

## State: Jammu and Kashmir

### Agriculture Contingency Plan for District: Kathua

| 1.0 District Agriculture profile*  |   |                       |                 |
|--|---|-----------------------|-----------------|
| 1.1  | Agro-Climatic/Ecological Zone   |                       |                 |
| Agro Ecological Sub Region (ICAR)  | Western Himalayas, Warm Subhumid (To Humid With Inclusion Of Perhumid) Eco-sub region. (14.2) |                       |                 |
| Agro-Climatic Zone (Planning Commission)   | Western Himalayan Region (I)  |                       |                 |
| Agro Climatic Zone (NARP)  | Low Altitude Sub-Tropical Zone (JK-1)   |                       |                 |
| List all the districts falling under the NARP Zone* (*>50% area falling in the zone)           | Doda, Jammu, Kathua, Udhampur   |                       |                 |
| Geographic coordinates of district headquarters headquarters                                   | <b>Latitude</b>   | <b>Longitude</b>      | <b>Altitude</b> |
|  | 32 <sup>o</sup> .58 N   | 75 <sup>o</sup> .50 E | 307 m AMSL      |
| Name and address of the concerned ZRS/ ZARS/ RARS/ RRS/ RRTTS                                  | KVK Kathua  |                       |                 |
| Mention the KVK located in the district with full address                                      | KVK Kathua  |                       |                 |
| Name and address of the nearest Agromet Field Unit (AMFU, IMD) for agro-advisories in the Zone | AMFU, Jammu   |                       |                 |

| 1.2 | Rainfall               | Normal RF(mm) | Normal Rainy days (number) | Normal Onset ( specify week and month) | Normal Cessation (specify week and month) |
|-----|------------------------|---------------|----------------------------|--|---|
|     | SW monsoon (June-Sep): | 866.0         | 34                         | 4 <sup>th</sup> week of June           | 2 <sup>nd</sup> week of September         |
|     | NE Monsoon(Oct-Dec):   | 62.9          | 4                          |  |   |
|     | Winter (Jan- February) | 97.3          | 9                          | -                                      | -   |
|     | Summer (March-May)     | 130.3         | 7                          | -                                      | -   |
|     | Annual                 | 1156.5        | 54                         | -                                      | -   |

|            |   |                   |                 |             |                                 |                    |                      |  |                              |                 |               |
|------------|---|-------------------|-----------------|-------------|---------------------------------|--------------------|----------------------|--|------------------------------|-----------------|---------------|
| <b>1.3</b> | <b>Land use pattern of the district</b> (latest statistics) | Geographical area | Cultivable area | Forest area | Land under non-agricultural use | Permanent pastures | Cultivable wasteland | Land under Misc. tree crops and groves | Barren and uncultivable land | Current fallows | Other fallows |
|            | <b>Area ( ha)</b>   | -                 | -               | -           | -                               | -                  | -                    | -                                      | -                            | -               | -             |

|            |                              |                |                      |
|------------|------------------------------|----------------|----------------------|
| <b>1.5</b> | <b>Agricultural land use</b> | Area ('000 ha) | Cropping intensity % |
|            | Net sown area                | 61.010         | 210                  |
|            | Area sown more than once     | 67.04          |                      |
|            | Gross cropped area           | 128.055        |                      |

|            |  |                        |                |   |
|------------|--|------------------------|----------------|---|
| <b>1.6</b> | <b>Irrigation</b>  | Area ('000 ha)         |                |   |
|            | Net irrigated area   | 20814                  |                |   |
|            | Gross irrigated area   |                        |                |   |
|            | Rainfed area   |                        |                |   |
|            | <b>Sources of Irrigation</b>   | Number                 | Area ('000 ha) | Percentage of total irrigated area  |
|            | Canals   |                        | 16847          |   |
|            | Tanks  |                        | 564            |   |
|            | Open wells   |                        | 968            |   |
|            | Bore wells   | 34                     |                |   |
|            | Lift irrigation schemes  |                        |                |   |
|            | Micro-irrigation   |                        |                |   |
|            | Other sources (please specify)   |                        | 2435           |   |
|            | Total Irrigated Area   |                        |                |   |
|            | Pump sets  |                        |                |   |
|            | No. of Tractors  |                        |                |   |
|            | <b>Groundwater availability and use* (Data source: State/Central Ground water Department /Board)</b> | No. of blocks/ Tehsils | (%) area       | Quality of water (specify the problem such as high levels of arsenic, fluoride, saline etc) |
|            | Over exploited   | N A                    |                |   |
|            | Critical   |                        |                |   |

|   |                                 |  |  |  |
|---|---------------------------------|--|--|--|
|   | Semi- critical                  |  |  |  |
|   | Safe                            |  |  |  |
|   | Wastewater availability and use |  |  |  |
|   | Ground water quality            |  |  |  |
| *over-exploited: groundwater utilization > 100%; critical: 90-100%; semi-critical: 70-90%; safe: <70% |                                 |  |  |  |

### 1.7 Area under major field crops & horticulture

| 1.7 | Major field crops cultivated | Area ('000 ha) |         |       |             |         |       |        |             |
|-----|------------------------------|----------------|---------|-------|-------------|---------|-------|--------|-------------|
|     |                              | <i>Kharif</i>  |         |       | <i>Rabi</i> |         |       | Summer | Grand total |
|     |                              | Irrigated      | Rainfed | Total | Irrigated   | Rainfed | Total |        |             |
|     | Paddy                        | 31.243         | -       | -     | -           | -       | -     | -      | -           |
|     | Maize                        | -              | -       | -     | -           | 24.735  | -     | -      | -           |
|     | Wheat                        | -              | -       | -     | -           | 52.511  | -     | -      | -           |
|     | Millets                      | -              | -       | -     | -           | 2.984   | -     | -      | -           |
|     | Pulses                       | -              | -       | -     | -           | 4.027   | -     | -      | -           |

|  | Horticulture crops - Fruits | Area ('000 ha) |           |           |
|--|-----------------------------|----------------|-----------|-----------|
|  |                             | Total          | Irrigated | Rainfed   |
|  | Apple                       | -              | -         | 846.30 ha |
|  | Pear                        | -              | -         | 650.10 ha |
|  | Citrus                      | -              | -         | 2784 ha   |
|  | Mango                       |                |           | 2163 ha   |

|  |  |                |   |               |
|--|--|----------------|---|---------------|
|  | <b>Guava</b>   |                |   | <b>490 ha</b> |
|  | <b>Horticulture crops -<br/>Vegetables</b>   | <b>290 ha</b>  |   |               |
|  | <b>Medicinal and<br/>Aromatic crops</b>  | -              | - | -             |
|  | <b>Plantation crops</b>  | -              | - | -             |
|  | <b>Fodder crops</b>  | -              | - | -             |
|  | <b>Total fodder crop<br/>area</b>  | -              | - | -             |
|  | <b>Grazing land,<br/>reserve areas etc</b>   | <b>8218 ha</b> | - | -             |
|  | <b>Availability of<br/>unconventional<br/>feeds/by products<br/>eg., breweries waste,<br/>food processing,<br/>fermented feeds<br/>bamboo shoots, fish<br/>etc</b> | -              | - | -             |
|  | <b>Sericulture etc</b>   | -              |   |               |
|  | <b>Other agro<br/>enterprises<br/>(mushroom<br/>cultivation etc<br/>specify)</b>   |                |   |               |
|  | <b>Others (specify)</b>  |                |   |               |

|            |                  |                     |                       |                      |
|------------|------------------|---------------------|-----------------------|----------------------|
| <b>1.8</b> | <b>Livestock</b> | <b>Male (lakhs)</b> | <b>Female (lakhs)</b> | <b>Total (lakhs)</b> |
|------------|------------------|---------------------|-----------------------|----------------------|

|             |   |  |                                    |                               |                             |   |                                    |
|-------------|---|--|------------------------------------|-------------------------------|-----------------------------|---|------------------------------------|
|             | Indigenous cattle   | 0.740  | 1.160                              | 2.370                         |                             |   |                                    |
|             | Improved / Crossbred cattle   |  |                                    |                               |                             |   |                                    |
|             | Buffaloes (local low yielding)                                      | 0.075  | 0.565                              | 0.850                         |                             |   |                                    |
|             | Improved Buffaloes  |  |                                    |                               |                             |   |                                    |
|             | Goat  |  |                                    | 2.095                         |                             |   |                                    |
|             | Sheep   |  |                                    | 2.795                         |                             |   |                                    |
|             | Pig   |  |                                    | 0.0006                        |                             |   |                                    |
|             | Mithun  |  |                                    |                               |                             |   |                                    |
|             | Yak   |  |                                    |                               |                             |   |                                    |
|             | Others (Horse, mule, donkey etc., specify)                          |  |                                    | 0.0918; 0.0245                |                             |   |                                    |
|             | Commercial dairy farms (Number)                                     |  |                                    |                               |                             |   |                                    |
| <b>1.9</b>  | <b>Poultry</b>  | <b>No. of farms</b>                                | <b>Total No. of birds ('lakhs)</b> |                               |                             |   |                                    |
|             | Commercial  |  | 2.681 lakhs                        |                               |                             |   |                                    |
|             | Backyard  |  |                                    |                               |                             |   |                                    |
| <b>1.10</b> | <b>Fisheries</b> (Data source: Chief Planning Officer)              |  |                                    |                               |                             |   |                                    |
|             | <b>A. Capture</b>   |  |                                    |                               |                             |   |                                    |
|             | <b>i) Marine</b> (Data Source: Fisheries Department)                | <b>No. of fishermen</b><br><b>594 (registered)</b> | <b>Boats</b>                       |                               | <b>Nets</b>                 | <b>Storage facilities (Ice plants etc.)</b> |                                    |
|             |   |  | Mechanized                         | Non-mechanized                |                             |   | Mechanized (Trawl nets, Gill nets) |
|             |   |  |                                    |                               |                             |   |                                    |
|             | <b>ii) Inland</b> (Data Source: Fisheries Department)               | <b>No. Farmer owned ponds</b>                      |                                    | <b>No. of Reservoirs</b>      | <b>No. of village tanks</b> |   |                                    |
|             |   |  |                                    |                               |                             |   |                                    |
|             | <b>B. Culture</b>   |  |                                    |                               |                             |   |                                    |
|             |   |  |                                    | <b>Water Spread Area (ha)</b> | <b>Yield (t/ha)</b>         | <b>Production ('000 tons)</b>               |                                    |
|             | <b>i) Brackish water</b> (Data Source: MPEDA/ Fisheries Department) |  |                                    |                               |                             | 4720 qtls                                   |                                    |
|             | <b>ii) Fresh water</b> (Data Source: Fisheries Department)          |  |                                    |                               |                             |   |                                    |
|             | <b>Others</b>   |  |                                    |                               |                             |   |                                    |

### 1.11 Production and Productivity of major crops

| 1.11   | Name of crop | Kharif              |                      | Rabi                |                      | Summer              |                      | Total               |                      | Crop residue as fodder ('000 tons) |
|--|--------------|---------------------|----------------------|---------------------|----------------------|---------------------|----------------------|---------------------|----------------------|------------------------------------|
|  |              | Production ('000 t) | Productivity (kg/ha) | Production ('000 t) | Productivity (kg/ha) | Production ('000 t) | Productivity (kg/ha) | Production ('000 t) | Productivity (kg/ha) |                                    |
| <b>Major Field crops (Crops to be identified based on total acreage)</b>         |              |                     |                      |                     |                      |                     |                      |                     |                      |                                    |
|  | Rice         | 634.54              | 20.34q/ha            | -                   | -                    | -                   | -                    | -                   | -                    | -                                  |
|  | Maize        | 583.20              | 23.57q/ha            | -                   | -                    | -                   | -                    | -                   | -                    | -                                  |
|  | Wheat        | 1004.84             | 19.13q/ha            | -                   | -                    | -                   | -                    | -                   | -                    | -                                  |
|  | Millets      | 22.65               | -                    | -                   | -                    | -                   | -                    | -                   | -                    | -                                  |
|  | Pulses       | 12.40               | -                    | -                   | -                    | -                   | -                    | -                   | -                    | -                                  |
| <b>Major Horticultural crops (Crops to be identified based on total acreage)</b> |              |                     |                      |                     |                      |                     |                      |                     |                      |                                    |

| 1.13 | What is the major contingency the district is prone to? (Tick mark) | Regular* | Occasional | None |
|------|---|----------|------------|------|
|      | Drought   |          |            |      |
|      | Flood   |          |            |      |
|      | Cyclone   |          |            |      |
|      | Hail storm  |          |            |      |
|      | Heat wave   |          |            |      |
|      | Cold wave   |          |            |      |
|      | Frost   |          |            |      |
|      | Sea water intrusion   |          |            |      |
|      | Snowfall  |          |            |      |
|      | Landslides  |          |            |      |
|      | Earthquake  |          |            |      |
|      | Pests and disease outbreak (specify)                                |          |            |      |
|      | Others (like fog, cloud bursting etc.)                              |          |            |      |

\*When contingency occurs in six out of 10 years

|             |   |   |               |
|-------------|---|---|---------------|
| <b>1.14</b> | <b>Include Digital maps of the district for</b> | Location map of district within State as Annexure I | Enclosed: Yes |
|             |   | Mean annual rainfall as Annexure 2                  | Enclosed: No  |
|             |   | Soil map as Annexure 3                              | Enclosed: No  |

### Annexure-I

#### *JAMMU AND KASHMIR*







## 2.0 Strategies for weather related contingencies

### 2.1 Drought

#### 2.1.1 Rainfed situation (KATHUA)

Normal onset & Withdrawal of monsoon: 27<sup>th</sup> June ± 10 days & 21<sup>st</sup> Sept. ± 7 days

| Condition  |   |                                  | Suggested Contingency measures                                  |   |                           |   |
|--|---|----------------------------------|---|---|---------------------------|---|
| Early season drought (delayed onset)   | Major Farming situation                                   | Normal Crop / Cropping system    | Change in crop / cropping system including variety              | Agronomic measures  | Remarks on Implementation |   |
| Delay by 2 weeks<br><br>1st week of July (5 <sup>th</sup> to 15 <sup>th</sup> July-)*<br><br>27 <sup>th</sup> & 28 <sup>th</sup> SMW | High rainfall   | Maize                            | (Hybrid: GS-2, K- 517, Double DeKalb)                           | <ul style="list-style-type: none"> <li>➤ Dry sowing of maize can be followed, so that after getting rainfall, it will germinate.</li> <li>➤ Apply fertilizer by 'Pora' method.</li> <li>➤ Sowing of Maize : Cowpea in the ratio of 8 : 1</li> </ul> |                           |   |
|  | Lower alluvial piedmont plain                             | Sub-Tropical region              | Green gram/black gram   | Green gram (ML-131, PS-7, PS-16), or black gram (Pant U-19, Uttara)   |                           | <ul style="list-style-type: none"> <li>➤ Sowing of sole green gram and black gram crop</li> <li>➤ Inoculate the seed of green gram/black gram with <i>Rhizobium</i> culture</li> <li>➤ Treat the seed with Captan or Thiram @ 3 g/kg seed.</li> </ul> |
|  |   |                                  | Bajra   | Bajra (WCC-75, ICMS-7703)   |                           | <ul style="list-style-type: none"> <li>➤ Sowing of sole Bajra crop using recommended package of practice of SKUAST-J.</li> </ul>  |
|  |   |                                  | Sesame  | Sesame (Punjab Til-1)   |                           | <ul style="list-style-type: none"> <li>➤ Normal sowing of sole sesame crop by kera /pora method, as per package of practice of SKUAST-J.</li> </ul>   |
|  |   |                                  | Rice  | cv. K-39  |                           | <ul style="list-style-type: none"> <li>➤ Puddle the rice fields and use 2-3 seedlings per hill.</li> <li>➤ Apply recommended dose of fertilizer at the time of sowing</li> </ul>  |
|  | Low rainfall (Tarai region soil (Moderately well drained, | Maize Intercropping Maize+Cowpea | Maize (Vijay, C-5, C-8)<br><br>Maize (Vijay, C-5, C-8) + Cowpea | <ul style="list-style-type: none"> <li>➤ Dry sowing of maize can be followed, so that after getting rainfall, it will germinate.</li> <li>➤ Apply fertilizer by 'Pora' method.</li> <li>➤ Sowing of Maize : Cowpea in the ratio of</li> </ul>       |                           |   |

|   |  |                             |   |   |  |
|---|--|-----------------------------|---|---|--|
|   | very gentle slope)<br><b>Intermediate region</b>   |                             |   | 6 : 1   |  |
|   |  | Black gram/<br>Green gram   | Green gram (ML-131, PS-7, PS-16), or black gram (Pant U-19, Uttara) | <ul style="list-style-type: none"> <li>➤ Sowing of sole green gram and black gram crop</li> <li>➤ Inoculate the seed of green gram/black gram with <i>Rhizobium</i> culture</li> <li>➤ Treat the seed with Captan or Thiram @ 3 g/kg seed.</li> </ul>   |  |
|   |  | Rainfed rice                | Rice (K-343, IET-1410)  | Transplanting of paddy from nursery area to field and by using 2-3 seedlings per hill.  |  |
|   | <b>Low rainfall Soils of Shiwaliks</b><br><br>(Excessively drained, gentle to steep slope) | Maize + Rajmash             | Maize (Mansar, C-2, C-6) + rajmash (local cultivar).                | <ul style="list-style-type: none"> <li>➤ Maize : Rajmash 8 : 1</li> <li>➤ Preparatory tillage by ploughing the fields across the slope.</li> <li>➤ Plough once with soil turning plough (<i>Tawi plough</i>) followed by twice with soil stirring plough (<i>deshi plough</i>) and at last planking for maximum conservation of soil moisture.</li> <li>➤ Furrow sowing across the slope</li> </ul> |  |
|   |  | Pea (off-season)            | Pea (AP-1, AP-3, P-89)  | Sowing of off season pea crop   |  |
|   |  | Rainfed rice                | Rice (Giza-14)  | ➤ Transplanting of paddy from nursery area to field and by using 2-3 seedlings per hill.  |  |
| <b>Delay by 4 weeks</b><br><br><b>3rd week of July</b><br><br>( 16 <sup>th</sup> to 31 <sup>st</sup> July)*<br><br><b>29<sup>th</sup> &amp; 30<sup>th</sup> SMW</b> | High rainfall<br><b>Lower alluvial piedmont plain</b>                                      | <b>Maize</b>                | Hybrid: GS-2& Double DeKalb   | <ul style="list-style-type: none"> <li>➤ Dry sowing of maize can be followed, so that after getting rainfall, it will germinate. Apply fertilizer by 'Pora' method.</li> <li>➤ Increase sowing depth of maize</li> <li>➤ Furrow sowing across the slope</li> </ul>  |  |
|   |  | <b>Green gram/back gram</b> | ML-818<br>UG-338  | ➤ Prepare the land with 2-3 ploughings followed by planking for moisture conservation   |  |
|   | Sub-Tropical region  | <b>Bajra</b>                | No change   | As above  |  |
|   |  | <b>Sesame</b>               | Punjab Til-1, T-9   | ➤ Prepare the land with 2-3 ploughings followed by planking for moisture conservation   |  |
|   |  | <b>Maize</b>                | No change   | As above  |  |
| <b>Low rainfall Tarai region</b>  | <b>Mash/Moong</b>  | Horse gram may be           |   |   |  |

|  |   |   |                     |   |   |  |
|--|---|---|---------------------|---|---|--|
|  | <b>soil</b><br>(Moderately well drained, very gentle slope)<br><b>Intermediate region</b>   |   | taken into account. |   |   |  |
|  |   | <b>Rice</b>                                 |                     | cv. K-39  | Puddle the rice fields and use 2-3 seedlings per hill.                                |  |
|  | <b>Low rainfall Soils of Shivaliks</b><br>(Excessively drained, gentle to steep slope)<br><b>Temperate region</b>                                       | <b>Maize + rajmash</b>                      | +                   | Use millets or lesser millets viz., Fox tail (Kangni) or Elusine corocana (Kodo millet).                      | ➤ Prepare the land with 2-3 ploughings followed by planking for moisture conservation |  |
|  |   | <b>Fodder</b>                               |                     | Maize + Cowpea  | Sowing of maize + cowpea for fodder purposes  |  |
| <b>Delay by 6 weeks</b><br><br><b>2nd week of August (1<sup>st</sup> to 14<sup>th</sup> August)*</b><br><br><b>31<sup>st</sup> &amp; 32<sup>nd</sup> SMW</b> | <b>Soils of Shivaliks</b><br>(Excessively drained, gentle to steep slope)   | <b>Maize</b>                                |                     | Maize (local) for fodder  | As recommended by SKUAST-J package of practices.                                      |  |
|  |   | <b>Maize + Pulse</b>                        |                     | Maize + Pulse (for fodder)  | -do-  |  |
|  |   | <b>Fodder Maize</b><br>(African tall)       |                     | Mixed fodder of <b>maize</b> (African tall) + <b>Cowpea</b> (Type-2) + <b>Cluster bean</b> (Ageta-guara-III). | -do-  |  |
|  | <b>Tarai region soil</b><br>(Moderately well drained, very gentle slope)<br><br><b>Lower alluvial piedmont plain</b><br>(Well drained, nearly levelled) | <b>Black gram</b><br>(Pant U-19 and Uttara) |                     | Black gram (local) for fodder   | ➤ Reduce the dose of N by 50%.<br>➤ Treat the seed with Captan/Thiram @ 3g/kg seed.   |  |
|  |   | <b>Green gram</b><br>(ML-131, PDM-54)       |                     | Green gram (local) for fodder   | -do-  |  |
|  |   | <b>Cowpea</b><br>(C-152, PS-42)             |                     | Cowpea (local) for fodder   | -do-  |  |
|  |   |   |                     |   |   |  |

|  |   |   |   |  |  |
|--|---|---|---|--|--|
|  | land)   |   |   |  |  |
| <b>Delay by 8 weeks</b><br><b>( 15<sup>th</sup> to 30<sup>th</sup> August)*</b><br><b>4th week of August</b><br><br><b>33<sup>rd</sup> &amp; 34<sup>th</sup> SMW</b> | <b>Soils of Shiwaliks</b><br>(Excessively drained, gentle to steep slope)   | <b>Maize</b>                                | Keep fallow for subsequent cultivation of <i>Toria</i> (local or RSPT-1). | <ul style="list-style-type: none"> <li>➤ Preparatory tillage by ploughing the fields across the slope.</li> <li>➤ Plough once with soil turning plough (<i>Tawi plough</i>) followed by twice with soil stirring plough (<i>deshi plough</i>) and at last planking for maximum conservation of soil moisture.</li> </ul> |  |
|  |   | <b>Maize + Pulse</b>                        | -do-  | Sowing of Maize + pulse (moong/mash for fodder purposes)   |  |
|  | <b>Tarai region soil</b><br>(Moderately well drained, very gentle slope) & <b>Lower alluvial piedmont plain</b><br>(Well drained, nearly levelled land) | <b>Fodder Maize</b><br>(African tall)       | -do-  | -do-   |  |
|  |   | <b>Black gram</b><br>(Pant U-19 and Uttara) | Toria (RSPT-1, RSPT-2)  | <ul style="list-style-type: none"> <li>➤ Preparatory tillage by ploughing the fields across the slope.</li> <li>➤ Plough once with soil turning plough (<i>Tawi plough</i>) followed by twice with soil stirring plough (<i>deshi plough</i>) and at last planking for maximum conservation of soil moisture.</li> </ul> |  |
|  |   | <b>Green gram</b><br>(ML-131, PDM-54)       | -do-  | -do-   |  |
|  |   | <b>Cowpea</b><br>(C-152, PS-42)             | -do-  | -do-   |  |
|  |   | <b>Oilseed</b>                              | Toria (RSPT-1, RSPT-2)  | <ul style="list-style-type: none"> <li>➤ Preparatory tillage by ploughing the fields across the slope.</li> <li>➤ Plough once with soil turning plough (<i>Tawi plough</i>) followed by twice with soil stirring plough (<i>deshi plough</i>) and at last planking for maximum conservation of soil moisture.</li> </ul> |  |

- 1) Maize is normally sown by 15 April (*Baisakhi maize*) in temperate region.
- 2) Off-season pea is sown on April/May in Temperate areas.
- 3) In case of delay rainfall, use composite maize; with further delay use local cultivar of maize.

- 4) Temperate (April-Maize), Intermediate (May-Maize), Sub-tropical (June-Maize).
- 5) Under temperate, April rain occurs/melted snow offered moisture.

### KATHUA

|                     | Crop cycle  |
|---------------------|---|
| <b>Temperate</b>    | 1) Pea/Potato/Tomato – [Maize+ Rajmash (local red)] – Wheat (fodder)/Oat (fodder)/Mustard   |
|                     | 2) Rice (Irrigated) – Wheat/Mustard   |
|                     | <ul style="list-style-type: none"> <li>• Paddy – Giza-14</li> <li>• Pea – AP-1, AP-3, P-89 (summer pea)</li> <li>• Mustard – KOS-1</li> </ul> |
| <b>Intermediate</b> | 1) Maize – Wheat/Mustard/Peas (Arkel)/Charri  |
|                     | 2) Rice (Irrigated) – Wheat/Mustard/Charri /Berseem   |
|                     | <ul style="list-style-type: none"> <li>• Rice (Giza-14, K-343, IET-1410)</li> </ul>   |
| <b>Sub-tropical</b> | 1) Maize – Toria – Wheat  |
|                     | 2) Mash/Moong – Lentil / Gram / Pea (Arkel/Rachna)  |
|                     | 3) Til – Wheat/Mustard  |
|                     | 4) Rice (Irrigated) – Wheat   |

|                     | <b>February</b>                              | <b>April</b>                    |
|---------------------|--|---------------------------------|
| <b>Temperate</b>    | (Use snow melt water) for Peas/Potato/Tomato | Maize sowing starts from April. |
|                     |  | <b>May</b>                      |
| <b>Intermediate</b> |  | Maize sowing starts at May.     |
|                     |  |                                 |
| <b>Sub-tropical</b> |  | <b>June</b>                     |
|                     |  | Maize sowing starts at June.    |