

GVT – Krishi Vigyan Kendra, Godda

Strategies for weather related contingencies (2026)

1. Drought
2. Rainfed situation

| Condition | Suggested Contingency measures | | | | | | Remarks on Implementation |
|---|--|-------------|----------|---|---|---|--|
| | Normal Crop/Cropping system | | | Change in crop/cropping system including variety (Crop with their variety) | | | |
| | Upland | Medium land | Low land | Upland | Medium land | Low land | |
| Early season drought (delayed onset) Delay by 2 weeks June 4 th week | Direct sown Rice, Pigeonpea, Bajra, Jowar, Finger Millet, Maize, Cowpea, Greengram | Paddy | Paddy | Direct sown Rice (Birsa Vikas Dhan-111, Vandana), Pigeonpea (IPA – 203/Birsa Arhar-1), Black gram (PU – 31, Birsa Urd - 1), Bajra (HHB-299, MP-7878, GHB-585), Jowar(CSV-20), Finger Millet (A – 404, VL-379, BM-2, BM-3), Maize(BAUIM-2, PMH -3), Cowpea (Pant | DSR with IR-64-DRT-1, BVD – 203, Lalat, Sahbhagi, MTU -1010, Abhishek, Naveen) Transplanted Rice (IR-64-DRT-1, IR – 36, DRT-1, Birsa Vikas Dhan-203, DRR-60, Lalat, Sahbhagi, MTU-1010, MTU1001, Swarna Shreeya, Abhishek, Naveen | Paddy (BPT-5204, MTU-7029, Sabour Manshuri) | Rice cultivation through SRI or plastic drum seeder, Proper bunding for water retention, use of cono weeder for weeding, Sowing on Ridge for proper germination, Alternate row irrigation system, Irrigation at only critical stage of crop, staggered nursery |

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| | | | | Lobia-2, UPC - 628), Greengram (Virat, IPM- 2-3, HUM 16) | | | | |
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| Condition | Normal Crop/Cropping system | | | Suggested Contingency measures | | | Agronomic measures | Remarks on Implementation |
|---------------------------------------|---|-------------|----------|---|---|--|---|---------------------------|
| | Upland | Medium land | Low land | Change in crop/cropping system including variety (Crop with their variety) | | | | |
| Early season drought (delayed on set) | Upland | Medium land | Low land | Upland | Medium land | Low land | | |
| Delay by 4 weeks July 2nd week | Direct sown Rice, Pigeonpea, Maize, Pigeonpea + Blackgram, Cowpea/Dolichos Bean | Paddy | Paddy | Direct sown Rice (Birsa Vikas Dhan-111, Vandana), Pigeonpea (Birsa Arhar-1/IPA-203), Bajra (HHB-299, MP-7878, GHB-585) , Jowar(CSV-20), Finger Millet (A – 404, VL-379, BM-2, BM-3), Maize (Kanchan, Birsa Makai-1/Hybrid) Pigeonpea + Blackgram (2:3) Black gram (Birsa Urd-1/Pant Urd - 9), Cowpea (Pant Lobia-2, UPC - 628), Dolichos Bean (Swarna Utkrista), Greengram (IPM -2 – 3) | DSR with BVD – 110/111, Sahbhagi, Hybrid, Vandana) Transplanted rice with above varieties | Paddy (BPT-5204, MTU-7029, Sabour Manshuri, Hybrid/Rajshree) | Rice cultivation through SRI or plastic drum seeder, Proper bunding for water retention, use of cono weeder for weeding, Sowing on Ridge for proper germination, Alternate row irrigation system, Irrigation at | |

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| | | | | | | | only critical stage of crop, staggered nursery | |
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| Condition | Suggested Contingency measures | | | | | | Agronomic measures | Remarks on Implementation |
|---|--|-------------|----------|---|--|--|--|---------------------------|
| | Normal Crop/Cropping system | | | Change in crop/cropping system (Crop with their variety) | | | | |
| | Upland | Medium land | Low land | Upland | Medium land | Low land | | |
| Early season drought (delayed on set) | | | | | | | | |
| Delay by 6 weeks July 4 th week | Direct sown Rice, Pigeonpea, Maize, Groundnut, Cowpea, Groundnut, Cucurbits, Lady's finger, Pigeonpea + Green gram | Paddy | Paddy | Direct sown Rice (Birsa Vikas Dhan-111, Vandana), French Bean (Birsa Priya, Swarna Lata), Dolichos Bean (Swarna Utkrista), Pigeonpea + Maize (1:1) Pigeonpea + Horsegram (2:3), Pigeonpea + Sesame (Pigeonpea (UPAS-120) Maize (Kanchan, Birsa Makai-1) Horse gram (Birsa Kulthi-1/IK – 1) Sesame (Kanke Safed) | DSR with IR – 64, IR – 36, Sahbhagi, Hybrid Transplanted rice with above varieties | Paddy (Lalat, Naveen, Birsamati, IR – 64- DRT-1, IR - 36 | Rice cultivation through SRI or plastic drum seeder, Proper bunding for water retention, use of cono weeder for weeding, Ridge Furrow method should be followed for proper germination Conservation of soil moisture Mechanical weeding, Staking for Dolichos bean | |

| Condition | Suggested Contingency measures | | | | | | Remarks on Implementation | |
|---|--|---|----------|---|--|---|---|--------------------|
| | Normal Crop/Cropping system | | | Change in crop/cropping system (Crop with their variety) | | | | Agronomic measures |
| | Upland | Medium land | Low land | Upland | Medium land | Low land | | |
| Early season drought (delayed on set) | | | | | | | | |
| Delay by 8 weeks August 2 nd week | Horsegram, Sesame, Maize, French Bean, Dolichos Bean | Paddy, Maize, Blackgram, Greengram, Finger millet, Brinjal, French Bean, Tomato, Rice Bean, Sweet Potato, Radish, Cauliflower, Chilly | Paddy | Pigeonpea + Horsegram Pigeonpea + Sesame Pigeonpea (UPAS-120, LRG – 41) Horsegram (Birsa Kulthi – 1, Indira Kulthi – 1) Sesame (Kanke Safed, TC-25) | Direct sowing of rice with Anjali, Vandana, Birsa Dhan-108, Sahabhazi. Maize (HQPM-1, Suwan Composite-1) Pigeonpea (Birsa Arhar-1 /UPAS-120. Black gram (T-9, Pant U-19) Green gram (K-85, Pusa Vishal) Horse gram (Birsa Kulthi-1/IK – 1), Brinjal (Swarna Pratibha, | Rice (Anjali, Birsa Dhan-201, Birsa Dhan-202, Vandana, Sahbhagi). | Sowing on Ridge furrow system, Irrigate in alternate row, Conserve soil moisture, Mechanical weeding, Micro irrigation system, Direct sowing of rice with drum seeder, Proper bunding for water retention., Life saving irrigation. | |

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| | | | | | Swarna Shymali, Swarna, Ajay, Swarna Sobha) French Bean (Swarna Priya, Arka Komal, Swarna Lata), Tomato (Arka Abha, Swarna, Sampada, Swarna Prakash, Swarna Vijay), Rice Bean (RBL- 1), Sweet Potato (Sree Bhadra), Radish (Pusa Chetki), Cauliflower (Early Kunwari, Hajipur extra early), Chilly (Pusa | | | |
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| | | | | | | Jwala, KA – 2), Capsicum (California wonder, Swarna Atulya) | | | |
| Condition | | | | | Suggested Contingency measures | | | | |
| Early season drought (Normal on set) | Normal Crop/Cropping system | | | Change in crop/cropping system (Crop with their variety) | | | Agronomic measures | Remarks on Implementation | |
| | Upland | Medium land | Low land | Upland | Medium land | Low land | | | |
| Normal onset followed by 15-20 days dry spell after sowing leading to poor germination/crop stand etc. | Direct sown rice, Pigeonpea, Maize, Groundnut, Cucurbits/ladies finger, Pigeonpea + Maize, Maize + Ladies finger, Pigeonpea +Blackgram/ Greengram | Paddy | Paddy | <ol style="list-style-type: none"> Gap filling the existing crop Re sowing. Inter culturing to check evaporation Strip cropping if re sown crops Life saving irrigation Trench (1 – 1 ½ ft) making across the slope after 10 – 12 feet intervals. | <ol style="list-style-type: none"> Re sowing or re-transplanting through plastic drum seeder. Life saving irrigation may be given if possible. | <ol style="list-style-type: none"> Life saving irrigation may be applied if any water resource is available. Gap filling should be done. Re sowing with plastic drum seeder or SRI method respectively if heavy damage occurs. | <ol style="list-style-type: none"> Inter cultivation Conservation furrow Spray of anti transpirant (1% KNO₃) Proper bunding for water retention. | | |

| Condition | Normal Crop/Cropping system | | | Suggested Contingency measures | | | Soil nutrient & moisture conservation measures | Remarks on Implementation |
|---|---|-------------|----------|--|--|----------|--|---------------------------|
| | Upland | Medium land | Low land | Upland | Medium land | Low land | | |
| Mid season drought (long Dry spell, consecutive 2 Weeks rain less (>2.5mm)) | | | | | | | | |
| At vegetative stage | Direct sown rice, Pigeonpea, Maize, Groundnut Cucurbits/lady's finger Pigeonpea + Maize, Maize + Lady's finger, Pigeonpea +Blackgram/ Greengram | Paddy | Paddy | <ol style="list-style-type: none"> 1. Weeding. 2. Postponement of top dressing 3. Life saving irrigation 4. Earthing up in groundnut, Maize & Pigeonpea. | <ol style="list-style-type: none"> 1. Life saving irrigation may be given if possible. 2. Replacement of crop with short duration leguminous crop like Greengram, Black ram, Horse gram, Sesame & Niger. Green gram (Pusa Vishal, IPM – 2 – 3, Shikha) Black gram (PU-31, Birsa Urd-1) Horse gram (Birsa Kulthi-1, Indira Kulthi - 1) | | <ol style="list-style-type: none"> 1. Mulching 2. Conservation furrow 3. Spray of anti transpirants 4. Weeding 5. Postponement of top dressing 6. Proper bunding | |

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| | | | | | Sesame (Kanke Safed, TC-25) Niger (Birsa Niger-1,2) | | | |
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| Condition | Normal Crop/Cropping system | | | Suggested Contingency measures | | | | Remarks on Implementation |
|-------------------------------------|--|-------------|----------|--|--|---|--|---------------------------|
| | Upland | Medium land | Low land | Upland | Medium land | Low land | Soil nutrient & moisture conservation measures | |
| Mid season drought (long Dry spell) | | | | | | | | |
| At flowering/Fruiting stage | Direct sown rice, Pigeonpea Maize Groundnut, Cucurbits/lady's finger, Pigeonpea + Maize, Maize + Ladies finger, Pigeonpea +Blackgram / Greengram | Paddy | Paddy | 1. Life saving irrigation 2. Weed management 3. Postponement of top dressing. 4. Mulching | 1. Life saving irrigation 2. Weed management 3. Postponement of top dressing. 4. Mulching | 1. Life saving irrigation 2. Weed management | 1. Spray of anti transpirant 2. Postponement of top dressing 3. Strengthening of bunds | |

| Condition | Normal Crop/Cropping system | | | Suggested Contingency measures | | | | |
|--|---|-------------|----------|--|---|---|---|---------------------------|
| | Upland | Medium land | Low land | Upland | Medium land | Low land | Rabi Crop planning (Crop with variety) | Remarks on Implementation |
| Terminal drought (Early withdrawal of monsoon) | | | | | | | | |
| | Direct sown rice, Pigeonpea, Maize, Groundnut (AK12-24), Cucurbits/lady's finger, Pigeonpea + Maize, Maize + Lady's finger, Pigeonpea + Blackgram / Greengram | Paddy | Paddy | 1. Life saving irrigation 2. Pod harvesting of pigeonpea 3. Harvest at physiological maturity stage. | 1. Harvest at physiological maturity stage. 2. Life saving irrigation. | 1. Life saving irrigation. Harvesting at physiological maturity stage. | Cow pea (Swarna Mukut) French Bean (Swarna Priya, Arka Komal) Irrigated vegetables- Potato (Kufri jyoti, Kufri pukhraj, Kufri lalima), Radish (Japanese white) Chick pea (PG-114, PG – 186, Radhey, BG-256, KPG-59) Pea (Swarna Rekha/Arkel) Linseed (Priyam, Sabour Tisi – 1/2) Lentil (HUL – 57, DPL - 62). Mustard (BBM – 1, PM - 28) Wheat (Sabour Nirjal, DBW - 187) Barley (Jyoti, Ratna) | |

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

| Condition | Suggested contingency measure | | | |
|--|-------------------------------|------------------------|------------------------|--------------------|
| Continuous high rainfall in short span leading to water logging | Vegetative stage | Flowering stage | Crop maturity stage | Post harvest |
| | Crop Name | | | |
| Pigeonpea | Ridge making | Good drainage facility | | Keep in safe place |
| Blackgram | Ridge making | Good drainage facility | | Keep in safe place |
| Rice | Bund making | Good drainage facility | Good drainage facility | Keep in safe place |
| Horticulture | | | | |
| Cucurbits | Staking | Good drainage facility | Good drainage facility | Keep in safe place |
| Vegetables | Sowing on ridge | Good drainage facility | Good drainage facility | Keep in safe place |

Brief Summary of the Contingent Plan

- Prior to start monsoon season bunding should be strengthened and new bunding should also be created for proper conservation of soil water and check off fertile soil layer
- Green manuring (Dhaincha/sunhemp), moong as cover crop should be adopted
- Lime/dolomite should be applied in the field
- In case of delayed onset of monsoon/long dry spell upland rice should be diversified by coarse millets, short duration pulses (black gram, green gram, horse gram), oilseeds (soybean, niger, safflower) and sweet potato
- DSR/ Aerobic rice should be preferred over transplanted rice specially in case of upland and medium up land and Don – II
- In case of medium land Don – II DSR should be taken in place of transplanted rice
- Transplanting of rice variety having more than 120 days (Sambha Mahsuri, Nati Mahsuri, MTU - 7029, Sabour Sampann) should be done in low land Don – I
- Mechanized sowing by seed drill should be preferred under DSR
- Ridge bed sowing of crops like pigeonpea, maize, millets should be preferred in Don – III
- Germinated paddy seed may be preferred as wet seeding through plastic drum seeder

- Sowing windows may be slightly modified to cope with delayed monsoon as
 - Direct Seeded Rice: Up to end of July
 - Transplanted rice: Up to mid August
 - Pulses/oilseeds: Up to last August

- In case of land remain fallow in Kharif than late sown Kharif like Niger, Kulthi and early Rabi like short duration vegetables (Pea/Radish/Beans/Cole crops/ Brinjal/Tomato/Leafy Vegetables should be sown in the month of September
- Staggered nursery of paddy at interval of 10 – 15 days
- To mitigate the drought situation (10 – 15 days dry spell) spray of 1% KNO₃
- To sustain the income of farmers other agricultural allied activities like mushroom, poultry, bee keeping etc. should be promoted
- Rain water harvesting should be strengthened and desilting of existing water bodies for supplementation irrigation under dry spell need to be focussed
- Plantation of dryland fruit crops like Ber, Bael, Amla, Karondha, Custard apple, Guava should be planned in the barren and wasteland as a long term planning for boosting farmers' income