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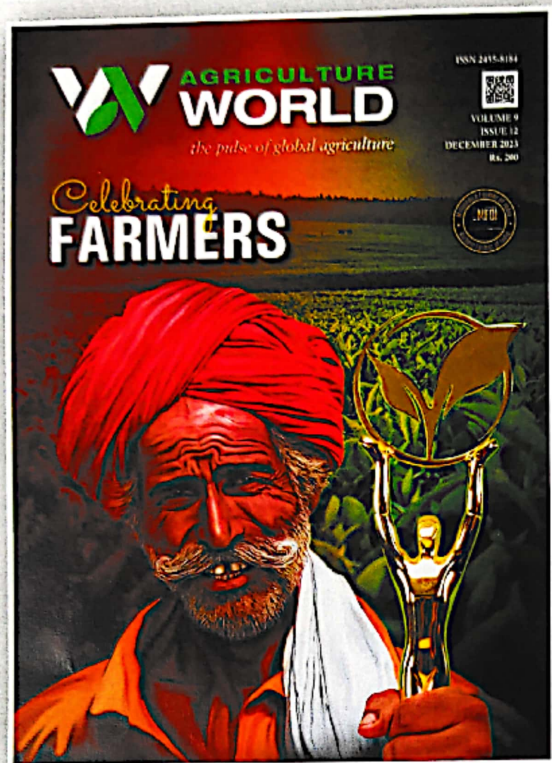
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## *Celebrating* FARMERS





Founder & Editor-in-Chief	MC Dominic
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Circulation	Abdus Samad Vaishali Das
Sr. Graphic Designer	Md. Nasim Ansari

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## ICAR-ATARI, PUNE

“ KVK and Amazon signed MoU for collaboration to identify and set up demonstration plots to impart and share ideas about established agricultural practices



### ABOUT THE AUTHOR

Dr Subrata Kumar Roy is Director  
ICAR-ATARI, Pune

**Agricultural Development in Western Region**  
**Initiatives of KVKs In**  
**Maharashtra, Gujarat and Goa**

**K**VKs have played a pivotal role in the success of the farmers in the Western region. 78 KVKs in the states of Maharashtra (47), Gujarat (30) and Goa (1) work for enhancing farmers' income. A total of 8504 cases of Doubling of Farmers Income cases were documented by 78 KVKs. A perusal of the success stories where farmers income doubled or more than doubled during 2016-17 and 2020-21 indicate that the concerted efforts of the KVKs has really paid off and the overall income of selected farmers has increased during 2020-21.

#### **KVKs in Maharashtra**

50 KVKs of Maharashtra are looking after the overall agricultural development in the state. In Maharashtra, 20 KVKs are working under state agricultural universities, 28 KVKs under Non-Governmental Organizations, 1 KVK under ICAR and 1 KVK under other university. 18 districts (Amaravati, Ahmednagar, Pune, Nashik, Aurangabad, Buldhana, Nanded, Beed, Yavatmal, Solapur, Jalgaon, Satara, Jalna, Sangli, Nagpur and Kolhapur) are having two KVKs in the district.

#### **KVKs in Gujarat**

30 KVKs of Gujarat state provides farm support to the agricultural sector and creates awareness about the improved agricultural technologies. In Gujarat, 18 KVKs are working under state agricultural universities, 7 KVKs under Non-Governmental Organizations, 2 KVKs under ICAR institutes and 3 KVKs under deemed university. Double KVKs have been established in 3 districts (Banaskantha, Kutch and Rajkot) of Gujarat. It has helped the additional KVKs to reach the farmers.

#### **KVKs in Goa**

In Goa, 1 KVK is working under ICAR institute and 1 KVK under State Department of agriculture. 2 KVKs of Goa are providing technology assessment and demonstration for its application and capacity development of the agriculture sector in the state.

#### **Achievements of KVKs in Western region**

##### **On Farm Testing (OFT)**

The purpose of On Farm Testing (OFT) is to assess the location specificity of agricultural technologies under various farming systems. A total of 34,120 OFTs was conducted by the KVKs of western region of the country during 2017 to 2023.

##### **Front line Demonstrations (FLD)**

KVKs organizes Frontline Demonstrations to establish production potential of technologies on the farmers' fields. Between 2017 and 2023, more than 1.22 Lakh FLDs were conducted by the KVKs of Maharashtra, Gujarat and Goa.

##### **Training**

Skill set up gradation is necessary for every single farmer,

new improved technology adoption through different training programs organized by KVK's play vital role in improving livelihood of farmers. In the western region, 82 KVKs organized 9060 training courses with the participation of 354327 farmers, farm women, rural youth, extension functionaries, regular, sponsored and vocational trainings involving Maharashtra, Gujarat and Goa states during 2022-23. In all 288968 farmers and farm women and 36549 rural youth were trained on different skills in different enterprises. Similarly, 28810 extension workers were also trained in different areas.

#### **Involvement of KVKs in Agricultural Development Programmes**

##### **Natural farming**

Natural farming practices exclude any commercial inputs, whether they be organic, biological, or otherwise, and instead rely on biomass mulching, year-round green cover, and locally derived cow-based dung and urine compositions. A project on natural farming is implemented in 48 KVKs (30 KVKs in Gujarat, 17 KVKs in Maharashtra and 1 KVK in Goa) in the western region. During 2022-23, the KVKs conducted 632 awareness programs, 64 trainings, and 395 demonstrations on natural farming, involving 80306 farmers. In addition to this, conducted 24 training courses on Natural Farming covering 732 participants covering 511 male and 221 female participants in Gujarat.

##### **Agriculture Drone Project (ADP)**

A total of 40 drones was sanctioned, including 7 to State Agricultural Universities, 23 to ICAR institutes and 10 to KVKs under Agri-Drone Project under Sub Mission on Agricultural Mechanization for the year 2022-23 in Maharashtra and Gujarat. The drone pilot training in Maharashtra and Goa state was conducted at RPTO, MPKV, Rahuri to 35 people. Among these, 33 were completed and 2 under process.

In Gujarat, pilot training was conducted to 22 persons at RRU, Gandhinagar, among these 20 completed (2 under process) and 2 scientists from ICAR-NIASM, Baramati completed pilot training at RPTO, MIT, TN University, Chennai, Tamil Nadu. 36 Drones were purchased by the PIC and 4 are under process, 1195 Kisan drone demonstrations were conducted at KVKs, ICAR research institute and Agril. Universities field for benefiting farmers of the western region of the country.

#### **National Innovations in Climate Resilient Agriculture (NICRA)**

National Innovations in Climate Resilient Agriculture (NICRA) is a multi-institutional and multi-disciplinary network project launched by ICAR in 2011. Technology Demonstration Component (TDC) of NICRA which is implemented in 121 climatically vulnerable districts of the country focuses on

enhancing the adaptive capacity of farmer in these districts to climatic change and to ensure security of livelihood in times of climatic aberrations. The Technology Demonstration Component (TDC) of NICRA was implemented through KVKs during 2022-23 in 11 climatically vulnerable districts located in the states of Maharashtra, Gujarat and Goa.

#### **Nanaji Deshmukh Krushi Sanjivani Prakalp (PoCRA)**

The Project on Climate Resilient Agriculture (PoCRA) has been initiated by the Government of Maharashtra (GoM) in Partnership with the World Bank. It was implemented in 16 Districts and 157 talukas of Maharashtra in 4894 villages. The project development objective (PDO) of PoCRA is 'to enhance climate resilience and profitability of smallholder farming systems in selected districts in Maharashtra'. This is envisaged to be achieved by promoting climate-resilient agriculture systems, value chain promotion, post-harvest management, and institutional development. The KVKs have provided trainings and all technological backstopping for successful implementation of the project.

#### **Farmer Producer Organisations (FPO)**

Department of Agriculture, Co-operation & Farmers Welfare, Ministry of Agriculture & Farmers Welfare, Government of India has introduced the CSS Formation and Promotion of 10,000 FPOs under Co-operative Societies Act. DAC & FW act as a funding source and NCDC along with ICAR is the implementing agency. In Western India, it is being implemented in total 10 blocks in 6 KVKs, out of which there are 6 blocks from 4 KVKs from Maharashtra and 4 blocks from 2 KVKs of Gujarat with the aim to enhance economic strength & market linkages of farmers for enhancing their income.

#### **Gramin Krishi Mausam Seva (GKMS)**

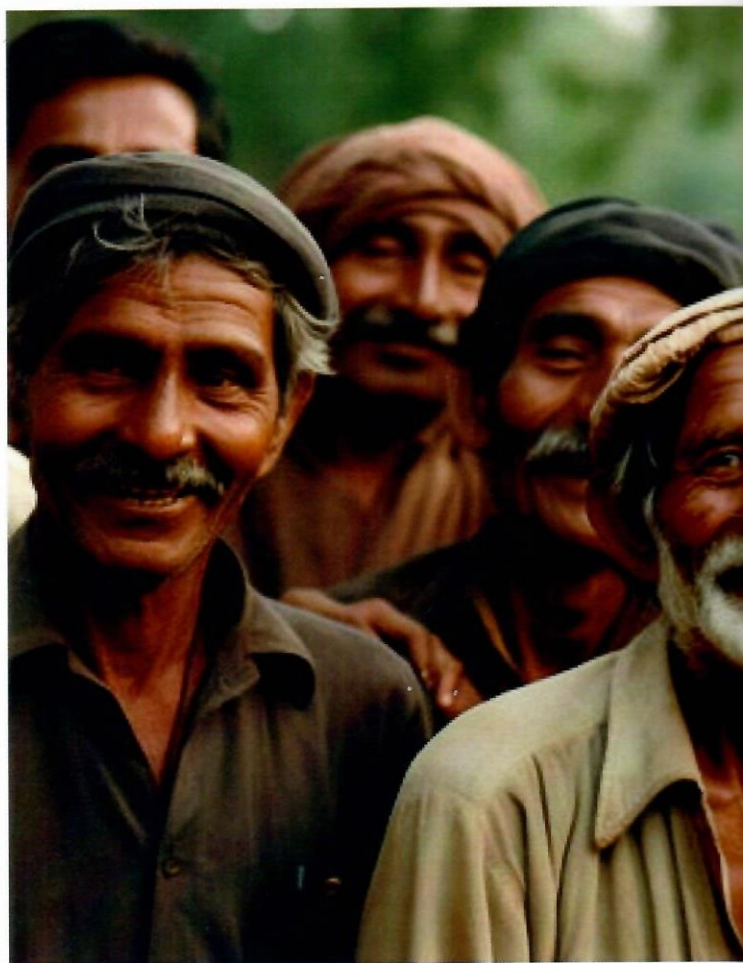
Under GKMS Scheme, 21 DAMU centers of Maharashtra, Gujarat and Goa coordinated in dissemination of Agromet Advisory Services to farmers. During the year 2022-23, these 21 DAMU centers generated 18118 agromet advisories and disseminated weather-related advisories through different means. A total of 267 awareness programs were organized involving 16946 farmers and 1748 WhatsApp groups created by DAMU KVKs by involving 2.96 Lakh farmers for taking up timely farm operations and to prevent crops during extreme weather events.

#### **Special Project on Cotton development**

The project titled 'Targeting technologies to Agro-ecological zones - large scale demonstrations of best practices to enhance cotton productivity' implemented in 2023. The pilot project comprises of three sub-projects. 1) High density planting system in low productivity areas with shallow soils with canopy, nutrient, soil health management. 2) Closer Spacing planting system in medium productivity areas with medium deep soils under rainfed cotton ecosystem with canopy, nutrient and soil health management



## **The Krushik App is a mobile based application developed by KVK Baramati, Maharashtra**



3) Production technology for ELS cotton in niche areas under rained/irrigated farming situation. Seed Companies like Rashi, Rallis, Mahyco, Nuziveedu, Kaveri and Ankur are involved in the Project. 15 KVKs from Maharashtra and 3 KVKs from Gujarat are implementing from 2023.

#### Connecting the Farmers

Some initiatives of the KVKs of the western region are highlighted below, through which they will provide better services to both producers and consumers.

#### MoU on marketing strategies with Amazon

Amazon is engaged in the business of inter-alia retail sale of food products manufactured and/or produced in India. KVK and Amazon had signed MoU for collaboration to identify and set up demonstration plots in order to impart and share ideas about established agricultural practices with interested farmers / cultivators and demonstrate the impact and effectiveness of certain agronomy practices.

KVK Narayangaon and Baramati along with Amazon officials will identify and set-up separate plots for each crop to demonstrate and establish the impact and effectiveness of the package of practice (PoP). Each demonstration plot will be of minimum half acre of

land and contain soil(s) which is adequate for the cultivation of the crops like cauliflower, cabbage, beetroot, broad beans, cucumber, watermelon, okra, onion, brinjal and coriander.

KVK Narayangaon will conduct workshops with respect to each demonstration plots. Each workshop will extend from the time of sowing the seeds of the crops up to harvesting and marketing. KVK will assist the person engaged in agricultural production on the demonstration plot to plant the crops and apply the PoP, as identified, and provided. KVK will demonstrate and impart information to the farmers or cultivators attending the workshop at their own discretion. KVK will provide training and infrastructure facilities at its premise. The charges to be bear by Amazon.

Amazon will work in collaboration with the association to finalize the PoP to be followed for each crop in the demonstration plots. Amazon will inform farmers (with who Amazon has direct procurement arrangements) and invite them to participate in the demonstration at such day and time as mutually agreed by the parties. Amazon will also work to identify adequate demonstration plots. Amazon will bear costs and expenses in setting up demonstration plots and for collection and verification of information related to impact of SOP. Amazon will pay to KVK Narayangaon the crop demonstration monitoring and farmers training charges of Rs 25000/- per crop demonstration.

#### Krushik App

The Krushik App is a mobile based application developed by KVK Baramati, Maharashtra and the features of the application are as follows:

- Provides crop wise fertilizer recommendations of all four agricultural universities of Maharashtra
- Incorporation of district wise crop nutrient recommendations of concerned agricultural university
- Provides recommended dose of fertilizers for various crops based on soil health card
- Calculation of cost of fertilizers required per acre as per current market price
- Options available for application of primary (N, P, K), secondary (Ca, Mg, S) & micronutrients (Fe, Mn, Zn, Cu, B, Mb) fertilizer alternatives as per recommendations for that crop.
- Options for combination of straight, complex & mixed fertilizers for nutrient application
- Calculation of water-soluble fertilizers to be given by Fertigation
- Calculation of fertilizer application according to village wise land fertility index.

