

TECHNICAL PROTOCOL (crop, cropping pattern & major crop)

Under


| Mention Agro-climate, soil condition, Cropping pattern, major crops of the Intervened area | | | |
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| Agro Climatic Zones | | Name the agro climatic zones in which the PIA works | |
| Major Crops | | A crop calendar can be made, i.e. in which season what crops are cultivated | Crop calendar developed |
| Major Agricultural Season | | Main seasons are Kharif , rabi and zaid | |
| Pattern of Agriculture | | Rainfed or irrigated Sepa | Area under cultivation both rainfed and irrigated |
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| Major Agricultural Activities | | Practices (Please mention the name of specific practice/method/substance/equipment used) | Training module developed (write yes/ No) |
| 1 | Pre Cultivation | | |
| | Crop selection | based on Agro-climatic zone, soil, availability of water etc. | Yes, done |
| | Seed selection | Indigenous or hybrid based on the availability: | Indigenous & HYVs |
| | Seed rate | different crops have different seed rate | Yes |
| | Seed Treatment | Seed treatment is done to avoid seed borne diseases, should be done where seed borne diseases are prevalent and to enhance germination percentage. In case of transplanted crop it can also be seedling treatment | Practicing under S.A. tech. |
| 2 | Cultivation | | |
| | spacing | depends on the crop, variety, soil and availability of water | Practicing under S.A. tech |
| | sowing/ Transplanting | Broadcasting, line sowing by dibbler, seed drill, drum seeder or transplanting by conventional method or improved | Mostly line sowing/transplanting. Broadcasting done on residual moisture crops (Poyra). |
| | Intercultural operations | weed management (manually/ mechanically/ organic way) earthing up for root crops, soil loosening, many cultural practices for crop management | Manually & Mechanically |

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| 3 | Water conservation and water management | | |
| | Methods of water conservation | Mulching, some special structure etc. | Including cover crop, low demand crop, fallow plough, plot bund raising etc. |
| | Methods of irrigation | border strip method, check basin, furrow, drip etc. | Yes, in addition Pitcher drip/seap |
| | Plan of irrigation | It depends on the critical stages of different crops | Judiciously done as per S.A practice. |
| 4 | Soil fertility Mgmt. /Soil health enrichment and crop nutrient management | | |
| | Biofertilizer /Organic Manure/ | Jeevamrutha, Panchagavya, Organic urea, FYM, enriched vermicompost, low cost vermicompost, tank silt, vermiwash, microorganism, fish oil, amrit pani, egg lime, egg amino acid handi katha etc. | In addition Rhizobium cultures, Azotobactors, Azospirillum (PSB) are used. |
| | Methods of application/Practices | depends on the biofertilizer used | Yes, as per application tech. |
| | Duration/ Scheduling of application | depends on the biofertilizer used | Yes, as per application tech. |
| | Methods of enhancement of soil biomass | mulching, green manuring, adding of organic biomass in the soil, plantation of tree in the bunds (which add biomass to soil) | Turning of weed in to deep zone practiced in addition. |
| 5 | Insect/Pest/ Management | | |
| | Insect/ Pest control methods/ practices (E.G. If NPM, please specify particular method of control under NPM) | biological, mechanical, physical, cultural | In addition, Neem leaf extract, Neem cake & seed extract etc. botanical use, cow dung extract, cow urine, trap crop/plants, bird purtures etc. |
| | Insect/ Pest control substances(biopesticide/ others etc) | Poochimarandu (herbal solution), effective microorganisms fermented plant extract (em-fpe), agricultural formulation or herbal pesticides, chilli garlic-ginger extract, beejamrutha panchagavya,. | In addition, trap crop/berrier, soup-k-oil emulsion, narium leaf extract, neem leaf extract etc. botanics, soap water, merry gold, basil etc. repellants practiced. |

Technical Protocol

| Kalchini Block, Jalpaiguri Terrai-Teesta Aluvial zones: | Soil Condition | Cropping pattern | Major Crops |
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| | Flood prone, well drained, sandy loam to loamy sand with stone, shallow alluvial soil cap deposited over deep river sand. Soil is moderately acidic, low in organic matter, low in NPK etc. major nutrients, well drained. | Major area is covered under tea and forest. Agri. Cropping pattern: i) Rice - fallow ii) Maize – Maize iii) Maize – Vegetable iv) Rice – Wheat/Oil seeds Agriculture pattern: Rain fed | i) Plantation crops: Tea, Aeronaut. ii) Food grain – Rice, Maize, Wheat. iii) Oil seeds: safflower, Mustered. iv) Seasonal veg: Colocasia, Flat bean, Long bean, Leafy vegs. (Mustered family) Cole crops, Gourds, Radish, Carrot etc. v) Collected: forest food & herbal products. |
| Ithar Block, Goalpukur Block Uttar Dinajpur Terrai-Teesta Aluvial zones: | Deep flood prone moderately drained, sandy loam to clay loam. Soil slightly acidic to natural. Medium in soil nutral, Low in organic carbon, soil fertility medium to high. | i) Rice – Mustard - Mustard ii) Jute – Rice – Mustard iii) Rice – Wheat iv) Maize – Rice – Mustard/ Pulses v) Maize – Rice – Veg. vi) Veg – Rice – Veg. Agriculture pattern: Rain fed | Food grains: Rice, Wheat, Maize. Oil seeds: Mustered, Seseme Pulses: Pigion pea. Seasonal Veg: Flat bean, Long bean, Different gourds. Fruits: Mango, Jack fruit, Arecanut, Coconut, Pineapple, Banana, Guava etc. |
| Harirampur & Banshira Block Dakshhin Dinajpur Gongetic Aluvial zones: | Moderately drained, deep loam to clay loam. Low in organic carbon. Medium in P.K & other minerals soil fertility is medium to high. | i) Rice – Mustard - Mustard ii) Jute – Mustard – Mustard iii) Rice – Wheat iv) Maize – Rice – Mustard/Pulses v) Maize – Rice – Veg. | Food grains: Rice, Wheat, Maize. Oil seeds: Mustard, Sesame, Groundnut, Pulses: Pegion pea, Seasonal Veg: Flat bean, Long bean, Different gourds. Fruits: Mango, Jack fruit, Arecanut, Coconut, Pineapple, |

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| | | vi) Veg – Rice – Veg. Agriculture pattern: Rain fed | Banana, Guava etc. |
| Illambazr, Md. Bazar & Khairasole Block Birbhum Congetic Aluvial zones: | Deep (>90 cm) well drained loamy to sandy loam occurring on gently slopping to undulating plain with moderate erodibility. Soil reaction ranges from 5.0-6.0, Low in fertility. | Rice – Fallow Rice – Mustard/Veg. Rice – Mustard Rice – Veg. Rice - Pulses Agriculture pattern: Rain fed | Food grains: Rice, Wheat Seasonal Veg.: Colocasia, Leafy veg, Broad bean, Long bean, Potato, Gourds. Pulses: Gram, Black gram, Red gram, Sesemum. Fruits: Mango, Banana, Guava Papaya, Jack fruits, Moringa etc. |
| Jhalda -2, Jaipur Block Purulia Red laluitec Aluvial zones: | Shallow to deep, stony, well drained, Loamy to sandy loam occurring on gentle to undulating plain with moderate erodibility, Soil reaction 5.0-6.0. Low in organic carbon & major minerals, Low in soil fertility. | Rice – Fallow Rice – Mustard/Veg. Rice – Mustard Rice – Veg. Rice – Pulses Agriculture pattern: Rain fed | Food grains: Rice, Wheat, Maize, Pulses: Black gram, Horse gram, Bengal gram. Seasonal Veg.: Colocasia, Leafy veg, Broad bean, Long bean, Potato, Gourds, Moringa. Fruits: Mango, Banana, Jackfruit, Papaya. |