

O.I.H.

GOVERNMENT OF INDIA  
MINISTRY OF AGRICULTURE & FARMERS WELFARE  
DEPARTMENT OF AGRICULTURE & FARMERS WELFARE

**LOK SABHA**  
**STARRED QUESTION NO.77**  
TO BE ANSWERED ON THE 7<sup>TH</sup> FEBRUARY, 2023

**SHORTAGE OF WATER FOR AGRICULTURE**

†\* 77. SHRI DINESH CHANDRA YADAV;  
SHRI SANTOSH KUMAR:

Will the Minister of AGRICULTURE AND FARMERS WELFARE कृषि एवं किसान कल्याण मंत्री be pleased to state:

- (a) whether it is true that due to climate change it is being estimated that there is going to be a shortage of water for agriculture in future;
- (b) whether there will be a major problem of irrigation in agriculture sector due to shortage of water;
- (c) if so, the policies under consideration of the Government for the management of agriculture sector; and
- (d) whether about 67 per cent boys and 59 per cent of girls upto the age of 5 years are suffering from anaemia due to water contamination in the country and if so, the details thereof?

**ANSWER**

MINISTER OF AGRICULTURE AND FARMERS WELFARE

कृषि एवं किसान कल्याण मंत्री (SHRI NARENDRA SINGH TOMAR)

(a) to (d): A Statement is laid on the Table of the House.

**STATEMENT REFERRED TO IN REPLY TO PARTS (a) TO (d) OF LOK SABHA STARRED QUESTION NO. 77 DUE FOR REPLY ON 7<sup>th</sup> FEBRUARY, 2023 REGARDING SHORTAGE OF WATER FOR AGRICULTURE.**

(a) & (b): Ministry of Environment, Forests and Climate Change conducted studies on impact of climate change in India as part of the Second National Communication to the United Nations Frame Work Convention on Climate Change. The studies revealed that Impact of climate change and climate variability on the water resources are likely to affect irrigated agriculture. However, the impact of climate change has been dealt with effectively through various interventions of the Government.

(c): (i) To meet the challenges of Agriculture in the face of changing climate, the Indian Council of Agricultural Research (ICAR) has launched a flagship network project namely National Innovations in Climate Resilient Agriculture (NICRA). The project aims to study the impact of climate change on agriculture including crops, livestock, horticulture and fisheries and to develop and promote climate resilient technologies in agriculture which will address vulnerable areas of the country. Besides, ICAR has developed cost effective, location specific scientific technologies viz. rainwater harvesting & recycling, precision technologies for irrigation and farming practices, adoption of modern agronomic practices, diversifying cropping pattern from water guzzling crops like low land rice, sugarcane to pulses, oilseeds, maize and agro-forestry etc. It also imparts training and organizes field demonstrations to educate farmers in these regard. The salient achievements under NICRA are as follows:

1. ICAR has developed resilient varieties in different crops tolerant to climatic stresses to improve the food grain production in the face of changing climate. Since 2014, a total of 2122 varieties have been released out of which 1752 are climate resilient varieties which includes 400 abiotic stress tolerant varieties and 1352 are biotic stress tolerant.
2. Sixty eight location-specific climate resilient technologies have been developed and popularized for wider adoption among the farming communities.
3. District level risk and vulnerability assessment of Indian agriculture to climate change has been prepared which is useful for several Ministries/ Departments for prioritizing resources towards developmental programs.

4. Based on vulnerability assessment, climate resilient technologies are being demonstrated on farmer's fields in 151 clusters covering 446 villages.
5. Agricultural contingency plans for 650 districts have been prepared and State officials have been sensitized for preparedness through 57 State-level interface meetings during the past eight years. Agricultural contingency plans have been made available online for policy makers to take decisions in the event of delayed monsoons and other extreme weather events.
6. ICAR in collaboration with India Meteorological Department (IMD) is issuing Agromet advisories twice a week (Tuesday and Friday) to around 6 crore farmers of the country through Gramin Krishi Mausam Seva program. The advisories are reaching the farmers through m-KISAN portal, WhatsApp groups, SMS services etc.
7. During the past decade, 16,958 capacity building programs were conducted throughout the country under NICRA project to educate stakeholders on various aspects of climate change and resilient technologies, covering 5,14,816 different stakeholders including farmers so as to enable wider adoption of climate resilient technologies.
8. ICAR has made efforts to improve the nutritional quality in high yielding varieties of cereals, pulses, oilseeds, vegetables and fruits using breeding methods and developed 87 varieties under special project on Consortium Research Platform on Biofortification.
9. System of Rice Intensification/ Direct Seeded Rice (SRI/ DSR) are also being promoted under National Food Security Mission (NFSM) for reducing use of water in agriculture sector.

(ii) To deal with the impact of climate change in Agriculture Sector, the Department of Agriculture & Farmers Welfare is implementing National Mission for Sustainable Agriculture (NMSA). NMSA is one of the Missions within the National Action Plan on Climate Change which aims to evolve and implement strategies to make Indian agriculture more resilient to the changing climate. The NMSA has components viz Rainfed Area Development, Soil Health Management and On Farm Water Management implementing as Per Drop More Crop (PDMC). PDMC focuses on micro irrigation technologies namely Drip and Sprinkler Irrigation systems to enhance water use efficiency through precision water management. It helps in efficient water use at

farm level as well as reduced fertilizer usage, labour expenses, other input costs and in overall income enhancement of farmers. So far, an area of 149.13 lakh ha has been covered under Micro Irrigation in the country.

(iii) The Government is implementing Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) with an aim to enhance physical access of water on farm and expand cultivable area under assured irrigation and introduce sustainable water conservation practices. The components of PMKSY are as under:

1. Accelerated Irrigation Benefit Programme (AIBP) and Har Khet Ko Pani (HKKP): These components are being implemented by Department of Water Resources, River Development & Ganga Rejuvenation (DoWR, RD&GR). Under PMKSY, 99 prioritized AIBP Projects including their Command Area Development and Water Management (CADWM) activities have been taken up on Mission Mode.

2. Watershed Development Component (WDC-PMKSY): The Integrated Watershed Management Programme (IWMP) was amalgamated as one of the components in the umbrella scheme of PMKSY in 2015-16 and named as the Watershed Development Component of the Pradhan Mantri Krishi Sinchayee Yojana (WDC-PMKSY). Under WDC-PMKSY 1.0, Department of Land Resources provided Central assistance for 6382 watershed development projects in 28 States and released Rs.19926.67 crore as Central share. The extended project period of WDC-PMKSY 1.0 got over on 31.03.2022. The activities undertaken, inter alia, include ridge area treatment, drainage line treatment, soil and moisture conservation, rainwater harvesting, nursery raising, pasture development, livelihoods for asset less persons etc. Under WDC-PMKSY 1.0, as per information received from the States/UTs, since 2014-15 to 2021-22, approximately 7.64 lakh water harvesting structures have been created / rejuvenated. An additional area of about 16.41 lakh ha has been brought under protective irrigation. The number of farmers benefited is about 36.34 lakh during this period. Further, during 2018-19 to 2021-22, 1.62 lakh ha has been brought under plantation (Horticulture/ Afforestation) and 3.36 lakh ha culturable wasteland treated in all completed projects. Government of India has also approved continuation of WDC-PMKSY 2.0 with a physical target of 49.50 lakh ha of rainfed/ degraded areas in December, 2021. Under WDC-PMKSY 2.0, Department has already sanctioned 1110 watershed projects to States/UTs covering an area of 49.43 lakh hectare with total project cost of Rs. 12109.96 crore (Central share Rs. 7864.25 crore).

(iv) Further, Government supports construction of water harvesting and conservation works primarily through Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS). Mission Amrit Sarovar launched as a part of celebration of Azadi ka Amrit Mahotsav with an objective to conserve water for future. The Mission is aimed at developing and rejuvenating 75 water bodies in each district of the country. As on date, 93970 sites have been identified and work has commenced on 55660 sites. The work has been completed on 29520 sites. In addition, large number of water bodies such as farm ponds, dug wells, check dams and community ponds (water harvesting & Fishery) have been created under the MGNREGS Scheme. A total of 64,09,852 water harvesting structures have been created so far under the scheme.

(v) DoWR, RD & GR has set up Bureau of Water Use Efficiency (BWUE) for promotion, regulation and control of efficient use of water in irrigation, industrial and domestic sector. The Bureau facilitates promotion of improving water use efficiency across various sectors namely irrigation, drinking water supply, power generation, industries etc. in the country. National Water Mission (NWM) launched the 'Sahi Fasal' campaign to nudge farmers in water stressed areas to grow crops which are not water intensive but use water efficiently and are economically remunerative, healthy and nutritious and suited to the agro-climatic-hydro characteristics.

(vi) In order to promote climate friendly and water use efficient crops, the Government has taken up various initiatives to increase the cultivation of millets. Millets are hardy, have low water requirement and shorter crop cycle which means that they can be grown and harvested in arid regions. With an aim to generate mass awareness, increase production, productivity and strengthen the Millet value-chain towards enhanced Millet consumption, the proposal submitted by the Government in "The United Nation's General Assembly (UNGA)" to declare 2023 as the International Year of Millets was accepted and supported by 72 countries. Accordingly, UNGA declared 2023 as the International Year of Millets (IYM) on 5th March 2021. Millets is now known as Shri-Anna.

(d) The prevalence of anaemia is 67.2 percent among male children aged 6-59 months and 67.0 percent among female children aged 6-59 months as per National Family Health Survey-5 (NFHS-5, 2019-21). The causes of anaemia in children are low iron stores at birth due to anaemia in mother, non-exclusive breastfeeding, too early introduction of inappropriate complementary food, late introduction of appropriate (iron-rich) complementary foods, insufficient quantity of iron and iron

enhancers in diet: low bioavailability of dietary iron, increased iron requirements related to rapid growth and development during infancy and childhood, non-nutritional causes of anaemia, iron loss due to parasite load, poor environmental sanitation, unsafe drinking water and inadequate personal hygiene.

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