

**QUANTITATIVELY MONSOON
RAIN FALL PLAN
FOR
HORTICULTURE**

**KHARIF – 2019
GUJARAT STATE**



DEPARTMENT OF HORTICULTURE, GUJARAT STATE,
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QUANTITATIVELY MONSOON RAIN FALL PLAN KHARIF - 2019

Introduction:-

It is very difficult to forecast about the monsoon based on the rainfall received in the previous years. The crop production can adversely affect if the rains during monsoon would be insufficient or erratic. In such conditions, the contingent planning of Kharif crop cultivation is essential.

Quantitatively Monsoon Rainfall Plan for Horticulture:-

The Quantitatively Monsoon Rainfall Plan for the Kharif is worked out to minimize the risk and to protect crop from major failures.

For avoiding crop losses due to adverse effect of irregular and erratic monsoon the contingent planning should be based on the following points.

1. Late onset of monsoon.
2. Dry spell during crop period or long dry spell in the monsoon.
3. Early windup of monsoon.

Objectives of plan:-

1. Immediate assessment of the direct losses of the horticultural crops, Orchards & Farm infrastructure & indirect production losses due to climatic condition.
2. Restore production potentialities of horticultural crops in the state.
3. Sustain production in next season

Agro climate Zones

The State is bestowed with diverse climatic condition conducive for a variety of horticulture crops. State is divided in eight Agro Climatic zone in respect of rainfall, Soils, and Geographical situation. The detail information is as under..

Sr	Sub Region	Region /Area	Rainfall in mm	Soils	Major horticulture crops
1	Southern Heavy rainfall area & Hills Area	(1) Whole of Dangs, Valsad district, (2) Part of Navsari District (excludings Navsari and Gandevi talukas) (3) Part of Tapi District (Valod, Vyara, Uchchhal, Songadh) (4) Part of Surat district (Mahuva taluka)	1500 and above	Deep black with patches of costal alkali laterite and medium black soil.	Fruits :- Mango, Chikoo, Cashew, Papaya ,Custard apple , Coconut Vegs :- Brinjal, Tomato, Elephant foot , Parwal , Cucurbits Spices:- Turmeric , Ginger, Chilies Flowers :- Rose, spider lily, Marigold, Jasmin, Gaillardia , Tuberos, Chrysanthemum MAPs:- Safed Musali, Asparagus, Aloevera, Guggul, Palmarosa

2	South Gujarat	(1) Part of Navsari district (Navsari and Gandavi talukas). (2) Part of Surat district (Kamrej, Palsana, Bardoli, Mangrol and Mandvi talukas) (3) Part of Tapi district (Nizar) (3) Whole of Bharuch & Narmada district	1000 to 1500	Deep black clayey soils	Fruits :- Mango,Chikoo, Banana, Papaya , Coconut and Guava , Lemon in Bharuch Vegs .:- Brinjal, Okra, Tomato, Cucurbits, Elephant foot, Kankoda, leguminous Vegetables, Cabbage, Cauliflower Spices:- Turmeric , Ginger , Chilies ,Ajwan Flowers :- Rose, spider lily, Marigold, Gaillardia , Tuberose, Chrysanthemum ,Gerbera & Carnation in poly house MAPs:- Safed Musali, Asparagus,Aloevera, Palmarosa, Patchouli,
3	Middle Gujarat	Whole of Vadodara , Kheda , Anand , Panchmahal, mahisagar, chhotaudaipur & Dahod districts	800 to 1000	Deep black to loamy sand (Goradu)	Fruits :- Mango, Kagzi Lime, Banana, Papaya, Aonla, Custard apple Vegs .:- Brinjal, Tomato, Okra, , Cucurbits., Drumstick & leguminous Vegetables, Cabbage, Cauliflower Spices:- Chilli, Ginger Flowers :- Rose, Spider lily, Marigold ,Gaillardia, Jasmine, Chrysanthemum , Gerbera & Carnation in Poly house MAPs:- Safed Musali, Aloevera, Senna ,Guggul
4	North Gujarat	(1) Wlole of Gandhinagar , Mehsana & Sabarkantha, Aravalli Districts (2)Part of Ahmedabad district,(includes Dascroi & Sanand talukas) (3)Part of Banaskantha district (Deesa, Dhanera, Palanpur, Danta & Vadgam taluka)	625 to 875	Sandy loam to sandy soil	Fruits :- Mango, Kagzi Lime, Papaya, Aonla, Pomegranate, Guava, Ber, Custard apple Vegs .:- Brinjal, Tomato, Okra, Drumstick ,Potato, Carrot, Radish, Cabbage, Cauliflower, cucurbits. Spices:- Chilli, Cumin, Coriander, Fennel, Fenugreek, Ajwan Flowers :- Marigold, ,Gaillardia , Jasmin , Deshi Rose MAPs:- Isabgul, Safed Musali, Aloevera, Senna, Guggul

5	Bhal & coastal Area	(1)Whole of Kutch & Patan district, (2)Dhrangadhra and Dasada talukas of Surendranagar district, (3)Santalpur,Radhanpur Kankrej, Diodar , Vav and Tharad talukas of Banaskantha district (4)Viramgam and Daskroi of Ahmedabad district. (5) Malia & Halvad taluka of Rajkot district	625 to 1000	Medium black poorly drained and saline soils	Fruits :- Mango, Lime, Date palm, Aonla, Pomegranate, Ber, Custard apple, Phalsa Vegs .:- Tomato, Brinjal, Cucurbits. Spices:- Cumin, Chilli, Fenugreek, Ajwan Flowers :- Marigold MAPs:- Isabgul, Mehndi Aloe vera, Senna, Guggul
6	North Saurashtra	(1) Whole of Jamnagar district (2) Part of Rajkot district (Padadhari, Lodhika, Jasdhan, Rajkot, Jamkandorna & Kotda Sangani Talukas.) (3) part of Surendranagar dist.(Wadhvan, Muli, Chotila and Salya talukas) (4) Umralla taluko of Bhavnagar district (5) part of Morbi district (vankaner, morbi) (6) part of Botad district (Gadhada, and Botad talukas).	400 to 700	Shallow medium black soils	Fruits :- Mango, Kagzi Lime, Papaya, Aonla, Pomegranate, Guava, Ber, Custard apple, Jamun Vegs .:- Brinjal, Onion, Tomato, Cabbage, Cauliflower, Cucurbits. Spices:- Cumin, Chilli, Garlic, , Coriander, Fenugreek, Ajwan Flowers :- Rose, Marigold, Gaillardia ,Jasmin MAPs:- Isabgul, Safed Musali, Aloe vera, Senna,
7	South sourashtra	Whole of Junagadh and Gir somnath district. (3) Part of Bhavnagar district (Sihor, Ghogha, , Gariadhar, Palitana, Talaja, & Mahuva talukas) (4) Part of Amreli district (Savarkundla Dhari, Kodinar, Rajula, Jafrabad, Khambha, Amreli, Babra, Lilia, Lathi & Kunkavav talukas)&	645 to 700	Shallow medium black soils & calcareous soils	Fruits :- Mango, Chikoo, Banana, Papaya, Ber, Coconut, Custard apple Vegs .:- Brinjal, Onion, Okra, Tomato, Cauliflower, Cucurbits & leguminous Vegetables. Spices:- Cumin, Chilli, Garlic, Fenugreek, Flowers :- Rose, Marigold, Gaillardia, MAPs:- Isabgul, Safed Musali, Aloe vera, Senna

		(5) Part of Rajkot district (Jetpur, Dhoraji Upleta & Gondal talukas).			
8	North west arid zone	Area around the gulf of Khambhat and Bhal & coastal region in haruch and Surat districts (1) Olpad talukas of Surat district, (2) Hansot & Wagra talukas of Bharuch District (3) Dholka and Dhandhuka taluka of Ahmedabad district, (4) Vallabhipur and Bhavnagar talukas of Bhavnagar district. (5) Limbdi talukas of Suredranagar dist.	250 to 500	Sandy and saline soils	Fruits :- Papaya, Aonla, Pomegranate, Guava, Ber, Custard apple, Tamarind Vegs .:- Brinjal, Tomato, , Cucurbits. Spices:- Chilli, Cumin, Ajwan , Flowers :- Rose (Deshi) Marigold, Gaillardia, MAPs:- Isabgul, Aloe vera, Senna,

E) Zone wise Existing cropping pattern:

Geographic region of the state is divided in eight more or less similar Agro-climatic Zones as per soil type & climatic conditions; Agro climate zone wise normal cropping patter of Horticultural crops has mentioned below :-

(1) South Gujarat heavy rainfall Zone - Hilly area

1. Mango and Sapota - Mono cropping
2. Mango - inter crop - Vegetable
3. Sapota - inter crop - Vegetable
4. Banana - Vegetable- Banana
5. Vegetable - Fallow- Vegetable
6. Cereals - Vegetable -Fallow

(2) South Gujarat

1. Mango and Sapota- Mono cropping
2. Banana - Vegetable- Banana
3. Vegetable- Fallow- Vegetable
4. Cereals - Vegetable-Fallow

(3) Middle Gujarat

1. Vegetable - Fallow- Vegetable
2. Banana - Vegetable- Banana
3. Cereals - Vegetable-Fallow
4. Spices - Fallow -Vegetable
5. Fruit crops Inter crop - Vegetable

(4) North Gujarat

1. Vegetable- Fallow- Vegetables
2. Cereals-Vegetable-Fallow
3. Cereals - Spices - Fallow
4. Spices crops - Vegetable- Fallow
5. Fruit crops - Inter crop - Vegetable

(5) Bhal Tract

1. Cereals-Vegetable-Fallow
2. Vegetable- Fallow- Vegetable
3. Cereals - Spices - Fallow
4. Fruit crops-Inter crop- Vegetable

6) North Saurashtra

1. Cereals-Vegetable-Fallow
2. Cereals - Spices - Fallow
3. Fallow - Spices - Fallow
4. Vegetable - Fallow - Vegetable
5. Fruit crops - Inter crop - Vegetable\

(7) South Saurashtra

1. Cereals-Vegetable-Fallow
2. Vegetable - Fallow - Vegetable
3. Fruit crops - Inter crop - Vegetable

(8) Kutchh Tract

1. Cereals-Vegetable-Fallow
2. Cereals - Spices - Fallow
3. Vegetable - Fallow - Vegetable

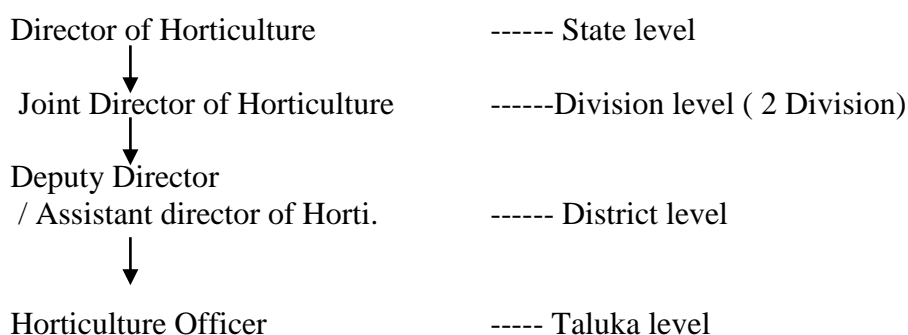
4. Fruit crops - Inter crop - Vegetable

Horticultural Operation Plan:-

At the time of hazard like flood, heavy rainfall, thunderstorm etc., the standing crop will be affected first, the Quantitatively Monsoon Rainfall Plan provides safety measures & technical guidance to the farmer to save the standing crop or minimize the loss. In case of delayed rainfall, prolonged dry spell, crop submergence, newly sown crop will affect or sowing may be delayed, at that time by preparing Quantitatively Monsoon Rainfall Plan guidance and advice will be given to the farmers for alternative crop or cropping pattern. Where as in case of disease - pest occurrence, Quantitatively Monsoon Rainfall Plan provide control measures as may be recommended by State Agricultural Universities. .

Working pattern: -

Department of Horticulture has multi level staffing pattern as per follow



The directorate has infrastructure up to district level. Looking to the above mentioned working pattern, following officers will be responsible for the coordination of Up ward <--> Down ward flow of the information & over all supervision of rehabilitation activities at prescribed level.

Immediate response group

1. **Joint Director of Horticulture** (Planning) of Directorate office will be the Chief nodal officer for overall coordination between Agriculture & Cooperation department & field level offices.
2. **Deputy Director of Horticulture** in the office to Joint director, at division level will be *District coordination officer*
3. **Deputy/ Assistant Director of Horticulture** at District level Offices will be *Taluka coordination officer*

Village level activities can be taken up with the help pf Village Level Workers (*Gram sevak*)

Activities to be performed under the Plan:-

1. Identification of affected area
2. Assessment of nature of losses
3. Immediate reporting to appropriate authorities
4. Preparation & dissemination of Contingency Crop & Horticultural Operations plan
5. Survey and assessment of extent of losses
6. Preparation & proposal of relief / rehabilitation program
7. Implementation of relief / rehabilitation program
8. Over all evaluation of impact of the program