

Based upon the analysis of issues, problem and opportunities, relevant and feasible strategies have been worked out for carrying out extension activities on the district. The strategies have been categorized under major groups as indicated below:

Strategies-

- A. Improvement in productivity and income of farmers in the existing enterprises and farming system.
- B. Sustainability in productivity/income.
- C. Natural resource management.
- D. Financial sustainability.
- E. Marketing system.
- A. Improvement of Productivity.

1: Agricultural Production System.

Crop	Proposed Strategies	Thrust area	Activity
Paddy (Rainfed)	1.To Increase productivity of upland 2. To increase cropping intensity of upland area.	1. Judicious Use of recommended does of nutrient. 2. Use of IPM for pest control. 3. Use of suitable varieties. 4. Introduction appropriate crops in upland for inter cropping.	Demonstration Training Field-days Finical
Paddy (Rainfed) Low Land	1. Increase production & productivity of rice.	1. Use of high yielding varieties. 2. Recommended management practices. 3. Recommendation of hybrid varieties. 4. Popularization of integrated diseases management (IDM)	Demonstration Training Awareness Field-days
Pulses	1. Increase production & productivity of pulses in rainfed Situation.	1. Use of HYV and short duration and wilt resistant varieties. 2. Seed treatment practices. 3. Use of INM & IPM practices.	Demonstration Training Field-days
Maize	1. Increase production & productivity of Maize.	1. Use of suitable varieties. 2. Improved crop management. 3. Weed management. 4. Crop rotation & Inter cropping with pulses	Demonstration Training Field-days
Oil Seed	1. Increase production & productivity of Oil seed crops.	1. Use of suitable and high yielding varieties. 2. IPM/INM practices. 3. Inter cropping with pulses. 4. Improved crop technology.	Demonstration Training Field-days Exposure-visit
Wheat	1. Increase production & productivity of Wheat	1. Use of suitable and high yielding varieties. 2. Improved crop technology. 3. Inter cropping with pulses. 4. Promotion to Zero tillage technology & rainfed wheat farming.	Demonstration Training Field-days Exposure-visit

2: Horticultural Production System.

Crop	Proposed Strategies	Thrust area	Activity
Tomato	1. Increase productivity of Tomato. 2. Value addition of tomato.	1. Suitable varieties according to season. 2. Wilt control through soil treatment. 3. IPM/INM practices introduce. 4. Value addition practices introduce.	Training Demonstration Exposure-visit
Potato	1. Increase productivity of Potato .	1. Use of Improved varieties . 2. Improved crop technology. 3. INM/IPM Introduce. 4. Introduction of Improved storage method. 5. Recommendation of rainfed varieties.	Training Demonstration Exposure-visit
Cabbage and Cauliflower	1. Increase productivity of Cabbage & Cauliflower in of season.	1. Use of suitable varieties. 2. Use of micronutrient. 3. Improved package of practices. 4. Improved storage facility.	Training Demonstration Exposure-visit
Chilies	1. Increase productivity of Chilies.	1. Use of Improved varieties. 2. Improved package of practices. 3. Improved grading practices. 4. Introduction of IPM/INM.	Training Demonstration Exposure-visit
Brinjal	1. Increase productivity of Brinjal.	1. Improved varieties. 2. Wilt resistant varieties. 3. IPM/IDM/INM practices to be used. 4. Soil treatment. 5. Use of micronutrient.	Training Demonstration Exposure-visit
Ginger	1. Increase production & productivity of Ginger.	1. Recommendation of improved crop technology. 2. Availability of Improved Varieties. 3. IPM against rotting of ginger.	Training Demonstration Exposure-visit Farm Trial

3: Animal Husbandry.

Crop	Proposed Strategies	Thrust area	Activity
Cow	1. Increase productivity of Cow.	1. Introduction of improved breed. 2. Artificial insemination. 3. Improved feeding, breeding and management practices.	Training Demonstration Exposure-visit Awareness
Buffalo	1. Increase productivity of She Buffalo.	1. Introduction of improved breed. 2. Improvement of breed through AI. 3. Improved feeding, breeding and management practices.	Training Demonstration Exposure-visit Awareness
Goats	1. Increase productivity of Goats.	1. Introduction of improved local sustainable breed. 2. Improved feeding & management practices. 3. Introduction of highly nutritive feed through local available feeding material.	Training Demonstration Exposure-visit Awareness
Poultry	1. Increase productivity of Poultry of free range system.	1. Introduction of improved Poultry breed (RED-Diviayan) 2. Improved feeding & management practices.	Training Demonstration Exposure-visit Awareness

4: Diversification and Intensification.

a. Agriculture:-

Critical gap	Strategic issue	Strategies
Fallow land in Kharif Season	Pigeon pea based inter cropping with other Pulses, Maize and Ground Nut.	-Demonstration - Exposure visit - Trainings
Reluctance to HYV & Hybrid variety of paddy in AES – II & III	Varietals diversification of HYV & Hybrid variety	-Demonstration - Exposure visit - Trainings
Non availability of improved variety of pulses.	Expansion of area under HYV of oilseed and pulses	-Demonstration - Exposure visit - Trainings

b. Horticulture:-

Critical gap	Strategic issue	Strategies
Non-adaptation of Floriculture.	Diversification in under Floriculture.	-Demonstration - Exposure visit - Trainings
Non-adaptation of inter cropping in orchard.	Diversification of inter cropping with pulses in orchard.	-Demonstration - Exposure visit - Trainings
Less acreage in orchard crop.	Promotion to orchard crops.	-Demonstration - Exposure visit - Trainings

c. Animal Husbandry:-

Critical gap	Strategic issue	Strategies
Non improvement local breeds.	Improvement of local breeds through exotic breeds.	-Demonstration - Exposure visit - Trainings
Improper management of animals.	Training for proper management.	-Demonstration - Exposure visit
Lesser adoption of backyard poultry	Intensification off backyard poultry	-Demonstration - Exposure visit - Trainings
Dairy enterprises limited to home consumption.	Intensification of dairy enterprises as a source of income.	-Demonstration - Exposure visit - Trainings

6. Sustainability

a. Agriculture:-

Critical gap	Strategic issue	Strategies
Improper preparation and inadequate use of compost.	Promoting proper preparation and adequate use of compost.	-Demonstration - Exposure visit - Trainings
Non-adoption of green manuring practices.	Promoting the practice of green manuring.	-Demonstration - Exposure visit - Trainings
Depletion of soil fertility due to inadequate supplementation of major and minor plant nutrients.	Promoting the use of major and minor plant nutrients.	-Demonstration - Exposure visit - Trainings
Non-adoption of proper crop rotation for sustaining the soil fertility.	Popularisation of proper crop rotation.	

b. Horticulture:-

Critical gap	Strategic issue	Strategies
Non-adoption of drip irrigation in orchards	Promoting the use of drip irrigation in orchards	-Demonstration - Exposure visit - Trainings
Non-adoption of mulching practices in orchards.	Promoting the use of mulches in orchard.	-Demonstration - Exposure visit - Trainings
Non-adoption of integrated nutrient management.	Promoting the use of INM.	-Demonstration - Exposure visit - Trainings
Non-availability of trained personnel for budding, grafting and pruning	Skill upgradation of FiG's/Field staff for budding, grafting pruning etc.	-Demonstration - Exposure visit - Trainings
Unawareness about fruit and mushroom preservation.	Promoting improved fruit and mushroom preservation techniques.	

7. Natural resource Management

Critical gap	Strategic issue	Strategies
Unawareness about rainwater harvesting.	Promoting rainwater harvesting structure/measures.	-Demonstration - Exposure visit - Trainings
Degradation of land due to gully erosions.	Demonstration of contour bunding, trenching, pugging and plantation on improved grasses.	-Demonstration - Exposure visit - Trainings
Indiscriminate mining in riverbeds, khuds, etc. leading to heavy soil erosion	Protection of riverbeds and khuds etc. through constructing spur and through vegetative cover.	-Demonstration - Exposure visit - Trainings
Non-introduction of Pisciculture in already constructed water harvesting structures.	Popularisation of pisciculture in existing water harvesting structures.	

Proposed Research Strategies

In most cases, farmers have either not adopted or partially adopted the technologies recommended by research station/centers because the technologies are not consistent with their farming situations. It is a fact that farmers vary in socio-economic parameters such as farm size, resources, labour, skill, literacy level, managerial ability, land tenure system and risk bearing capacity. The technologies, therefore, have to be evaluated and refined by taking into account the realistic environment of the farmer with their active participation through Farm Adaptive Research. For effective results, this needs to be done in district recommendation domains, characterized by relatively homogenous farming system associated with similar soil and agro-climatic conditions. Moreover, some problems of local significance, being faced by the farmers in particular AES are also required to be dealt by conducting adaptive basic research as the information on the same is not available.

With these facts as the background and with the available Major resources at the disposal of the farmers in the district, commodity wise and AES wise research strategy is proposed in this captor.

1. Farmers participatory Of Farm Research.

Summary Statement of Proposed Research Strategies of AES in Ranchi District.

a. Agricultural

Sl. No.	Participatory Research Issues
1.	Farm trial on inter cropping with pigeon pea based inter cropping with other pulses, maize and ground nut.
2.	Improvement in paddy varieties resistant to blast and bacterial blight disease.
3.	Trial on use of residual moisture after harvest of early paddy and other crops with pulses and oilseeds.
4.	Assessment of Hybrid varieties of rice, maize.
5.	Suitable study is needed in adoption of drip irrigation in paddy.
6.	Suitable studies on water infiltration rate by taking water shed management practice.
7.	INM in rice wheat based cropping system.
8.	Introduction of pest resistance varieties of pigeon pea.
9.	IPM in Vegetable based cropping systems.
10.	Inclusion of low water requiring crop/crop rotation for rainfed areas.
11.	Micronutrients scheduling for irrigated Rice-Wheat system.
12.	Screening of oilseeds like mustard-toria & castor, which has potential in the district.
13.	Validation of indigenous technical knowledge.
14.	To study the feasibility of Agri.-Horticulture & Horti.-pasture system in old & new orchards.

b. Horticulture.

Sl. No.	Participatory Research Issues
1.	Trial on use of Bio-fertilizers in vegetable crop
2.	Use of pheromone traps for control of fruit and shoot borer in Brinjal.
3.	Trial on use of micro nutrient in Cabbage & Cauliflower.
4.	Economic feasibility in improved storage techniques at field level in Potato and Tomato.
6.	Need research for control of rotting disease of ginger and wilt disease of solanaceae crops.
7.	Inter cropping in orchards.

c. Animal Husbandry

Sl. No.	Participatory Research Issues
1.	Validation of TKS for control of pests and Animal disease.
2.	Selection of ideal fodder varieties of crops for animal production.
3.	Bio mass recycling for soil health maintenance.
4.	Study on improved breed of pig, cow and cock in different micro farming situation.
5.	Studies and delineation of F.M.D. prone area in the district.
6.	Studies on Crossbred cow infertility.
7.	Study of suitability of different fodder crops on agri-situation basis.
8.	Studies on demand and supply on animal products.
9.	Studies on demand and supply on animal products for marketing status improvement.
10.	Economic study of each animal enterprise under different situations of the district.
11.	Studies on nutritious animal and poultry feed production from locally available material as health supplement.

Proposed Marketing Strategies:-

Proposed Strategies For Marketing Support And Value Addition

Sl. No.	Strategy/Intensification and Activities
A	Marketing Support and value Addition
1.	Promoting private entrepreneurship to establish tomato based industries.
2.	Promoting private entrepreneurship for maize based industries for cattle and poultry feed and other value added products- Research and HRD component.
3.	Promotion on Kisan Ki Mandi- Tech, Know – how, Publicity, Contingency and Dovetailing with District Administration for cost sharing & facilitation 10 centre.
4.	Promotion of Commodity cooperative Marketing – Capacity building.
5.	Promotion of Rural godowns and cold chambers – Dovetailing with Govt. departments.
6.	Strengthening of FCI network, PACs and State Agril. Marketing Board outlets- Dovetailing with Govt.
7.	Networking with COMFED (Sudha brand) outlets for marketing honey etc.
8.	Popularizing very fine rice varieties along with milling, processing and marketing. HRD, Exposure visit and forward linkage.
9.	Intensification of organic vegetables production HRD, Exposure visit and forward linkage.
10.	Frequent market surveys for consumer preference to tailor demand-linked production (Market study & participatory technology development)
11.	Strengthening market information through IT and FIAC (Internet connectivity & hiring IT facilitators)
12.	Develop and establish market information network from Block, District, State, National to international levels. (Through FIAC)
13.	Studying the present market information network prevailing in the district along with the gaps.
14.	Developing information technology network at various levels.
15.	Technical and managerial support to FIAC and BTTs.
16.	Exploring possibility of news media-FM radio station (Hiring air time)
17.	Identifying and studying of the existing farmers organizations.
18.	Identification of success stories.
19.	Arranging exposure visits training etc.
20.	Providing techno-managerial support.
21.	Identifying and studying activities of various organizations engaged in marketing operation along with commodities handled.
22.	Finding out the need for marketing the commodities by aromatic plants and vegetables.
23.	Exploring options for contract farming in medicinal and aromatic plants and vegetables.
24.	Assessment of export oriented marketable commodity by engaging marketing consultants/agencies for forecasting the production and local consumption statistics for Ranchi district.