

State: Uttar Pradesh
Agriculture Contingency Plan for District: Hamirpur

| | | | | |
|---|--|--|-----------|----------|
| 1.0 | District Agriculture profile | | | |
| 1.1 | Agro-Climatic/ Ecological Zone | | | |
| | Agro-Ecological Sub Region(ICAR) | Central Plain Zone | | |
| | Agro-Climatic Zone (Planning Commission) | Central Plateau and Hill Region | | |
| | Agro-Climatic Zone (NARP) | Bundelkhand zone(U.P-10) | | |
| | List all the districts falling the NARP Zone* (^ 50% area falling in the zone) | Lalitpur, Jhansi, Jallaun, Chitrakut, Mahoba, Banda and Hamirpur | | |
| | Geographical coordinates of district headquarters | Latitude | Longitude | Altitude |
| | | 25° 58' N | 80° 12' E | 452 |
| | Name and address of the concerned ZRS/ZARS/RARS/RRS/RRTTS | Zonal research Station, Bharari | | |
| | Mention the KVK located in the district with address | Krishi Vigyan Kendra, Govt. Agriculture Farm Kurara, Hamirpur | | |
| Name and address of the nearest Agromet Field Unit(AMFU,IMD)for agro advisories in the Zone | C. S. A Kanpur | | | |

| | | | | | |
|-----|-----------------------|----------------|----------------------------|---------------------------------------|---|
| 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) | 768.7 | 45 | 2 nd week of June | 3 rd week of September |
| | NE monsoon (Oct-Dec) | 38.2 | 10 | 3 rd week of December | 2 nd week of January |
| | Winter (Jan-March) | 33.4 | - | - | - |
| | Summer (Apr-May) | 10.4 | - | - | - |
| | Annual | 850.7 | 55 | | |

| | | | | | | | | | | | |
|-----|--|-------------------|-----------------|-------------|---------------------------------|--------------------|----------------------|---------------------------------------|------------------------------|-----------------|---------------|
| 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) | 390.9 | 325.8 | 24.5 | 32.9 | 0.5 | 8.6 | 0.7 | 7.1 | 16.9 | 5.3 |

| | | | |
|-----|-------------|---------------|---------------------|
| 1.4 | Major Soils | Area('000 ha) | Percent(%) of total |
| | Rakar Soil | | |
| | Parwa soils | | |
| | Kabar soils | | |
| | Maar soils | | |

| | | | |
|-----|-----------------------|---------------|------------------------|
| 1.5 | Agricultural land use | Area('000 ha) | Cropping intensity (%) |
|-----|-----------------------|---------------|------------------------|

| | | | |
|--|--------------------------|-------|---------|
| | Net sown area | 294.2 | 117.33% |
| | Area sown more than once | 50.9 | |
| | Gross cropped area | 345.1 | |

| | | | | |
|--|--|---------------------------|---------------|------------------------------------|
| 1.6 | Irrigation | Area('000 ha) | | |
| | Net irrigation area | 134.7 | | |
| | Gross irrigated area | 135.3 | | |
| | Rain fed area | 159.5 | | |
| | Sources of irrigation | Number | Area('000 ha) | Percentage of total irrigated area |
| | Canals | | 28.9 | 21.4 |
| | Tanks | | 5.6 | 4.2 |
| | Open wells | | 23.4 | 17.3 |
| | Bore wells | | 77.3 | 57.1 |
| | Lift irrigation schemes | | | |
| | Micro-irrigation | | | |
| | Other sources | | 6 | |
| | Total Irrigated Area | | 135.3 | |
| | Pump sets | | | |
| | No. of Tractors | | | |
| | Groundwater availability and use* (Data source: State/ Central Ground water Department/ Board) | No of blocks- Tehsils- | (%)area | Quality of water |
| | Over exploited | | | |
| | Critical | | | |
| | Semi-critical | | | |
| | Safe | | | |
| Waste water availability and use | | | | |
| Ground water quality | | | | |
| *over-exploited groundwater utilization > 100%; critical: 90-100%; semicritical: 70-90%; safe: < 70% | | | | |

1.7 Area under major field crops & (As per latest figures 2011-12)

| | | | | | | | | | |
|----------|------------------------------|---------------|--------|-----------|----------|---------|--------|---------|--------|
| 1.7 | Major field crops cultivated | Area('000 ha) | | | | | | | |
| | | Kharif | | | Rabi | | | Summer | Total |
| | Irrigated | Rain fed | Total | Irrigated | Rain fed | Total | | | |
| | Rice | 0.042 | 0.017 | 0.059 | 0 | 0 | 0 | 0 | 0.059 |
| | Wheat | 0 | 0 | 0 | 102.745 | 3.095 | 105.84 | 0 | 105.84 |
| Pulses | 0 | 17.481 | 17.481 | 19.647 | 123.811 | 143.458 | 0.049 | 160.988 | |
| Oilseeds | 0.001 | 31.327 | 31.328 | 6.294 | 9.462 | 15.756 | 0.001 | 47.085 | |

| | | | | | | | | |
|---------|-------|--------|--------|---------|---------|---------|-------|---------|
| Millets | 0 | 18.394 | 18.394 | 0 | 0 | 0 | 0 | 18.394 |
| Total | 0.043 | 67.219 | 67.262 | 128.686 | 136.368 | 265.054 | 0.050 | 332.366 |

1.8 Production and productivity of major crops (Average of last 5 years)

| 1.7 | Major field crops cultivated | Area ('000 ha) | | | | | | | | Crop residue as fodder ('000 tons) |
|-----|------------------------------|---------------------|----------------------|---------------------|----------------------|---------------------|----------------------|---------------------|----------------------|------------------------------------|
| | | Kharif | | Rabi | | Summer | | Total | | |
| | | Production ('000 T) | Productivity (KG/HA) | Production ('000 T) | Productivity (KG/HA) | Production ('000 T) | Productivity (KG/HA) | Production ('000 T) | Productivity (KG/HA) | |
| | Rice | 0.142 | 1369 | 0 | 0 | 0 | 0 | 0.142 | 1369 | |
| | Wheat | 0 | 0 | 264.017 | 2687 | 0 | 0 | 264.017 | 2687 | |
| | Pulses | 6.469 | 304 | 121.413 | 815 | 0.025 | 814 | 126.632 | 761 | |
| | Oilseeds | 5.166 | 140 | 9.101 | 670 | 0.001 | 2000 | 112.615 | 297 | |
| | Millets | 20.377 | 845 | 0 | 0 | 0 | 0 | 20.377 | 845 | |
| | Foodgrains | 23.541 | 577 | 403.887 | 1547 | 0.026 | 823 | 419.524 | 1441 | |

| 1.8 | Sowing window for 5 major field crops | Til | Jowar | Bajra | Black Gram | Green gram | Pigeon Pea | Gour | Wheat | Pea | Gram | Lentil | Mustrued |
|-----|---------------------------------------|------|-----------|-----------|------------------|------------|------------|------|----------|------------------|------------------|----------|-----------|
| | Kharif –Rainfed | July | June-July | June-July | April, June-July | June-July | July | - | - | - | - | - | - |
| | Kharif - Irrigated | July | June-July | June-July | April, June-July | June-July | July | July | - | - | - | - | - |
| | Rabi –Rainfed | - | - | - | - | -- | - | - | | October-November | October-November | November | September |
| | Rabi - Irrigated | - | - | - | - | - | - | - | December | October-November | October-November | November | September |

| 1.9 | What is the major contingency the district is prone to? | Regular | Occasional | None |
|-----|---|---------|------------|------|
| | Drought | ✓ | - | |
| | Flood | - | - | |

| | | | | |
|--|--|---|---|--|
| | Cyclone | - | - | |
| | Hail storm | - | - | |
| | Heat wave | ✓ | - | |
| | Cold wave | - | - | |
| | Frost | - | - | |
| | Sea water intrusion | - | - | |
| | Sheath Blight, Stemborrer , Pyrilla loos smut, Heliothis, Rust etc white grub. | - | - | |

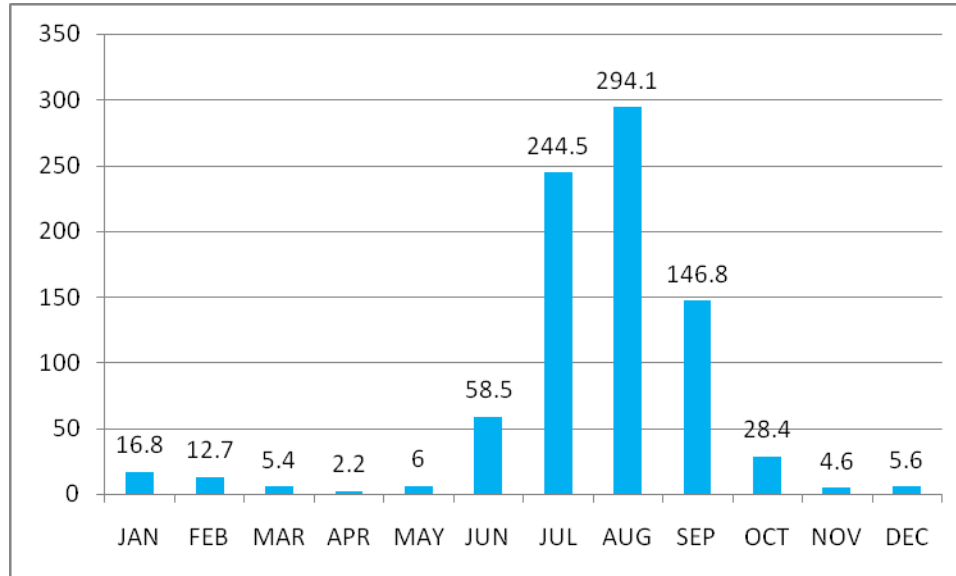
| | | | |
|-------------|---|--|----------------|
| 1.14 | Include Digital maps of the district for | Location map of district with in State as Annexure I | Enclosed : Yes |
| | | Mean annual rainfall as Annexure 2 | Enclosed : Yes |
| | | Soil map as Annexure 3 | Enclosed : No |

Annexure 01: Location map of the Uttar Pradesh state and district Hamirpur

UTTAR PRADESH



Annexure 02: Mean annual rainfall (mm) of district Hamirpur



2.0 Strategies for weather related contingencies

2.1 Drought

2.1.1 Rainfed situation

| Condition | | | Suggested contingency measures | | |
|--|---|--|--|---|--------------------------|
| Early season drought (delayed onset) | Major farming situation | Normal crop/ Cropping systems | Change in crops/ Cropping systems | Agronomic measures | Remark on implementation |
| Delay by 2 weeks 4 th week of June | Deep soil, Rakar, Parwa, Kabar, and maar Soil | Sesame- Pea Sesame-Gram Black Gram- Pea/Gram Jowar- Wheat Bajra- Wheat Pigeon Pea Green Gram- Lentil | Rice- Short duration Maize- Hybrid, HQPM-1 Pearl Millets- Raj-171 & Hybrid, Sorghum - Csv-13,15 & Hybrid | Mulching, Line Sowing , Light Irrigation, Weed Management and thinning, | Mixed farming |
| Delay by 4 weeks 4 th week of July | Deep soil, Rakar, Parwa, Kabar, and maar Soil | Sesame- Pea Sesame-Gram Black Gram- Pea/Gram Jowar- Wheat Bajra- Wheat Pigeon Pea Green Gram- Lentil | Replace rice with Green gram, Black Gram & Sorghum, Green Gram - PM-8, PDM-11, Samrat, Jyoti, Jagriti, Janpriya, Black Gram - T-9 PU-19,PU-40,PU-35 Sekhar-1,2&3 | Sesame on ridges, Mulching, Line Sowing , Light Irrigation, Weed Management and thinning, | Inter cropping |
| Delay by 6 weeks 4 th week of July | Deep soil, Rakar, Parwa, Kabar, and maar Soil | Black Gram- Pea/Gram Jowar- Wheat Bajra- Wheat Pigeon Pea Green Gram- Lentil Sesame- Pea Sesame-Gram | Replace rice with Green gram and pearl millet Green Gram - PM-8, PDM-11, Samrat, Jyoti, Jagriti, Janpriya Pearl Millets- Raj-171 & Hybrid, | Wider spacing 25 enhanced nutrients | Inter cropping |
| Delay by 8weeks 2nd week of August | Deep soil, Rakar, Parwa, Kabar, and maar Soil | Black Gram- Pea/Gram Jowar- Wheat Bajra- Wheat Pigeon Pea Green Gram- Lentil Sesame- Pea Sesame-Gram | Plan for toria | | |

| Condition | Suggested contingency measures |
|-----------|--------------------------------|
|-----------|--------------------------------|

| Early season drought (Normal onset) | Major farming situation | Normal crop/ Cropping systems | Crop management | Soil nutrient & moisture conservation measures | Remark on implementation |
|--|-------------------------|--|--|---|--------------------------|
| Normal onset followed by 15-20 days dry spell after sowing leading to poor germination/ op stand | Irrigated upland | Sesame- Pea Sesame-Gram Pigeon Pea | Pigeon Pea- NDR-1, NDR-2,MA-6, MA-13 | Ridge-furrow sowing, | |
| | Irrigated lowland | Rice-Wheat Black Gram- Pea/Gram Jowar- Wheat Bajra- Wheat Green Gram- Lentil | Use of drought tolerant rice varieties- NDR-97, Susk Samrat Resowing & Gap filling Inter row harrowing | Use of additional Urea, Zink Sulphate, Mulching, | |
| | Un Irrigated upland | Sesame- Pea Sesame-Gram Pigeon Pea | Til-T-78, Pragti, Sekhar | Ridge-furrow sowing, | |
| | Un Irrigated lowland | Black Gram- Pea/Gram | Green Gram- PM-8, PDM-11, Samrat, Jyoti, Jagriti, Janpriya, Black Gram- T-9 PU-19,PU-40,PU-35 Sekhar-1,2&3 | Ridge-furrow sowing, | |
| Mid season drought (Long dry spell consecutive 2 weeks rainless(.2.5mm period) | | | | | |
| At vegetative stage | Irrigated upland | Sesame- Pea Sesame-Gram Pigeon Pea | Pigeon Pea- NDR-1, NDR-2,MA-6, MA-13 | Life saving Irrigation, straw Mulch, Thinning, Inter cropping | |
| | Irrigated lowland | Rice-Wheat Black Gram- Pea/Gram Jowar- Wheat Bajra- Wheat Green Gram- Lentil | Use of drought tolerant rice varieties- NDR-97, Susk Samrat Resowing & Gap filling Inter row harrowing | Life saving Irrigation, straw Mulch, Thinning, Inter cropping | |
| | Un Irrigated upland | Sesame- Pea Sesame-Gram Pigeon Pea | Til-T-78, Pragti, Sekhar | Life saving Irrigation, straw Mulch, Thinning, Inter cropping | |
| | Un Irrigated lowland | Black Gram- Pea/Gram | Green Gram- PM-8, PDM-11, Samrat, Jyoti, Jagriti, Janpriya, | Life saving Irrigation, straw Mulch, Thinning, Inter cropping | |

| | | | | | |
|---|----------------------|--|--|--|---------------------------------|
| | | | Black Gram- T-9 PU-19,PU-40,PU-35 Sekhar-1,2&3 | | |
| At flowering / fruiting stage | Irrigated upland | Sesame- Pea Sesame-Gram Pigeon Pea | Life saving Irrigation, straw Mulch, Thinning, Inter cropping | Spraying of 2% urea as foliar application KCI Spray | |
| | Irrigated lowland | Rice-Wheat Black Gram- Pea/Gram Jowar- Wheat Bajra- Wheat Green Gram- Lentil | Life saving Irrigation, straw Mulch, Thinning, Inter cropping | Spraying of 2% urea as foliar application KCI Spray | |
| | Un Irrigated upland | Sesame- Pea Sesame-Gram Pigeon Pea | Life saving Irrigation, straw Mulch, Thinning, Inter cropping | Spraying of 2% urea as foliar application KCI Spray | |
| | Un Irrigated lowland | Black Gram- Pea/Gram | Life saving Irrigation, straw Mulch, Thinning, Inter cropping | Spraying of 2% urea as foliar application KCI Spray | |
| | | Normal crop/ Cropping systems | Crop management | Rabi Crop planning | Remark on implementation |
| Thermal drought (Early withdrawal of monsoon) | Irrigated upland | Sesame- Pea Sesame-Gram | Life saving Irrigation, straw Mulch, Thinning, Inter cropping | Toria | Early Rabi |
| | Irrigated lowland | Jowar- Wheat Bajra- Wheat Green Gram- Lentil | Life saving Irrigation, straw Mulch, Thining, Inter cropping | Toria | Early Rabi |
| | Un Irrigated upland | Sesame- Pea Sesame-Gram Pigeon Pea | Life saving Irrigation, straw Mulch, Thinning, Inter cropping | Toria | Early Rabi |
| | Un Irrigated lowland | Black Gram- Pea/Gram | Life saving Irrigation, straw Mulch, Thinning, Inter cropping | Toria | Early Rabi |

2.1.2 Drought –Irrigated situation

| Condition | | | Suggested contingency measures | | |
|--|-------------------------|--|---|--|--------------------------|
| Early season drought (delayed onset) | Major farming situation | Normal crop/ Cropping systems | Change in crops/ Cropping systems | Agronomic measures | Remark on implementation |
| Delayed release of water in canals due to low rainfall | Sandy Loam soils | Rice- Wheat | Rice- Short duration Varieties- NDR-97, UPS-212, Susk Smrat, Sahbhagi | Direct sowing, Drum Seeder Micro irrigation | |
| | | Millets- Mustard Pigeon Pea | No change | Micro irrigation/Thinning, Weed control | |
| | | Sesame- Lentil Black gram/ Green gram | No change | Micro irrigation/Thinning, Weed control | |
| | clay /Silt loam soils | Soybean-Gram | No change | Micro irrigation/Thinning, Weed control | |
| | | - | - | - | - |
| | | - | - | - | - |
| Limited release of water in canals due to low rainfall | Sandy Loam soils | Rice- Wheat | Rice- Short duration Varieties- NDR-97, UPS-212, Susk Smrat, Sahbhagi | Direct sowing, Drum Seeder Micro irrigation | |
| | | Millets- Mustard Pigeon Pea | No change | Micro irrigation/Thinning, Weed control | |
| | | Sesame- Lentil Black gram/ Green gram | No change | Micro irrigation/Thinning, Weed control | |
| | clay loam soils | Soybean-Gram | No change | Micro irrigation/Thinning, Weed control | |
| | | - | - | - | - |
| | | - | - | - | - |
| Non release of water in canals under delayed onset of monsoon in | Sandy Loam soils | Rice- Wheat | Rice may be replaced by Pulses Green Gram- Samrat, | Direct seeding in small beds, Use of Micro-irrigation/ Sub surface | |

| | | | | | |
|---|---|--|---|---|--|
| catchment | | | Janpriya, Jagriti Black Gram- T-9, PU-40, PU-35 Azad-3 | irrigation | |
| | | Millets- Mustard Pigeon Pea | No change | Sowing of Pigeon pea at 90 cm+ two rows of inter crops on ridges Use of Micro- irrigation/ Sub surface irrigation | |
| | | Sesame- Lentil Black gram/ Green gram | No change | Direct seeding in small beds, Use of Micro-irrigation/ Sub surface irrigation | |
| | clay loam soils | Soybean-Gram | No change | Direct seeding in small beds, Use of Micro-irrigation/ Sub surface irrigation | |
| | | - - | | | |
| Insufficient water recharge due to low rainfall | Upland tube well irrigated canal Sandy Loam soils | Rice- Wheat | Rice may be replaced by Pulses Green Gram- Samrat, Janpriya, Jagriti Black Gram- T-9, PU-40, PU-35 Azad-3 | Direct seeding in small beds, Use of Micro-irrigation/ Sub surface irrigation | |
| | | Millets- Mustard Pigeon Pea | No change | Sowing of Pigeon pea at 90 cm+ two rows of inter crops on ridges Use of Micro- irrigation/ Sub surface irrigation | |
| | | Sesame- Lentil Black gram/ Green gram | No change | Direct seeding in small beds, Use of Micro-irrigation/ Sub surface irrigation | |
| | Lowland tube well irrigated canal clay loam soils | Soybean-Gram | No change | Direct seeding in small beds, Use of Micro-irrigation/ Sub surface irrigation | |
| | | | | | |

2.2 Unusual rains –(Untimely, unseasonal etc)

| Condition | | | Suggested contingency measures | | |
|--|-------------------------|--|---------------------------------------|------------------------------|-----------------------|
| Continuous high rainfall in a short span leading to water logging | Vegetative stage | Flowering stage | Crop maturity stage'' | | Post harvest'' |
| Soybean Black gram/ Green gram/ | Provide Drainage | Proper bunding Drain out excess water | Harvest at physiological maturity | | Shift to safer side |
| Sesame/ Pigeon pea | Provide Drainage | Proper bunding Drain out excess water | Harvest at physiological maturity | | Shift to safer side |
| Condition | | | Suggested contingency measures | | |
| Heavy rainfall with high speed winds in a short span | Vegetative stage | Flowering stage | | Crop maturity stage'' | Post harvest'' |
| Soybean Black gram/ Green gram/ | Provide Drainage | Proper bunding Drain out excess water | Harvest at physiological maturity | | Shift to safer side |
| Til/ Pigeon pea | Provide Drainage | Proper bunding Drain out excess water | Harvest at physiological maturity | | Shift to safer side |
| Condition | | | Suggested contingency measures | | |
| Outbreak of pests and diseases due to unseasonal rains | Vegetative stage | Flowering stage | Flowering stage | Crop maturity stage'' | Post harvest'' |
| Soybean Black gram/ Green gram/ | Bio pesticides use | Bio pesticides use | Bio pesticides use | Bio pesticides use | Shift to safer place |
| Sesame/ Pigeon pea | Bio pesticides use | Bio pesticides use | Bio pesticides use | Bio pesticides use | Shift to safer place |

2.3 Floods

| Condition | Suggested contingency measures | | | |
|---|---------------------------------------|-------------------------|---|-----------------------------------|
| | Seedling/Nursery stage | Vegetative stage | Reproductive stage | At harvest |
| Transient water logging/ partial inundation | | | | |
| Soybean Black gram/ Green gram/ | Provide drainage | Provide drainage | Provide drainage/ Prevent premature seed | Harvest at physiological maturity |
| Sesame/ Pigeon pea | Provide drainage | Provide drainage | Provide drainage/ Prevent premature seed | Harvest at physiological maturity |
| Pearl Millets | Provide drainage | Provide drainage | Provide drainage/ Prevent premature seed | Harvest at physiological maturity |
| Sorghum | Provide drainage | Provide drainage | Provide drainage/ Prevent premature seed | Harvest at physiological maturity |