## DEVELOPING STRATEGIC RESEARCH AND EXTENSION PLAN FOR NATP PROJECT DISTRICTS

### **INTRODUCTION**:

The basic concept of NATP highlights the need to develop a cost effective and sustainable extension system to facilitate the farming community towards achieving prosperity.

WHAT IS STRATEGIC PLANNING

- THE NEED FOR SREP
- THE CONTENTS OF SREP
- HOW TO DEVELOP SREP

The following thrust areas have been identified to operationlise this concept:

- Focus on farms and the farming systems
- Integration of efforts of multiple service providers
- Ownership of the Agricultural Technology System (ATS) by key stakeholders
- Technological interventions in the form of intensification and diversification of the farming systems
- Value addition and marketing intervention
- Empowerment of farming community
- Multiple communication and information support.

The onus of translating these into action lies with Agricultural Technology Management Agency (ATMA), which would be created in each project district and supported under NATP. The responsibility of ATMA is to bring together researchers, extensionists, farmers and other stakeholders (including NGOs, and corporate and private sectors) to make, on the basis of joint diagnostic studies, district extension plan and recommendations for expanded adaptive research to introduce innovations in technology dissemination matched to local needs and situations.

In other words, ATMA is mandated to develop a demand driven, situation specific, multi-actor oriented Strategic Research and Extension Plan (SREP) to accelerate agricultural development in the project district. The SREP is the basic document which not only decides the development activities that need to be carried out, but also in which manner and by whom it has to be done.

It is, therefore, imperative that one must understand the following.

\* What is strategic planning

- \* The need for SREP
- \* What are the contents of SREP
- \* How to develop a SREP

Organization of the contents:

1. Orientation of Dist	2. Identification of AES	3. Training of AES	4. Collection of data	5. Rechecking and	6. Developing strategies	7. Developing	8. Approval of SREP
Team	Constitution of AES	teams	using participatory	analysis of data	<b>j</b>		activity schedule
	teams and		tools				Soncaute

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	g different actors such as re				ms and improv	ving decisions a	and actions
volvin	tions and groups and so fort	esearchers,					
a	rogramme planning and d ssessing client needs, incl valuating programme proces	udes selec	ting approp				
т	he following are some of the	characteri	stics of strate	egic planning:			
st ii. It iii. It	process in which the staken trategic thinking and acting t is planning from outside in gives detailed attentions to s mission, its vision and its	o create the and from in strengths, v	e best fit betv nside out. weaknesses,	veen the organ	ization and its	environment	
v. It	has to agree to the mission should be in harmony with			n that is carefu	lly developed a	and shared by t	he
vi. H	takeholders lopefully, it yields a strategic nvironment and internal capa		mentable pla	n that constitu	tes the best fit	between the ex	ternal
Ir	n brief strategic planning is :-						
	/hat is intended to be achieve low to get there ?	ed in future	<del>?</del> ?				
	PRESENT HOW FUTUR	RE					
i <mark>nvolv</mark>	es fundamental choice abou	t					
• P	organization's mission or goa rogramme and services to of low to mobilize and utilize th	fer to acco	mplish the m		expertise and fa	acilities etc.	

- THE NEED FOR SREP :
  - 1. The present mechanism of planning and implementation of agriculture and allied development programmes is centralised in nature. This top down approach focuses on individual

commodities/enterprises rather than on holistic / integrated approach. It is ad hoc in nature and does not involve all actors. The farmers are considered as receivers of benefits rather than as responsible persons who can influence the production process.

2. To address the aforementioned issues, under ITD component of NATP, ATMA of each district is required to develop a SREP by involving all stake holders.

3.3 The development and use of SREP would help in the following aspects:-

- Get an overview of the prevailing scenario in the district
- Explore and understand the problems and opportunities in different farming systems, preference and priorities of the farming community
- Facilitate long-term visioning and strategic planning for agricultural development in the district in a concerted manner
- Facilitate involvement of all actors at different levels in the development process and, in the long run, share the load on the public extension system
- Facilitate integration of and redesigning the on-going developmental programmes for the benefit of the farmers
- Development of annual action plans for each block in respect of each prevailing agro-eco-logical situation
- Develop farmer centered market oriented extension research management system

### THE CONTENTS OF SREP

The extension and research interventions would differ across the AEZ as per prevailing Agro-Ecological Situations (AESs) between crops, livestock, and farming systems as affected by roads, markets, input supply outlets, service facilities, and between farm households as a reflection of their resource endowment and socio-economic status.

Therefore, in formulating a SREP, the following guiding principles should be kept in view.

- Identify and build on Important farming system innovations or success stories that may intensify or diversify existing farming systems and, thereby, increase farm household income
- Increase farmers" access to markets technologies and, resources through farmers groups and organizations
- On-farm collaborative technology development, testing and refinement to address serious technological gaps in the existing farming systems
- Promote appropriate natural resource management (NRM) plan for building and maintaining the sustainable production systems within each AES.

	Contents	of SREP		
Diagnosti	c Section	Strategy Section		
Information	Analysis	Strategies	Activities	

The SREP will have two sections; and each section will have two subsections as under.:

# Diagnostic section :

# (1) Information sub-section :

(For the District)

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General features- Geographical area, number of sub-divisions, blocks, gram panchayats, villages etc in the district It may be supported with a map showing the boundaries of blocks with major cities, towns, roads

railway lines etc. (Source- Dist. Statistical Hand Book)

Agro-ecological situations- Agro-eco Zones, Agro-ecological situations, features, area and percentage with maps(Source- SAU)

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Agro-climatic information - Rainfall (quantity and distribution pattern), temperature and relative humidity etc. (Source- Dist. Office)

•

Information on land based systems- Agricultural, Horticultural, Fisheries, Animal resources etc. in respect of area, production, productivity, seed, farm mechanisation, fertiliser consumption trends etc and available infrastructure, such as physical resources like offices, farms, factories, nurseries, veterinary hospitals, research stations, training institutes etc. staffing pattern with qualification and major roles etc. (Source- Dist. Offices, SAU, Other Institutions)

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Demographic data- Population, male, female, breakup of caste, workers, literacy(Source- Census )

•

Land and soil- Land utilization statistics (area and percentage) soils, their problems and their distribution (with maps)(Source- Dist. Offices)

•

Rainfed and irrigated area – Area and percentage under each category (block wise / AES wise), sources of irrigation with area and percentage in respect of each source (block wise / AES wise). (with separate maps), irrigation projects nearing completion.(Source-Dist. Offices)

•

On-going development, extension and research activities of different line departments, ZRS, KVK and DRDA etc with scheme wise break-up of funds for development, extension and research work (Source-Dist. Offices)

•

Information on markets- Local, panchayat, block, district, regional and national markets that serve the district in respect of crops, fruits and vegetables, livestock and livestock products sericulture and fisheries etc along with quantity of commodities handled(Source-Dist. Offices))

•

Agro – processing facilities inside and out side the district that caters to the product of the district (number, location, capacity built-in and utilised etc) in respect of each commodity (Source- Dist. Offices)

•

Information on markets- local, panchayat, block, district, regional and national markets that serve the district in respect of crops, fruits and vegetables, livestock and livestock products sericulture and fisheries etc along with quantity of commodities handled(Source- Dist. Offices )

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Storage facilities, commodity wise, with number, location, capacity, tariff etc (Source- Dist. Offices)

•

Agricultural credit from banks, cooperatives, informal credit sources etc with break up and volume, accessibility to farm households from different resource and socio-economic groups. (Source- Dist. Offices, Lead Bank)

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Input and service facilities available inside and also out side the district that cater to the needs of the district, in respect of different land based enterprises. (Source- Dist. Offices)

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Farmers' groups and organizations- Number, purpose, structure, activities undertaken, membership (number, norms and type), linkages with other organizations, sources of income etc. (Source- Dist. Offices)

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Private sector organizations and non-governmental organizations engaged in development, extension and research activities in respect of various land based enterprises, with nature of activity, spread target groups, membership etc. (Source- Dist. Offices)

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Information and Communication- Computer, TV and Radio stations, telecommunication and internet facilities etc.

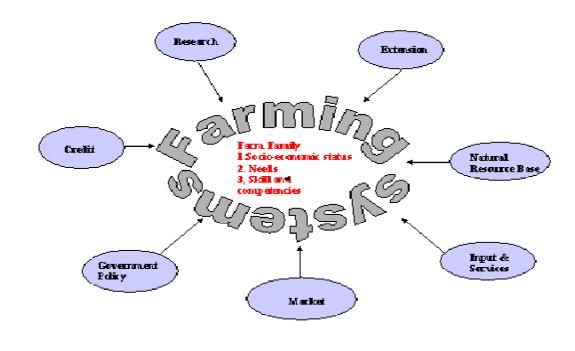
#### (From Representative villages)

- Farming Systems- Characteristics of the farming community resource situations (operational holdings, income groups etc). Major Farming Systems (with combination of enterprises) under different AES, profit generated from each enterprise (Source- PRA)
- Land and soil- Land utilization statistics (area and percentage) soils, their problems and their distribution (with maps)(Source- PRA)
- Demographic data- population, male, female, breakup of caste, workers, literacy(Source- PRA)
- Rainfed and irrigated area Area and percentage under each category sources of irrigation with area and percentage in respect of each source (with separate maps), irrigation projects nearing completion.(Source-PRA)
- Agro processing facilities inside and out side the villagethat caters to the product of the village (number, location, capacity built-in and utilised etc) in respect of each commodity (Source-PRA)
- Information on markets- local, panchayat, block, district, regional and national markets that serve the village in respect of crops, fruits and vegetables, livestock and livestock products sericulture and fisheries etc along with quantity of commodities handled(Source-PRA)
- Storage facilities, commodity wise, with number, location, capacity, tariff etc available in the village or near by, that serve the village. (Source-PRA)
- Agricultural credit from banks, cooperatives, informal credit sources etc with break up and volume, accessibility to farm households from different resource and socio-economic groups. (Source-PRA)
- Input and service facilities available inside and also out side the village that cater to the needs of the village, in respect of different land based enterprises. (Source-PRA)
- Farmers' groups and organizations- Number, purpose, structure, activities undertaken, membership (number, norms and type), linkages with other organizations, sources of income etc. (Source-PRA)
- Private sector organizations and non-governmental organizations engaged in development, extension and research activities in respect of various land based enterprises, with nature of activity, spread target groups, membership etc. (Source-PRA)

#### Analysis sub-section :

The data and information (primary and secondary as mentioned above needs to be properly analysed to understand and develop research and extension strategy.

Each identified Farming System needs to be analysed in terms of its interaction with other systems. The core entity operating the Farming System is the farmer and his family. Farming Systems have evolved over a period of time through a process of farm level experimentation.



### Analysis of existing farming systems and enterprises:

This covers pattern of ownership, development, and utilization of land and water resources under different farming systems over a period of time under each AES including INM and IPM practices recommended and adopted.

### The influence of resource situations on the existing farming systems.

Thereafter it is necessary to analyze the major existing farming systems under different AES in terms of gaps in adoption of improved production technologies vis-à-vis the recommendation in respect of different farming situations, inter-dependence of different enterprises under varying farming and resource situations.

It is, also, necessary to analyse the on-going research activities in the project district and the past recommendations from the research stations in the light of needs generated for research and the gaps in adoption Identified through earlier analysis.

4.4.4 Thereafter, SWOT analysis is to be carried out in respect of different Farming Systems, as observed in each AES.

SWOT analysis is very useful in developing strategies as it helps in identification of-

- Current strengths within existing farming systems and success stories,
- Weaknesses within the existing farming systems,
- Opportunities, which are advantageous for optimal exploitation of the existing farming systems in terms of
  providing, scope for new market opportunities, new technologies, services etc.
- Real and / or potential threats to the natural resource base, existing farming systems and markets etc.

### Strategy section :

Strategy sub-section: This section shells out strategies for research and extension for each AFS in respect of

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different program components.

In this sub-section strategies would be developed, separately for extension and research, generally on the following categories.

Categories of strategy:

- 1. Diversification and intensification of existing farming systems
- 2. Improvement of productivity / income of different enterprises / commodities in exiting farming systems (Sustainability of natural resources and enabling the farming community(male and female) to command the extension system is to be built into these components)
- 3. Sustainability of the extension system
- 4. Human resource development of extension and research personnel, NGOs and other actors
- 5. Dovetailing and re-designing of various on going schemes of agriculture and other line departments and research institutions in the public, private and NGO sector
- 6. Any other programme component considered necessary for the project / area

### HOW TO DEVELOP SREP

5.1 SREP is to be demand driven while it is in consonance with the prevailing Agro-ecological, socio-economic situations and also the developmental goals of various government departments. This is developed with a bottomup approach. While it gives importance to the main clients i.e. the farming community, it does consider the views of the other stakeholders in the agricultural development scenario. Hence, the methodology for developing SREP for any NATP district is different from the method presently in vogue in different line departments of the government in formulating plans and strategies for their activities. The steps for developing SREP are outlined hereunder:

# **STEPS IN DEVELOPING SREP**

STEP – I	Orientation of District Level Officers and Scientists.
Purpose	<ul> <li>To understand the concepts and principles of NATP</li> </ul>
	<ul> <li>To develop, operationalise and execute SREP in the district</li> </ul>
For Whom	District heads of agriculture and line departments
	<ul> <li>Heads of ZRS, KVK, NGOs and other research institutions working in the District</li> </ul>
Content	Concepts of NATP / ITD, ATMA
	<ul> <li>Roles and responsibilities of district heads of line departments, research institutes (MC members of ATMA) and other actors</li> </ul>
	<ul> <li>Organization and Management structure - Existing and expected under NATP</li> </ul>
	Need for SREP

	<ul> <li>What is SREP – How it is different from regular plan</li> </ul>
	Contents of SREP
	How to develop SREP
	<ul> <li>Exposure visit to I phase district as well as NGOs, Success Stories in farming systems and Farmers" organizations etc.</li> </ul>
By Whom	MANAGE and SAMETI
Duration	One week
STEP – II	Identification of Agro-eco-situations (AESs) within the district, Constitution of AES teams and Logistic arrangements
Purpose	For location specific planning
	<ul> <li>To carry out the survey in representative villages by following participatory methodology</li> </ul>
	<ul> <li>Selection of representative villages for study and survey</li> </ul>
	<ul> <li>Collection and compilation of data and information, cross-checking the data and information with secondary data</li> </ul>
	To facilitate conduct of residential training for AES teams
	<ul> <li>To facilitate survey work by AES teams in representative villages and outside the representative villages for success stories etc.</li> </ul>
	<ul> <li>Interaction of AES teams with scientists and department offices</li> </ul>
Activity	Contact / check with ZRS/SAU for AES information
	<ul> <li>If AESs have not been identified by SAU under NARP earlier, then identify AES in consultation with the scientists of ZRS / SAU</li> </ul>
	Orient District heads about AES, Planning on the basis of AES
	Develop a block wise and AES wise map of the district
	Find the spread (area & percentage) of each AES in each block
	Select representative villages for each AES
	AES having substantial spread, (area in more than one block)

	representative villages have to be selected from each of these blocks.
	<ul> <li>If one block has more than one AES, then representative village has to be selected for the AES having maximum area</li> </ul>
	<ul> <li>Representative villages should be selected on the basis of - size, accessibility, availability of different farming system of that AES, diversity in socio-economic resource situations and farmers" cooperation</li> </ul>
	<ul> <li>Select at least one member from each major discipline for each AES from the officers working in respective blocks</li> </ul>
	Block level officers are responsible for carrying out the activity
	Representation of women, research scientists and NGOs in each team
	Notification about constitution of team by the District Collector
	<ul> <li>Collect district data and analyse the trend of area, production and productivity for major commodities</li> </ul>
	<ul> <li>Informing villagers and making arrangements for survey, interaction and field visit</li> </ul>
By Whom	<ul> <li>District team (District Heads, Scientists etc.) facilitated by MANAGE &amp; SAMETI</li> </ul>
Duration	One Week
STEP – III	Training of AES teams
Purpose	<ul> <li>To enable AES team members to carry out survey for collection of data and information in a participatory manner for preparation of SREP</li> </ul>
Trainees	AES team members
Content	NATP concepts and principles
	Team building
	Participatory tools / techniques (PRA, FSA, FSBE etc.)
	<ul> <li>Checklist / format for collection of data and information (primary and secondary)</li> </ul>
	<ul> <li>Sustainability issue – IPM, INM, SRM, NRM, ITK, etc</li> </ul>
	Community organization

	Identification of success stories
Activity	<ul> <li>Informing trainees (AES teams) – date and venue</li> </ul>
	Finalization of dates and venue
	<ul> <li>Finalize trainers (from SAMETI and phase I district) informing them about date and venue</li> </ul>
	<ul> <li>Giving finishing touch to logistic arrangements (lodging, boarding, training facilities, transport etc)</li> </ul>
	Designing training frame work
	Arrangement of training material, aids
	Conducting training programme
By Whom	Nodal officer in the NATP district
	Trainers from SAMETI
	Facilitation by MANAGE (State Consultants)
Duration	• 1 week
STEP-IV	Participatory Field data collection
Purpose	<ul> <li>To understand and document farmers" problems, needs, perceptions, priorities</li> </ul>
	<ul> <li>To discuss and find out possible mechanism for solution for solving their problems</li> </ul>
	<ul> <li>To collect data and information to develop strategic research and extension plan (SREP) based on farming systems approach</li> </ul>
	To find out factors influencing sustainability
	To identify and document success stories
	<ul> <li>To study the socio-economic status of the community so as to organize them selves for empowering them to have command over future extension system</li> </ul>
	To study existing infrastructure

	<ul> <li>To study existing support and service facilities</li> </ul>
By Whom	AES team members,
	Trainers
Content	Checklist, formats, questionnaires, PRA material
Activity	Arranging field visits in selected representative villages
	Planning for field exercise – 1 day
	<ul> <li>Visit to village for collection of information by using participatory methodology – 4 days</li> </ul>
	<ul> <li>Review and sharing of collected information at a common place – 2 days</li> </ul>
	<ul> <li>Second visit to the villages (3 days) for -</li> </ul>
	Collection of missing data and information
	Collection of secondary data
	Discussion regarding possible solutions to over come problems and to develop demand driven extension system
	<ul> <li>Consolidation, sharing data / information and presentation to district level team – 2 days</li> </ul>
Facilitation	District level officers supported by MANAGE State Consultants and SAMETI
Duration	2 weeks
STEP-V	Rechecking and analysis of data and information
Purpose	<ul> <li>To find out the relevance of collected data / information with the scope of SREP</li> </ul>
	<ul> <li>Compare primary data with secondary data to identify critical issues, problems, needs, opportunities, threats or risks</li> </ul>
	Analyze the data for developing strategy
	<ul> <li>Sharing the outcome with farmers for confirmation, prioritization and further suggestion</li> </ul>

By Whom	District level team
	AES teams
	Trainers
Activities	Presentation and sharing of background information, department wise
	Checking the information with objectives and requirements
	Cross checking collected primary data with secondary data
	Revisit villages and collect information, if necessary
	SWOT analysis of farming systems under each AES to:
	Identify current strengths within existing farming systems
	<ul> <li>Identify weaknesses within existing farming systems</li> </ul>
	<ul> <li>Identify opportunities for optimal utilization of resources</li> </ul>
	<ul> <li>Identify possible threats to natural resources, markets and farming system</li> </ul>
	Share the information with the villagers
	<ul> <li>Prioritize issues and problems, needs etc. with the villagers and then jointly develop a basis for strategy</li> </ul>
Facilitation	MANAGE (SAMETI when developed)
Duration	• 2 weeks
STEP-VI	Developing strategies for research and extension in the district
Purpose	<ul> <li>To make use of farming system innovations and success stories in planning for intensification and or diversification of existing farming systems to increase farm house hold income</li> </ul>
	<ul> <li>To exploit scope for organizing farmers into interest groups to empower them to have access to technologies, resources and markets</li> </ul>
	<ul> <li>To address serious technological gaps to increase production and productivity of and income from existing farming systems</li> </ul>

	<ul> <li>To suggest measures for natural resources management on sustainable basis</li> </ul>
	To suggest direction for development
	To involve all actors in the participatory research and extension system
	• To redesign the existing development, extension and research programmes and operational mechanism through innovative ways for increasing income of farming community by bringing in changes in the existing farming systems.
By Whom	District team
	AES teams
Activities	Training on strategic planning
	<ul> <li>Develop an outline / frame work for SREP on the basis of project thrust areas such as -</li> </ul>
	Intensification and diversification of existing farming systems
	<ul> <li>Improvement in production, productivity and income of different commodities within existing farming systems.</li> </ul>
	(Sustainable NRM practices and empowering community, men and women, through organization and capacity building, should be built into the system)
	<ul> <li>Take stock of and study the information generated through SWOT analysis and interaction with farmers so as to group them into above two thrust areas AESs wise.</li> </ul>
	Develop strategies to address these issues
	(Strategies for research and extension should be separate and complimentary to each other)
	<ul> <li>Develop strategy for sustainability of the participatory extension system in the long run</li> </ul>
	<ul> <li>Strategy for involvement of private sector and NGOs into research and extension system</li> </ul>
	Strategies for HRD (different actors) for operationalization of the project
Facilitation	MANAGE, SAMETI

STEP	VII – Developing Activity Schedules
	ose: 1) To find out key activities necessary to translate strategies into action
2.	To spell out the size of units, total units required, cost per unit and total
cost ir	n respect of each activity.
•	By Whom -
	<ul> <li>District team</li> </ul>
	<ul> <li>AES team</li> </ul>
	<ul> <li>Block functionaries</li> </ul>
Activi	tios
ACLIVI	Suggest activities for implementation of each strategy for research and extension separately
-	eaggest astrates for implementation of each strategy for research and extension separately
•	Logical and sequential arrangement of activities
•	Decide size of units and unit cost for each activity
•	Decide total number of units and total cost for completing the activity during project period
•	Find project cost in respect of research and extension strategies
•	Compilation and production of SREP document
	tation: MANAGE/ SAMETI
	ion: 1 and1/2 week
	-VIII: Approval of SREP
Purpo	
-	To have approval of the Governing Board of ATMA.
•	To have common agreement
•	To authenticate SREP as a plan document
٠	To accept SREP as a basis for agricultural development in the district
	To get grant from GOI

- Management Committee, ATMA
- Governing Board, ATMA

#### Activity:

- Consideration of SREP by Management Committee of ATMA
- Recommendation by M.C. to Governing Board for approval
- Approval by G.B. with changes if necessary
- Production of adequate copies
- Submission to State Government, Govt. of India, MANAGE for acceptance

Facilitation- MANAGE/SAMETI

### CHECK LIST FOR EACH STEP IN DEVELOPING SREP

### CHECK LIST for STEP-I – Orientation of District Team

#### Constitution-

District Head of – Agriculture, Horticulture, Soil conservation, Animal Husbandry, Dairy Development, Fisheries, Sericulture etc.

Scientists of State Agriculture University/ Zonal Research Station and Krishi Vigyan Kendra working in the district.

NGO representatives

### **Topics-**

Concepts of NATP- ITD component, ATMA –its constitution, objectives, functions, Roles and responsibilities of different actors,, Organization and Management patterns – existing and expected under NATP, Strategic Research and Extension Plan (SREP) – What, Why, How to develop and operationalise, content of SREP

Reading and Training materials -

Manual on SREP guidelines, Reading material on above topics, Rules and Regulations and Memorandum of Association of ATMA

CHECKLIST for STEP II- Identification of AES, Constitution of TOFA and logistic arrangement

Factors for Identification of AES

- Altitude
- Soil type
- Rainfall
- Irrigation
- Topography

Criteria for selection of AES team

1. One Team for each AES

Representation from different line departments viz., agriculture, horticulture, soil conservation, animal husbandry, fisheries etc. and any other department important in the district

Representation form research institutes, KVK for important disciplines

Representation from NGOs, one in each team

Adequate representation of women in the teams

Members should have following abilities / characteristics

• Ability to listen and communicate effectively especially to farmers

Belief in participatory approach

Technically competent and sound

Capable of and willing to work hard and travel extensively

Amicable and open to suggestions

Good understanding regarding block and district

Capable of perspective an strategic thinking

Logistic arrangements-

1. Locate residential training facilities in the district having lodging boarding, class rooms etc.

Vehicles for mobility of teams and trainers during the training and collection of data during village visits

Lodging and boarding arrangements for AES teams in and around the representative villages

Inform the villagers well ahead of time

Provision of training and teaching materials and stationeries

CHECKLIST for STEP-III- Training of TOFA

**Topics** –.Team Building, NATP- Concepts, Principles, Operational modalities, Participatory tools and techniques- PRA, PLA, RIA, RRA, FSA, FSBE, Identification and analysis of Success Stories, ITK, Sustainability issues, understanding and use of formats and check lists for collection of information and data, Course framework enclosed

Reading and Training materials -

Reading material on each topic, Manual on SREP-Guidelines, Important chapters from NATP document

ASA charts, Chart paper, Marker pens, OHP transparencies and markers, OHP, TV, VCP, etc.

CHECKLIST for STEP IV :- Participatory field data collection

1. Collection of data and information – primary and secondary

- Background information of village
- Information on land, soil, irrigation—

Distribution of farm households under different resource situation (No. & % under each ) based on;

Land holding

Irrigation availability

Family income

- Identification of major farming systems
- Identify 3-4 major farming systems through PRA techniques like social and resource mapping, focussed group discussion etc.

Categorize them on the basis of source of income i.e. primary, secondary, tertiary, etc, with number of families and percentage.

- Collect information on the following for future analysis:
- Find out the strengths and weaknesses in the existing farming systems that support or adversely affect the farming systems

Find out the scope for intensification of the farming system though overcoming problems in production (gaps in adoption), processing, marketing etc of any commodity under an enterprise in the farming system.

Also find out scope for intensification by strengthening any enterprise through optimal utilization of available resources

For diversification and intensification of any farming system study the trends in farming systems – changes made since 1970 in the farming systems with causes thereof.

• Switch over in the enterprises

Addition / deletion of any enterprise / commodity

Strengthening of any enterprise / commodity within farming system

Major shift in the enterprises as a source of income (i.e. from primary to secondary & like wise)

Due to influence of government policy, opening new market avenues processing, storage, irrigation, communication, and other infrastructure facilities etc leading to intensification and diversification of any farming system.

Find out scope for replication of success stories for adoption in the farming systems

Find out the technological gaps in productivity and income from various commodities and enterprises under farming systems

Consolidate the data and information, share it with other AES teams

Share it with farmers for verification, modification, if any, and collect missing data and information

If required, visit any other village under same AES, preferably in same block, to collect data and information on success stories and / or enterprises and / or systems relevant to the concerned AES.

Maps to be produced (of the representative village)-

(PRA Maps.)

\* Social Map \* Resource Map \* Transect Map \* Matrix Ranking Map

\* Seasonality Map \* Timeline map \* Venn Diagram \* Any other

CHECKLIST for STEP-V;- Rechecking and Analysis of data and information and priortization of research and extension issues

A. Rechecking of data:

1. Each departmental head has to make a detailed presentation about their respective sectors to other officers and scientists of the district.

Recheck collected data and information with departmental information (secondary data)

#### Check that all the formats are completely filled

List out incomplete data and information and also the data or information which does not agree with secondary data, for further collection and verification in the village.

Revisit the village for verification of data/information if required.

Finalize information and data base for analysis

### B. Analysis of data and information:

Conduct SWOT analysis of major farming systems under each AES on the basis of points mentioned in checklist for Step-IV

Find out the possible strategic issues on the basis of outcome of analysis for sharing with the farmers

Visit the village to share and prioritise with the farmers' needs based on strengths, weaknesses,, opportunities and threats which would form the basis for developing the strategy.

CHECKLIST for STEP VI and VII -Developing SREP and Activity Schedule

1. Categorize SWOT analysis report which will be utilized for developing strategies under - a) Diversification and/or b) Intensification of farming systems and c) Improvement in production, productivity and income under different existing farming systems

Note separately the points that influence sustainable NRM practices and farmers' organizations

Put the information collected from the farmers under the above categories.

Develop strategies on the basis of SWOT analysis findings for each category – for research and extension separately.

Prioritize the strategies as per demand of the farmers

Develop strategies under following groups-

### A. Extension

A.1. Which can be implemented by ATMA

A.2. Which needs policy decision / intervention of Government

### B. RESEARCH

**B.1.** On farm research, technology refinement and validation to be funded by ATMA

**B.2.** Basic and other issues to be addressed by SAU

8) Find out requirements for sustainability of the extension system by considering the following issues-

a. Cost sharing

Public-private partnership

Role clarity of different actors

Human resource department

Community organization / farmers' organizations

9) Develop activities required to operationalise the strategies

Decide the Unit size which is easy for implementation, and can show appreciable reults.

Fix the Unit cost for each activities to meet the cost of critical items basing on the prevailing prices

**CHECKLIST for STEP-VIII - Production and Approval of SREP** 

e document should have following chapters
Introduction
Methodology
Background information of the district
going extension, development and research activities of departments, organizations, institutions in district under Public, Private and NGO sectors
ntification, description and analysis of existing farming systems under each AES
posed extension strategies
posed research strategies
hedule of activities for extension strategies
hedule of activities for research strategies
erational modalities and mechanism