

## First Draft Format for Technology Database Agriculture

The details may be asked in following four parts

### Part 1: General

1.	Technology Name	:	<b>Give Name of the technology</b>
2.	Major Resource/Subject/Category Classification	:	<b>Plants, Plant Products, Animals/ Livestock Products, Feeds and Biologicals/Microbes, Fish, Fish Products, Farm Implement &amp; Machinery, Post Harvest Equipment, Product &amp; Process, Communication Tools/Teaching Aids, Extension Methods, Econometric/ Statistical/ Informatics/ Bio-Informatics Models, techniques, IT Tools, etc.</b>
3.	Minor Subject Classification	:	<b>Use AIMS subject codes (codes attached) Annexure I (N20 and N01 to be used for Agricultural Engineering)</b>
4.	Technology Group	:	<b>Varieties (for improving productivity, quality, resistance)/ Biofertilizers/ Biopesticides/ Equipment-process/ Diagnostic kits-vaccine/ Value addition/ Intervention/ Innovation/ Production technology (includes Integrated nutrient management, Integrated water management, Integrated weed management, Resource conservation technology, Cropping system, Farming system, Crop diversification, Organic farming, etc.)/ Protection technology (includes Cultural controls, Chemical control, Biological control/ Bio-control agents, Forecasting of diseases and pests, Integrated pest management (disease, insects, weeds, nematodes, others)/ Farm implements/ Tools &amp; Machinery/ Post Harvest Equipment/ Value Addition (Product/Processes)/Animal Nutrition/ Animal Production System/ Animal Species Improvement/ Fisheries/ Statistical Methodologies/ Econometric Methods/ Informatics Tools (includes Statistical packages, Service oriented computing, Information systems, Expert systems, etc.)</b>
5.	Technology Related to	:	<b>Varietal Selection; Potential yield improvement; Resistance to biotic/abiotic stress; Maturity days, availability of seed/vaccine/product; Field Preparation; Nutrient Management; insect management; plant disease management; weed management; plant nematode management; farm machinery; crop husbandry; Harvesting; Post harvesting; sustainability; IPM; INM; seed treatment; sowing; Intercropping; planting; spacing; application; Market; Current price of the products; Animal Production and Health (Select the most appropriate one which is applicable. The list is</b>

			suggestive, new items may be added)
6.	Complete Details of Technology	:	<b>Identify inputs required with dose/quantity; step-by-step instruction of how to do it; Design &amp; Development of Prototype/product//process and expected outcome/benefit;</b>
7.	Brief Description of technology including salient features	:	<b>Summary of the technology in 5-6 sentences including salient features</b>
8.	Benefits/Utility	:	
9.	Precautions with the Technology, IF ANY”,	:	<b>To inform the farmers, manufacturers, entrepreneurs about to precautionary/ restrictive measures associated with technology adoption</b>
10.	Business and Commercial Potential, if any	:	
11.	Scalability	:	
12.	Potential Investors to this technology	:	
13.	Cost-Benefit Ratio	:	
14.	Target Market/Users	:	
15.	Impact, if already adopted	:	<b>In terms of area covered/beneficiaries/monetary savings etc. (in quantifiable terms) including Social Impact</b>
16.	Technology Spread, if any {Please provide the geographical area and area under the technology }	:	
17.	Contact Persons	:	

### Part II: Technology Development

1.	Developed by (Organization details)	:	<b>Please provide details of main Centre and Regional Centre/AICRP Centre Organization Details should be as per the details in Annexure II</b>
2.	Project(s) Details {Please provide title of the project(s) through which Technology was developed }	:	<b>Name of the project</b>
3.	Validated by (organization details)	:	<b>Organization Details should be as per the details in Annexure II</b>
4.	Year of Validation	:	<b>4 digit Year</b>
5.	Year of Notification/Identification	:	<b>dd/mm/year, Reference notification number</b>
6.	Year of Release/adoption	:	<b>Reference Release Number and date of development/release/adoption</b>

7.	Agrometeorology parameters for location where technology was developed and validated	<b>Mean annual rainfall, minimum and maximum temperature of the region</b>
----	--	--

### Part III: Applies to (Regional Differentiation, etc)

1.	Location	:	<ul style="list-style-type: none"> <li>– <b>Zone (As per the Planning commission) as per ANNEXURE III</b></li> <li>– <b>Agro-ecological Zones (NBSS and LUP) as per ANNEXURE IV</b></li> <li>– <b>State</b></li> <li>– <b>Districts</b></li> </ul>
2.	If technology applies to any specific region/location, the extent of area or latitude/longitude of the area	:	<b>to integrate and link the technology with other resources in spatial domain.</b>
3.	Farmer Type	:	<b>Small/Marginal/Medium/Large</b>
4.	Soil Type/Resource Type	:	<b>Provide list is a combo Box</b>
2.	Water availability status	:	<b>Irrigated/ Rainfed</b>
5.	Commodity	:	<b>Name/Cropping System/animal Production System/,... (to be provided through a Combo Box)</b>
6.	Time of Application/Use	:	<b>Pre-sowing; DAS/DAT/Before Flowering; After Flowering;(may be suitably expanded for Animal Sciences, Fisheries, Engineering etc.)</b>
7.	How to use?	:	<b>&lt;explanation&gt; along with photographs if any</b>
8.	Commercial Availability	:	<b>Sources</b>
9.	Media Resources	:	<b>Video/Audio/Images/Posters</b>
10.	Others, please specify	:	

### Part IV: IPR Related

1.	Major References (Journal Articles/Reports/ Web Pages/ Notifications, Pamphlets, Photos, etc.)	:	<b>For each publication-Please provide type (Research paper/technical bulletin/ Reports/ Web Pages/ Notifications, Pamphlets, Photos, etc.), title, authors/journal/year of publication, etc., a soft copy</b>
2.	Patents	:	<b>Patent reference number, title, patented by organization, patenting agency, year (attach a scanned copy)</b>
3.	Copyrights	:	<b>Copyright number, title, patented by</b>

		<b>organization, patenting agency, year (attach a scanned copy)</b>
--	--	---

Wherever applicable, original document copy should be attached/original URL may also be provided.

## Annexure I

### AIMS Subject Classification

#### **A Agriculture**

A01 Agriculture - General aspects

A50 Agricultural research

#### **B Geography and history**

B10 Geography

B50 History

#### **C Education, extension, and advisory work**

C10 Education

C20 Extension

C30 Documentation and information

#### **D Administration and legislation**

D10 Public administration

D50 Legislation

#### **E Economics, development, and rural sociology**

E10 Agricultural economics and policies

E11 Land economics and policies

E12 Labour and employment

E13 Investment, finance and credit

E14 Development economics and policies

E16 Production economics

E20 Organization, administration and management of agricultural enterprises or farms

E21 Agro-industry

E40 Cooperatives

E50 Rural sociology

E51 Rural population

E70 Trade, marketing and distribution

E71 International trade

E72 Domestic trade

E73 Consumer economics

E80 Home economics, industries and crafts E90 Agrarian structure

#### **F Plant production**

F01 Crop husbandry

F02 Plant propagation

F03 Seed production

F04 Fertilizing

F06 Irrigation

F07 Soil cultivation  
F08 Cropping patterns and systems  
F30 Plant genetics and breeding  
F40 Plant ecology  
F50 Plant structure  
F60 Plant physiology and biochemistry  
F61 Plant physiology – Nutrition  
F62 Plant physiology - Growth and development  
F63 Plant physiology – Reproduction  
F70 Plant taxonomy and geography

### **H Protection of plants and stored products**

H01 Protection of plants - General aspects  
H10 Pests of plants  
H20 Plant diseases  
H50 Miscellaneous plant disorders  
H60 Weeds

### **J Handling, transport, storage and protection of agricultural products**

J10 Handling, transport, storage and protection of agricultural products  
J11 Handling, transport, storage and protection of plant products  
J12 Handling, transport, storage and protection of forest products  
J13 Handling, transport, storage and protection of animal products  
J14 Handling, transport, storage and protection of fisheries and aquacultural products  
J15 Handling, transport, storage and protection of non-food or non-feed agricultural products

### **K Forestry**

K01 Forestry - General aspects  
K10 Forestry production  
K11 Forest engineering  
K50 Processing of forest products  
K70 Forest injuries and protection

### **L Animal production**

L01 Animal husbandry  
L02 Animal feeding  
L10 Animal genetics and breeding  
L20 Animal ecology  
L40 Animal structure  
L50 Animal physiology and biochemistry  
L51 Animal physiology – Nutrition  
L52 Animal physiology - Growth and development  
L53 Animal physiology – Reproduction  
L60 Animal taxonomy and geography  
L70 Veterinary science and hygiene  
L72 Pests of animals  
L73 Animal diseases  
L74 Miscellaneous animal disorders

### **M Aquatic sciences and fisheries**

M01 Fisheries and aquaculture - General aspects

M11 Fisheries production  
M12 Aquaculture production and management  
M40 Aquatic ecology

**N Machinery and buildings**

N01 Agricultural engineering  
N02 Farm layout  
N10 Agricultural structures  
N20 Agricultural machinery and equipment

**P Natural resources**

P01 Nature conservation and land resources  
P05 Energy resources and management  
P06 Renewable energy resources  
P07 Non-renewable energy resources  
P10 Water resources and management  
P11 Drainage  
P30 Soil science and management  
P31 Soil surveys and mapping  
P32 Soil classification and genesis  
P33 Soil chemistry and physics  
P34 Soil biology  
P35 Soil fertility  
P36 Soil erosion, conservation and reclamation  
P40 Meteorology and climatology

**Q Food science**

Q01 Food science and technology  
Q02 Food processing and preservation  
Q03 Food contamination and toxicology  
Q04 Food composition  
Q05 Food additives  
Q51 Feed technology  
Q52 Feed processing and preservation  
Q53 Feed contamination and toxicology  
Q54 Feed composition  
Q55 Feed additives  
Q60 Processing of non-food or non-feed agricultural products  
Q70 Processing of agricultural wastes  
Q80 Packaging

**S Human nutrition**

S01 Human nutrition - General aspects  
S20 Physiology of human nutrition  
S30 Diet and diet-related diseases  
S40 Nutrition programmes

**T Pollution**

T01 Pollution  
T10 Occupational diseases and hazards

**U Auxiliary disciplines**

U10 Mathematical and statistical methods

U30 Research methods  
U40 Surveying methods

**Annexure II****Format of the Organization Details**

Name of the Organization:  
 Acronym of the Organization:  
 Type (ICAR/SAU/etc.)  
 Complete Postal Address:  
 Email:  
 Web:  
 Phone:

**Annexure III****Zone (Planning Commission)**

**Region: North India**  
**State : Jammu & Kashmir**

Abbrivation	Agroclimatic Zone
AZ1	Low Altitude Subtropical
AZ2	Intermediate
AZ3	Valley temperate
AZ4	Dry Temperate
AZ5	Cold Arid

**State : Himachal Pradesh**

AZ6	High hills Temperate Wet
AZ7	Sub Montaneb and low hills subtropical
AZ8	Mid hills subtropical
AZ9	Sub Montaneb and low hills subtropical

**State : Punjab**

AZ10	Undulating Plain
AZ11	Central Plain
AZ12	Western Plain
AZ13	Western
AZ14	Sub montane undulating

**State : Haryana**

AZ15	Eastern
AZ16	Western

**State : Rajasthan**

AZ17	Arid Western Plain
AZ18	Irrigated North Western Plain
AZ19	Transitional plain zone of Island drainage
AZ20	Transitional plain zone of Luni Basin
AZ21	Semiarid eastern plain
AZ22	Flood prone eastern plain
AZ23	Sub humid southern plain and alluvial hill
AZ24	Southern humid plain
AZ25	South eastern humid plain

**State : Uttaranchal**

AZ26	Hill
AZ27	Bhabar and Tarai

**State : Uttar Pradesh**

AZ28	Western Plain
AZ29	Mid Western Plain
AZ30	South Western Semi arid
AZ31	Central Plain
AZ32	Bundel Khand
AZ33	North Eastern Plain
AZ34	Eastern Plain
AZ35	Vindyan

**Region : East & North east India**

**State : West Bengal**

AZ36	Hilly
AZ37	Tarai
AZ38	Old Alluvial
AZ39	New Alluvial
AZ40	Laterite and red soil Zone
AZ41	Coastal Saline

**State : Assam**

AZ42	Basic valley
AZ43	Upper Brahamaputra
AZ44	Hill
AZ45	Coastal Brahamaputra
AZ46	AZ47
AZ47	Lower Brahamaputra valley

**State : Arunachal Pradesh**

AZ48	Alpine
AZ49	Temperate Sub Alpine

**State : Meghalaya**

AZ50	Sub tropical Hill
------	-------------------

**State : Manipur**

AZ51	Sub tropical plain
------	--------------------

**State : Nagaland**

AZ52	Mid Tropical Hill
------	-------------------

**State : Tripura**

AZ53	Mid Tropical Plain
------	--------------------

**State : Bihar and Jharkhand**

AZ54	Northwest Alluvial Plain
AZ55	North east Alluvial plain
AZ56	South Bihar Alluvial Plain
AZ57	Central and northeastern plateau
AZ58	Western Plateau
AZ59	South eastern plateau

**State : Orissa**

AZ60	North western plateau
AZ61	North Central plateau
AZ62	North eastern Coastal plain
AZ63	East & southeastern coastal plain
AZ64	North eastern ghat
AZ65	Eastern ghat highland
AZ66	Southeastern ghat
AZ67	Western undulating
AZ68	West central table
AZ69	Mid Central table land

**Peninsular India**

**State:Madhya Pradesh and Chattisgarh**

AZ 70	Chattigarh plain zone including Chattisgarh districts
AZ71	Bastar Plateau
AZ72	North hill zone of Chattisgarh
AZ73	Kymora plateau and Satpara hill
AZ74	Vindya Plateau
AZ75	Central Narmada Valley
AZ76	Gird

AZ77	Bundelkhand
AZ78	Satpura plateau
AZ79	Malwa Plateau
AZ80	Nimar Valley
AZ81	Jhabua hills

**State: Gujarat**

AZ82	East Gujarat heavy rainfall
AZ83	South Gujarat
AZ84	Middle Gujarat
AZ85	North Gujarat
AZ86	North Western Gujarat
AZ87	South Saurashtra
AZ88	North Saurashtra
AZ89	Ghat and Coastal

**State : Maharashtra**

AZ90	South Konkan Coastal
AZ91	North Konkan Coastal
AZ92	Western Ghat
AZ93	Submontane
AZ94	Western Maharashtra Plain
AZ95	Scarcity
AZ96	Central Maharashtra plateau
AZ97	Central Vidarbha
AZ98	Eastern Vidarbha

**State : Karnataka**

AZ99	North East transition
AZ100	North east dry
AZ101	Northern dry
AZ102	Central dry
AZ103	Eastern dry
AZ104	Southern dry
AZ105	Southern transition
AZ106	Western transition
AZ107	Hill
AZ108	Coastal

**State : Kerala**

AZ109	Northern
AZ110	Southern
AZ111	Central
AZ112	High Altitude

AZ113	Problem area
-------	--------------

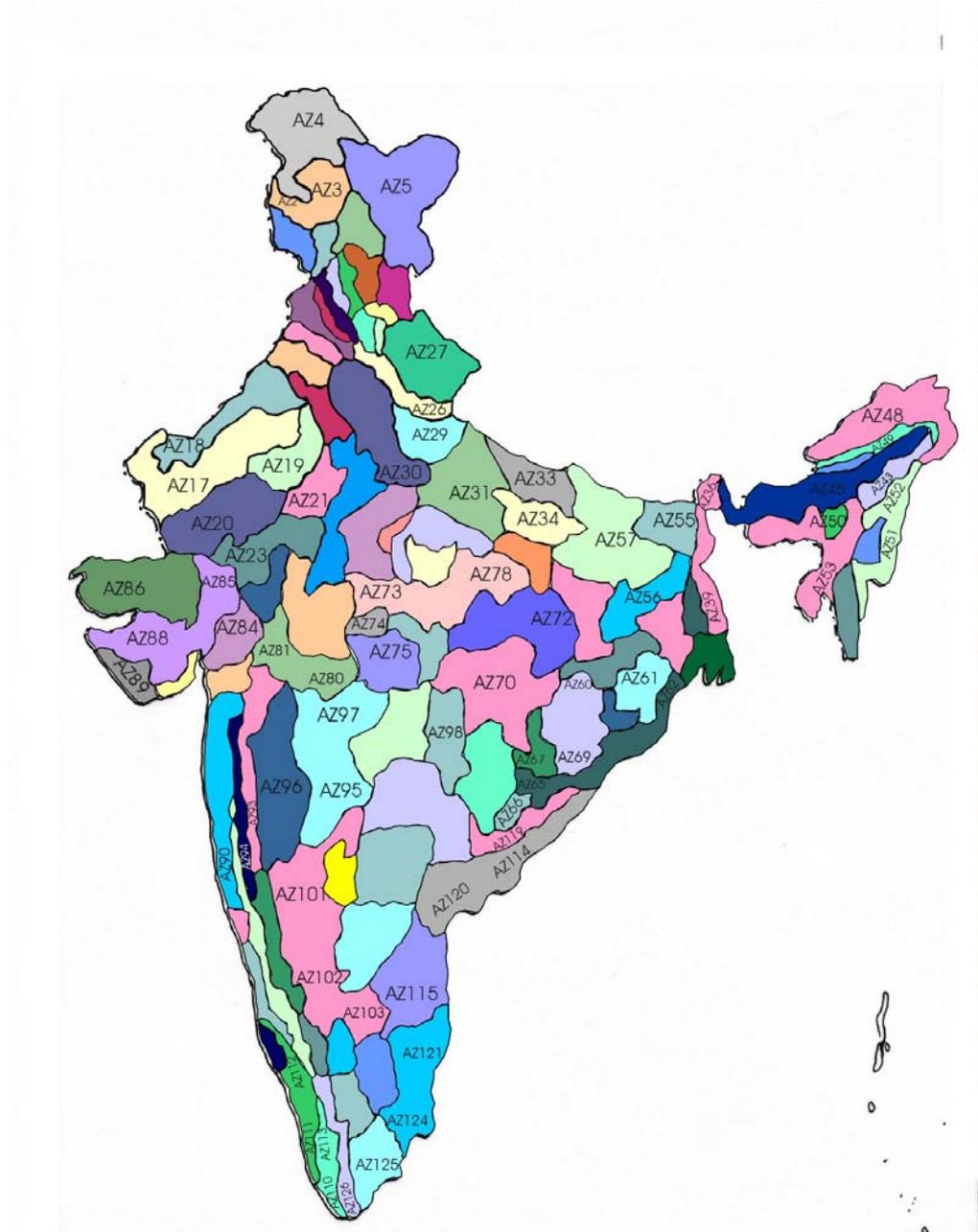
**State : Andhra Pradesh**

AZ114	North Coastal
AZ115	Southern
AZ116	Northern Telengana
AZ117	Scarce rainfall zone of Rayalseema
AZ118	Southern Telengana
AZ119	High altitude and tribal
AZ120	Krishna Godavari

**State : Tamil Nadu**

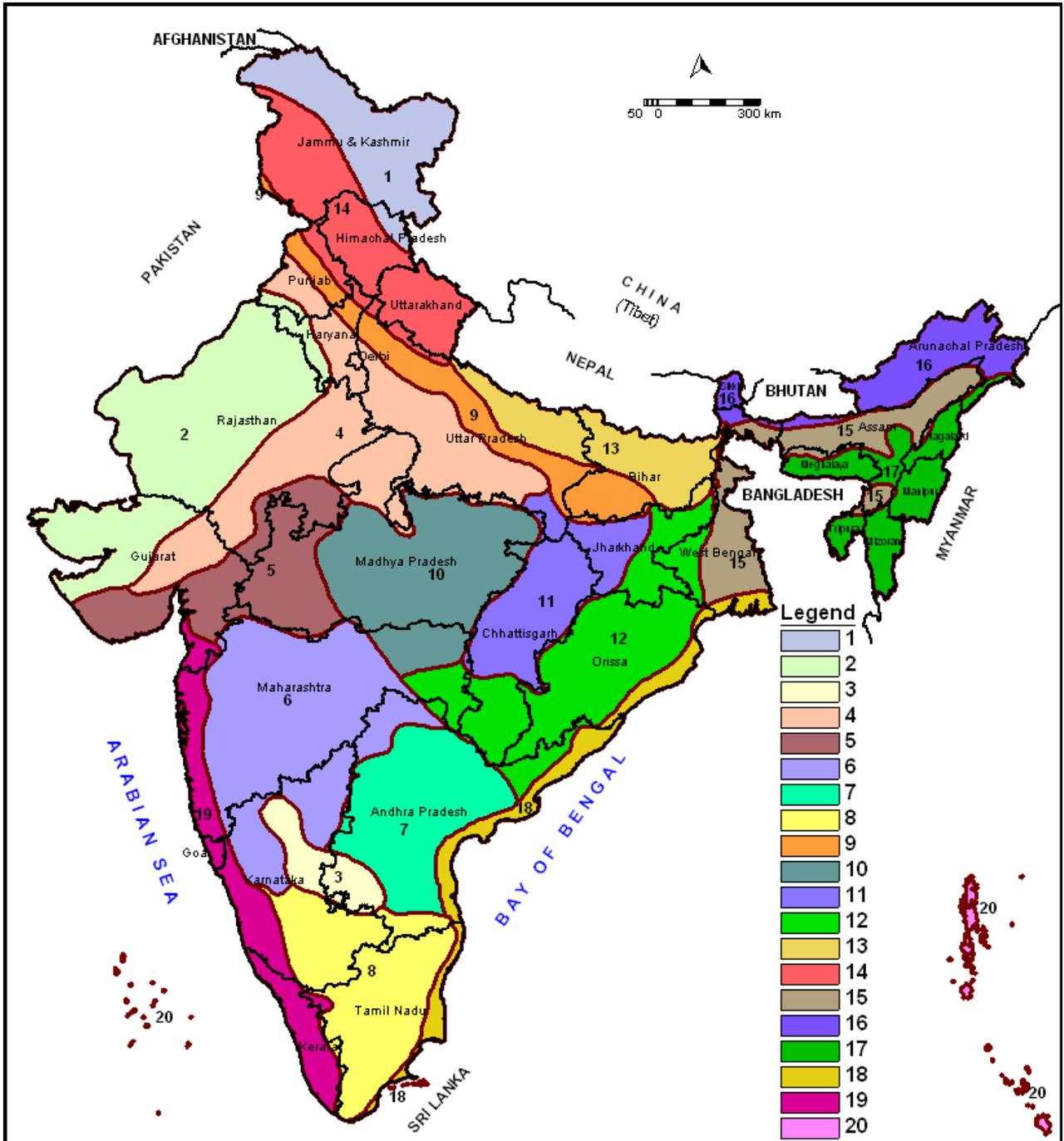
AZ121	North eastern
AZ122	North western
AZ123	Western
AZ124	Kavery delta
AZ125	Southern
AZ126	High rainfall
AZ127	High altitude and hilly

Refer image in the next page for delineation:



## ANNEXURE\_IV

<b>AER</b>	<b>Agro-ecological regions (AERs) of India delineated by NBSS&amp;LUP</b>
1	Western Himalayas cold arid ecoregion, with shallow skeletal soils and length of growing period (GP) <90 days;
2	Western plain, Kachchh and part of Kathiawar peninsula, hot arid ecoregion, with desert and saline soils and GP <90 days;
3	Deccan plateau, hot arid ecoregion, with red and black soils and GP <90 days;
4	Northern plain and central highlands including Aravallis, hot semi-arid ecoregion, with alluvium derived soils and GP 90–150 days;
5	Central (Malwa) highlands, Gujarat plains and Kathiawar peninsula, hot semi-arid ecoregion, with medium and deep black soils and GP 90–150 days;
6	Deccan plateau, hot semi-arid ecoregion, with shallow and medium (with inclusion of deep) black soils and GP 90–150 days;
7	Deccan (Telangana) plateau and Eastern Ghats, hot semi-arid ecoregion, with red and black soils and GP 90–150 days;
8	Eastern Ghats, Tamil Nadu uplands and Deccan (Karnataka) plateau, hot semi-arid ecoregion, with red loamy soils and GP 90–150 days;
9	Northern plain, hot sub-humid (dry) ecoregion, with alluvium derived soils and GP 90–150 days;
10	Central Highlands (Malwa, Bundelkhand and Eastern Satpura), hot sub-humid ecoregion, with black and red soils and GP 150–180 (to 210) days;
11	Eastern plateau (Chhattisgarh), hot subhumid ecoregion, with red and yellow soils and GP 150–180 days;
12	Eastern (Chhotanagpur) plateau and Eastern Ghats, hot subhumid ecoregion, with red and lateritic soils, and GP 150–180 (to 210) days;
13	Eastern plain, hot subhumid (moist) ecoregion, with alluvium derived soils and GP 180–210 days;
14	Western Himalayas, warm subhumid (to humi92756.35d with inclusion per-humid) ecoregion, with brown forest and podzolic soils and GP 180–210+ days;
15	Bengal and Asom plain, hot subhumid (moist) to humid (inclusion of per-humid) ecoregion, with alluvium derived soils and GP 210+ days;
16	Eastern Himalayas, warm per-humid ecoregion, with brown and red hill soils and GP 210+ days;
17	North-Eastern Hills (Purvanchal), warm perhumid ecoregion, with red and lateritic soils and GP 210+ days;
18	Eastern Coastal plain, hot subhumid to semi-arid ecoregion, with coastal alluvium derived soils and GP 90–210+ days;
19	Western Ghats and Coastal plain, hot humid–per-humid ecoregion, with red, lateritic and alluvium derived soils and GP 210+ days;
20	Islands of Andaman-Nicobar and Lakshadweep, hot humid and perhumid island ecoregion, with red loamy and sandy soils and GP 210+ days.



Source: NBSS&LUP, Nagpur

