



NANDURBAR DISTRICT

CONTINGENT CROP PLANNING AND AGRO ADVISORY

EDITORS

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2017

STATE: MAHARASHTRA

Agriculture Contingency Plan for District: NANDURBAR

1.0 District Agriculture profile	
1.1	Agro-Climatic/Ecological Zone
	Deccan Plateau, hot semi arid eco region (6.1)
	Western Plateau & hills region (IX)
	Western Ghat Zone and Sub Mountain Zone (MH-6)
	Western Ghat Zone – Nandurbar, Nashik, Satara, Kolhapur Sub Mountain Zone - Nandurbar, Dhule, Nashik, Pune, Kolhapur
	Geographic coordinates of district headquarters
	Latitude
	Longitude
	Altitude
	21°00' - 22°03' N
	73°31' - 74°32' E
	180-215 m MSL
	Regional Extension Centre, College of Agriculture, Parola Road, Dhule Tal & Dist : Dhule, PIN - 424 004, Phone (O) 02562-230050, Fax 02562-230 127, email : dr_drmsm@yahoo.com
	ZARS, Igatpuri, PIN –422403 (M.S.) - Western Ghat Zone
	Krishi Vigyan Kendra, Kolade, Tal. & Dist. Nandurbar
1.2	Rainfall
	Normal RF(mm)
	Normal Rainy days
	Normal Onset specify week and month
	Normal Cessation specify week and month
	SW monsoon (June-Sep):
	NE Monsoon (Oct-Dec):
	Winter (Jan- Feb)
	Summer (March-May)
	Annual
	831.0
	41.0
	-
	-
	872.0
	26
	8
	--
	-
	-
	-
	34
	--
	-
	-
	-

Source : Directorate of Finance & Statistics, Govt of Maharashtra, Mumbai-2008 & NBSS & LUP, Nagpur

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)	503.00	297.00	105.00	20.00	27.00	4.00	0.0	24.00	1.0	25.00

Source: 1. Agricultural Statistical Information, Maharashtra State 2006 (Part II)
2. District Social & Economical Report 2008-09(Nandurbar District)

1.4	Major Soils	Area ('000 ha)
	Shallow black soils	118.8
	Medium deep black soils	103.95
	Deep black soils	74.25

(Source: NBSS & LUP, Nagpur)

1.5	Agricultural land use	Area ('000 ha)	Cropping intensity %
	Net sown area	297.00	133.67
	Area sown more than once	100.00	
	Gross cropped area	397.00	

1.6	Irrigation	Area ('000 ha)
	Net irrigated area	66.00
	Gross irrigated area	91.00
	Rainfed area	231.00

Source: District Social & Economical Report 2008-09(Nandurbar District)

Sources of Irrigation	Number	Area ('000 ha)	Percentage of total irrigated area
Canals	--		
Tanks	--	--	--
Open wells	20967	31.9	57.5
Bore wells	106	1.1	2.4
Lift irrigation schemes	--	--	--
Micro-irrigation	--	--	--
Other sources (Water lifted from river along the course & other sources)	--	22.4	40.4
Total Irrigated Area		55.4	100
Pump sets	18267	--	--
No. of Tractors	10222	--	--
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	NA	--	--
Critical	NA	--	--
Semi- critical	NA	--	--
Safe	6	100	Satisfactory
Wastewater availability and use	NA	--	--
Ground water quality		NA	

Source: District Social & Economical Report 2007-08(Nandurbar District)

1.7 Area under major field crops & horticulture (2008)

1.7	Major field crops cultivated	Area ('000 ha)												
		Kharif					Rabi							
		Irrigated	Rainfed	Total	Irrigated	Rainfed	Total	Irrigated	Rainfed	Total	Summer	Grand total		
	Cotton	*	53.3	53.3	-	-	-	-	-	-	-	-	-	53.3
	Kharif Sorghum	-	46.1	46.1	-	-	-	-	-	-	-	-	-	46.1
	Paddy	-	26.7	26.7	-	-	-	-	-	-	-	-	-	26.7
	Pearl millet	-	21.3	21.3	-	-	-	-	-	-	-	-	-	21.3
	Maize	-	20.7	20.7	-	-	-	-	-	-	-	-	-	20.7
	Soybean	-	5.3	5.3	-	-	-	-	-	-	-	-	-	5.3
	Rabi Sorghum	-	-	-	22.4	-	-	-	-	22.4	-	-	-	22.4
	Wheat	-	-	-	6.4	-	-	-	-	6.4	-	-	-	6.4
	Chick pea	-	-	-	7.6	-	-	-	-	7.6	-	-	-	7.6
	Groundnut	-	-	-	-	-	-	-	-	-	-	-	6.49	6.4
	Horticulture crops - Fruits													
		Total	6.9	6.9										Rainfed
	Mango													6.9
	Ber		1.2	1.2										1.2
	Guava		1.1	1.1			1.1							--
	Custard apple		0.8	0.8										0.8
	Sapota		0.7	0.7			0.7							--
	Horticulture crops - Vegetables													Rainfed
		Total	9.0	9.0										--
	Chilli		2.2	2.2			2.2							--
	Onion		0.3	0.3			0.3							--
	Brinjal		0.1	0.1			0.1							--
	Tomato													--

	Medicinal and Aromatic crops	Total	Irrigated	Rainfed
	Citronella	0.01	0.01	-
	Others	0.01	0.01	--
	Plantation crops	Total	Irrigated	Rainfed
		-	-	-
	Fodder crops	Total	Irrigated	Rainfed
	All crops	0.8	0.8	--
	Total fodder crop area	0.8	--	--
	Grazing land	29.0	--	--
	Sericulture etc	--	--	--
	Others	--	--	--

* - Data not available

1.8	Livestock	Male ('000)	Female ('000)	Total ('000)
	Non descriptive Cattle (local low yielding)	199.6	214.4	414.1
	Crossbred cattle	328.1	796.9	1125.0
	Non descriptive Buffaloes (local low yielding)	1.7	49.0	50.7
	Graded Buffaloes	0.9	11.2	12.2
	Goat	156.4	162.2	318.7
	Sheep	10.4	20.7	31.1
	Others (Camel, Pig, Yak etc.)			
	Commercial dairy farms (Number)			
1.9	Poultry	No. of farms	Total No. of birds ('000)	
	Commercial	46	926.9	
	Backyard	0	955.2	

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)		
NA		NA	NA	NA	NA	NA	NA
ii) Inland (Data Source: Fisheries Department)							
No. Farmer owned ponds		No. of Reservoirs		No. of village tanks			
0		39		400			
B. Culture							
		Water Spread Area (ha)		Yield (t/ha)		Production (tons)	
i) Brackish water (Data Source: MPEDA/ Fisheries Department)		NA		NA		NA	
ii) Fresh water (Data Source: Fisheries Department)		3742		0.2		815	
Others		NA		NA		NA	

1.11 Production and Productivity of major crops (2004-2008)

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)										
	Cotton	7.8	1.47 (kg-lint)	-	-	-	-	7.8	1.47 (kg-Lint)	-
	Kharif Sorghum	50.8	1101	-	-	-	-	50.8	1101	-
	Paddy	23.0	861	-	-	-	-	23.0	861	-
	Pearlmillet	11.7	658	-	-	-	-	11.7	658	-
	Maize	30.6	1481	-	-	-	-	30.6	1481	-
	Sugarcane	915.8	64330	-	-	-	-	915.8	64330	-
	Rabi Sorghum	-	-	1.9	882	-	-	1.9	882	-
	Wheat	-	-	10.1	1566	-	-	10.1	1566	-
	Chickpea	-	-	5.2	681	-	-	5.2	681	-

Major Horticultural crops

	Mango	467	67000	-	-	-	-	467	67000	-
	Ber	32.4	27000	-	-	-	-	32.4	27000	-
	Guava	20.2	18000	-	-	-	-	20.2	18000	-
	Custard apple	23.1	26000	-	-	-	-	23.1	26000	-
	Sapota	18.7	25000	-	-	-	-	18.7	25000	-
	Chilli	99	11000	-	-	-	-	99	11000	-
	Onion	26.4	12000	-	-	-	-	26.4	12000	-

1.12	Sowing window for 5 major field crops	Cotton	Kharif Sorghum	Paddy	Pearlmillet	Maize	Rabi Sorghum	Chick pea
	Kharif/Rainfed	3 rd week of June-2 nd week of July	3 rd week of June-2 nd week of July	3 rd week of June-2 nd week of July	3 rd week of June-2 nd week of July	3 rd week of June-2 nd week of July	--	--
	Kharif Irrigated	1 st week of May-1 st week of June	--	--	--	--	--	--
	Rabi Rainfed	--	--	--	--	--	3 rd week of September-2 nd week of October.	2 nd week of October-2 nd week of November.
	Rabi Irrigated	--	--	--	--	--	--	--

1.13	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	-	-	√
	Pests and disease outbreak (specify)	-	√	-
	Others (specify)	-	-	-
1.14	Include Digital maps of the district for	Enclosed: Yes		
		Enclosed: No		
		Enclosed: Yes		

2.0 Strategies for weather related contingencies

2.1 Drought

2.1.1 Rainfed situation

Condition		Suggested Contingency measures			Remarks on Implementation
Early season drought (delayed onset)	Major farming situation	Normal Crop / cropping system	Change in crop / cropping system including variety	Agronomic measures	
Delay by 2 weeks June 4 th Week	Shallow black soils	Pearlmillet	Adishakti, Dhanshakti, Shradhdha, Saburi, Shanti	<ul style="list-style-type: none"> - Application of 25 kg K₂O per ha as basal dose - One hoeing and weeding before 30 DAS 	Seed source : <ul style="list-style-type: none"> • Central campus MPKV, Rahuri, • College of Agril., Pune, Kolhapur and Dhule NSC, MSSC, Private co. Distributors
		Greengram/Blackgram	Greengram – Phule Vaibhav, Blackgram – TPU-4	One hoeing and weeding before 30 DAS	
		Sorghum	CSH-14,16,17	--	
	Medium deep black soils	Upland Paddy	Phule Radha, Indrayani, Bhogavati	<ul style="list-style-type: none"> - Direct seeding with seed drill - Weed free condition upto 40 days - N split application (50 kg N at sowing & 50 kg N at 25 DAS) 	
		Pigeonpea	Pearl millet (Adishakti, Dhanshakti, Shradhdha, Saburi, Shanti) + Pigeonpea (Vipula/BSMR-736) (2:1), Soybean (JS-335, Phule Agrani) + Pigeonpea (Vipula/BSMR-736) (3:1)	<ul style="list-style-type: none"> - Preparation of conservation furrows after harvest of pearl millet / soybean for moisture conservation - Weed free condition upto 30 DAS 	
		Soybean	JS-335, Phule Agrani	<ul style="list-style-type: none"> - Hoeing at 25 DAS - Weed free condition upto 30 DAS 	
	Deep black soils	Cotton	Bt cotton	<ul style="list-style-type: none"> - Hoeing at 20, 60 DAS - Weeding at 30 DAS 	
		Maize	Karveer, Phule Rajarshee	<ul style="list-style-type: none"> - Sowing on ridges - Weeding at 25 DAS 	

Condition		Major farming situation	Normal crop/cropping system	Change in crop/cropping system	Suggested Contingency measures	
Early season drought (delayed onset)	Remarks on Implementation				Agronomic measures	
Delay by 4 weeks July 2 nd week 28MW	Shallow black soils	Pearlmillet	Adishakti, Dhanshakti, Shradha, Saburi, Shanti	- Application of 25 kg K ₂ O per ha as basal dose - One hoeing and weeding before 30 DAS As above	Seed source : • Central campus MPKV, Rahuri, College of Agril., Pune, Kolhapur and Dhule NSC, MSSC, Private co. Distributors	
		Greengram/Blackgram	Pearlmillet (Adishakti, Dhanshakti, Shradha, Saburi, Shanti)	As above		
		Sorghum	As above	As above		
	Medium deep black soils	Upland Paddy	Phule Radha, Pavana	- Direct seeding with seed drill - Weed free condition upto 40 days - N split application (50 kg N at sowing & 50 kg N at 25 DAS)		
		Pigeonpea	Pigeonpea (Vipula / BDN-708) + Clusterbean (Pusa Sadabahar, Pusa Navbahar) (1:2)	- Opening of one conservation furrow after harvest of clusterbean		
		Soybean	Sunflower (SS-56 / Bhanu / Phule Raviraj / Phule Bhaskar)	-Seed treatment with Imadachloprid 70 WS @ 5-7 g per kg of seed - Hoeing at 20 DAS - Weeding upto 30 DAS		
Deep black soils	Cotton	Bt cotton	- Hoeing at 20, 60 DAS - Weeding at 30 DAS			
	Maize	Karveer, Phule Rajarshee	- Sowing on ridges - Weeding at 25 DAS			

Condition	Major farming situation	Normal crop/cropping system	Change in crop/cropping system	Suggested Contingency measures		Remarks on Implementation
				Agromomic measures	Agromomic measures	
Early season drought (delayed onset) Delay by 6 weeks July 4 th week 30 MW	Shallow black soils	Pearlmillet	Adishakti, Dhanshakti Shradha, Saburi, Shanti	Application of 25 kg K ₂ O per ha as basal dose One hoeing and weeding before 30 DAS As above	Seed source : • Central campus MPKV, Rahuri, College of Agril., Pune, Kolhapur and Dhule NSC, MSSC, Private co. Distributors	
		Greengram/Blackgram	Pearlmillet (Adishakti, Dhanshakti, Shradha, Saburi, Shanti)	As above		
	Medium deep black soils	Sorghum	As above	As above		
		Upland Paddy	Sunflower (SS-56 / Bhanu / Phule Raviraj / Phule Bhaskar)	Seed treatment with Imadachloprid 70 WS @ 5-7 g per kg of seed, Hoeing at 20 DAS, Weeding upto 30 DAS		
Deep black soils	Pigeonpea	Pigeonpea (Vipula / BDN-708) + Clusterbean (Pusa Sadabahar, Pusa Navbahar (1:2))	Opening of one conservation furrow after harvest of clusterbean	Seed treatment with Imadachloprid 70 WS @ 5-7 g per kg of seed, Hoeing at 20 DAS, Weeding upto 30 DAS Hoeing at 20, 60 DAS, Weeding at 30 DAS Sowing on ridges , Weeding at 25 DAS		
		Soybean	Sunflower (SS-56 / Bhanu / Phule Raviraj / Phule Bhaskar)			
	Cotton	Bt cotton				
	Maize	Karveer, Phule Rajarshee				

Condition	Major farming situation	Normal crop/cropping system	Change in crop/cropping system	Suggested contingency measures		Remarks on Implementation
				Agromomic measures	Agromomic measures	
Early season drought (delayed onset) Delay by 8 weeks August 2 nd week 33MW			Not Applicable			

Condition	Major Farming situation	Normal Crop/cropping system	Crop management	Suggested Contingency measures	
				Soil nutrient & moisture conservation measures	Remarks on Implementation
Early season drought (Normal onset) Normal onset followed by 15-20 days dry spell after sowing leading to poor germination/crop stand etc.	Shallow black soils	Pearlmillet	Protective Irrigation or resowing in case of failure	Hoing and Weeding	Use of farm pond for life saving irrigation
		Greengram/Blackgram	Resowing	As above	
		Sorghum	--	As above	
	Medium deep black soils	Upland Paddy	--	Weeding and interculturing	
		Pigeonpea	- Gap Filling	<ul style="list-style-type: none"> • Spray 2% urea or DAP • Hoing/weeding 	
		Soybean	In case of less than 30 % germination take up resowing with wider spacing of 45 cm with sufficient soil moisture.	<ul style="list-style-type: none"> • Hoing/weeding 	
	Deep black soils	Cotton	Gap filling	Weeding, Protective irrigation	
		Maize	As above	As above	

Condition	Major Farming situation	Normal Crop/cropping system	Crop management	Suggested Contingency measures	
				Soil nutrient & moisture conservation measures	Remarks on Implementation
Early season drought (Normal onset)	Shallow black soils	Pearlmillet	Give protective Irrigation	<ul style="list-style-type: none"> • Hoeing/Weeding • Use of 8 % kaolin spray • 2 % urea spray 	Use of farm pond for life saving irrigation
		Greengram/Blackgram	--	--	
At vegetative stage	Medium deep black soils	Sorghum	Give protective Irrigation	<ul style="list-style-type: none"> • Hoeing/Weeding • Use of 8 % kaolin spray • 2 % urea spray 	Weeding and interculture
		Upland Paddy	Give protective Irrigation		
	Pigeonpea	Protective irrigation and thinning	<ul style="list-style-type: none"> • Hoeing/Weeding • Use of 8 % kaolin spray • 2 % urea spray, • Opening of conservation furrows in between two rows of pigeonpea 		
	Soybean	Protective irrigation	<ul style="list-style-type: none"> • Use of 8 % kaolin spray • 2 % urea spray, • Hoeing and weeding 		
Deep black soils	Cotton	Cotton	As above	<ul style="list-style-type: none"> • Use of 8 % kaolin spray • Hoeing and weeding, • 2 % urea and or 2 % DAP spray 	Weeding and interculture
			Maize	As above	

Condition	Major Farming situation	Normal Crop/cropping system	Crop management	Suggested Contingency measures	
				Soil nutrient & moisture conservation measures	Remarks on Implementation
Early season drought (Normal onset)	Shallow black soils	Pearlmillet	Give protective Irrigation	<ul style="list-style-type: none"> • Hoeing/Weeding • Use of 8 % kaolin spray • 2 % urea spray, 	Use of farm pond for life saving irrigation
		Greengram/Blackgram	--	--	
At flowering/ fruiting stage	Medium deep black soils	Sorghum	Give protective Irrigation	<ul style="list-style-type: none"> • Hoeing/Weeding • Use of 8 % kaolin spray • 2 % urea spray 	
		Upland Paddy	Give protective Irrigation	Weeding and interculture	
Deep black soils	Deep black soils	Pigeonpea	Protective irrigation and thinning	<ul style="list-style-type: none"> • Hoeing/Weeding • Use of 8 % kaolin spray • 2 % urea spray, • Opening of conservation furrows in between two rows of pigeonpea 	
		Soybean	Protective irrigation	<ul style="list-style-type: none"> • Hoeing and weeding 	
		Cotton	As above	<ul style="list-style-type: none"> • Use of 8 % kaolin spray • Hoeing and weeding, • 2 % urea and or 2 % DAP spray 	
		Maize	As above	<ul style="list-style-type: none"> • -- 	

Condition	Major farming situation	Normal crop/cropping system	Crop management	Suggested Contingency measures	
				Rabi crop planning	Remarks on Implementation
Terminal drought (Early withdrawal of monsoon)	Shallow black soils	Pearlmillet	Protective irrigation, In case of poor grain filling harvest for fodder	No rabi crop	Use of farm pond for life saving irrigation
		Greengram/ Blackgram	Harvest the crop at physiological maturity	Chickpea (Vijay /Digvijay) / Safflower (Bhima) / Sunflower (SS-56 / Bhanu)	
		Sorghum	Protective irrigation, In case of poor grain filling harvest for fodder	Chickpea (Vijay /Digvijay) / Safflower (Bhima) / Sunflower (SS-56 / Bhanu)	
	Medium deep black soils	Upland Paddy	Harvest the crop at physiological maturity	No rabi crop	
		Pigeonpea	Protective irrigation	No rabi crop	
		Soybean	Protective irrigation	Chickpea (Vijay /Digvijay) or Wheat (Trimbak, Panchavati, Godavari) under assured irrigation	
	Deep black soils	Cotton	As above	No rabi crop	
		Maize	As above	Chickpea (Vijay /Digvijay/ Virat)	

2.1.2 Irrigated situation

Condition	Suggested contingency measures			Remarks on Implementation	
	Major farming situation	Normal crop/cropping system	Change in crop/cropping system		Agronomic measures
Delayed release of water in canals due to low rainfall -			Not applicable		
Limited release water in canals due to low rainfall			Not applicable		
Non release of water in canals under delayed onset of monsoon in catchment			Not applicable		
Lack of inflows into tanks due to insufficient /delayed onset of monsoon	Uplands, light/red soils- or Medium, medium or deep black soils - tank fed	Cotton	Bt cotton	Skip row irrigation / Drip irrigation	
		Onion	Late <i>kharif</i> onion (Phule Samarth / Baswant 780)	Sprinkler irrigation	
		Chilli	Phule Jyoti / Local	Broad Bed Furrows, Drip irrigation	
		Tomato	Phule Raja	Drip irrigation	
		Cotton	Bt cotton	Skip row irrigation / Drip irrigation	
		Wheat	Trimbak, Godavari, Tapovan	Irrigate at critical stages CRI and flowering stage	
		Chickpea	Vijay, Diggvijay,	Sprinkler irrigation	
Insufficient groundwater recharge due to low rainfall	Uplands, light/red soils- or Medium, medium or deep black soils - Open well	Onion	Late <i>kharif</i> onion (Phule Samarth / Baswant 780)	Sprinkler irrigation	
		Chilli	Phule Jyoti / Local	Broad Bed Furrows, Drip irrigation	
		Tomato	Phule Raja	Drip irrigation	

2.2 Unusual rains (untimely, unseasonal etc)

Condition	Suggested contingency measure				Post harvest
	Vegetative stage	Flowering stage	Crop maturity stage		
Continuous high rainfall in a short span leading to water logging					
Cotton	Drain out excess water	Drain out excess water	Drain out excess water	Drain out excess water	Shifting of economic produce to safer place for drying
Pearl millet	<ul style="list-style-type: none"> • Drain out excess water, • Give second dose of N at optimum soil moisture 	<ul style="list-style-type: none"> • Drain out excess water, 	<ul style="list-style-type: none"> • Harvest at physiological maturity stage 	<ul style="list-style-type: none"> • Harvest & dry in shade 	
Soybean	<ul style="list-style-type: none"> • Drain out excess water, 	As above	As above	As above	As above
Maize	<ul style="list-style-type: none"> • Drain out excess water, • Give second dose of N at optimum soil moisture 	As above	As above	As above	As above
Sun flower	<ul style="list-style-type: none"> • Drain out excess water 	As above	As above	As above	As above
Upland Paddy	--	--	Drain out excess water	Drain out excess water	As above
Horticulture crops	Vegetative stage	Flowering stage	Crop maturity stage	Crop maturity stage	Post harvest
Mango	Micro site improvement	Provide drainage	Harvest and grade the fruits	Harvest and grade the fruits	--
Guava	As above	As above	As above	As above	--
Custard apple	As above	As above	As above	As above	--
Onion	Drain out excess water	Drain out excess water	Drain out excess water	Drain out excess water	As above
Chilli	As above	As above	As above	As above	As above
Tomato	As above	As above	As above	As above	As above
Heavy rainfall with high speed winds in a short span					
Horticulture					

Outbreak of pests and diseases due to unseasonal rains	Vegetative stage	Flowering stage	Crop maturity stage	Post harvest
Cotton	Insect pest : Aphids & Jassids and Mealy bug & Thrips - Spraying of 5% NSKE followed by Diamethoate 30 EC 10 ml/10 L Disease : Alternaria blight- Spraying of copper oxychloride 50 WP, 25 g/10 L	Insect pest : White fly- Spraying of Diamethoate 30 EC, 10 ml/10 L / Acetamiprid 20 SP / Thiamethoxam 25 WG @ 3 g + 10 lit water Disease : Bacterial Leaf blight- Spraying of streptocyclin 1.0 g + copper oxychloride 50 WP 25 g/10 L	Pink Boll Worm - Use of IPM technology	--
Pearl millet	Insect pest : Grass hopper- Dusting of methyl parathion 20 kg/ha	Insect pest : Blister beetle- Dusting of methyl parathion 20 kg/ha or 10% carbaryl @ 20 kg per ha.	--	--
Soybean	Insect pest : Leaf eating catterpillar- Use of Pheromon trap, spraying of chloropyriphos 20%, 20ml/10 L Aphids, Thrips, White fly - Dimethoate 10 ml + 10 lit of water	Disease : Rust- Spraying of propiconazole 10 ml/10 L	--	--
Maize	Insect pest: Shoot fly- Spraying of Chloropyriphos 20EC, 20 ml/10 L	Insect pest : Spodoptera / Stem borer - Spraying of chloropyriphos 20EC, 20ml/10 L or Quinoliphos 25 EC @ 20 ml + 10 lit	Cob worm - Use trichocards @ 5 per ha	--
Sunflower	Insect pest : Thrips- Spraying of imidachloprid 17.8 SL 4 ml/10 L	Insect pest - Hairy catterpillar - Collection and destruction of affected plant parts - Spraying of 50% carbaryl 20 g/10 L	Insect pest – Heliothis- - Chloropyriphos 20 ml / 10 L	

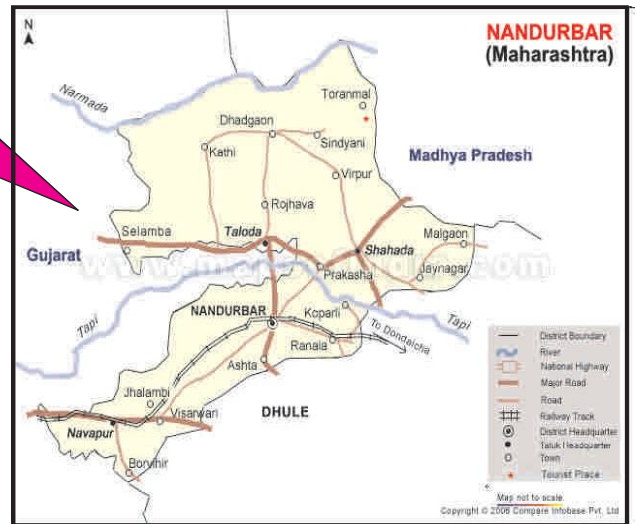
Horticulture crops			
Onion	<p>Insect pest : Thrips - Spraying of Dimethoate / methyl demeton 10 ml/10 L</p> <p>Disease : <i>Alternaria blight</i>- Spraying of mancozeb 75 WP, 30 g/10 L</p>	<p>Insect pest: Thrips - Spraying of Dimethoate / methyl demeton 10 ml/10 L</p> <p>Disease : <i>Alternaria blight</i>- Spraying of mancozeb 75 WP, 30 g /10 L</p>	<p>Disease : <i>Aspergillus niger</i>- Spraying of mancozeb 75 WP, 25 g/10 L</p>
Chilli	<p>Insect pest : Thrips, Aphids - Spraying of methyl demeton 10 ml/10 L or Imidacloprid 17.8 SL @ 5 ml or fipronil 5 SC @ 15 ml + 10 lit of water</p>	<p>Disease : Leaf spot –Spraying of mancozeb 75 WP, 25 g/10 L</p> <p>Mites - Fenpropathrin 5 ml or fenaxaquin 25 ml + 10 lit water alternatively.</p>	<p>Disease : Fruit rot & Anthracnose- Spraying of mancozeb or COC 25 to 30 g/10 lit or carbendazim 50 WP, 10 g/10 L</p>
Tomato	<p>Disease : <i>Alternaria blight</i>- Spraying of mancozeb 75 WP, 25 g/10 L</p> <p>Thrips, Aphids, White fly, Mites, Leaf minor - Use IPM techniques</p>	<p>Insect pest : Thrips - Spraying of methyl demeton 10 ml/10 L</p>	<p>Disease : Fruit rot - Spraying of copper oxychloride 50 WP, 25 g/10 L</p>

2.3 Floods – Not applicable

2.4 Extreme events: Heat wave / Cold wave/Frost/ Hailstorm /Cyclone – Not applicable

2.5 Contingent strategies for Livestock, Poultry & Fisheries : Separate Chapter given (Animal Component for All District)

Annexure-I: Map of Nandurbar District



Annexure-II: Soil Map of Nandurbar District

