understood and agreed upon
8	Precondition 8	Tasks are specified in correct sequence
9	Precondition 9	Communication and co-ordination is perfect
10	Precondition 10	Authorities are able to obtain perfect compliance
11	Precondition 11	Specialist knowledge and understanding
12	Precondition 12	Professional belief
13	Precondition 13	Organizational position
14	Precondition 14	Policy operationalization

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For effective implementation of planning, component of policies and strategies which are going to impact the agriculture sector planning outcomes are listed below.

- Macroeconomic
- Trade
- Intellectual property
- Price
- Regulatory environment
- Competition
- Banking and credit
- Environment
- Power
- Water
- Transport
- Telecommunications
- Health



- Research
- Education/training
- Land
- Labour
- Law and Justice

However based on the dynamic nature of the policy environment, the listing should be regularly reviewed and updated.

Listing of the components will be helpful to identify the key policy areas that require more focus for understanding the conditions that hamper the successful implementation of agricultural planning. It also facilitates the identification of the responsible agencies with which main implementing agency should dialogue to realize the policy at ground level. Implementation of the agricultural planning will be achieved through adoption of sector-wise approach. For successful implementation of agricultural planning, roles and responsibilities of the concerned ministry involved in policy and planning should be clear. Legislation, regulation and other support services required for implementation of plan should be known to the concerned authority, institution and ministries.

## **2.6 FUNDING MECHANISM**

Fund allocation mechanism for implementation of planning and policy should be single. Sometimes multi-funding sources inevitably make implementation more difficult to manage. In agriculture sector planning implementation, a big challenge is to ensure fund distribution at local level. Due to implementation at the interior and rural level, smooth fund availability at the end point is issue of concern in the context of agriculture program. Many times poor delivery mechanism of fund makes a severe impact on the implementation of program at local level. Budgeting for program, rules and clear expenditure framework, monitoring and reporting of fund, and procurement system should be known to each stakeholder and actors for effective and transparent implementation of policy and planning.



## **2.7 PROJECT SUSTAINABILITY**

The capacity of a project should ensure continuous delivery of its intended benefits over a long period of time. It is the capacity to endure the long-term maintenance of responsibility which has environmental, economic, and social dimensions, and includes the concept of stewardship and responsible management of resource. Sustainability practice has become a means to monitor, evaluate, and benchmark how we manage resources, measure environmental impacts, and evaluate whether we are living within or beyond our means and that of future generations. The planning profession is well suited to advance sustainability policies and practices to ensure the future viability of our planet and all its diverse communities.

### **2.7.1 Defining Sustainability**

The sustainable development is about improving the quality of people's lives while living within the capacities of supporting natural and human systems.

### **2.7.2 Importance of project Sustainability**

The concept of Project sustainability has been taking major role in the management of projects, programs, institutions, organizations, people, and other things required for effective and efficient production, marketing, distribution, and the delivery products and services. Generally, for projects to be sustained, certain metrics and standards need to be set from project identification through feasibility studies, formulation, design, appraisal, funding, implementation, monitoring, and evaluation. It is a proven fact that most projects are failing due to lack of an appropriate sustainability plan. Hence it is very important to analyze social, economic, legal, cultural, educational, and political environments comprehensively for effective implementation of projects and programs. In addition to that All the stakeholders and actors' involvement in the project preparation and implementation. The project philosophy, mission, vision, values, goals, and objectives should be fully expressed in a concrete form. Beneficiary assessment, legal and



regulatory framework studies, marketing and competition analysis, partnership development and institutional analysis help in the effective and efficient implementation.

### **2.7.3 Challenges to project sustainability**

Approach of the planners has dramatically shifted towards sustainability. At the community level, there is a need to respond address the adverse impact of climate change. This has largely been driven by the scientific studies produced by the Inter-governmental Panel on Climate Change (IPCC). Climatic events such as cyclone and drought particularly in South India have been effective in raising awareness of the issues. The impacts of exponential population growth, resource consumption, and loss of place will require a range of physical infrastructures to support urban living, including energy, transport, water, waste, communications, and buildings.

It has been realized that there is a need to further diversify the energy portfolio with increasingly affordable renewable sources of energy (wind, solar, and hydro) at variety scales. There is growing concern and debate about the environmental risks associated with resource extraction technologies, such as hydraulic fracturing; deep water oil drilling; and the hazards associated with transmission of volatile product over long distances. In the view of these uses, in the future, sustainability will play a key role in responding to and planning for these trends. As planners, we should have knowledge of these trends to take a rational decisions that implement sustainable development in our communities.

### **2.7.4 Approach to sustainability**

Sustainability has become a common objective for many communities, but actions to achieve the objectives are substantially different among small towns, large cities, rural, sub-urban, and urban areas. For example, for a rural community, this could specifically mean protecting farmland. However, in a sub-urban or urban community with no farmland to protect, this goal could be accomplished through promoting farmer's markets, urban farming/agriculture which includes terrace gardening and community gardening. Taken to a regional scale, this means that both rural, sub-urban, and urban



communities should care about land preservation, urban farming and farmer's markets. However, the approach of working towards sustainability is similar.

Steps involved in approaching the sustainability are as follows:

- First step should be an appraisal of the existing natural, built environment and socio-economic systems of the community. It will help to make an understanding of the strengths, gaps, and obstacles.
- The second step is to recognize the desired goals.
- At the final steps, community will need to prepare a detail action plan to achieve these goals.
- Communities should also evaluate that whether strategic regional partnerships would be more effective than an isolated local initiative.

### **2.7.5 Indicators of Project Sustainability**

#### **A. Continued Delivery of Services and Production of Benefits.**

A-1 Comparison of actual and intended benefits and services and their stability over time.

A-2 Efficiency of service delivery

A-3 Quality of services (benefits)

A-4 Distribution of benefits among different economic and social groups

A-5 Satisfaction of beneficiaries

#### **B. Maintenance of Physical Infrastructure**

B-1 Condition of physical infrastructure

B-2 Condition of plant and equipment

B-3 Adequacy of maintenance procedures

B-4 Efficiency of cost-recovery and adequacy of operating budget

B-5 Beneficiary involvement in maintenance procedures

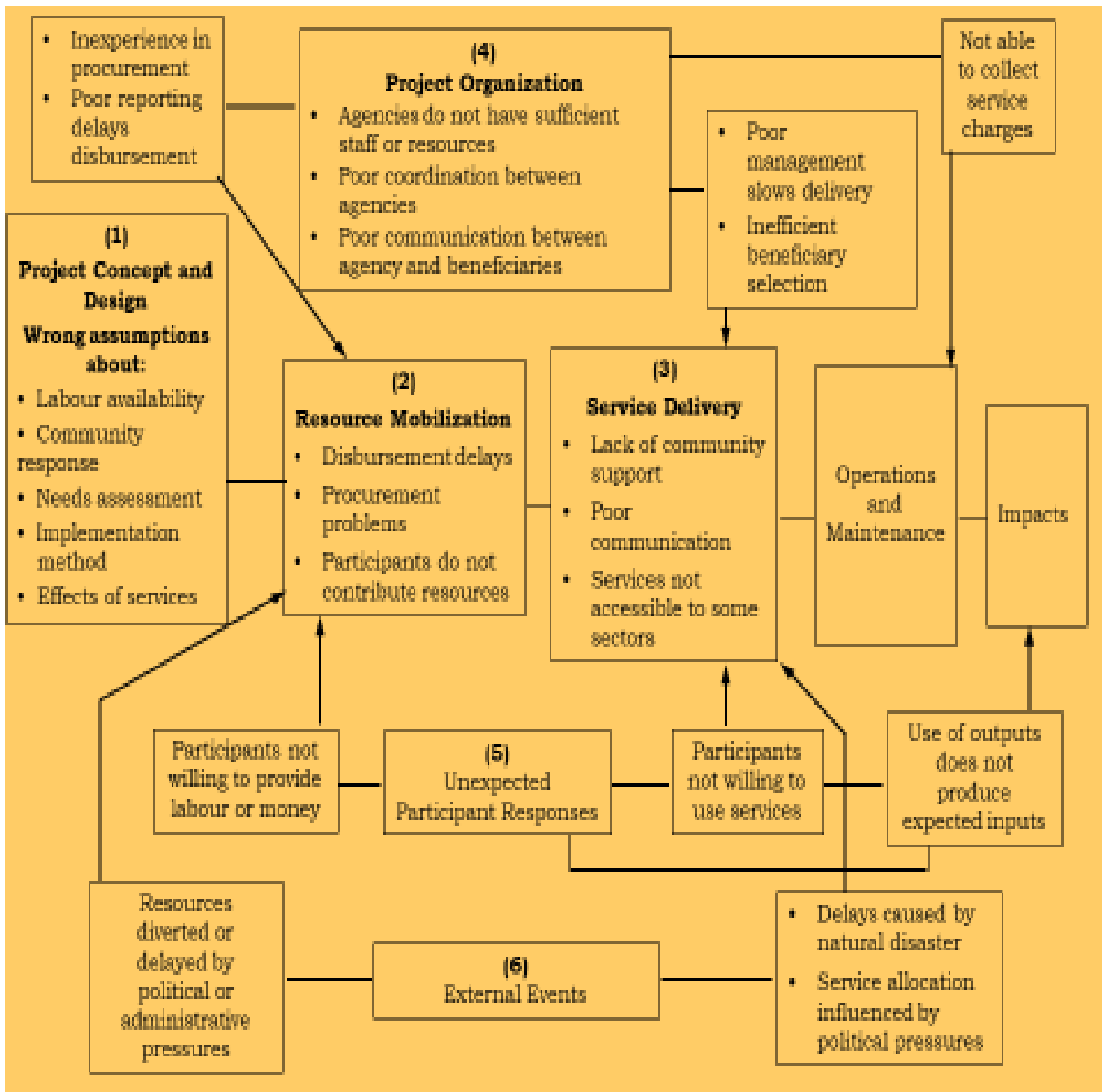


**C. Long-Term Institutional Capacity**

- C-1 Capacity and mandate of the principal operating agencies.
- C-2 Stability of staff and budget of operational agency
- C-3 Adequacy of interagency coordination
- C-4 Adequacy of coordination with community organizations and beneficiaries.
- C-5 Flexibility and capacity to adapt project design and operation to changing circumstances

**D. Political Support**

- D-1 Strength and stability of support from international agencies.
- D-2 Strength and stability of support from the national government.
- D-3 Strength and stability of support from state and local government agencies.
- D-4 Strength and stability of support at the community level.
- D-5 Extent to which the project has been able to build a broad base of support and to avoid becoming politically controversial



### 2.7.6 Policy Implications of Sustainability

- ❖ Politics of Sustainability
- ❖ Broadening the Range of Stakeholders
- ❖ New approaches to programme finance
- ❖ Project sustainability and Decentralization
- ❖ Role of Donor Agencies
- ❖ Institutional Development of the Project at National and Local Levels



### **5.7.7 Implications of Sustainability for Project Design and Implementation**

- ❖ Broadening the scope of Project Preparation and Analysis
- ❖ Selection of Agencies responsible for Project Implementation and Operation
- ❖ Improving interagency coordination
- ❖ Strengthening the role of Community Organization and Project Monitoring and Evaluation

### **2.8 STATES SUPPORT IN PROJECT PLANNING:**

State directives serve as a catalyst for local project planning to adopt sustainability principle. It provides information and financial resources for the planning process. States can specify local plan content and attention dedicated to specific plan elements through minimum standards that affect principles of sustainability. These minimum standard and mandates can guarantee that sustainability-related policies are placed on the local political agenda. Healey and Shaw (1993) also suggested that successful adoption of a sustainable development planning paradigm requires the support of the local community. Therefore, presence of a state-level planning mandate should positively support sustainable development of plans.

### **2.9 SUSTAINABILITY OF WATERSHED PROJECTS: A STUDY**

The sustainable development of land and water resources in rain-fed areas is considered to be a pre-requisite for an overall development of agriculture. For this purpose, watershed based approach provides an appropriate framework for integration of different components. Watershed program has been receiving adequate attention in our country since last three decades. Sustainable development in watershed areas requires participatory approach with sufficient flexibility in operational modalities. The new approach requires simultaneous attention on many aspects, which are not so essential in conventional top down approach. This consisted of organization of community into a new institutional set up at the village level; blending of indigenous technical knowledge with exogenous scientific knowledge; focus on technological options rather than limited number of standardized technologies; equity for resource poor families; enhancement of





stake of people in the program through contributory approach; implementation of works by people themselves rather than by contractors; decentralization in decision making process; etc. Field studies have shown that although there is a considerable improvement in the degree of sustainability, the ultimate goal is still elusive despite use of the above mechanisms and instruments.

In addition to the assessment of status of sustainability, an attempt has been made to explore the working of operational aspects of various interventions and related problems and constraints. For this purpose the functionaries of the projects and the office bearers of community-based organizations were interviewed through structured schedule. Their views were gathered on the extent of performance, and suggestions/proposals for improvement of the operational mechanisms. The total numbers of respondents from each state were seventy-five.

The major interventions studied can largely be grouped under the following four components namely:

- (i) Organization of community;
- (ii) Development of natural resource;
- (iii) Development of livelihoods; and
- (iv) Management of common fund.

Details about strong and weak processes associated with major interventions under each component and proposed strategies and processes for improvement are discussed below.

### **2.10 Organization of community and Para workers**

The study revealed that by and large sustainability has been consistently high in two interventions namely women SHGs and book writers. In case of six interventions (namely organization of men SHGs, organization of Village Level Federation, federation of Village Level Federations, cattle breeders association, Para worker (for livestock as well as horticulture), the sustainability has been fluctuating from watershed to watershed. The

sustainability of user groups has been consistently low across watersheds. Based upon the analysis of different variables, the following specific sets of processes are identified which may help in achieving high sustainability of various community based organizations as well as Para-workers.

**(a) Self Help Groups (SHGs):**

The SHGs of women have shown consistently high sustainability due to intensive efforts regarding institutional building by adopting credit and thrift as one of the critical agendas. This has been done with the help of locally available book writers. Besides this adequate attention has been paid towards adoption of income generation activities through revolving fund and/or bank loan; monitoring of SHGs regarding maturity on a regular basis, follow up nurturing of groups through Village Level Federation, etc. The experience has further shown that consistency in sustainability of men SHGs could also be enhanced wherever above (women SHG) cluster of processes have been followed.

**(b) User groups (UGs):**

The user groups have shown consistently low level of sustainability across watersheds. Most of processes associated with UGs have received inadequate attention. This particularly refers to low attention towards four critical processes namely

- (i) Capacity building for carrying out UG specific functions;
- (ii) Structural aspect;
- (iii) Financial sustainability,
- (iv) Allocation of user rights and
- (v) Follow-up on nurturing of UGs.

Based upon limited success in the projects as well as elsewhere, the following specific suggestions are made for improving sustainability of UGs:

- (i) Improving the structure of UGs by either organizing them as SHGs or encouraging their members to join different SHGs,
- (ii) Improving the financial sustainability of UGs by either collecting user charges on regular basis or generating income through alternate source,
- (iii) Providing follow-up support through federation of UGs at village level,



- (iv) Improving the functioning through adequate investment on capacity building with regard to specific functions to be performed by UGs,
- (v) Establishing norms for management and sustainability of UGs, and
- (vi) Developing memorandum of understanding between Panchayat/ village level federations and UGs.

**(c) Village Level Federations (VLF):**

High consistency in sustainability of VLF has been observed in situations where the following three critical processes were adopted. Adequate investment on capacity building of VLF to perform its critical functions namely planning and implementation of developmental works, management of fund; review and monitoring of progress, etc. Improving the structural aspect of VLF at least towards end of the project period which could be done by having membership in its executive committee from only mature SHGs (of women as well as men), providing space to women as key office bearers of the committee on rotation basis; federation of VLFs at cluster level, etc. Improving its financial sustainability through proper management of common fund; linkage with bank; adoption of community oriented income generation activity, etc.

**(d) Cattle Breeders Association (CBA)**

Sustainability of CBA has been fluctuating from watershed to watershed. Best results have however been obtained where the following processes were adopted.

- Improving the financial sustainability through
  - (i) gradual enhancement in rate of artificial insemination per animal and also increasing the total number of animals through enhancement in its area of jurisdiction,
  - (ii) Utilization of its common fund as revolving loan as well as linkage with bank on service charge basis. Reforming the structure of its executive committee (by restricting membership to representatives from mature SHGs and providing space to women representatives as office bearers) on rotation basis.

- Enlarging the scope of CBA to carry out not only breed improvement activity but also management of diseases and ailments, provision of feed through bulk procurement, etc. This may be done not only for cattle but also for livestock by converting the CBA into livestock development association (LDA).
- Capacity building of its executive committee on job specific aspects such as management of artificial insemination center, health care through Para workers, linkage with developmental departments, management of office records, etc.
- Decentralization of institutional set-up by organizing either a separate village level CBA or by constituting a sub-committee (for livestock) within the framework of existing VLF.

**(e) Para workers**

Among various Para workers, book writers (who are meant for organizing community into groups/management bodies) have been found to be consistently sustainable. The sustainability of other Para workers (for livestock as well as horticulture) has been varying across watersheds. Best results for above Para workers were obtained where preference was given to nominate those persons who are willing to take it as a part-time work at village level, have a right attitude towards this aspect as reflected by their earlier interest in this aspect, etc., rather than nominating people purely on the basis of academic qualification. Also sustainability of Para workers was further enhanced where follow up nurturing was done by involving them during project period for providing specific services (on charge basis to be paid by the community in a tapering manner).

**Management of Common Fund**

Sustainability of common fund was consistently high in situations where it was given to Village Level Federations as a grant, which in turn has utilized it as a revolving loan to mature SHGs. This has not only helped in proper recovery of amount but also in enhancing the financial sustainability of VLF. Besides this, it has become an incentive for leftover members of the community to get organized in SHGs so that in future they would also have an access to the above fund. Likewise it has also helped the immature groups

to become mature due to the expectation of above incentive.

On the other hand, low level of sustainability was observed in situations where the common fund was received as a grant by VLF, which in turn has utilized it as a loan to individual members (outside the SHGs). Likewise its sustainability was low where it was given as one time grant (even on contributory basis) to unorganized members of the community.

### **Development of Natural Resources in Common Land**

Three interventions have shown high fluctuations in sustainability across watersheds namely

- (i) Construction of community oriented water harvesting structures,
- (ii) Construction of community hall, and
- (iii) Development of composite nursery in government land.

The remaining three interventions namely

- (i) Seeding of improved grasses;
- (ii) Plantation of forestry species and,
- (iii) Adoption of gully control measures have shown consistently low sustainability.

#### **(a) Water Harvesting Structure**

By and large community oriented water harvesting structures have been functioning properly in majority of watersheds under the project. This has happened essentially due to good quality of design and construction of structures. Other strong processes associated with WHSs are as follows.

- Adoption of participatory planning process with decision making regarding initiation of proposal, choice of technological options as well as location of structures.
- Payment of genuine contribution by actual users associated with the structure.
- Due emphasis on a wide range of WHSs based on indigenous as well as exogenous technical knowledge.

### **(b) Biomass development**

As indicated above, consistently sustainable results have been obtained with regard to natural regeneration of biomass. This has happened essentially due to adoption of social fencing approach by the entire community. Likewise plantation of high value horticultural crop has also shown sustainable results. This has happened essential in high rainfall areas and also because there was an informal understanding about usufruct allocation to each member of the user group. By and large these users were informally associated with the common land in the past; hence resistance from other community members towards assumption of above right by the user group members was not observed.

### **Development of natural resources in private land**

Of the major interventions made regarding development of natural resource in private land, two have shown consistently sustainable results namely;

- (i) Construction of earthen / stone bunds and
- (ii) Farm ponds.

Two interventions have shown fluctuation in sustainability namely;

- (i) Gully control measures and
- (ii) Plantation of horticulture under rain-fed condition.

High sustainability of earthen bund/stone bund was essentially due to adoption of indigenous system of bunds which were located on field boundaries across the major slope. Other processes, which led to sustainability, were

- (i) Adoption of demand-driven planning,
- (ii) Payment of genuine contribution by actual users,
- (iii) Flexibility in ridge to valley approach, and
- (iv) Better quality of design and construction.

Construction of low cost water harvesting structure had also been found to be highly sustainable.

Main processes, which led to sustainability were

- (i) Due emphasis on a wide range of WHSs based upon indigenous as well as exogenous

technical knowledge,

- (ii) Timely repair and maintenance by concerned farmers, and
- (iii) Due emphasis on meeting multiple needs of the community namely irrigation for crops, drinking water for human beings as well as for livestock, etc.

### **Development of land based livelihoods**

Under this component three types of major practices were selected namely;

- (i) Production of vermi-compost at village level,
- (ii) Integrated pest management, and
- (iii) Use of micronutrients have shown high sustainability.

Production of vermi-compost at village level has shown fluctuation in sustainability across watersheds. The rest of the interventions have shown either higher sustainability or at least tendency towards high sustainability in a consistent manner.

### **Development of livestock based livelihoods**

Under this component, four critical interventions were made for improving the production of livestock. Two out of the four interventions have shown high degree of sustainability namely;

- (i) Breed improvement through artificial insemination in cows and buffaloes and
- (ii) Health care in livestock through health camps and follow-up support by Para workers (on charge basis).

Besides this two interventions have shown fluctuation in sustainability namely

- (i) Breed improvement in small ruminants through community managed natural insemination in small ruminants particularly goats and
- (ii) Improved management of poultry in small units.

The sustainability of healthcare has been achieved essentially by the follow-up support of Para worker (livestock) on charge basis. Other processes, which were helpful in improving sustainability in milch animals, were as follows:

- Organization of cattle breeder association (at cluster of village level) to provide institutional set-up for the above purpose. The above CBA later was refined into livestock development association. Its executive committee was also refined by having representatives from only SHGs. This CBA was further decentralized in such a way that a separate livestock development association needed to be organized in each village or a sub-committee (livestock) could be constituted as a part of the existing Village Level Federation.
- Improved financial sustainability of above CBA through enhancing the contribution by farmers on insemination per animal and also enlarging the jurisdiction to serve more number of animals per center.

### **Development of non-land based livelihoods**

Two types of interventions have been made under this component namely:

- (i) Individual oriented livelihoods and
- (ii) Community oriented livelihoods.

Individual oriented livelihoods have been implemented in two different ways:

- (i) Providing project fund to those individuals who were organized in SHGs, and
- (ii) Providing project fund to those individuals who were not yet organized in the SHGs.

Individual oriented enterprises through SHGs like goat rearing and sheep rearing have shown highly sustainable results. Similarly, individual oriented enterprises on individual basis have also been found to be very successful. The systems of providing revolving fund to SHGs as loan through VDCs on rotation basis have shown highly sustainable results.

### **Monitoring to sustainability in early stages:**

During the project period, major emphasis was usually given to monitoring only the physical and financial progress. Hardly any attention was paid towards monitoring participatory processes related to overall management of the project. Field studies have shown that low sustainability after the project period has been essentially due to lack of





adoption of participatory 'processes' during the project. It was also recognized that different stakeholders did not adopt proposed processes because these were monitored only periodically. Post-project sustainability in the watershed program need not be assessed after completion of the project. With increasing understanding about process as involved in participatory management of the watershed program, it is now possible to measure sustainability even during the early stages.

The guidelines make provision for withdrawal strategies for sustainability of watersheds. There are some critical deficiencies in both in conceptual and operational aspects. In projects maintaining created assets cannot ensure project sustainability, it also requires the envisioning of the community at large and the various village level institutions formed in their specific areas of present and potential functions to be able to address new and emerging concerns of development in the post project scenario. New roles need to be accepted, new capacities development for planning, implementation and monitoring. And what is critically important is that the VLIs and the community have to additionally accept not only the role of project managers but also resource Mobilizer and roles that they have to perform during post-project period.

It is suggested that a project consolidation period be specially built into the program design during which time concerns and issues of withdrawal would be addressed for sustainability of watersheds.

The consolidation period should focus on the following activities:

- i) Facilitate envisioning of the community and the village level institutions to prepare them for their new role in planning, mobilizing resources and managing projects/ interventions that would address the new and emerging concerns of development in the villages in the post project scenario.
- ii) Institutional strengthening and capacity building of the various village level institutions and the development of a Community Based Management System.
- iii) Facilitate the transfer of assets and entitlement rights to beneficiary groups over



project assets established on common lands and of community assets established on private lands.

### **Integration of Social Resources management with natural resource management**

Under the watershed programs, heavy emphasis is laid on both social resource development and natural resource development. However, both of these components are developed independently of one another. Towards the end of the project, they remain “stand alone” outputs without any significant bearing on each other. This is one of the reasons why sustainability of natural resource development is low in spite of adequate investment on social resource development. Integration of both these components shall lead to demand-driven planning, implementation of works without contractors and genuine contribution from the community. It will also facilitate self-monitoring of the program, which is a crucial requirement for proper empowerment of community-based organizations (CBO), finally this leads to the management of farm resources through available social resources.

### **Convergence of Activities of Different Departments / Agencies**

Field experience has shown that such a convergence can be achieved effectively if there is a mature SHG, UG and management body of these groups (WC) to provide a platform for convergence of schemes / activities of different development departments. Hence the above groups under the watershed program may be utilized for convergence of individual oriented as well as community-oriented schemes available with the departments. Regular inter-face of extension functionaries of line departments with the watershed community during implementation phase will ensure convergence and permanent linkages.

### **Linkages with credit institutions**

During the project lifetime the PIA and WDT will work to develop linkages with the credit institutions such as the Regional Rural Banks, cooperative Banks, etc. The credit requirements of the watershed should get reflected in the District credit plan. Linkage with credit institutions should be facilitated during the initial years of the project, soon



after the SHG/UG has started operating their own credit and thrift activities successfully.

### **Capacity building of different stakeholders**

Considerable focus need to be given on to build the capacity of village level institutions particularly SHGs, UGs, watershed committee, etc., on group development, management process, watershed planning, implementation, conflict resolution, monitoring, evaluation, Post-project sustainability, withdrawal strategy etc., starting from the beginning of the project, to develop their own vision about the watershed project.

### **Develop exit strategy from the beginning of the project:**

While preparing the detailed Action Plan/Treatment Plan, the Gram Sabha / Gram Panchayat, under the technical guidance of WDT, shall evolve proper Exit Protocol for the watershed development project. The Exit Protocol shall specify a mechanism for maintenance of assets created, augmentation including levy and collection of user charges, utilization of the Watershed Development Fund etc. Mechanism for equitable distribution and sustainability of benefits accrued under the watershed development project should also be clearly spelt out in the Exit Protocol. While approving the Action Plan for the watershed, the ZP/District Watershed Development Agency should ensure that the detailed mechanism for such Exit Protocol forms part of the Action Plan/Treatment Plan.

The ZP/ District Watershed Development Agency in consultation with the State Government will evolve proper exit protocol for the watershed development projects. It will endeavor to motivate Panchayats to take over the assets created in the completed watershed development projects for the purpose of operation and maintenance, The watershed projects should generally be managed by the respective Watershed Associations/Watershed Committees under the overall supervisions of the Gram Panchayat after the project period is over and after the external supporting agencies have withdrawn. Mechanism of such Exit Protocol should explicitly form part of the watershed development Plan. The District Watershed Development Agency/ ZP should ensure to

include the details of the exit protocol in the watershed development plan. A locally acceptable, proper mechanism for utilization of watershed development funds for post project maintenance and its regular augmentation should be specified. Equity and sustainability of the benefits of the assets created under the watershed development plan should be clearly spelt out by the PIA before it exits from the area.

**Withdrawal Strategy:**

Withdrawal is not a separate strategy, but the drawing together of a range of crosscutting issues. The withdrawal strategy will focus heavily on Institutional sustainability, convergence and related capacity building activities and on the most vulnerable people in the watersheds, which should focus on reaching marginalized groups. Finally, it needs some institutional arrangements for the maintenance and future management of natural resources. Some withdrawal strategies to be followed for sustainability of watershed programme are:

- Adoption of role transfers strategy from early stages of the project by having a proper balance between 'hand holding' and 'hand leaving' approach on a continuous basis.
- Focusing on sustainable development of CBOs so that feasibility of withdrawal could be enhanced.
- Systematic monitoring of sustainability of interventions as well as project management processes from early stages of the project.
- Separation of consolidation phase from main implementation phase. This may help in avoiding abrupt discontinuation of support services from P/As; and also giving due attention to address issues related to sustainability of interventions and building the capacity of community based organizations for carrying out new roles during post project period, etc.

**Proper management of withdrawal strategy:**

Under the participatory approach, people are supposed to take over the entire project management responsibility (namely, planning, implementation, monitoring, etc.). The



role of outsiders is facilitation. Although the intention is genuine, in reality the community is not able to assume the required responsibility, especially in the initial stages. Hence outsider should initially work like a PIA through active collaboration with the CBO, but make conscious efforts to gradually change the role in such a way that it becomes a Project Facilitating Agency (PFA). In fact, it would be appropriate if gradual change in role from PIA to PFA were regularly monitored as one of the items by the project management agency so that dependency syndrome is reduced. The withdrawal strategy would require not only conscious efforts towards gradual change in role but also building the capacity of the CBO to maintain community-oriented assets and also to perform other activities that require continuation beyond the project period.

#### **5.14 LET'S SUM UP**

Incorporation of management principles in project implementation process is the key aspect for project success. Planning project framework, organization of essential resources and stakeholders, controlling and correcting deviations, establishing coordination among all the aspects of implementation has proven to be effective for project implementation and objective accomplishment. Evidences and experiences from researches have shown that sustainable approaches to project planning and implementation involving all the stakeholders and actors, blending indigenous technical knowledge with exogenous scientific knowledge through institutional and/or organizational means has added greater productivity. Hence the policy formulation should focus on above aspects for productive and transparent execution of programs and policies.

#### **5.15 CHECK YOUR PROGRESS**

1. Explain the institutional framework of agricultural extension in India
2. Who are the different stakeholders involved in Project planning activity?
3. List the preconditions to perfect policy implementation
4. Explain the project sustainability.

5. What are the policy implications of sustainability of a project?

#### 5.15 FURTHER SUGGESTED READINGS:

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## UNIT 3

### MONITORING AND EVALUATION AND REVIEW/ REVISION

#### Highlights of the unit

- Objectives
- Introduction
- Scope of M&E – Importance, role of planning in M& E
- Tools and characteristics of good monitoring
- Evaluation
- Project design
- Social audit
- Guiding principles for M&E
- Distinguishing between monitoring and evaluation
- Performance management
- Let's Sum up
- Check your progress
- Further Suggested Readings/ references/ links

#### 3.0 OBJECTIVES

- To understand the meaning and importance of Monitoring and Evaluation
- To know the importance of planning in Monitoring and Evaluation
- To study the characteristics of good monitoring mechanism
- To know the steps in project Monitoring and Evaluation

#### 3.1 INTRODUCTION

Monitoring and evaluation (M&E) can be effective tools to enhance the quality of project planning and management. Monitoring helps project managers to understand whether





the projects are progressing in schedule and to ensure that project inputs, activities, outputs and external factors are proceeding as planned. Evaluation can be a tool to help project managers assess to what extent the projects have achieved the objectives set forth in the project documents.

Good planning, monitoring and evaluation can improve the efficiency of projects by an establishing clear links between past, present and future initiatives and development results. Monitoring and evaluation can help an organization extract relevant information from past and ongoing activities that can be used as the basis for programmatic fine-tuning, reorientation and future planning. Without effective planning, monitoring and evaluation, it would be impossible to judge if work is going in the right direction, whether progress and success can be claimed, and how future efforts might be improved. Therefore the monitoring and evaluation are important management tools to track progress projects and facilitate in decision making.

### **3.1.1 SCOPE OF MONITORING & EVALUATION**

Monitoring, as well as evaluation, provides opportunities at regular predetermined points to validate the logic of a programme, its activities and their implementation and to make adjustments as needed. Good planning and designs alone do not ensure results. Progress towards achieving results needs to be monitored. Equally, no amount of good monitoring alone will correct poor programme designs, plans and results. Information from monitoring needs to be used to encourage improvements or reinforce plans. Information from systematic monitoring also provides critical input to evaluation. It is very easy and effective to evaluate a programme that is well designed and systematically monitor its progress.

### **3.1.2 THE IMPORTANCE OF MONITORING AND EVALUATION**

The monitoring and evaluation process is important for the development sector as it is a way for actors to show stakeholders how a project/programme is being implemented and received, and how effective the project is. Monitoring and evaluation allow for actors

to report and showcase their projects/programmes. In addition they enable the wider development community to learn from others, identifying the successes and challenges in order to improve the implementation of future projects/programmes. Monitoring and evaluation reports are often used as the basis for funding proposals as they show whether the project is effective enough to warrant continued funding.

- It provides the only consolidated source of information showcasing project progress;
- It allows educators to learn from each other's experiences, building on expertise and knowledge;
- It often generates (written) reports that contribute to transparency and accountability, and allows for lessons to be shared more easily;
- It reveals mistakes and offers paths for learning and improvements;
- It provides a basis for questioning and testing assumptions;
- It provides a means for educators seeking to learn from each other's experiences and to incorporate them into policy and practice;
- It provides a way to assess the crucial link between implementers and beneficiaries on the ground and decision-makers;
- It provides a more robust basis for raising funds and influencing policy.

### **3.1.3 WHY TO MONITOR & EVALUATE:**

- Support project/programme implementation with accurate, evidence based reporting that informs management and decision- to guide and improve project/programme performance.
- Contribute to organizational learning and knowledge sharing by reflecting upon and sharing experiences and lessons so that we can gain the full benefit from what we do and how we do it.
- Uphold accountability and compliance by demonstrating whether or not our work has been carried out as agreed and in compliance with established standards and with any other donor requirements.



- Provide opportunities for stakeholder feedback, especially beneficiaries, to provide input into and perceptions of our work, modelling openness to criticism, and willingness to learn from experiences and to adapt to changing needs.
- Promote and celebrate our work by highlighting our accomplishments and achievements, building morale and contributing to resource mobilization.

### **3.1.4 WHAT ARE THE KEY QUESTIONS THAT M & E SEEKS TO ANSWER**

- Are the pre-identified outputs being produced as planned and efficiently?
- What are the issues, risks and challenges that we face or foresee that need to be taken into account to ensure the achievement of results?
- What decisions need to be made concerning changes to the already planned work in subsequent stages?
- Will the planned and delivered outputs continue to be relevant for the achievement of the envisioned outcomes?
- Are the outcomes we envisaged remaining relevant and effective for achieving the overall national priorities, goals and impacts?
- What are the issues, risks and challenges that we face or foresee that need to be taken into account to ensure the achievement of results?
- What decisions need to be made concerning changes to the already planned work in subsequent stages?
- Will the planned and delivered outputs continue to be relevant for the achievement of the envisioned outcomes?
- Are the outcomes we envisaged remaining relevant and effective for achieving the overall national priorities, goals and impacts?
- What are we learning?

### 3.2 ROLE OF PLANNING IN MONITORING AND EVALUATION

Good planning combined with effective monitoring and evaluation can play a major role in enhancing the effectiveness of development programmes and projects. Good planning helps us focus on the results that matter, while monitoring and evaluation help us learn from past successes and challenges and inform decision making so that current and future initiatives are better able to improve people's lives and expand their choices.

Effective and timely decision making requires information from regular and planned monitoring and evaluation activities. Planning for monitoring and evaluation must start at the time of programme or project design, and they must be planned together. While monitoring provides real-time information on ongoing project implementation required by management, evaluation provides more in-depth assessments. The monitoring process can generate questions to be answered by evaluation. Also, evaluation draws heavily on data generated through monitoring, including baseline data, information on the project implementation process, and measurements of progress towards the planned results through indicators.

Planning for monitoring must be done with evaluation in mind: The availability of a clearly defined results or outcome model and monitoring data, among other things, determine the evaluability of the subject to be evaluated. The main linkage between planning, monitoring and evaluation are as follows.

- Without proper planning and clear articulation of intended results, it is not clear what should be monitored and how; hence monitoring cannot be done well.
- Without effective planning, the basis for evaluation is weak; hence evaluation cannot be done well
- Without careful monitoring, the necessary data is not collected; hence evaluation cannot be done well
- Monitoring is necessary, but not sufficient, for evaluation



- Monitoring facilitates evaluation, but evaluation uses additional new data collection and different frameworks for analysis
- Monitoring and evaluation of a programme will often lead to changes in programme plans. This may mean further changing or modifying data collection for monitoring purposes.

### 3.3 ROLE OF MONITORING IN IMPLEMENTATION OF PROJECT

Monitoring is the continuous assessment of a programme or project in relation to the agreed and pre-planned implementation schedule. It is also a good management tool which should, if used properly, provide continuous feedback on the project implementation as well assist in the identification of potential successes and constraints to facilitate timely decisions. Many projects, the monitoring plays key in successful implementation of project/ programme and therefore positively impacts on the outcomes of projects/ programme. Therefore monitoring is not only concerned with the transformation of inputs into outputs, but can also take the following forms:

**Physical and financial monitoring:** Measuring progress of project or programme activities against established schedules and indicators of success

**Process monitoring:** Identifying factors accounting for progress of activities or success of output production.

**Impact monitoring:** Measuring the initial responses and reactions to project activities and their immediate short-term effects. Projects are monitored so as to:

- Assess the stakeholders' understanding of the project;
- Minimize the risk of project failure;
- Promote systematic and professional management; and
- Assess progress in implementation.

### **3.4 ROLE OF DIFFERENT STAKEHOLDERS IN MONITORING:**

It is always viable to recognize the role played by the various stakeholders in monitoring. These players include the financiers, implementing agencies, project teams, interested groups such as churches, environmentalists, etc. It should further be recognized that, to be an effective management tool, monitoring should be regular but should take into account the risks inherent in the project/programme and its implementation.

In majority of the cases, one tends to find the following aspects in monitoring and evaluation of projects:

- There is a dominant use of external consultants in monitoring and evaluation.
- There is a dominant use of donor procedures and guidelines in monitoring.
- Sustainability is often not taken into account.
- Monitoring is sometimes used to justify past actions.
- Concerns of stakeholders are not normally included.
- Lessons learned are not incorporated.

### **3.5 DECISION-MAKING IN MONITORING AND DESIGN OF PROJECT MONITORING SYSTEM**

The purpose of this is to provide a conceptual framework that may be used in designing a project monitoring system. For a start, one needs to re-identify the purposes of a project monitoring system. It should be emphasized that, whereas a project monitoring system is a process of comparing actual use of inputs and completed outputs with planned use of inputs and planned completed outputs, the purpose of a project monitoring system is to provide information to stakeholders that can be used to make decisions during the implementation of the project.

Then, through brainstorming and discussion, groups can identify the possible stakeholders in a project. Among these could be the beneficiaries, the project management staff, regional and national ministry officials, and the donors / financiers.

Once this is done, it is important that a clear plan of how to accomplish monitoring while ensuring maximum benefits is put in place.

### **3.6 TOOLS AND CHARACTERISTICS OF GOOD MONITORING**

Each project is unique. It is therefore suggested that prior to starting of a project, a discussion should ensure to try and identify these. Among them could be: simple, quickly provides information for corrective action, cost-effective, flexible, accurate, comprehensive, relevant, accessible, leads to learning, transparent, and shares information up and down.

One of the greatest weaknesses of management information is the lack of effective and timely communication of information to the users. Some monitoring staff often invest too much time and resources in gathering data which they frequently fail to interpret and present in a simple form that will convey the meaning of the progress made. This should be avoided if possible. Appropriate monitoring tools should be put in place and used accordingly.

The importance of communication in project management is equally critical. It is the oil that lubricates the project movement in the attainment of the stated objectives.

Some of the most widely used tools for project monitoring, and their limitations include the following:

#### **3.6.1 Verbal communication:**

This is probably the most effective mode of communication. Among its advantages is that it is quick, and its presentation can be adapted to concerns and questions of the audience. However, this type of tool to communicate monitoring information can lead to misunderstandings and sometimes denial of information.

#### **3.6.2 Meetings:**

The very nature of project / programme management makes it inevitable that certain meetings are convened to communicate and share project information. Other

programmes may even require standing committees where outsiders may be invited to review programme performance. One needs to be cautioned that, while it is important to have meetings, they should be used as effective tools. Meetings can be used for sharing and interchanging information, clarifying, stimulating, and seeking the best solutions regarding project performance.

### **3.6.3 Reports:**

The importance of monitoring reports should not be overlooked. It should be noted that these are an essential part of project / programme monitoring. Activities undertaken, inputs supplied, money disbursed, etc. have to be recorded and accounted for. However, reports are only effective if they are submitted to the right people at the right time to facilitate corrective decision making.

### **3.6.4 Diary notes:**

While most people do not use this mode of recording information, it remains an important option. It is essential to record key decisions, which may have been made at formal or informal meetings. Its format should be simple – giving the date, time, place and the names of the people present when the decision was taken.

## **3.7 PREPARATION OF MONITORING REPORTS**

The purpose of a project monitoring report is to provide information to assist stakeholders in comparing performance against plans so that current or potential problems can be identified and analyzed.

### **3.7.1 Uses of project monitoring reports**

- Document completion of project activities;
- Identify significant deviations from plans;
- Reveal problems to appropriate stakeholders;
- Assist in corrective decision-making;
- Monitor implementation of corrective actions





- Identify shortcomings of existing management and monitoring systems;
- Provide information for coordination of national development programmes;
- Provide reference material for planning of subsequent projects; and
- Provide information for future evaluators

### **3.7.2 Advantages of good project monitoring reports**

- They provide the regularized flow of information needed for decision-making.
- They provide a history of the project which can be the basis for lessons learned and evaluation of the project.
- They assist in fostering discipline among stakeholders.
- They may give sense of responsibility to the target group.
- They can be used to identify skill building needs of those responsible for collecting data and preparing the reports.

### **3.7.3 Limitations of project monitoring report:**

- Some of these include:
- They tend to focus on a pre-determined set of data for information.
- The attitude of the persons doing the reporting may cause them to hide problems.
- They may emphasize problems rather than opportunities.
- They may not be shared with those who provided the data.
- The information may be too subjective.

## **3.8 EVALUATION**

Evaluation is an integral part of programme management and a critical management tool. Evaluation complements monitoring by providing an independent and in-depth assessment of what worked and what did not work, and why this was the case. After

implementing and monitoring an initiative for some time, it is an important management discipline to take stock of the situation through an external evaluation.

The benefits of using evaluations are multiple. A quality evaluation provides feedback that can be used to improve programming, policy and strategy. Evaluation also identifies unintended results and consequences of development initiatives, which may not be obvious in regular monitoring as the latter focuses on the implementation of the development plan. Information generated from evaluations contributes to organizational learning as well as the global knowledge base on development effectiveness.

### **3.8.1 Definition**

Evaluation can be defined as a process which determines as systematically and as objectively as possible the relevance, effectiveness, efficiency, sustainability and impact of activities in the light of a project / programme performance, focusing on the analysis of the progress made towards the achievement of the stated objectives.

Evaluation draws on the data and information generated by the monitoring system as a way of analyzing the trends in effects and impact of the project. In some cases, it should be noted that monitoring data might reveal significant departure from the project expectations, which may warrant the undertaking of an evaluation to examine the assumptions and premises on which the project design is based.

### **3.8.2 Principles of Evaluation:**

The following are some of the principles, which should be kept in view in evaluation.

- Evaluation is a continuous process (continuity).
- Evaluation should involve minimum possible costs
- Evaluation should be done without prejudice to day to day work (minimum hindrance to day to day work).
- Evaluation must be done on a co-operative basis in which the entire staff and the board members should participate (total participation).

- As far as possible, the agency should itself evaluate its program but occasionally outside evaluation machinery should also be made use of (external evaluation).
- Total overall examination of the agency will reveal strength and weaknesses.
- The result of evaluation should be shared with workers of the agency (sharing).

### 3.8.3 Purpose of Evaluation:

Evaluation has several purposes, which include the following:

- It assists to determine the degree of achievement of the objectives.
- It determines and identifies the problems associated with programme planning and implementation.
- It generates data that allows for cumulative learning which, in turn, contributes to better designed programmes, improved management and a better assessment of their impact.
- It assists in the reformulation of objectives, policies, and strategies in projects / programmes.
- Total overall examination of the agency will reveal strength and weaknesses. (Agency/ program totality).

### 3.8.4 Usage and limitations of the different types of evaluation:

**(i) Interim evaluation:** This normally takes place at some point during the life of a program/ project usually mid-term

**(ii) Terminal evaluation:** This assesses the progress made towards the achievement of the pre-determined objectives at the end of the programme and provides a basis for decisions on future action. Its findings and recommendations are often used to decide whether or not to stop the project or when a new phase is under consideration.

**(iii) Ex-post evaluation:** This is conducted after a sufficient number of years have elapsed since project completion so as to measure the impact. It is generally accepted that, if the evaluations are to be objective, they have to be undertaken by external consultants.

### 3.9 M&E STANDARDS AND ETHICS:

M&E involves collecting, analysing and communicating information about people – therefore, it is especially important that M&E is conducted in an ethical and legal manner, with particular regard for the welfare of those involved in and affected by it. The standards and best practices help to protect stakeholders and to ensure that M&E is accountable to and credible. The following is a list of key standards and practices for ethical and accountability of M&E.

M&E should respect the customs, culture and dignity of human subjects –This includes differences due to religion, gender, disability, age, sexual orientation and ethnicity. Cultural sensitivity is especially important when collecting data on sensitive topics (e.g. domestic violence or contraceptive usage), from vulnerable and marginalized groups (e.g. internally displaced people or minorities), and following psychosocial trauma (e.g. natural disaster or conflict).

M&E practices should uphold the principle of “do no harm”. Data collectors and those disseminating M&E reports should be respectful that certain information can endanger or embarrass respondents. “Under this circumstance, evaluators should seek to maximize the benefits and reduce any unnecessary harm that might occur, provided this will not compromise the integrity of the evaluation findings” Participants in data collection have the legal and ethical responsibility to report any evidence of criminal activity or wrongdoing that may harm others.

When feasible and appropriate, M&E should be participatory. Local involvement supports to find ways to involve beneficiaries and build local capacities. Stakeholder consultation and involvement in M&E increases the legitimacy and utility of M&E information, as well as overall cooperation and support for and ownership of the process.



An M&E system should ensure that stakeholders can provide comment and voice any complaints and also includes a process for reviewing and responding concerns/grievances.

### **3.9.1 Project Design**

In an attempt to address this, it is necessary to have a common understanding of project design concepts upon which to build an understanding of project monitoring and evaluation. Projects are an attempt, using specific inputs, to create a better situation for the beneficiaries. It should also be emphasized that projects are designed based on a linked set of hypotheses and assumptions and that, therefore, they are by nature somewhat risky ventures in that their particular approach may not have been tried before. Turning to project design process – to emphasise the links between the different levels of the project design. One needs to take a quick “test” to ensure that the concepts of project inputs, outputs, effects, and impact are shared by all.

### **3.9.2 Key Steps for Project M&E:**

1. Identify the purpose and scope of the M&E system
2. Plan for data collection and management
3. Plan for data analysis
4. Plan for information reporting and utilization
5. Plan for M&E human resources and capacity building
6. Prepare the M&E budget

#### **Identify the purpose and scope of the M&E system:**

#### **Review the project operational design:**

The purpose and scope of the M&E system answers, “Why do we need M&E and how comprehensive should it be?” It serves as a reference point for the M&E system, guiding key decisions such as informational needs, methodological approaches, capacity building and allocation of resources. It summarizes the logical sequence of objectives to achieve

the project intended results (activities, outputs, outcomes and goal), the indicators and means of verification to measure these objectives, and any key assumptions.

**Identify key stakeholder informational needs and expectations:**

Planning an M&E system based on stakeholder needs and expectations helps to ensure understanding, ownership and use of M&E information. It is essential to have a clear understanding of the priorities and information needs of people interested in or affected by the project/programme. This includes stakeholder motivations, experience and commitment, as well as the political and other constraints under which various stakeholders operate. It is especially important that local knowledge is sought when planning M&E functions to ensure that they are relevant to and feasible in the local context, and that M&E information is credible, accepted and more likely to be supported.

**Identify any M&E requirements**

Important informational needs worth specific attention are those that arise from any donor guidelines and requirements, governmental laws and regulations, and internationally- agreed-upon standards. These requirements can include very detailed procedures, formats and resources, and are often non-negotiable. Therefore, it is best to identify and plan for them early in the M&E planning process.

**Plan for data collection and management**

Once you have defined the project informational needs, the next step is to plan for the reliable collection and management of the data so it can be efficiently analysed and used as information. Both data collection and management are firmly linked as data management begins the moment it is collected.

**Plan for data analysis**

It is a process of converting collected data into usable information. This is a critical step of the M&E planning process because it shapes the information that is reported and its potential use. It is really a continuous process throughout the project cycle to make sense

of gathered data to inform ongoing and future programming. Such analysis can occur when data is initially collected, and certainly when data is explained in data reporting.

Data analysis involves looking for trends, clusters or other relationships between different types of data, assessing performance against plans and targets, forming conclusions, anticipating problems and identifying solutions and best practices for decision-making and organizational learning. Reliable and timely analysis is essential for data credibility and utilization.

### **Plan for information reporting and utilization**

This step helps in understanding the how the data will be reported as information and put to good use. Reporting is the most visible part of the M&E system, where collected and analysed data is presented as information for key stakeholders to use. Reporting is a critical part of M&E because no matter how well data may be collected and analysed, if it is not well presented it cannot be well used – which can be a considerable waste of valuable time, resources and personnel.

### **Plan for M&E human resources and capacity building**

#### **An effective M&E system requires capable people to support it.**

While the M&E plan identifies responsibilities for the data collection on each indicator, it is also important to plan for the people responsible for M&E processes, including data management, analysis, reporting and M&E training. This would help in planning for the human resources and capacity building for a project M&E system.

#### **Assess the project's human resources capacity for M&E:**

A first step in planning for M&E human resources is to determine the available M&E experience within the project team, partner organizations, target communities and any other potential participants in the M&E system. It is important to identify any gaps between the project M&E needs and available personnel, which will inform the need for capacity building or outside expertise.



**Determine the extent of local participation:**

Ideally, data collection and analysis is undertaken with the very people to whom these processes and decisions most relate. This is an important principle for the movement which prioritizes the involvement of local volunteers and communities. Often, local participation in M&E is expected or required, and building local capacity to sustain the project is identified as a key objective of the project itself.

**Prepare the M&E budget**

It is best to begin systematically planning the M&E budget early in the project design process so that adequate funds are allocated and available for M&E activities. If the M&E planning has been approached systematically, identifying key steps and people involved, detailing budget items should be straightforward. Start by listing M&E tasks and associated costs. If a planning table for key M&E activities has been prepared, this can be used to guide the process. If there is a required format for itemizing budget items than adhere to the format. Otherwise, prepare a spreadsheet clearly itemizing M&E expenses. It is particularly important to budget for any “big-ticket items”, such as baseline surveys and evaluations.

In addition to itemizing expenses in a spreadsheet, a narrative justifying each line item can help guard against unexpected budget cuts. It may be necessary to justify M&E expenses, such as wage rates not normally paid to comparable positions, fees for consultants and external experts, or the various steps in a survey that add up in cost (e.g. development and testing of a questionnaire, training in data collection, data collectors’ and field supervisors’ daily rates, travel/accommodation costs for administering the survey, data analysis and write-up, etc).

**3.10 SOCIAL AUDIT**

A social audit is a way of measuring, understanding, reporting and ultimately improving an organization’s social and ethical performance. A social audit helps to narrow gaps between vision/goal and reality, between efficiency and effectiveness. It is a technique to



understand, measure, verify, report on and to improve the social performance of the organization.

### 3.10.1 Importance of Social Audit

The main reason the need of social audit is the huge disconnect between what people want and what people get. As soon as social audit kicks in, it exercises its control over the policy developers and implementers as mentioned below.

- **Reduces corruption:** A uncovers irregularities and malpractices in the public sector and maintains oversight on government functioning, thus reducing leakages and corruption.
- **Monitoring and feedback:** It monitors social and ethical impact of an organization's performance and provides feedback on the working nature of organization
- **Accountability and transparency:** It ensures accountability and transparency in working of different government bodies and minimizes the trust gap between people and governments bodies.
- **Participative and democratic:** It promotes participation of people in implementation of programmes and makes people more forthcoming for social development activities.
- **Generates demand:** Serves as the basis for framing the management's policies by raising demands in a socially responsible and accountable manner by highlighting the real problems.
- **Improves professionalism:** It boosts professionalism in public bodies by forcing Panchayats to keep proper records and accounts of the spending made against the grants received from the government and other sources.

### 3.10.2 Implications of Social Audit

- Social auditing creates an impact upon governance. It values the voice of stakeholders, including marginalized/poor group whose voices are rarely heard
- Social auditing is taken up for the purpose of enhancing local governance, particularly for strengthening accountability and transparency in local bodies
- Social Audit makes it sure that in democracy, the powers of decision makers should be used as far as possible with the consent and understanding of all concerned

### 3.10.3 Objectives of Social Audit

- To assess the physical and financial gaps between needs and resources available for local development.
- Creating awareness among beneficiaries and providers of local social and productive services.
- Scrutiny of various policy decisions, keeping in view stakeholder's interests and priorities, particularly of rural poor
- Estimation of the opportunity cost for stakeholders of not getting timely access to public services

### 3.10.4 GUIDING PRINCIPLES FOR M&E:

The guiding principles of M & E would ensure that M&E is relevant, useful, timely, and credible. This principle might help in making sure the M&E is

- **Focused and feasible** in relation to your available resources so that it supports rather than diverts resources from action.
- **Useful and timely** information to improve group learning, group decision making, and project design
- **Useable** by, and/or comparable to, data collected by other stakeholders so it contributes to the wider evidence base
- **Credible, valid and reliable** to the extent possible within your available resources



- **Sensitive** to unequal power relations when you collect information i.e. ensure that you listen to people who might be marginalized in the community or do not have a strong voice
- **Ethical** e.g. in relation to data consent and protection

### 3.10.5 DISTINGUISHING BETWEEN MONITORING AND EVALUATION

<b>Monitoring</b>	<b>Evaluation</b>
<ul style="list-style-type: none"><li>• Monitoring is a continuing function that takes place throughout the implementation of an activity.</li></ul>	<ul style="list-style-type: none"><li>• Evaluation assesses the entire project cycle.</li></ul>
<ul style="list-style-type: none"><li>• Monitoring is a regular part of project or programme management. It focuses on the implementation of the project, comparing what is delivered with what was planned.</li></ul>	<ul style="list-style-type: none"><li>• Evaluation reviews the achievements of the activity and considers whether the plan was the best one to achieve the outcomes.</li><li>• Evaluation measures achievements, as well as positive/negative and intended/unintended effects.</li><li>• Evaluation looks for lessons to be learned from both success and lack of success, and also looks for best practices which can be applied elsewhere.</li></ul>
<ul style="list-style-type: none"><li>• Monitoring is usually done by people directly involved in implementing the project/programme.</li></ul>	<ul style="list-style-type: none"><li>• Evaluation is best conducted by an independent outsider who can be impartial in consulting with project/programme staff.</li></ul>



### **3.11 PERFORMANCE MANAGEMENT**

A performance management system must continuously identify, measure, and develop employee performance. The overall aim of a performance management system must be to align individual performance and objectives with those of the organization. In simpler terms, performance management is a process that provides feedback, builds accountability, and documents performance outcomes. It enables the employees to channelize their talents effectively and work towards organizational goals.

Hence, performance management is a complicated process. There has to be a proper framework in place to review employee performance and provide feedback and create a system that measures employee performance fairly and objectively. For this reason, organizations must define Key Result Areas (KRAs) and Key Performance Indicators (KPIs) for employees. Let's discuss this.

#### **3.11.1 A Key Performance Indicator (KPI)**

Key Performance Indicator is a quantifiable metric that reflects how well an organization is achieving its stated goals and objectives. KPIs link organizational vision to individual action. An ideal situation is where KPIs cascade from level to level in an organization.

KPIs are measurable values that demonstrate how effectively a company is pursuing important business objectives, focusing more on existing processes and activities. These are the measures that all the companies are using in their respective departments, from web traffic to employee satisfaction to total revenue.

#### **3.11.2 Key Results Area (KRA)**

In a performance management system, organizational goals and objectives are cascaded within the organization at the departmental level and further to the individual level. When departments and individuals are responsible for specific outputs, it falls under KRA. In other words, these are areas that an individual or a group is responsible for and will be held accountable for. It's based on the job description of the person and is used to assign tasks to them.



Defining KRAs for employees can help clarify their roles and performance expectations and ensures that the employee and the organization are working towards the same goal. It puts the focus on results and helps the employees to prioritize activities and make informed decisions.

### **3.12 LET'S SUM UP:**

Monitoring and evaluation when carried out correctly and at the right time and place are two of the most important aspects of ensuring the success of many projects. These two things need to be given more priority by project developers in order improve the efficiency and to achieve the stated objectives. The use of M &E as tools for success of any project would also help in satisfying the needs of funding agencies.

It should also be noted that each project may have unique requirements for this and that in such circumstances, project managers and developers should attempt to develop suitable monitoring and evaluation mechanisms. It is recommended that further education be given to many project manager in relate to monitoring and evaluation so as to encourage them to use these tools often and correctly.

### **3.13 CHECK YOUR PROGRESS**

1. Define Monitoring and Evaluation.
2. List the key steps in M & E.
3. Write the tools of monitoring.
4. List guiding principles of Monitoring and Evaluation.
5. Explain the Social Audit.
6. Discuss the Monitoring and Evaluation standards and Ethics

### **3.14 FURTHER SUGGESTED READINGS/ REFERENCES/ LINKS**

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