List of the Program Areas with sub program area of the ARMIS Project

1. **Variety and Species:** Breeding, Genetic resources, Physiology, Biotechnology, Crop improvement including mutation, Jute and allied fibre improvement, Ancillary sugar crop, Animal, Poultry and Fish improvement, Timber and non-timber plant
   - **Sub- Program area 1.1:** *Breeding (*Breeding, Genetic resources, Mutation)
   - **Sub- Program area 1.2:** *Physiology*
   - **Sub- Program area 1.3:** *Biotechnology*

2. **Crop-Soil-Water Management:** Agronomy, Irrigation, Water and drainage, Land and soil, Fertility and productivity, Degradation of land, Artificial enhancement, Fertilizer including bio-fertilizer, Manures, Bio slurry, Microbiology
   - **Sub- Program area 2.1:** *Agronomy*
   - **Sub- Program area 2.2:** *Land and Soil*
   - **Sub- Program area 2.3:** *Irrigation and Water management*

3. **Pest Management:** Disease management, Vertebrate and insect management, Weed management, Epidemiology, Forest protection, Vaccine and biologics
   - **Sub- Program area 3.1:** *Disease*
   - **Sub- Program area 3.2:** *Insect & Vertebrate*
   - **Sub- Program area 3.3:** *Weed*
   - **Sub- Program area 3.4:** *Vaccine & Biologics*

4. **Farming System:** Crop and cropping pattern, Cropping system, Agro-ecosystem characterization, Integration of crops, livestock, fisheries and agro-forestry, Diversification and intensification, Homestead gardening, Gender participation
   - **Sub- Program area 4.1:** *Farming System*

5. **Farm Mechanization:** Farm power and machinery, Mechanical and pilot plant processing, Postharvest technology, Textile product development, Veneer & composite timber product, Pulp and paper
   - **Sub- Program area 5.1:** *Farm machinery*
   - **Sub- Program area 5.2:** *Textile product development*
   - **Sub- Program area 5.3:** *Timber product, Pulp & Paper*

6. **Knowledge Management**: Technology transfer, On-farm, applied and adaptive research, Demonstration of technology, Training of stakeholders, Agricultural database management, Agro-ecosystem mapping, Documentation
   - **Sub- Program area 6.1:** *Technology Dissemination*
   - **Sub- Program area 6.2:** *Database Management*

7. **Seed Technology:** Seed production, Seed processing, TPS, Propagules, Preservation and storage, Breeder seed maintenance
   - **Sub- Program area 7.1:** *Seed*
   - **Sub- Program area 7.2:** *Preservation*

8. **Socio-economic and Policy:** Agricultural economics, Production and Marketing, Statistics, Farm management, Resource inventory, Evaluation and Impact assessment, Policy studies
   - **Sub- Program area 8.1:** *Production Economics*
   - **Sub- Program area 8.2:** *Evaluation and Impact Assessment*

9. **Postharvest and Agro-processing:** Value addition, Shelf-life improvement, Fish and livestock population dynamics, Processing of crops, animal, poultry, fish and their products, Artificial ripening, Timber seasoning, Preservation and engineering
>> **Sub- Program area 9.1:** *Preservation and Value Addition*
>> **Sub- Program area 9.2:** *Agro-processing*

10. **Food Safety and Security:** Contaminants and adulterants of food and food products, Residual effects and Maximum Residual Limit (MRL) of pesticides, fertilizer, PGR
>> **Sub- Program area 10.1:** *Contaminants and Adulterants*
>> **Sub- Program area 10.2:** *Food Security*

11. **Animal Health and Management:** Livestock, Poultry, Aquatic animal, Feed and fodder development, Feeding technology
>> **Sub- Program area 11.1:** *Livestock and Poultry*
>> **Sub- Program area 11.2:** *Aquatic Animal*
>> **Sub- Program area 11.3:** *Feed and Fodder*

12. **Resource Development and Management:** Land, Soil, Water, Plant, Water bodies, Capture and culture of fishes, Marine fisheries
>> **Sub- Program area 12.1:** *Bio-physical Resources*
>> **Sub- Program area 12.2:** *Aquatic Resources*

13. **Risk Management in Agriculture:** Natural and biological hazards, Heavy metals in soil, water and plant, Impact of climate
>> **Sub- Program area 13.1:** *Natural Hazards*
>> **Sub- Program area 13.2:** *Environment and Climate Change*

14. **Development of host and medicinal plants:** Mulberry, Jujube, Polash, Khair, Kalomegh, Basak, Alovera
>> **Sub- Program area 14.1:** *Host Plant*
>> **Sub- Program area 14.2:** *Medicinal Plant*

15. **Quality and Nutrition:** Seed, Fertilizer, Pesticide, Water, Grain, Feed and fodder, Fruits, Vegetables
>> **Sub- Program area 15.1:** *Agricultural Inputs*
>> **Sub- Program area 15.2:** *Food, Feed and Fodder*

16. **Conservation and Biodiversity:** Crop**,** Livestock, Poultry, Aquatic animal, Forestry
>> **Sub- Program area 16.1: Crop**
>> **Sub- Program area 16.2: Livestock**
>> **Sub- Program area 16.3: Aquatic Animal**
>> **Sub- Program area 16.4: Forestry**

List of Commodities of the ARMIS project

Commodities:

Sl. No	Commodity Group	Items
1.	**Cereals**	Rice, Wheat, Buck wheat, Durum wheat, Triticale, Maize, Sorghum, Barley, Oat, Foxtail millet, Prosomillet, Pearl millet, Teff, Finger Millet
2.	**Pulses & legumes**	Lentil, Mungbean, Grasspea, Chickpea, Black gram, Pigeonpea, Horse gram, Cowpea, Fieldpea, Pea, Faba bean, Rice bean, Gardenpea, Indigofera, Pulses, Legumes
3.	**Oilseeds**	Mustard, Sesame, Soybean, Sunflower, Ground nut, Linseed, Niger, Castor, Safflower, Chia
4.	**Vegetables**	Potato, Tomato, Mushroom, Jute leaf, Seaweed, Brinjal, Cabbage, Chinese cabbage, Cauliflower, Amaranth, Ash gourd, Bottle gourd, Bitter gourd, Batishak, Bothua shak, Bamboo shoot, Butterfly pea, Bush bean, Cucumber, China shak, Carrot, Capsicum, Cucurbit, Hyacinth bean, Pumpkin, Okra, Sponge gourd, Yard long bean, Ridge gourd, Snake gourd, Indian spinach, Spinach, Radish, French bean, Sorrel, Sword bean, Kangkong, Lia shak, Winged bean, Lafa shak, Velvet bean, Pointed gourd, Red amaranth, Squash, Broccoli, Country bean, Drumstick, Lettuce, Sweet gourd, Bean, lablab bean, Bakphul, Knolkhol, Vegetables
5.	**Fruits**	Jackfruit, Mango, Papaya, Litchi, Banana, Guava, Blackberry, Pine apple, Lemon, Water melon, Melon, Orange, Longan, Pummelo, Hogplum, Satkara, Latkan, Grape, Wood apple, Pomegranate, Custard apple, Jambu, Indian olive, Dillenia, Tamarind, Sweet caranda, Rose apple, Golden apple, Jamun, Star gooseberry, Monkey jack, Natal plum, Plum, Cowa, Cashewnut, Straw berry, Sweet lime, Sapota, Coconut, Carambola, Sweet orange, Avocado, Persimmon, Pear, Dragon fruit, Tisa, Jaboticaba, Muskmelon, Bullock's Heart, Palmiara palm, Aonla, Water chestnut, Toikar, Makhna, Fruit, Apple, Date, Lukluki, Wax jambu
6.	**Tuber and root crops**	Aroids, Sweet potato, Yam, Yam bean, Cassava
7.	**Spices and condiments**	Onion, Garlic, Ginger, Chilli, Turmeric, Coriander, Cumin, Black cumin, Black peeper, Clove, Methi, Alubokhra, Fennel
8.	**Flowers**	Gerbera, Rose, Tube rose, Orchid, Gladiolus, Marrigold, Lily, Dahlia, Cactus, Chrysanthemum, Anthurium, Aster, Heliconia, Ornamental Plant(s), Euphorbia
9.	**Sugar crops**	Sugarcane, Sugar beet, Date palm, Stevia
10.	**Beverage and narcotics**	Tea, Coffee, Tobacco, Betel leaf, Betel nut, Cocoa
11.	**Fibre and allied fibre crops**	Jute, Cotton, Silk, kenaf, Mesta, Sunhemp, Silkworm, Silk cloth
12.	**Timber, Non-timber and medicinal plants**	Akash moni, Bamboo, Debdaru, Gab, Gewa, Ipil-ipil, Jhao, Kamdev, Keora, Lambu, Mander, Passur, Pitraj, Sal, Sisso, Sundari, Pine, Mangium, Haldu, Polash, Babla, Patipata, Gall nut, Emblic myrobalan, Devils cotton (Ulat kombal), Datura, Indian pennywort (Thankuni), Mint, Myrobalan, Chirata, Commonbasil, Baen, Bohera, Eucalyptas, Gamar, Gorjon, Hijol, Jarul, Kadam, Karanja, Koroi, Mehogani, Payra, Rain tree, Simul, Sonalu, Teak, Rubber wood, Cane, Arjune, Winter cherry, Mudar, Creat, Aloe, Indian lilac (Neem), Malabar nut (Vasak), Asparagus, Golpata, Indigo, Agar, Gliricidia, Palm oil, Tree, Timber, Mangrove, Plant(s), Medicinal Plants, Clove plant, Tulshi, Seedling, Lohakat, Civit, Hardboard
13.	**Livestock and poultry**	Cow, Bullock, Bull, Buffalo, Calf, Poultry, Goat, Sheep, Horse, Egg, Cattle, Chicken, Livestock, Pig, Quail, Deer, Duck, Rabbit, Gayal
14.	**Fish and aquatic animal**	Hilsa, Shrimp, Prawn, Carp fish, Cat fish, Crab, Turtle, Eel, Crocodile, Finfish, Pangas, Tilapia, Koi, Marine fish, Seaweed, Frog, Mudfish, Aquatic animal, Fish, Plankton, Potca fish, Pabda, Goldfish

15.	**Feed and fodder**	Straw, Urea mollases, Mustard cake, Fodder, Fish feed
16.	**Host plant**	Mulberry, Jujube, Khair,
17.	**Food and nutrition**	Fresh and processed food, Milk, Bread, Fortified food, Organic products, Coocked rice, Gur, Milk
18.	**Land and soil**	Land management, Soil salinity, Soil fertility, Land development and productivity, Land erosion, Contamination of soil, Land degradation
19.	**Irrigation and water management**	Water quality, Water productivity, Water management, Irrigation scheduling, Contamination, Rain water harvesting, Watershed management, Water conservation, Command area development Efluent, Groundwater, Supplemental Irrigation, Tubewell, Drainage
20.	**Fertilizer and manures**	Fertilizer, Bio fertilizer, Manures, Vermiculture, Sewage sludge, Dhaincha, Organic fertilizer
21.	**Weed**	Biological, Chemical and Mechanical weed management, Infestation, Weed management
22.	**Farm machinery & Agricultural mechanization**	Product development, Manipulation, Validation, Demonstration, Performance evaluation, Crusher, Drier, Transplanter, Seeder, Winnower, Power Tiller, Weeder, Harvester, Tubewell, Thresher, Huller, Bio-gas plant, Farm machineries, Tractor, Storage, Sprayer, Pump, Plough, Chula, Moisture Meter, Rice mill, Expeller, Sheller
23.	**Value added product**	Puffed rice, Flatten rice, Corn flour, Cake, Ghee, Butter, Chips, Yogurt, Cheese, Sweets, Pickle, Aqua drugs, Dried fish, Salted fish, Fermented fish, Sausage, Canned fish, Skin, Wool, Hides, Curd, Meat, Jam, Jelly, Honey, Jute products, Flour, Fermenters, Juice, Rice bran oil, Soft drinks, Biscuits, Ice-cream, Soup, Pharmaceutical products
24.	**Pest & Diseases**	Vertebrate, Invertebrate, Diseases, Insects, Diseases and insects, Rats, Fox, Jackle, Squird, Spider, Mite, Mosquito Bug, Virus, Predator
25.	**Pesticide and herbicide**	Insecticide, Herbicide, Weedicide, Fungicide, Nematocide, Vaccine, Becteriocides, Extract (plant, seed), IPM
26.	**Genetic Resources**	Animal, Plant, Micro organism
27.	**Wildlife**	Animal, Plant
28.	**Health and Hazard**	Arsenic, Heavy metal, Pollen grain, Radiation, Pesticide

List of **Non-commodities** of the ARMIS project

Non-commodities:

Sl. No	**Non-commodity Group**	**Items**
1.	**Policy studies**	Subsidy, Credit, Insurance, Price behavior, Seasonality in production, Market analysis
2.	**Evaluation and impact assessment**	Adoption of technology, Performance, Efficiency, Up scaling, Validation, Dissemination, Impact, Profitability, Constraints, Management, Demonstration
3.	**Climate smart technology**	Emission and measurement of green-house gas, Carbon sequestration, Adoption and mitigation technology, Weather/Climate, Rainfall, Drought, Flood, Temperature, Submergence, Storm
4.	**ICT and MIS**	Database Management, GIS, Remote sensing, Ecosystem mapping, Resource inventory, Forecasting, ICT
5.	**Agricultural statistics**	Data collection and collation, Trend analysis, Classification, Soil survey, Analysis and interpretations, Cost of production, Labour wages
6.	**Livelihood improvement**	Income generation, Employment, Social status, Education, Gender issue