# State: Jammu and Kashmir
# Agriculture Contingency Plan for District: Bandipora

| | | | | |
|---|---|---|---|---|
| **1.0 District Agriculture profile** | | | | |
| **1.1** | **Agro-Climatic/Ecological Zone** | | | |
| | Agro Ecological Sub Region (ICAR) | Northern Western Himalayan Region | | |
| | Agro-Climatic Zone (Planning Commission) | Cold Arid Humid | | |
| | Agro Climatic Zone (NARP) | Humid Western Himalayan Region | | |
| | List all the districts falling under the NARP Zone*<br>(*>50% area falling in the zone) | Srinagar,Kupwara,Ganderbal,Shopian,Kulgam,Budgam,Pulwama,Anantnag,Baramulla | | |
| | Geographic coordinates of district headquarters | **Latitude** | **Longitude** | **Altitude** |
| | | $34^0$-25 'N | $74^0$ -38' E | 5541 ft |
| | Name and address of the concerned ZRS/ ZARS/ RARS/ RRS/ RRTTS | RRS Wadura | | |
| | Mention the KVK located in the district with address | KVK-Baramulla | | |
| | Name and address of the nearest Agromet Field Unit (AMFU, IMD) for agro-advisories in the Zone | **Davison of Agronomy SKUAST-K, Shalimar Srinagar** | | |

| | | | | | |
|---|---|---|---|---|---|
| **1.2** | **Rainfall** | **Normal RF(mm)** | **Normal Rainy days (number)** | **Normal Onset ( specify week and month)** | **Normal Cessation (specify week and month)** |
| | SW monsoon : | | | | |
| | NE Monsoon: | | | | |

| | | | | | |
|---|---|---|---|---|---|
| | Annual | 1476.2 | 86 | - | - |

| 1.3 | **Land use pattern of the district** (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 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Area ('000 ha) | 34.280 | 20.347 | 0.330 | 3.482 | 2.668 | 2.582 | 0.390 | 2.114 | 1.663 | 0.504 |

| 1. 4 | **Major Soils (common names like red sandy loam deep soils (etc.,)*** | **Area ('000 ha)** | **Percent (%) of total** |
|---|---|---|---|
| | Silty Clay loam | 4.465 | 70 |
| | Sandy loam | 1.914 | 30 |

| 1.5 | **Agricultural land use** | Area ('000 ha) | Cropping intensity % |
|---|---|---|---|
| | Net sown area | 20.563 | 116 |
| | Area sown more than once | 1.217 | |
| | Gross cropped area | 21.780 | |

| 1.6 | **Irrigation** | Area ('000 ha) | | |
|---|---|---|---|---|
| | Net irrigated area | 11.580 | | |
| | Gross irrigated area | 11.890 | | |
| | Rainfed area | 5.895 | | |
| | **Sources of Irrigation** | Number | Area ('000 ha) | Percentage of total irrigated area |
| | Canals | 289 | | 89 |
| | Tanks | | | |
| | Open wells | | | |

| | | | | |
|---|---|---|---|---|
| | Bore wells | | | |
| | Lift irrigation schemes | | | |
| | Micro-irrigation | | | |
| | Other sources (please specify) | | | |
| | Total Irrigated Area | 14.245 | | |
| | Pump sets | 45 | | |
| | No. of Tractors | 19 | | |
| | **Groundwater availability and use* (Data source: State/Central Ground water Department /Board)** | No. of blocks/ Tehsils | (%) area | Quality of water (specify the problem such as high levels of arsenic, fluoride, saline etc) |
| | Over exploited | | | |
| | Critical | | | |
| | Semi- critical | | | |
| | Safe | | | |
| | Wastewater availability and use | | | |
| | Ground water quality | | | |
| *over-exploited: groundwater utilization safe: <70% | | | | |

**1.7 Area under major field crops & horticulture (Specify year 2008-09)**

| **1.7** | **Major field crops cultivated** | **Area ('000 ha)** | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | ***Kharif*** | | | ***Rabi*** | | | | |
| | | **Irrigated** | **Rainfed** | **Total** | **Irrigated** | **Rainfed** | **Total** | **Summer** | **Grand total** |
| | Paddy | 9.733 | | | | | | | |
| | Maize | | 5.083 | | | | | | |
| | Pulses | | 1.758 | | | | | | |
| | Fodder | 1.181 | | | | | | | |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Oil seed | | | | | 0.525 | | | |
| | Millets | | 0.271 | | | | | | |

| | **Horticulture crops - Fruits** | **Area ('000 ha)** | | |
|---|---|---|---|---|
| | | **Total** | **Irrigated** | **Rainfed** |
| | Apple | 4.329 | | |
| | Walnut | 1.612 | | |
| | Almond | 0.209 | | |
| | Peach | 0.006 | | |
| | Pear | 0.101 | | |
| | Cherry | 0.069 | | |
| | Horticulture crops - Vegetables | Total | Irrigated | Rainfed |
| | Medicinal and Aromatic crops | Total | Irrigated | Rainfed |
| | Plantation crops | Total | Irrigated | Rainfed |
| | Fodder crops | Total | Irrigated | Rainfed |
| | **Total fodder crop area** | **1.181** | | |
| | **Grazing land** | | | |

| | | | | |
|---|---|---|---|---|
| | **Sericulture etc** | | | |
| | **Others (specify)** | | | |

| | | | | |
|---|---|---|---|---|
| **1.8** | **Livestock** | **Male ('000)** | **Female ('000)** | **Total ('000)** |
| | Non descriptive Cattle (local low yielding) | | | 20.490 |
| | Improved cattle | | | 26.446 |
| | Crossbred cattle | | | |
| | Non descriptive Buffaloes (local low yielding) | | | 0.486 |
| | Descript Buffaloes | | | |
| | Goat | | | 55.204 |
| | Sheep | | | 185.476 |
| | Others (Camel, Pig, Yak etc.) | | | 17.861 |
| | Commercial dairy farms (Number) | | | |
| **1.9** | **Poultry** | **No. of farms** | **Total No. of birds ('000)** | |
| | Commercial | | 411.000 | |
| | Backyard | | 237.429 | |

**1.10** **Fisheries** (Data source: Chief Planning Officer)

**A. Capture**

| **i) Marine** (Data Source: Fisheries Department) | **No. of fishermen** | **Boats** | | **Nets** | | **Storage facilities (Ice plants etc.)** |
|---|---|---|---|---|---|---|
| | | Mechanized | Non-mechanized | Mechanized (Trawl nets, Gill nets) | Non-mechanized (Shore Seines, Stake & trap nets) | |
| | | | | | | |

| **ii) Inland** (Data Source: Fisheries Department) | **No. Farmer owned ponds** | **No. of Reservoirs** | **No. of village tanks** |
|---|---|---|---|
| | | | |

**B. Culture**

| | | Water Spread Area (ha) | Yield (t/ha) | Production ('000 tons) |
|---|---|---|---|---|
| | i) **Brackish water** (Data Source: MPEDA/ Fisheries Department) | | | |
| | ii) **Fresh water** (Data Source: Fisheries Department) | | | |
| | **Others** | | | |

### 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) | |
| **Major Field crops (Crops to be identified based on total acreage)** | | | | | | | | | | |
| | Paddy | 0.680 | 4500 | | | | | | | |
| | Maize | 0.250 | 2600 | | | | | | | |
| | Pulses | 0.050 | 1000 | | | | | | | |
| | Fodder | 1.000 | 20000 | | | | | | | |
| | Oilseed | | | 0.290 | 1000 | | | | | |
| | | | | | | | | | | |
| **Major Horticultural crops (Crops to be identified based on total acreage)** | | | | | | | | | | |

| 1.12 | Sowing window for 5 major field crops (start and end of normal sowing period) | Rice | Maize | Pulses | Oil Seed | Millets |
|---|---|---|---|---|---|---|
| | Kharif- Rainfed | - | 3rd week of April to 4th week of May | 3rd week of May to 3rd week of June | - | |

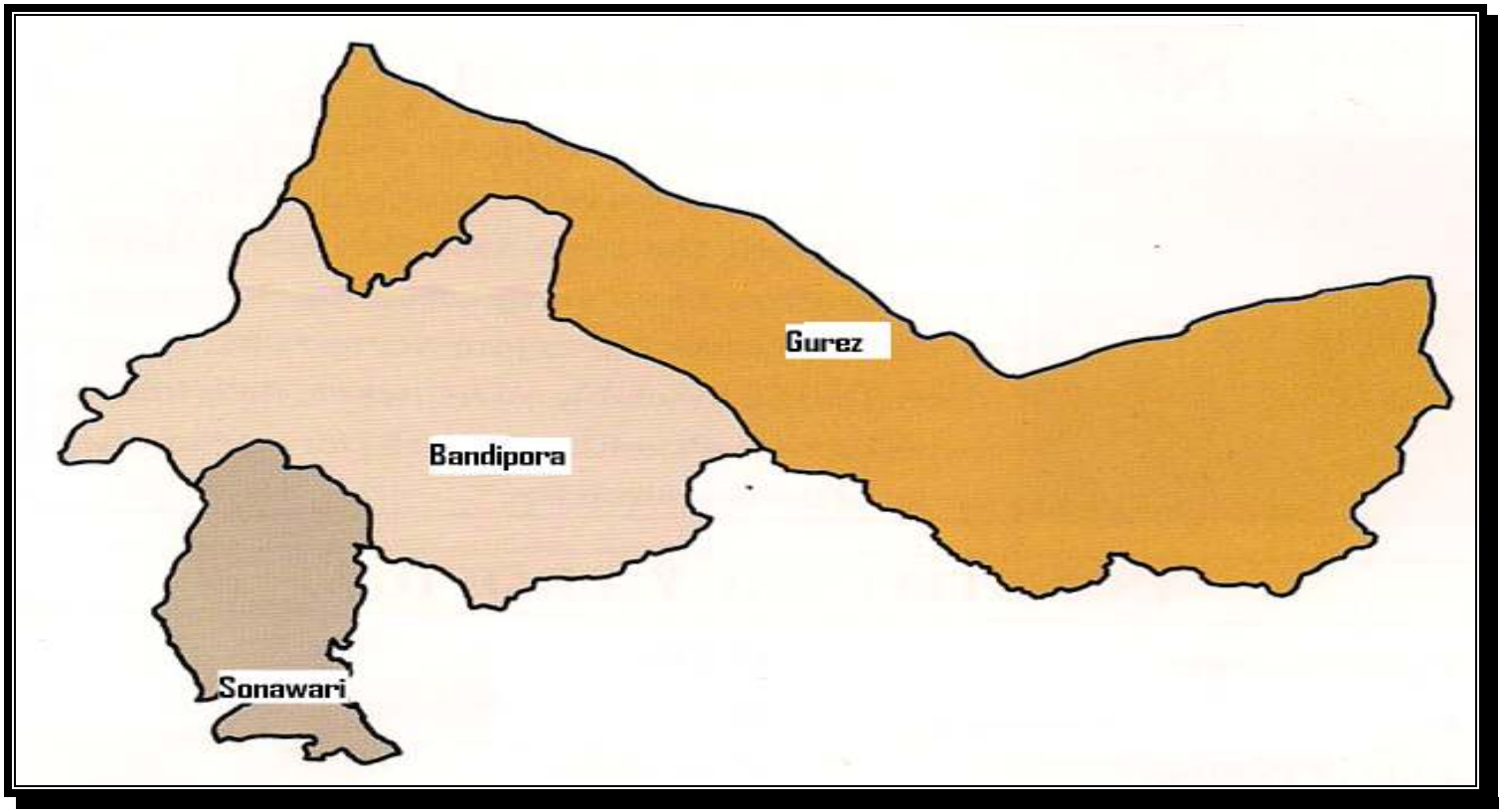
| | | | | | | |
|---|---|---|---|---|---|---|
| | Kharif-Irrigated | 3rd week of April to 2nd week of May | 1st week of April to 4th week of May | 3rd week of May to 3rd week of June | - | |
| | Rabi- Rainfed | | | | 1st week of October to 3rd week of October | |
| | Rabi-Irrigated | | | | | |

| 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 | | | ✓ |
| | Pests and disease outbreak (specify) | | ✓ | |
| | Others (specify) | | | ✓ |

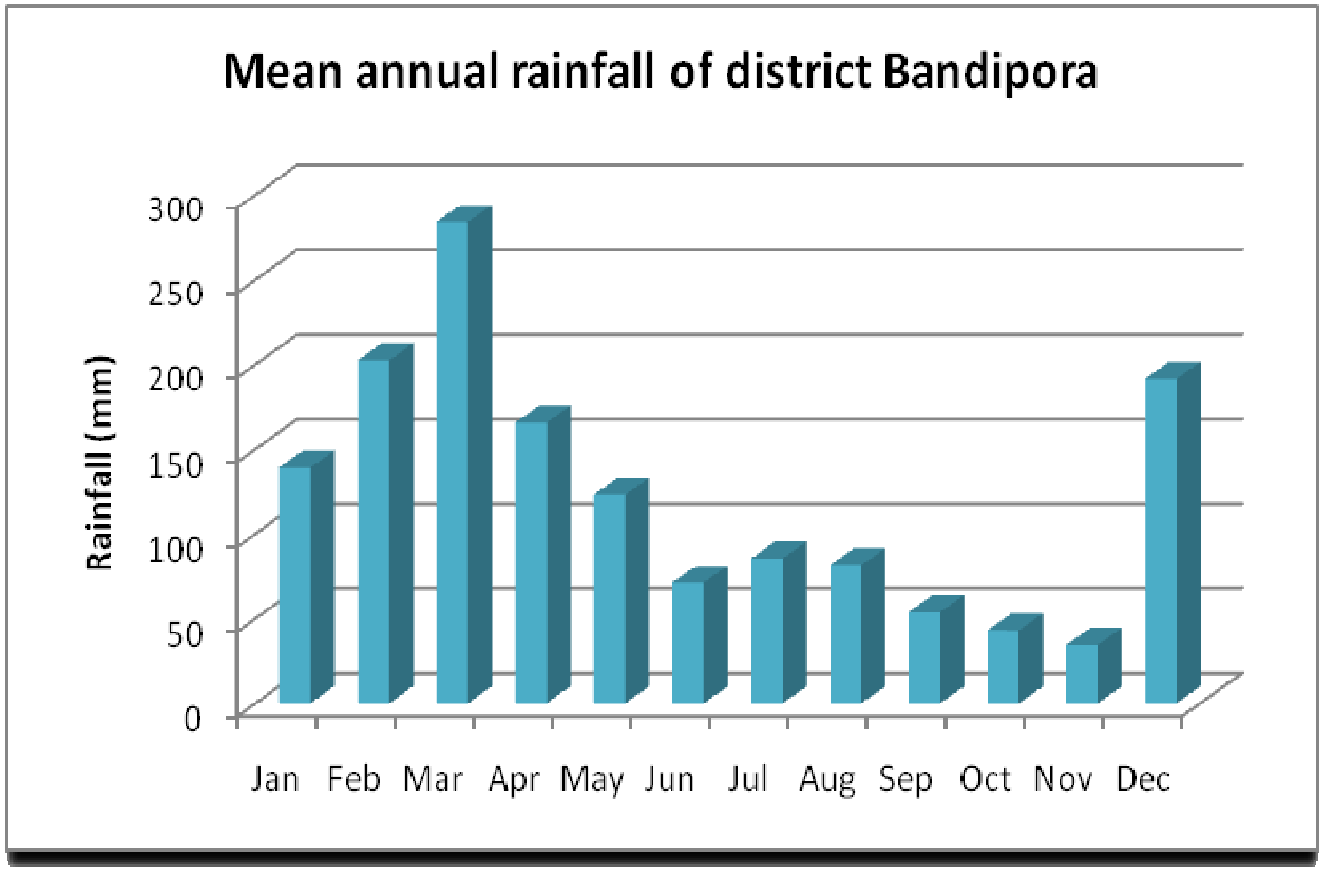
| 1.14 | **Include Digital maps of the district for** | Location map of district within State as Annexure I | Enclosed: Yes |
|---|---|---|---|
| | | Mean annual rainfall as Annexure 2 | Enclosed: yes |
| | | Soil map as Annexure 3 | Enclosed: No |

**Annexure I**

**Map of Bandipora**



**Annexure II**




**2.0 Strategies for weather related contingencies**

**2.1 Drought –Not Applicable**

**2.1.1 Rained situation**

| Condition | | | Suggested Contingency measures | | |
|---|---|---|---|---|---|
| **Early season drought (delayed onset)** | **Major Farming situation[a]** | **Normal Crop / Cropping system[b]** | **Change in crop / cropping system[c] including variety** | **Agronomic measures[d]** | **Remarks on Implementation[e]** |
| Delayed by two weeks<br>3rd week of January | Pleistocene medium rainfall precipitation | Maize + Greengram/<br>Maize + Rajmash<br>Maize: $C_6$ , $C_8$<br>Greengram: Shalimar moong-1<br>Rajmash: Canadian red | No change is recommended | | |
| | | Oats (sabzar) | | | |
| | Shallow soils high rainfall<br>(high altitude) | Maize /<br>Maize + Rajmash<br>Maize:C-15, SKG-1, SKG-2, Shalimar maize hybrid-1<br>Rajmash: Canadian red | No change is recommended | | |

| Condition | | | Suggested Contingency measures | | |
|---|---|---|---|---|---|
| **Early season drought (delayed onset)** | **Major Farming situation[a]** | **Normal Crop / Cropping system[b]** | **Change in crop / cropping system[c] including variety** | **Agronomic measures[d]** | **Remarks on Implementation[e]** |
| Delayed by four weeks and six week<br><br>1st week of February &3rd week of February | Pleistocene medium rainfall precipitation | Maize + Greengram/<br>Maize + Rajmash<br>Maize: $C_6$ , $C_8$<br>Greengram: Shalimar moong-1<br>Rajmash: Canadian red | No change is recommended | • Increase sowing depth of maize<br>• Furrow sowing across the slope<br>• Early sowing<br>• Thinning in brown sarson and use as organic mulch | |
| | | Oats (sabzar) | | | |

| | | | | | |
|---|---|---|---|---|---|
| | Shallow soils high rainfall (high altitude) | Maize / Maize + Rajmash Maize:C-15, SKG-1, SKG-2, Shalimar maize hybrid-1 Rajmash: Canadian red | No change is recommended | | |

| **Condition** | | | **Suggested Contingency measures** | | |
|---|---|---|---|---|---|
| **Early season drought (delayed onset)** | **Major Farming situation[a]** | **Normal Crop / Cropping system[b]** | **Change in crop / cropping system[c] including variety** | **Agronomic measures[d]** | **Remarks on Implementation[e]** |
| Delayed by 8th weeks 1st week of March | Pleistocene medium rainfall precipitation | Maize + Greengram/ Maize + Rajmash Maize: $C_6$ , $C_8$ Greengram: Shalimar moong-1 Rajmash: Canadian red<br><br>Oats (sabzar) | Maize(local)-Fallow Maize(local) +Beans-Fallow Maize(local) + Greengram/cowpea-Fallow<br><br>Maize-local/ Beans-Canadian red/ Cowpea local | • Use local varieties<br>• Follow water harvesting<br>• Increase sowing depth<br>• Early sowing<br>• Use mulches<br>• Increase quantity of organic manure | |
| | Shallow soils high rainfall (high altitude) | Maize / Maize + Rajmash Maize:C-15, SKG-1, SKG-2, Shalimar maize hybrid-1 Rajmash: Canadian red | Maize(local)-Fallow/ Maize(local)+ Beans-Fallow/ Maize(local)+Greengram /Cowpea-fallow | | |

| Condition | | | Suggested Contingency measures | | |
|---|---|---|---|---|---|
| **Early season drought (delayed onset)** | **Major Farming situation**[a] | **Normal Crop/cropping system**[b] | **Change in crop/cropping system**[c] | **Agronomic measures**[d] | **Remarks on Implementation**[e] |
| | Pleistocene soil medium rainfall precipitation | Maize + Greengram/<br>Maize + Rajmash<br>Maize: $C_6$ , $C_8$<br>Greengram: Shalimar moong-1<br>Rajmash: Canadian red | Maize(local)-Fallow<br>Maize(local) +Beans-Fallow<br>Maize(local) + Greengram/cowpea-Fallow | • Use local varieties<br>• Follow water harvesting<br>• Increase sowing depth<br>• Early sowing<br>• Use mulches<br>• Increase quantity of organic manure | |
| | | Oats (sabzar) | Maize-local/<br>Beans-Canadian red/<br>Cowpea local | | |
| | Shallow soils high rainfall (high altitude) | Maize /<br>Maize + Rajmash<br>Maize:C-15, SKG-1, SKG-2, Shalimar maize hybrid-1<br>Rajmash: Canadian red | Maize(local)-Fallow/<br>Maize(local)+ Beans-Fallow/<br>Maize(local)+Greengram /Cowpea-fallow | | |

| Condition | | | Suggested Contingency measures | | |
|---|---|---|---|---|---|
| **Early season drought (Normal onset)** | **Major Farming situation**[a] | **Normal Crop/cropping system**[b] | **Crop management**[c] | **Soil nutrient & moisture conservation measures**[d] | **Remarks on Implementation**[e] |
| **Normal onset followed by 20 day dry spell** | Pleistocene soil medium rainfall precipitation | Maize + Greengram/<br>Maize + Rajmash<br>Maize: $C_6$ , $C_8$<br>Greengram: Shalimar moong-1<br>Rajmash: Canadian red | • Thinning and gap filling<br>• Reseeding /gap filling | Tillage Mulching | |
| | | Oats (sabzar) | | | |

| | | | | | |
|---|---|---|---|---|---|
| | Shallow soils high rainfall (high altitude) | Maize / Maize + Rajmash Maize:C-15, SKG-1, SKG-2, Shalimar maize hybrid-1 Rajmash: Canadian red | Reseeding if germination fails | | |

| **Condition** | | | **Suggested Contingency measures** | | |
|---|---|---|---|---|---|
| **Mid season drought (long dry spell, consecutive 2 weeks rainless (>2.5 mm) period)** | **Major Farming situation[a]** | **Normal Crop/cropping system[b]** | **Crop management[c]** | **Soil nutrient & moisture conservation measues[d]** | **Remarks on Implementation[e]** |
| | Pleistocene soil medium rainfall precipitation | Maize + Greengram/ Maize + Rajmash Maize: $C_6$ , $C_8$ Greengram: Shalimar moong-1 Rajmash: Canadian red | Life saving irrigation<br>Weeding &mulching<br>Delay application of N dose | Prepare furrow across the slope<br>Spray urea | |
| | | Oats (sabzar) | | | |
| | Shallow soils high rainfall (high altitude) | Maize / Maize + Rajmash Maize:C-15, SKG-1, SKG-2, Shalimar maize hybrid-1 Rajmash: Canadian red | | | |

| Condition | | | Suggested Contingency measures | | |
|---|---|---|---|---|---|
| **Mid season drought (long dry spell)** | **Major Farming situation[a]** | **Normal Crop/cropping system[b]** | **Crop management[c]** | **Soil nutrient & moisture conservation measrues[d]** | **Remarks on Implementation[e]** |
| | Pleistocene soil medium rainfall precipitation | Maize + Greengram/<br>Maize + Rajmash<br>Maize: $C_6$ , $C_8$<br>Greengram: Shalimar moong-1<br>Rajmash: Canadian red | • Life saving irrigation<br>• Tillage mulch<br>• Weeding<br>• Organic mulch<br>• Thinning of plant stand to rationalize available moisture | • Spray micro nutrients and urea and potash as Kcl<br>• Mulching | |
| | | Oats (sabzar) | | | |
| | Shallow soils high rainfall<br>(high altitude) | Maize /<br>Maize + Rajmash<br>Maize:C-15, SKG-1, SKG-2, Shalimar maize hybrid-1<br>Rajmash: Canadian red | | | |

| Condition | | | Suggested Contingency measures | | |
|---|---|---|---|---|---|
| **Terminal drought (Early withdrawal of monsoon)**/ Western disturbance | **Major Farming situation[a]** | **Normal Crop/cropping system[b]** | **Crop management[c]** | **Rabi Crop planning[d]** | **Remarks on Implementation[e]** |
| | Pleistocene soil medium rainfall precipitation | Maize + Greengram/<br>Maize + Rajmash<br>Maize: $C_6$ , $C_8$<br>Greengram: Shalimar moong-1<br>Rajmash: Canadian red | Life saving irrigation from water storages | Lentil, brown sarson wheat vetch to be sown in the | |

| | | | | | |
|---|---|---|---|---|---|
| | | Oats (sabzar) | Harvest greengram and beans for vegetable purpose | month of October followed by pre-sowing irrigation | |
| | Shallow soils high rainfall (high altitude) | Maize / Maize + Rajmash Maize:C-15, SKG-1, SKG-2, Shalimar maize hybrid-1 Rajmash: Canadian red | Harvest maize for fodder purpose and save excessive biomass as hay | | |

### 2.1.2 Drought - Irrigated situation

| **Condition** | | | **Suggested Contingency measures** | | |
|---|---|---|---|---|---|
| | **Major Farming situation[f]** | **Normal Crop/cropping system[g]** | **Change in crop/cropping system[h]** | **Agronomic measures[i]** | **Remarks on Implementation[j]** |
| **Delayed release of water in canals due to low rainfall/snowfall** | low land. snow melt Streams.Alluvial soils | a.Rice-brown sarson<br>b.Rice-fodder oats<br>c.Rice- wheat | Dealyed released of water is not situation as at early stages whatever snow is available water is released | • Pre-sowing irrigation<br>• Proper puddling in rice fields<br>• Irrigate rice after disappearance of ponded water | |
| | **2. Farming situation** Tail ends of irrigated area. | a. Rice-brown sarson<br>b. Rice-fodder oats<br>c. Rice- wheat | Not required | • Pre-sowing irrigation<br>• Proper puddling in rice fields<br>• Irrigate rice after disappearance of ponded water.<br>• Plastering of bunds | |
| | 3 **Farming situation** .Mid to high altitude Pleistocene soils | a. Rice-brown sarson<br>b.Rice-fodder oats<br>c.Rice- wheat | | | |

| Condition | | | | | |
|---|---|---|---|---|---|
| | **Major Farming situation[f]** | | | | |
| **Limited release of water in canals due to low rainfall/snowfall** | low land. snow melt Streams.Alluvial soils | a.Rice-brown sarson<br>b.Rice-fodder oats<br>c.Rice- wheat | Maize+beans-brown sarson<br>Maize+beans-oats<br>Maize+moong/cowpea-brown sarson | • Pre-sowing irrigation<br>• Plant local varities.<br>• Early sowing recommended<br>• Increase organic manure as per availability | |
| | Tail ends of irrigated area. | a.Rice-brown sarson<br>b.Rice-fodder oats<br>c.Rice- wheat | Maize+beans-brown sarson<br>Maize+beans-oats<br>Maize+moong/cowpea-brown sarson | | |
| | Mid to high altitude Pleistocene soils | a. Rice-brown sarson | Maize | | |
| | | b.Rice-fodder oats | Fodder maize | | |
| | | c.Rice- wheat | MP cherry | | |

| Condition | | | Suggested Contingency measures | | |
|---|---|---|---|---|---|
| | **Major Farming situation[f]** | **Normal Crop/cropping system[g]** | **Change in crop/cropping system[h]** | **Agronomic measures[i]** | **Remarks on Implementation[j]** |
| **Non release of water in canals under delayed onset of western disturbance in catchment** | **1.Farming Situation**<br>low land. snow melt Streams.Alluvial Soils | **Conditions not applicable** | | | |

| Condition | | | Suggested Contingency measures | | |
|---|---|---|---|---|---|
| | **Major Farming situation[f]** | **Normal Crop/cropping system[g]** | **Change in crop/cropping system[h]** | **Agronomic measures[i]** | **Remarks on Implementation[j]** |
| **Lack of inflows into tanks due to insufficient /delayed onset of monsoon** | **1) Farming Situation** | **Cropping System:1** | | | |
| | | **Condition not applicable** | | | |
| **Condition** | | | **Suggested Contingency measures** | | |
| | **Major Farming situation[f]** | **Normal Crop/cropping system[g]** | **Change in crop/cropping system[h]** | **Agronomic measures[i]** | **Remarks on Implementation[j]** |
| **Insufficient groundwater recharge due to low rainfall** | **1) Farming Situation** | **Condition not applicable** | | | |

**2.2 Unusual rains (untimely, unseasonal etc)** (for both rainfed and irrigated situations)

| Condition | Suggested contingency measure | | | |
|---|---|---|---|---|
| **Continuous high rainfall in a short span leading to water logging** | **Vegetative stage[k]** | **Flowering stage[l]** | **Crop maturity stage[m]** | **Post harvest[n]** |
| Maize+ Beans | Provide surface drainage along the slope | Provide surface drainage | Drain field.<br>Provide staking if lodging is seen.<br>Harvest around at physiological maturity | Spread crop at dry and safer place |
| Beans/Greengram | do | do | Harvest crop by uprooting<br>Not by picking | do |
| Fodder maize | do | Harvest crop as and when workable | - | |
| Rice | Drain excessive water. | Provide | | |

| | | | | |
|---|---|---|---|---|
| | | drainage and take measures against rice blast(prophylactic measures) | | |
| **Horticulture** | | | | |
| **Apple** | At dormant stage in case of heavy snowfall remove snow from trees<br>In case of trunk cracking join splits by nuts and bolts to save trees | | | |
| **Heavy rainfall with high speed winds in a short span[2]** | | | | |
| **Outbreak of pests and diseases due to unseasonal rains** | | | | |
| | | Need based plant protection IPDM for pluses | | Safe storage against storage pest and diseases |
| **Horticulture** | | | | |

**2.3 Floods : Not experienced / encountered**

| **Condition** | **Suggested contingency measure[o]** | | | |
|---|---|---|---|---|
| **Transient water logging/ partial inundation[1]** | **Seedling / nursery stage** | **Vegetative stage** | **Reproductive stage** | **At harvest** |
| **Rice** | NA | -Remove silt from the effected parts of field<br>-Drain water from field | -Staking of lodged plants<br>-Remove silt<br>-Drain water<br>-Prophylactic spray to control diseases | -Drain field<br>-Remove silt<br>-Harvest and take produce to safer place |

| | | | | |
|---|---|---|---|---|
| **Horticulture** | | | | |
| **Continuous submergence for more than 2 days[2]** | | | | |
| **Horticulture** | | | | |
| **Sea water intrusion[3]** | | | | |

**2.4 Extreme events: Heat wave / Cold wave/Frost/ Hailstorm /Cyclone : Not experienced / encountered**

| **Extreme event type** | **Suggested contingency measure[r]** | | | |
|---|---|---|---|---|
| | **Seedling / nursery stage** | **Vegetative stage** | **Reproductive stage** | **At harvest** |
| **Heat Wave[p]** | NA | | | |
| **Horticulture** | | | | |
| **Cold wave[q]** | | | | |
| **Rice** | At nursery stage use low polythene tunnel to Grow rice nursery as standard method | Increase water level in the paddy fields | Keep water level up | |
| **Horticulture** | | | | |
| **Frost** | | | | |
| **Horticulture** | | | | |
| **Hailstorm** | | | | |
| **Horticulture** | | | | |
| **Cyclone** | | | | |
| **Horticulture** | | | | |

**2.5 Contingent strategies for Livestock, Poultry & Fisheries**

**2.5.1 Livestock**

| | **Suggested contingency measures** | | |
|---|---|---|---|
| | **Before the event[s]** | **During the event** | **After the event** |

| | | | |
|---|---|---|---|
| **Drought** | | | |
| Feed and fodder availability | - Necessary arrangements to grow fodder on bunds/orchars and irrigated area as need based<br>- Use excessive fodder for making hay and silage | -Keep animals under shade<br>-Use urea molasses treated roughage<br>-Use feed blocks prepared from crop residue and apple pomace<br>-Ensure availability of mineral mixture | |
| Drinking water | Ensure storage of drinking water in storage tanks | Ensure storage of water | |
| Health and disease management | Arrangement and preparedness with required medicine stock | Vaccination for foot and mouth disease and other required dosage and vaccination if not done earlier | Culling sick and unproductive livestock. |
| **Floods** | | | |
| Feed and fodder availability | - | Take animals to safer places<br>-Use feed blocks prepared from crop residue<br>And apple pomace<br>-Spread wet fodder at safer places to dry | |
| Drinking water | | | |
| Health and disease management | | | |
| **Cyclone** | | | |
| Feed and fodder availability | | | |
| Drinking water | | | |
| Health and disease management | | | |
| **Heat wave and cold wave** | | | |
| Shelter/environment management | Provide heating and proper ventilation | Ensure live stock is not subjected to direct cold | |

| | | | |
|---|---|---|---|
| Health and disease management | | | |
| | | | |

[s] based on forewarning wherever available

### 2.5.2 Poultry

| | Suggested contingency measures | | | Convergence/linkages with ongoing programs, if any |
|---|---|---|---|---|
| | **Before the event[a]** | **During the event** | **After the event** | |
| **Drought** | | | | |
| Shortage of feed ingredients | Ensure stock of feed | Utilisse damaged food grains<br>Utilise stored feed | Culling of affected birds | |
| Drinking water | Storage in water reservoirs | Use stored water | - | |
| Health and disease management | Preparedness and arrangement of vaccination | Mass vaccination | Culling of diseased birds | |
| **Floods** | | | | |
| Shortage of feed ingredients | | | | |
| Drinking water | | | | |
| Health and disease management | | | | |
| **Cyclone** | | | | |
| Shortage of feed ingredients | | | | |
| Drinking water | | | | |
| Health and disease management | | | | |

| | | | | |
|---|---|---|---|---|
| **Heat wave and cold wave** | | | | |
| Shelter/environment management | | | | |
| Health and disease management | | | | |
| | | | | |

[a] based on forewarning wherever available

### 2.5.3 Fisheries/ Aquaculture

| | **Suggested contingency measures** | | |
|---|---|---|---|
| | **Before the event[a]** | **During the event** | **After the event** |
| **1) Drought** | | | |
| **A.** Capture | Prepare additional water reservoirs and exigency ponds | • Protect brood stock by making deep trenches in the middle of ponds.<br>• Sale of additional stock<br>• Provide aeration<br>• Stop feeding/restrict feeding<br>• Give chilling treatment | - |
| Marine | | | |
| Inland | | | |
| (i) Shallow water depth due to insufficient rains/inflow | | | |
| (ii) Changes in water quality | | | |
| (iii) Any other | | | |
| **B.** Aquaculture | | | |
| (i) Shallow water in ponds due to insufficient rains/inflow | | | |
| (ii) Impact of salt load build up in | | | |

| | | | |
|---|---|---|---|
| ponds / change in water quality | | | |
| (iii) Any other | | | |
| **2) Floods** | | | |
| **A.** Capture | | | |
| Marine | | | |
| Inland | | | |
| (i) Average compensation paid due to loss of human life | | | |
| (ii) No. of boats / nets/damaged | | | |
| (iii) No.of houses damaged | | | |
| (iv) Loss of stock | | | |
| (v) Changes in water quality | | | |
| (vi) Health and diseases | | | |
| **B. Aquaculture** | | | |
| (i) Inundation with flood water | | | |
| (ii) Water contamination and changes in water quality | | | |
| (iii) Health and diseases | | | |
| (iv) Loss of stock and inputs (feed, chemicals etc) | | | |
| (v) Infrastructure damage (pumps, aerators, huts etc) | | | |
| (vi) Any other | | | |
| **3. Cyclone / Tsunami** | | | |
| A. Capture | | | |
| Marine | | | |

| | | | |
|---|---|---|---|
| (i) Average compensation paid due to loss of fishermen lives | | | |
| (ii) Avg. no. of boats / nets/damaged | | | |
| (iii) Avg. no. of houses damaged | | | |
| Inland | | | |
| B. Aquaculture | | | |
| (i) Overflow / flooding of ponds | | | |
| (ii) Changes in water quality (fresh water / brackish water ratio) | | | |
| (iii) Health and diseases | | | |
| (iv) Loss of stock and inputs (feed, chemicals etc) | | | |
| (v) Infrastructure damage (pumps, aerators, shelters/huts etc) | | | |
| (vi) Any other | | | |
| **4. Heat wave and cold wave** | | | |
| **A. Capture** | | | |
| Marine | | | |
| Inland | | | |
| **B. Aquaculture** | | | |
| (i) Changes in pond environment (water quality) | | | |
| (ii) Health and Disease management | | | |
| (iii) Any other | | | |

[a] based on forewarning wherever available