

## **Monsoon 2014 - Agro Advisory – 25.06.2014**

This is in continuation of an earlier advisory dated 13.6.2014 uploaded on website (nraa.gov.in) and also widely circulated.

Monsoon reached Andaman & Nicobar two days in advance and its movement towards Kerala coast was delayed by about six days. Further advance of the monsoon towards North continue to be delayed by about 8-15 days in different agro-meteorological regions. Northern limit of the monsoon is almost stuck up over Gujarat (Veraval), Marathwada (Wasim, Nasik), Western Madhya Pradesh (Damoh) and UP (Sultanpur) for the past few days. In the previous year of 2013, all districts of Kerala received more than normal rainfall with an overall excess of +26%. However, in the current year of 2014 upto now all the districts of Kerala have received less than normal rainfall ranging from -7 to -56% upto 18<sup>th</sup> June with an overall shortfall of -27%. All these features indicate that the rainfall system was quite weak. The rainfall is now mostly confined to West coast and North East and the weak phase may start reviving in the first week of July.

As on 23.6.2014 only 20% of the total area of India received normal rainfall in Tamil Nadu and Pondicherry, Southern interior Karnataka, Rayalaseema, Gangetic West Bengal, Bihar, East MP, Andaman & Nicobar. About 62% of the geographical area has received deficient and 18% scanty rainfall. North and North East India which was supposed to receive 99% of rainfall is also having -31% shortfall. Similarly, North West India is deficient by about -45%, Central India by -51% and South Peninsular by -23%. The overall country level average deficit of -37% indicates the need of contingency measures.

### **1. Carry over of last year water stored in reservoirs**

Fortunately last year received rainfall in advance of normal date, followed by cloud bursts around 16-19<sup>th</sup> June, 2013 floods and deluge. Withdrawal of monsoon was also extended and there were rains in the post rainy season also. In spite of deluge and damages last year scenario re-charged ground water and most of the reservoirs also overflowed and highest food production record of 264.38 million tonnes was realised. The latest data of the Central Water Commission monitored 82 reservoirs is quite encouraging. Out of total

culturable canal command area sample of 199 lakh hectares of monitored reservoirs, 77.2% is having +85% more storage than last ten year average for corresponding period (upto 19.6.2014) in the states of Punjab, Haryana, Rajasthan, Jharkhand, West Bengal, Odisha, Gujarat, Maharashtra, Uttar Pradesh, Madhya Pradesh, and Chhattisgarh. All these states should plan the best and most efficient use of water available in the reservoirs. The Southern states of Andhra Pradesh, Karnataka, Tamil Nadu and Kerala are having -37.8% less water storage than previous ten year average of the corresponding period. This provides better opportunities in 77% of canal command area and greater challenge in 23% of canal command area mostly in southern region.

## **2. Drinking water**

Keeping in view the current rainfall situation, top most priority should be given for reserving reservoir water for drinking purposes. Operationalization of dams and canal irrigation roaster system may be reworked for irrigating with the remaining water. Some good quality promising ground water aquifers may also be identified to install tube wells for drinking purposes if the need arises in future. Logistics of water distribution with the help of tankers, railways, camel carts in deserts and other means may also be planned for meeting unfolding situation if the rainfall does not revive properly.

## **3. Fodder, feed and animal health**

Deficiency of rainfall will certainly reduce availability of grasses in the grazing lands, forest area and even of the cultivated fodders. Unlike food grains, there is no committed buffer stock of the fodder, alternative seeds and feeds etc. Dry and green fodder is required in large bulk and is difficult to transport over long distances. During past drought affected years even sugar cane was harvested in Maharashtra for feeding the animals and the farmers were compensated for the loss of their income of normal years. It is advised that the alternative local, nearby and even distant sources may be identified to access at a very short notice if the situation so demands. Fodder might have to be cultivated in assured irrigation area with due compensation of their economic losses due to diversion from food or cash crops.

#### **4. Cattle Migration**

Migration of the livestock especially small ruminants is a very traditional drought escaping mechanism. However, there are some inter-state quarantine related restrictions on the animals to prevent spread of diseases. It is therefore necessary that vaccination of the animals may be anticipated and preliminary arrangements/planning is made. Distress sales of animals might have to be avoided through some policy interventions.

#### **5. Contingency crop**

As per the latest information from the states as on 20.6.2014 there is already a shortfall of 41.12% in the cropped area under rice, 28.9% in cotton, 27.86% in coarse cereals, 20.32% in oil seeds, 17.68% in pulses, 2.83% in sugarcane, 1.99% in Jute and Mesta with an average 17.7% shortfall in all the crops over the previous year of 2013-14. Over all crops shortfall works out to 14.3% over the normal area (latest 10 years average). If the rainfall does not improve further one has to think of alternative short duration, drought tolerant crops and their varieties which will be quite different from region to region, state to state and even among the districts. Micro level specific recommendation can always be ascertained from the local extension services, Krishi Vigyan Kendras, State Agriculture Universities and other agencies.

#### **6. Compensatory production**

As on today about 20% of the geographical area is having normal rainfall and some of the production can be compensated by enhancing its productivity. This would require very intensive cultivation, timely use of inputs, all other operations, extra dose of fertilizers, water and other inputs. The idea is not to have economically optimum production but the aim is to maximise production even at diminishing marginal returns.

#### **7. Special plan for flood frequented areas**

About 40 Million hectare of the area is flood prone and a special contingency plan should be prepared to maximise production in this area where cultivation, sowing and planting is done during flood free period or even in the special *boro* season. Rice fallow area can be cropped during Rabi season by developing vast unutilized ground water resources in the eastern India. Special plan in terms of the crops, varieties, inputs, agro-economic

practices and supplementary irrigation should be prepared to compensate for the production losses elsewhere in deficit and scanty rainfall regions.

#### **8. Saving sown area and protective irrigation**

There is also an urgent need to save the crop or areas already sown. For this purpose weeding, hoeing, inter-cultivation and mulching is advisable to reduce soil moisture losses. One may also think of providing some protective irrigation if the rainfall deficiency continues and crops show severe stress. It is therefore advised that all irrigation utilities of surface and ground water based resources should be serviced, repaired, renovated to realise maximum efficiency of the very scarce water resources. Additional lined farm ponds may be dug up to store water for protective irrigation. Old ponds may be de-silted to restore their capacity and lined to prevent excessive seepage losses. All *in situ* conservation structures may be repaired, renovated or supplemented.

#### **9. Efficient use of water and energy**

In the states like Punjab, Haryana, western UP and others having pre-dominantly ground water based irrigation, supply of electricity and diesel should be assured. All water lifting and distribution utilities should be serviced, repaired or replaced to realise maximum efficiency of energy. Seeding and transplanting of long duration water guzzling crops may be avoided. More area can be put under short duration late varieties of *Basmati* rice.

#### **10. Orchards**

About 80% of fruits are cultivated under rainfed conditions especially in hills, mountains, Karnataka, other southern and central states. A ring of trench, half moon shaped bund on downward slope side, sunken basin, snow harvesting and mulching can save the generally deep rooted fruit trees.

#### **11. Protected cultivation of vegetables in peri urban areas**

Speculative high inflationary volatility in market prices of perishable vegetables is obvious in the emerging rainfall scenario. They should be cultivated under shade or poly houses especially in peri-urban areas. The most water and input efficient micro-irrigation system should be energised by renewable energy. This system of cultivation has the highest productivity potential, is economically viable and will lead to permanent solution for ever.

## **12. Forest land**

The fringe forest areas provide forages, fodder in the nearby villages and non-timber minor forest products for the tribals and dwellers within the forest. Rain water conservation of the rainfall events with the help of contour bunding, trenching, gully plugs etc. may also be taken up especially utilising resources of MGNREGA scheme. Probability of forest fires also increases when the rainfall is inadequate and destroy flora and fauna. The forest departments may like to maintain fire lines if already existing or create new fire lines by proper planning.

## **13. Relief measures**

Fortunately India has more than sufficient buffer stock of food grains and require efficient logistic to provide relief for all the families likely to be affected by drought. Ration cards might have to be reviewed, inflationary market sentiments may be contained by exercising checks on hoarders and releasing stocks from time to time will deter inflation. A shelf of plans may also be prepared at the district or sub-district level for providing employment for creating durable and productive assets under MGNREGA scheme. Debt repayments after crops failures are the major source of distress and suicides by farmers. Insurance is mostly confined to loanee farmer which in fact amounts to insurance of bank loans. Crop failure per se is not insured comprehensively. Innovative insurance derivatives are called upon.

## **14. Inter-basin transfer of water**

The ultimate solution lies in inter-linking of rivers especially having environmental and economic feasibility of inter-basin water transfer within the states or among the neighbouring states requiring relatively lesser investments. The very difficult across multi-state transfers could be considered in future depending on the demand-supply scenario and economic viability.