

दो गज की दूरी - है बहुत जरूरी

Innovative Agri-Solutions During COVID-19



Indian Council of Agricultural Research
Division of Agricultural Extension
KAB-1, Pusa, New Delhi-110 012

Innovative Agri-Solutions during COVID-19



भारतीय कृषि अनुसंधान परिषद
कृषि विस्तार विभाग
कृषि अनुसंधान भवन, नई दिल्ली-110 012
Indian Council of Agricultural Research
Division of Agricultural Extension
KAB-1, Pusa, New Delhi-110 012



कृषि एवं किसान कल्याण,
ग्रामीण विकास तथा पंचायती राज मंत्री
भारत सरकार

कृषि भवन, नई दिल्ली
MINISTER OF AGRICULTURE & FARMER'S WELFARE,
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GOVERNMENT OF INDIA
KRISHI BHAWAN, NEW DELHI

संदेश

कोविड-19 के कारण उत्पन्न हुई वैश्विक महामारी भारतीय अर्थव्यवस्था के लिए बड़ी चुनौती के रूप में उभर कर सामने आयी है। लॉकडाउन के फलस्वरूप सभी आर्थिक एवं व्यावसायिक गतिविधियां संकटपूर्ण स्तर तक पहुंच गई। खाद्य सुरक्षा मानव जाति की मूलभूत आवश्यकता है और भारतीय किसानों ने कृषि वैज्ञानिकों के साथ मिलकर देश के लोगों के भरण-पोषण की जिम्मेदारी बहुत अच्छी तरह निभाई है। इस परिदृश्य में भी किसान देश के आर्थिक विकास में पथ-प्रदर्शक की भूमिका निभा रहे हैं। वर्तमान में कृषि और किसान कल्याण मंत्रालय भी अति-सक्रियता के साथ नीतिगत फैसले लेकर देश के लघु और सीमांत किसानों की वित्तीय समस्याएं कम करने के लिए पूरी तत्परता से काम कर रहा है।

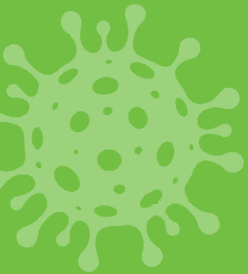
भारतीय कृषि अनुसंधान परिषद् ने इस महामारी से उत्पन्न चुनौती को गंभीरता से लेते हुए लॉकडाउन से प्रभावित किसानों को इस मुश्किल समय में हर संभव व्यावहारिक समाधान और सुझाव उपलब्ध कराने में सक्रिय भूमिका निभाई है। इसने कृषि विज्ञान केन्द्रों के नेटवर्क की सहायता से कृषि-गतिविधियों और प्रसार-प्रणाली को इलेक्ट्रॉनिक, डिजिटल या वर्चुअल माध्यम से लॉकडाउन के दौरान भी सुचारु बनाए रखने में सहायनीय कार्य किए हैं। शास्त्रों में कहा गया है कि हर कठिन परिस्थिति, नवीन संभावनाओं को जन्म देती है। इस संदर्भ में, मुझे यह बताते हुए हर्ष है कि इन विषम परिस्थितियों में कृषि विज्ञान केन्द्रों ने किसानों को कृषि की श्रेष्ठ विधियों

से अवगत कराकर उनकी कई समस्याओं का समाधान किया। कृषि विज्ञान केन्द्रों ने कृषि की इन विधियों को किसानों के साथ साझा किया और उन्होंने इन्हें अपनाकर अन्य किसानों के लिए मिसाल पेश की।

मुझे प्रसन्नता है कि भारतीय कृषि अनुसंधान परिषद ने इन सभी श्रेष्ठ कृषि गतिविधियों और विकल्पों को एक इलेक्ट्रॉनिक पुस्तक – इनोवेटिव एग्री-सोल्यूशन्स ड्यूरिंग कोविड-19 के रूप में संकलित किया है। इससे कृषि विज्ञान केन्द्रों को आपस में एक – दूसरे की श्रेष्ठ कृषि गतिविधियों को सीखने का अवसर मिलेगा, साथ ही व अपने क्षेत्र के किसानों को संबंधित ज्ञान और अनुभव से अवगत भी करा सकेंगे। पुस्तक में शामिल किए गए अभिनव विपणन, श्रमिकों की कमी से निपटने हेतु मशीनीकरण समाधान, नुकसान में कमी लाने हेतु मूल्य-संवर्द्धन, लिंकेज के माध्यम से आजीविका सुनिश्चित करने और कुशल भण्डारण प्रणाली जैसी श्रेष्ठ कृषि गतिविधियों व रणनीतियों से किसानों और कृषि-प्रसार कर्मियों को बहुत लाभ होगा और वे संबंधित चुनौतियों से प्रभावी तरीके से निपट सकेंगे।

आशा है कि यह ई-प्रस्तक कोविड-19 के कारण उत्पन्न विशेष परिस्थितियों में कृषि उद्देश्यों की पूर्ति और किसान-कल्याण की दिशा में काफी हद तक उपयोगी साबित होगी। बहुत ही कम समय में इस उपयोगी संकलन का प्रकाशन कर भारतीय कृषि अनुसंधान परिषद ने निःसंदेह एक सराहनीय कार्य किया है। इसके लिए मैं परिषद को धन्यवाद देता हूँ। मुझे विश्वास है कि भारतीय कृषि अनुसंधान परिषद के इस तरह के मूल्यवान और उपयोगी प्रयासों का सिलसिला भविष्य में भी अनवरत जारी रहेगा।


(नरेन्द्र सिंह तोमर)





कृषि एवं किसान कल्याण राज्य मंत्री
भारत सरकार
MINISTER OF STATE FOR AGRICULTURE
& FARMERS WELFARE
GOVERNMENT OF INDIA

संदेश

कोविड-19 के कारण उत्पन्न हुई वैश्विक महामारी ने सभी के लिए एक जबरदस्त चुनौती खड़ी की है। इस महामारी से निपटने के लिए भारत सरकार को लॉकडाउन का निर्णय लेना पड़ा। इस कारण विभिन्न कृषि कार्यों के निष्पादन में बदलाव की आवश्यकता पड़ी। भारतीय कृषि अनुसंधान परिषद ने कृषि विज्ञान केंद्रों के माध्यम से अपनी सेवाओं को अविरल रूप से किसानों तक पहुँचाने के लिए सोशल मीडिया का प्रयोग कर किसानों को कृषि कार्यों को करते समय सामाजिक दूरी बनाकर रखना और आरोग्य सेतु ऐप को मोबाइल पर डाउनलोड कर पंजीकरण करना आदि भी दी जो कि इस लॉकडाउन के दिशा निर्देशों का पालन करने के लिए आवश्यक थी।

लॉकडाउन के कारण किसानों को अपने उत्पाद के निस्तारण में एवं श्रमिकों की कमी से सम्बंधित विभिन्न चुनौतियों का सामना करना पड़ा। कृषि विज्ञान केन्द्रों ने इन चुनौतियों से निपटने के लिए विभिन्न सुझावों को अपनाकर सभी चुनौतियों को सफलतापूर्वक सामना किया। लॉकडाउन से उत्पन्न हुई इन परिस्थितियों से कृषि विज्ञान केंद्रों ने किसानों की कृषि की इन श्रेष्ठ विधियों का संकलन करके ई-पुस्तक के रूप में प्रकाशित किया है। मुझे विश्वास है कि यह प्रकाशन किसानों तथा कृषि प्रसार कर्मियों के लिए बहुत उपयोगी सिद्ध होगा।

इस प्रकाशन के लिए मैं भारतीय कृषि अनुसंधान परिषद् को बधाई देता हूँ तथा आशा करता हूँ कि भविष्य में भी इस प्रकार के उपयोगी प्रकाशन करता रहेगा।

शुभकामनाओं सहित।

(कैलाश चौधरी)



Foreword

The COVID-19 lockdown has impacted different sectors of the Indian economy. Its impact on Indian agriculture has been complex and diverse across various segments of agricultural value chain and across the regions. It was the peak of *rabi* season when the lockdown was announced and crops like wheat, chickpea, mustard etc. were to be harvested. It was also the time for the farm produce to reach markets for procurement by government agencies. The immediate challenge, therefore, was market access for the farm produce, which was problematic due to absence of transportation and unavailability of workers for operations at farm and *mandis*. The very livelihood of various actors of the supply chain of perishable commodities such as milk, vegetables, fruits, fish etc. was challenged.

To tackle this situation, the Indian Council of Agricultural Research (ICAR) issued state specific guidelines about harvesting and threshing of *rabi* crops along with the advisories on handling post-harvest operations like storage and marketing of the farm produce more efficiently. In order to cope with the case specific challenges posed by COVID-19 lockdown, the demand driven and location specific initiatives and innovations were implemented by different field functionaries. Krishi Vigyan Kendras (KVKs), the outreach arms of ICAR, have once again proven their worth at the grass root level. KVKs tapped full potential of different Information and Communication Technology (ICT) tools to address farm challenges during the lockdown and supported farmers and farm women.

It gives me immense pleasure that the Division of Agricultural Extension, ICAR, New Delhi has come out with a compilation of selected successful interventions by the KVKs, which proved quite helpful to the farmers in beating the heat of COVID-19 lockdown. The compilation entitled "Innovative Agri - solutions during COVID-19" in the form of an e-book is a timely initiative, which would encourage others to emulate such workable models in the times of adversity.

Dated the 22nd May, 2020

A handwritten signature in blue ink, appearing to read 'T. Mohapatra'.

(T. MOHAPATRA)

Secretary (DARE) & Director General (ICAR)



Preface

COVID-19 has created unprecedented situation throughout the world. All economic activities have come to the level of near cessation. Even when industrial production stops the agricultural production has to continue as humans can't stop eating in any situation hence, supply of adequate and nutritious food to the people has to be ensured all the times. This challenge has still larger dimensions in India as we have to feed about 1.35 billion people in our country when it is difficult to import food from international markets. If agricultural production stops then our national food reserves will not last beyond few months, hence agricultural support and extension system must keep on working even during the lockdown through electronic communication.

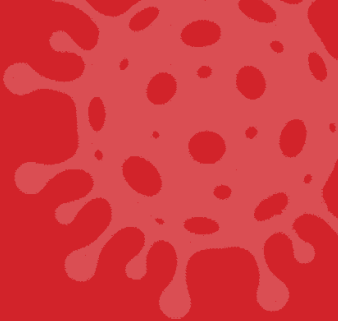
The Extension scientists have exhibited a sense of responsibility of being in touch with the farmers and supporting them with the best possible options to deal with this adversity. All ICAR-Agricultural Technology Application Research Institutes (ATARIs) in the country along with the Krishi Vigyan Kendras (KVKs) were actively engaged in identifying problems of farmers under the lockdown. Solutions to various constraints faced by the farmers were devised by KVK system and were provided timely to the farmers for mitigating the hardships.

The compilation of an electronic book on 'Innovative agri- solutions during COVID-19' is an important collection of unique examples of innovative actions and options suggested to the farmers by our network of KVKs. I am sure this electronic book will help the farmers and agricultural extension workers for serving the purpose of agricultural upliftment to a great extent. I congratulate the team for bring out such important compilation in very short period of time.

Dated the 22nd May, 2020

(A.K. Singh)

Deputy Director General (Agricultural Extension), ICAR



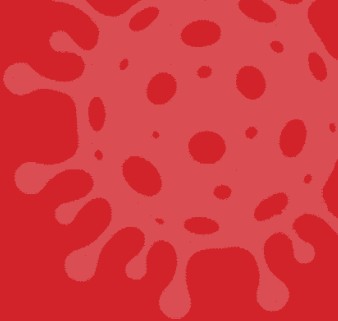
PROLOGUE

COVID-19 pandemic challenged many assumption of the modern life throughout the world. The economy of major countries has by and large come to the grinding halt. However, the conditions in highly populous country like India, where about 1350 million people have to be supported with food, awareness and necessary equipments are more challenging than the developed nations. During this challenging time we can't expect any outside support and we have to manage feeding of our people only at our own.

The challenge became still tougher as the lockdown resulted in shortage of farm labour on one hand and disruption of marketing channels at the end of consumers. Perishables like poultry, dairy, fruit and vegetables started perishing and this resulted into destruction of a lot of food which otherwise could have been consumed by the people of India. Such trend couldn't be let continue as our national food reserves can feed 1350 million people only for few months.

ICAR Agricultural Extension Network took this challenge seriously and became proactive in devising and suggesting practical solutions to the affected farmers. There were a very large number of such innovative examples throughout the country which needed to be documented for their subsequent emulation by the farmers and extension personnel. The urgency of delivering contents of this compilation to the ultimate beneficiaries at the earliest possible; necessitated keeping form of this publication as an electronic one.

This e-book includes more than 100 selected experiences from every nook and corner of the country. Editors of this e-book put on record the significance of input from the concerned KVKs of India for compilation of these exemplary anecdotes. All ICAR-ATARIs worked really hard to supply necessary input for the culmination of this document in a short period of time.



CONTENTS

<i>Message</i>	iii
<i>Foreword</i>	vii
<i>Preface</i>	ix
<i>Prologue</i>	xi
1. Online Advisories and Consultations	1
2. Promoting Protection against COVID-19	17
3. Assuring Livelihood through Linkages	35
4. Mechanization Solutions for Tackling Labour Shortage	85
5. Adding Value for Reducing Losses	95
6. Innovative Marketing Initiatives	125
7. Strengthening Storage Strategies	175
8. Crucial Management of Feed & Fodder	185
9. Miscellaneous Initiatives and Options	201
10. News in Print Media	231

1. ONLINE ADVISORIES AND CONSULTATIONS



Restrictions on movement of people during the lockdown resulted in a situation where farmers were not in a position to visit the farm advisory and solution centres such as KVKs etc. However, farmers exerted the option of contacting extension personnel through telephonic conversation. Various ICT options came handy in solving farmers problems under this scenario. The problems were understood with the help of photographs and video clips and online solutions were provided on all the problems related to crops and livestock. However, field visits were conducted by the extension personnel especially under livestock's life threatening conditions.



Use of ICT tools to facilitate bee keepers in lockdown period

Context

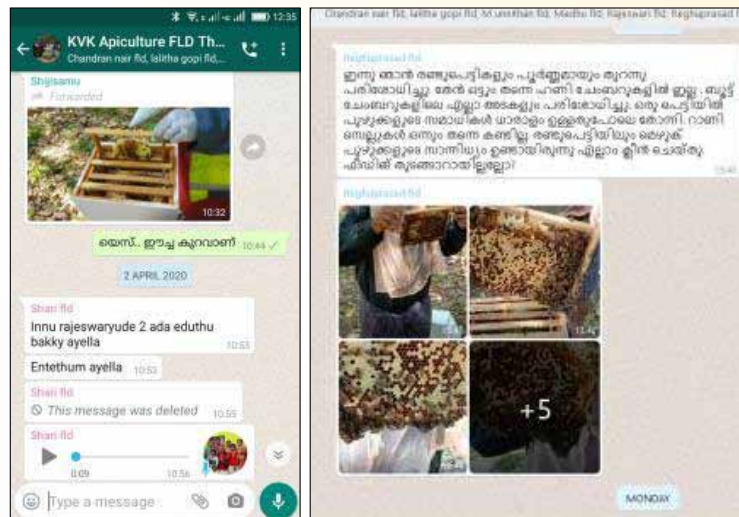
- ♦ ICAR-KVK-Alappuzha had successfully established Apiculture with Indian bees (*Apis cerana indica*) as a good source of income from rubber plantations of the district during tapping holidays
- ♦ It was taken up as a demonstration cum vocational training activity with 15 partner farmers of Thazhakkara village from December, 2019 onwards
- ♦ COVID-19 and subsequent lockdown prevented direct contact with farmers, hence trainings/direct interactions during honey flow and post honey flow period was affected



Use of ICT tools to facilitate bee keepers in lockdown period

Intervention

- ◆ KVK-Alappuzha resorted to use of ICT tools to get in touch with partner farmers through conference calls, audio visual aids, social media, tele-training etc.
- ◆ Four tele-conferencing sessions were conducted at weekly intervals to impart skills for proper collection and storage of honey during March – April, 2020.
- ◆ Tele-trainings supported by tailor made video clips on management of colonies during honey flow season, post active honey flow season, and hygienic preparations for sale were done online.
- ◆ Each farmer could collect up to 2 kg honey per box worth Rs.700/-, thus making a total income of Rs.21000/- during this period.



Online Class Helped Farm Delivery of Fish Seeds and Feed in Lockdown

Context

- ♦ Hon'ble CM of Kerala urged to commence farming as lockdown activity
- ♦ Whereas lack of access to seed, feed and technical support was a constraint to farmers during lockdown.
- ♦ KVK could not continue its regular supply of Pearlscale and carp fish seeds on first Saturday of every month (average 10,000 numbers) due to lockdown.
- ♦ Every month otherwise KVK used to supply to 50-70 farmers.



Online Class Helped Farm Delivery of Fish Seeds and Feed in Lockdown

Intervention

- ♦ Commenced farm delivery of fish seeds and feed from KVK's Satellite seed production units.
- ♦ Farmers registered in KVK WhatsApp number (8281757450) by hearing repeated announcements through All India Radio.
- ♦ Online class was delivered on 15th April 2020 by way of facebook live by SMS (Fisheries)
- ♦ Delivered 15,000 seeds and 200 kg feed worth 1.72 lakhs during the lock down period to 46 farmers.
- ♦ Payment received online to KVK account at SBI, Perumpilly, Narakkal Branch.



Poultry chicks delivered at door steps in lockdown, conducted online class

Context

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Poultry chicks delivered at door steps in lockdown, conducted online class

Intervention

- Online delivery advertised in Newspapers and also in All India Radio and received 299 calls and 177 messages during 8th to 15th April 2020.
- Bookings were taken for units comprising 4 female and 1 male birds and payment received by cash.
- Supplied Two months old and properly vaccinated Kadadnath & Tellichery chicks 1308 numbers worth 3.20 lakhs at door steps during lockdown.
- Conducted online class on 11th April 2020 by way of facebook live by SMS (Animal Science)



AgroMet advisories helped farmers for safe harvesting during lockdown period

Context

- During lockdown period, farmer were unable to harvest their mature Rabi crops due to unavailability of labours.
- Frequent adverse weather situation also adding woes to farmers.
- There was urgent need to connect such farmers and encounter weather abrasion.
- Farmers were advised and linked with the machine owners regarding use of machines like reaper and harvesters to sort out the problems of harvesting under shortage of labours.







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 कृषि विज्ञान केंद्र, सरैया, मुज़फ़्फ़रपुर - 842126 (बिहार)
 डॉ. राजेंद्र प्रसाद केंद्रीय कृषि विश्वविद्यालय, पुरा

Ref: 174/AM/मुज़फ़्फ़रपुर

दिनांक 26-04-2020

सरैया ज़ख़्त के लिए कृषि मौसम सेवा बुलेटिन
 (25 अप्रैल to 29 अप्रैल)

ग्रामीण कृषि मौसम सेवा, डा. अरवि, सी. ए. यू., पुरा, समस्तीपुर एवं भारत मौसम विज्ञान विभाग के सहयोग से ज़रूरी मौसम पूर्वानुमान के अनुसार:-

भारत मौसम विभाग द्वारा जारी अनुमानित तापमान का मापदंड	25-04-2020	26-04-2020	27-04-2020	28-04-2020	29-04-2020
उष्ण (दि. ० मि. ०)	३०.०	३५.०	३६.०	३७.०	३८.०
अधिकतम तापमान (दि. ० से ०)	३१.५	३६.५	३६.५	३७.०	३८.०
न्यूनतम तापमान (दि. ० से ०)	१९.०	२०.०	१९.०	१९.०	१९.०
वायुमय	हल्के बरसत रहेंगे	हल्के बरसत रहेंगे	आसानी से बरसत रहेंगे	बरसत छाया रहेंगे	हल्के बरसत रहेंगे
अधिकतम आर्द्रता (प्रतिशत)	७०	७०	६५	७०	७५
न्यूनतम आर्द्रता (प्रतिशत)	२५	२५	३५	३५	३५
कुल औसत (कि.मी. ० से ०)	१५.०	२१.०	२१.०	१९.०	१७.०

AgroMet advisories helped farmers for safe harvesting during lockdown period

Intervention

- ♦ During lockdown period, KVK provided technical support in terms of Agromet advisories to make farmers aware about weather forecast, field operation etc.
- ♦ A large no of farmers were contacted through phone call, whats app, face book etc.
- ♦ Farmer took timely action for harvesting of rabi crops and their proper storage
- ♦ Timely AgroMet advisories saved one to two irrigations in vegetable crop during lockdown.
- ♦ They were also advised regarding social distancing in doing the agricultural operation



Reaching farmers through Conferencing and Zoom app

Context

- ♦ Lock down in Ranchi restricted farmers movement and their problem remained unaddressed.
- ♦ Information related to 'Local resource based solutions' to sort out their problems is the need of time during lockdown.
- ♦ KVK has Enterprise based database of different farmers group of district.
- ♦ Farmers reported different on-field problems common to a specific enterprise through phone calls.
- ♦ Providing solution to every farmer through phone is time taking and not practical under lock down condition
- ♦ Public representatives like Sarpanches, Mukhia etc were contacted to send advisories down to villages.



Reaching farmers through Conferencing and Zoom app

Intervention

- ♦ KVK guided farmers by using different IT platforms to sort out their agricultural problems. KVK formed whatsapp Gp of 99 Mukhiyas/sarpanches of different villages to reach at grass root level. They acted as catalysts to spread the advisories in respective villages
- ♦ KVK organised many video conferences through 'Zoom App' to convey advisories. Moreover, farmers were also connected with other agencies for getting help in receiving inputs
- ♦ KVK, Ranchi contacted Reliance foundation and assisted in organizing Audio Conferences with farmers of different remote areas of Ranchi district to sort out their problems.



Online Training of Agricultural Input Dealers

Context

- ♦ KVK, Ramkrishna Ashram, Nimpith is currently conducting two batches of DAESI courses with 80 input dealers.
- ♦ But due to the lock down in the State, the classes have been postponed for an indefinite period.
- ♦ The students (input dealers), who are now well accustomed to the formal education system of the course, comprising of weekly classes, practical works, assignments, exposure visits and agro-advisories, are suddenly feeling dissociated from their services to the farming community.
- ♦ It's a real challenge for KVK to complete these courses.



Online Training of Agricultural Input Dealers

Intervention

- Considering the need to continue the DAESI course, to hold the growing interest of the input dealers, RA KVK-Nimpith started online classes for the students on a WhatsApp platform, on an experimental basis.
- The idea of the "online class" was at first shared with all the students. 95% of the students agreed readily to follow such system.
- This initial arrangement helped to arrive at a consensus that all the students will follow the online classes. Then, a WhatsApp group was formed, exclusively for the online classes, with all the 80 students.



No. of students in the group	No. of students downloaded Arogya Setu App	No. of students interacted with farmers	No. of students sent field photographs	No. of students willing to continue the online class
80	54 (67.5%)	63 (78.75%)	56 (70%)	80 (100%)

IT platform: Shorten the distance between scientist and farmers

Context

- ♦ After start of lockdown from 22nd March 2020 farmers of the district were facing lots of problems as they were unaware of precautions against COVID-19.
- ♦ Farmers are facing problem in agricultural activities (Do's & Don't) during lockdown.
- ♦ They were facing problems in marketing of vegetable produced, insect pest control, management of mushroom, livestock and disease control management, nursery management of marigold, summer vegetable cultivation, Farm pond management for fish farming, disease control of sunflower, leaf spot in summer moong, vegetables cultivation in summer & kharif and blast in summer rice.



IT platform: Shorten the distance between scientist and farmers

Intervention

- ♦ KVK East Singhbhum started new what's app group named "Unnat Krishi Abhiyan" to provide advisory and address the problems faced by farmers during lockdown.
- ♦ This platform not only connects 200 farmers of Singhbhum district but also boost them to continue their agriculture activities by taking safety measures against COVID 19.
- ♦ All scientist of our KVK are actively providing need based technical support weakly and side by side giving reply on their need based queries.
- ♦ In this way till date near about 38 queries have been received and solved through whatsapp and telephonically.
- ♦ This approach not only address the farmers problems but also share lot of information related to COVID-19, weather forecast and agriculture sector activities, which helps farmers to boost up and continue their agricultural activities.



2. PROMOTING PROTECTION AGAINST COVID-19



At the onset of COVID-19 pandemic in India, one of the greatest challenges was to sensitize and educate the masses in the country severity and manifestations of the epidemic. The situation became urgent so quickly that the manufacturing sector could not adjust to the unforeseen demand for protective inputs against this outbreak especially the masks, hand sanitizers and personal protective equipment (PPE). In addition, there was lack of ability of resource deprived communities to ensure sensitization of common areas. The agricultural extension system in the country, especially the KVKs, in addition to delivery of their services, played an important role in handling all these areas in different areas in the country.



SHGs came forward to provide Cotton Masks To COVID-19 Warriors

Context

- ♦ Sudden outbreak of CORONA-virus resulted in unprecedented demand for masks which resulted in huge supply deficit for masks in the market.
- ♦ Good quality masks were not available in the market at affordable prices.
- ♦ As wearing of masks was made mandatory by the government in order to check asymptomatic spread of the disease.
- ♦ KVKs asked their Self Help Groups to fill this gap and come forward for the noble cause of social service by preparing and providing masks to the needy.
- ♦ The response from the KVKs was overwhelming



SHGs came forward to provide Cotton Masks To COVID-19 Warriors

Intervention

- During this lock time period the farm women, members of Self Help Groups prepared masks, head covers and gloves of cotton cloth under the strict quality standards suggested to them by the KVKs.
- Cotton masks being washable, economical, healthier than the masks having synthetic material and environment friendly, were loved by the people.
- Members of various SHGs not only distributed such masks free of cost to the needy people but they could also earn nominal income by selling them.
- The SHGs have so far supplied more than 50,000 masks to the COVID-19 warriors.



10 Self Help Group's

Guru Kirpa
Patiala

SANDHYA,
HOSHIARPUR

AJEEVIKA,
HAMIRPUR

VAISHNAVI,
SOLAN

MAI BHAGO,
MOGA

BERRY-MANDI

Rang Phulkari Di
Patiala

SARASWATI,
SOLAN

GURU ARJUN
DEV, LDH.

SHGs prepare & distribute Protective Kits For Medical Warriors

Context

- ♦ Due to COVID-19 in our country there was sudden rise in the number of patients suffering from the disease.
- ♦ As the patients arrived in hospitals all the medical staff treating the patients immediately required the protective kits to secure themselves from being getting infected.
- ♦ Due to sudden increase in demand the markets were not able to supply of Protective kits required by the medical warriors and ASHA workers.
- ♦ KVKs came to the rescue of the situation and with the collaboration of self help groups and financial help from administration solved this problem .



SHGs prepare & distribute Protective Kits For Medical Warriors

Intervention

- ♦ Five Self Help Groups from Patiala and Moga received orders from the government and private hospitals for preparation of Protective kits.
- ♦ Protective kits were supplied in a very record time according to the requirements laid by medical warriors and essential service providers by 250 women members.
- ♦ Even the grass roots workers (ASHA) workers were provided with the kits by the SHGs to work in the congenial conditions.
- ♦ Five self help groups supplied more than 1000 user friendly Protective kits to remain safe against the contagious disease



SHGs Resort to Mask Making for Additional Income & Social Responsibility

Context

- ♦ KVK Kota has created many Self Help Groups of rural and urban women to support and facilitate them to earn good income and improve their livelihood
- ♦ Self Help Groups promoted by KVK, Kota felt distress to earn their livelihood during lock down
- ♦ Lock down restricted them to work in groups and their orders of bed sheets, school uniforms were also cancelled
- ♦ Some processed food products groups were also facing the same problem.
- ♦ KVK decided to help them to come out from this situation



SHGs Resort to Mask Making for Additional Income & Social Responsibility

Intervention

- ♦ KVK Kota Home scientist gave advisory on mobile for mask making to more than 100 women of SHG. Two SHGs prepared more than 17200 masks in just 14 days
- ♦ Bhoomi SHG, Kota prepared 4000 masks and sold them @ Rs. 10/unit to medical shops, Krishi Upaj Mandis etc. The group gifted 1000 masks to health workers, farm women and jails
- ♦ Albeli group prepared 11000 masks and sold them @ Rs. 12/unit to hospitals and Agricultural University, Kota. This group also gifted 1200 masks to health workers.
- ♦ This linking of SHGs to mask making is helping them to earn significant income in this distress situation.



FPO and KVK Join Hands in distribution of free food kits to Fight against COVID

Context

- ♦ Activities of KVK Ajmer in Rajasthan has also been restricted by the lock down due to COVID-19 spread. Therefore, KVK explored ways and means to combat the situation
- ♦ In Ajmer district, KVK has organized 'Ren Kisan Samridhi Producer Company Ltd., Bhinaay', and Shri Shankar Singh Rawat, as its Director, and also Secretary, Rural Women Development Society, Bubani
- ♦ With the help of Sh. Rawat, KVK-Ajmer, is generating awareness among the people regarding COVID-19 in five villages, namely Danta, Bubani, Muhami, Nachan Bavari and Ghughra.



FPO and KVK Join Hands in distribution of free food kits to Fight against COVID

Intervention

- ♦ Sh. Rawat has also collected a handsome amount from the local donors and Rural Women Development Society, Bubani, for providing relief materials to the needy people
- ♦ With help of his team of volunteers, he is preparing 100 kits of food items (Wheat flour- 5 kg, Dal- 1 kg, Spices (250 g Chili powder, 250g Coriander Powder, 250 g Turmeric powder, 1 kg Salt, edible Oil-1 litre, Potato-1 kg, and Onions-2 kg, etc.) on daily basis and providing them to the needy people in the five villages.
- ♦ He is also providing the local made masks to the people in these villages to fight out the COVID-19 lock down situation



Ensuring safe harvesting with Necessary Precautions Against COVID-19

Context

- ♦ Wheat is the major crop of the district Fatehabad of Haryana
- ♦ It is being cultivated on 1.20 lakh hectare area in this district
- ♦ As the crop is ready for harvesting & farmers have to harvest the crop in the situation of covid-19 lock down
- ♦ The storage facilities here being inadequate and poor at farmers' level they have to visit mandis for selling their produce
- ♦ To tackle this big challenge of harvesting and selling of produce during covid-19 pandemic such advisories proved very helpful.



Ensuring safe harvesting with Necessary Precautions Against COVID-19

Intervention

- ♦ Pamphlets regarding safety precautions to be taken against COVID-19 during various field operations were prepared and distributed physically or through social media to the farmers
- ♦ As a result of awareness generated by KVK, farmers maintained social distancing while harvesting, transportation and selling in the mandis
- ♦ Farmers were also motivated to store their produce at home, where ever it was possible
- ♦ Village wise harvesting machineries vendors were also advised to sanitize the farm machines used in harvesting and other operations during the lockdown period.
- ♦ As a testimony to the efforts of the KVK the rural infestation from COVID-19 is by and large absent.



Sanitization of community and farm areas in the villages

Context

- ♦ Lack of sanitation is a serious issue in rural areas of Rewari district.
- ♦ KVK-Rewari has taken initiative to provide a healthy living environment for the residents of their district.
- ♦ KVK formed a team with the help of farmers' clubs and have started to sanitize village houses, farmsteads, plants, nearby Gaushala as well as farmers fields; to provide safety, security and dignity to the people
- ♦ Farmers' club members and KVK staff have sanitised the entire rural areas.



Sanitization of community and farm areas in the villages

Intervention

- ♦ KVK provided tractor operated spray pump to the farmers for sanitizing the rural areas. KVK purchased a sanitizer especially for this purpose.
- ♦ Sanitization of the entire area is undertaken thrice a week following all social distancing norms advised by the ICAR and health department.
- ♦ KVK also sanitized office buildings, staff quarters, orchard and farm for providing healthy environment in office.
- ♦ KVK has covered and is maintaining more than 25 cluster areas in the stipulated time and also made aware the farmers through KVK farmers WhatsApp groups regarding harvesting, threshing and marketing of farm produced.



Sewing Machines ensured uninterrupted supply of mask during lockdown

Context

- ♦ In Khammam (Dist), Enkooor (Mandal) is a highly populated tribal area, where most of the women works as agriculture labour for source of income. as in performing various operations.
- ♦ During Lock Down period, due to non movement of labour to other areas it became very hard for the tribal women in income generation.
- ♦ Under Tribal Sub Plan for providing additional source of income KVK, Wyra has imparted training skills to 80 women and school dropout girls, and distributed 16 stitching machines in four villages.



Sewing Machines ensured uninterrupted supply of mask during lockdown

Intervention

- ♦ After the introduction of tailoring training and distribution of stitching machines, the beneficiaries started earning an average of Rs. 3500 to 4500 by stitching garments to the neighbouring women in their village during the free time period when there are no agriculture operations.
- ♦ During lock down period, since masks became a compulsory for all the people to wear, the trainee women started stitching masks along with other garments.
- ♦ Tribal women are selling the masks at Rs. 15 per mask and earning an amount Rs. 950 to 1200 on an average by selling of the masks.



Promoting Scientific Washing of Vegetables and Fruits during Lockdown

Context

- ♦ Due to Covid-19 lockdown fruits and vegetables are being supplied at the door steps to consumers.
- ♦ Vegetables and fruits are supplied to far away places without proper packaging and it tends to carry lot of organisms in the way as it changes in many hands before it finally reaches to consumer table
- ♦ Proper washing of vegetables and fruits during pandemic is more important than ever before as it helps to remove various harmful microorganisms.
- ♦ Washing fresh produce is also important as it tends to have more soil attached to it than pre packaged fruits and vegetables.
- ♦ To prevent the spread of Covid-19 many people started washing vegetables & fruits with soap and detergent which is not a good practice



Promoting Scientific Washing of Vegetables and Fruits during Lockdown

Intervention

- ♦ KVK Mandi through SHGs advised the farm women to collect vegetables/ fruits in bucket to avoid direct contact with the fruit and vegetable seller.
- ♦ Farm women were also further advised to wash vegetables and fruits in luke warm water by adding salt/ alum/ vinegar/ baking soda(1teaspoon in a bucket of 10 lts.) which ever is easily available at home and soaking them for at least 1-2 hours to make them free from any contamination.
- ♦ Advisory regarding washing and soaking of vegetables and fruits before taking it inside home or putting them in refrigerator to avoid the spread of virus was sent through Whatsapp groups, text messages and phone calls.
- ♦ SHGs distributed packets of baking soda for Fruit and vegetable wash to women in villages (>36 villages covered).



3. ASSURING LIVELIHOOD THROUGH LINKAGES



Lockdown scenario under the COVID-19 infestation, no doubt, resulted in disruption of marketing channels towards consumers' side, as retail shops were closed. As a result the overall demand in wholesale markets fell drastically as supply of these perishables to the distant places got totally stopped. However, it didn't mean that there was not demand in those localities. To bridge the linkage gap in this demand and supply the agricultural extension system made use of their vast electronic network. Special platforms were created to bring buyers and sellers of perishable agro-commodities with the help of various WhatsApp, Facebook and other groups. Consumers started reflecting their demand on such groups and producers made various arrangements for supplying various products directly at the doorsteps of the consumers. Producers were also linked to various FPOs and SHGs for further transmission of perishable farm produce to the ultimate consumers.

Linking Strawberry Growers to HPMC to avoid market failure

Context

- ♦ Strawberry is an important cash crop for the farmers of Paonta valley in Sirmour
- ♦ COVID-19 lockdown restricted market access to the growers
- ♦ Strawberry is cultivated in more than 40 ha in the district
- ♦ On an average, 12-15 t/ha of strawberry can be harvested (equivalent to Rs. 9.5 lakh/ ha) in the district due to favourable climatic conditions
- ♦ Farmers usually sell their produce in direct marketing or through commission agents to maximize their returns



Linking Strawberry Growers to HPMC to avoid market failure

Intervention

- ♦ KVK Sirmour assumed the responsibility of bringing farmers out of this crisis
- ♦ With the help of DC Sirmour the growers were linked to Himachal Pradesh Horticulture Produce Marketing and Processing Corporation (HPMC)
- ♦ Around 40 to 50 strawberry farmers of the valley sold about 90 to 100 q strawberry to HPMC
- ♦ KVK also advised and assisted farmers in preparing pulp which was sold to different factories for making jam, jelly and juices
- ♦ Farmers prepared 70 to 80q pulp and sold it to HPMC which helped them add value to the product which could have been rotted in the field.



Linking Producers to Consumers Through KVK's Network Resources

Context

- ♦ Solan being well known mushroom producing district, KVK Solan regularly train farmers on this aspect. During 2019-20, KVK trained 20 farmers under ARYA project out of which, 7 took up mushroom cultivation as enterprise.
- ♦ ARYA trainees produced around 6 tons of mushroom in April, 2020. However, lockdown posed a serious marketing problem especially for button mushroom as the wholesale prices were ridiculously low in the markets.
- ♦ KVK came to their rescue and helped them to explore village markets using the network resources of the KVK as the consumers didn't have access to such perishable but nutritious commodities.



Linking Producers to Consumers Through KVK's Network Resources

Intervention

- ♦ KVK linked farmers with different SHGs, village shopkeepers through 8 Whatsapp groups of KVK and demand of consumers was communicated to the ARYA farmers.
- ♦ As a result farmers could sell their produce at Rs. 80-100/ kg instead of Rs. 30-35 in the wholesale market.
- ♦ KVK also linked farmers to various SHGs involved in mushroom value addition for the surplus produce.
- ♦ Farmers are about to harvest around 10 tons of mushroom from subsequent flush within few days. KVK has linked them with Minchy's processing unit, Shoghi and Department of Post-Harvest Technology, Dr YS Parmar, UHF, Nauni in addition to the already linked SHGs for value addition of mushroom in to pickles and other products.



Establishing Linkages for Marketing of Summer Squash under lockdown

Context

- ♦ Summer Squash is grown in Uttarkashi district during March to June months as a cash crop by most of the farmers
- ♦ Summer Squash is cultivated in 18-20 ha area in the district and provides income to the farming community
- ♦ About 60 percent of the vegetables come in the district from plains. During lock down, the supply of vegetables was limited
- ♦ COVID-19 lockdown also restricted access to big market/ *Mandis* for the farmers
- ♦ Farmers usually sell their produce through commission agents through which they get low returns



Establishing Linkages for Marketing of Summer Squash under lockdown

Intervention

- ♦ KVK, Uttarkashi provided timely advisories for crop cultivation and its marketing
- ♦ Farmers were linked to the local vendors/ vegetable sellers through various farmers organizations and NGOs working in the area
- ♦ Farmers sold their Summer Squash crop @ Rs. 20/- Kg. in local market for which they got Rs. 10-15/-Kg earlier.
- ♦ Each farmer got an additional profit of Rs. 500 to 1000 per quintals of selling the vegetables during lock down period.
- ♦ Apart from the selling of summer squash in the market, farmers also distributed to their fellow farmers.



Marketing Of Value Added Products of Amla-Immunity Booster

Context

- ♦ Daily consumption of Amla (Indian gooseberry) can boost the immunity due to its high concentration of Vitamin C.
- ♦ Its consumption also helps to boost metabolism and prevents viral and bacterial ailments including cold and cough.
- ♦ During this critical condition (COVID-19), the consumption of Amla is very essential in the diet to improve the levels of vitamin C in the body.
- ♦ Even value added products consumed by people add vitamin C to their diet.
- ♦ Value addition of Amla in the form of pickle, candy, murabba, chutney jam, pickle etc helps for prolonging the availability in market.



Marketing Of Value Added Products Of Amla-immunity Booster

Intervention

- ♦ With the helps of technology backstopping provided earlier by KVKs, e-services, scientists provided information about the sale of different Amla products like Amla candy, murabba, pickle, chutney, jam etc to fulfill the sudden demand of the people
- ♦ Even advisories were issued to consume Amla in the diet so that the immunity of body can be increased to fight against the infection.
- ♦ Thus the SHGs and FPOs who added value to their products avoided losses and earned a steady income even during the lockdown.
- ♦ In this way farmers who were bearing losses due to close down of markets in COVID-19 sold 10 kg/day of processed products of Amla since March 2020.



Linking Cabbage Growers to VLTF for Better Marketing

Context

- ♦ Cabbage is an important *Rabi* crop for the farmers of Tuipui 'D' in Lunglei District of Mizoram
- ♦ Cabbage is cultivated in 8 ha in the village.
- ♦ On an average, 22.5 t/ha of cabbage can be harvested (equivalent to Rs. 4.5 lakh/ha) in the village during favourable climatic conditions
- ♦ COVID-19 lockdown restricted market access to the growers and buyers.
- ♦ Farmers usually sell their produce at common market place or through commission agents to maximize their returns



Linking Cabbage Growers to VLTF for Better Marketing

Intervention

- ♦ KVK Lunglei took the responsibility of solving farmers' problems during this crisis.
- ♦ With the help of DC, Hnahthial the growers were linked to village level task force (VLTF) of different towns and villages in the district for selling their produce, which is the only means of marketing channel during the crisis
- ♦ Around 15 farmers of the village sold about 1800q cabbage through VLTF
- ♦ Technical support to prevent post-harvest loss was also given by KVK Lunglei.
- ♦ Farmers were able to earn a handsome income through collective marketing, thereby opening the avenue of marketing in the future as well.



Connecting Growers to Consumers through Farmers' Groups and institution

Context

- ♦ Turmeric is an important cash crop for Nanded district as well as in entire Marathwada.
- ♦ The total area of turmeric in Nanded district is almost 5000 hectares.
- ♦ But due to the lockdown of COVID-19, harvesting & marketing of turmeric and vegetables is greatly affected.
- ♦ Before lockdown, farmers directly sold their produce in the 'Mandis' through middle men which reduced their returns.
- ♦ Due to linking farmers directly with the consumers through direct marketing. i.e. Farmers groups around 100 q of vegetables and 150 q of watermelon / muskmelon were sold.



Connecting Growers to Consumers through Farmers' Groups and institution

Intervention

- ♦ This alternative marketing and supply chain connected by KVK Nanded-I with the state agriculture department and religious places proved very effective.
- ♦ Block of Nanded district which are under KVK Nanded-I jurisdiction mainly *Hadgaon, Bhokar, Nanded, Mudkhed, Mahur, Kinwat* which pre dominated in fruits and vegetables cultivation were highly benefited by developing this linkage.
- ♦ Many contact farmers of KVK Nanded-I were selling fresh vegetables and fruits to 'Sachkhand Gurudwara Lungar' through their farmers groups as well as supplied to the residents of various societies by adopting proper advisories given by central, state govt & district administration.



Linking FPOs with Market on Wheel

Context

- ♦ The lockdown has dastardly affected the marketing chain of fruits and vegetables.
- ♦ On one hand the farmers are facing difficulty in finding customers for their perishable commodities, and on other hand the customers are not getting fruits and vegetables.
- ♦ Critical situation was created because of lockdown measures.
- ♦ Initially, farmers and other sellers were selling their produce in open mandis which was breaking the social distancing rule.



Linking FPOs with Market on Wheel

Intervention

- ♦ KVK, Beed-1 critically analyzed the present status of the market and in coordination with concerned authorities like state agriculture deptt., ATMA, police administration, the KVK scientists put forth a frame work of marketing of fruits and vegetables.
- ♦ FPOs created a supply chain adhering to all norms of lockdown.
- ♦ The Market on Wheel came into existence with the detailed frame work provided by KVK scientists. The FPOs and farmers were given temporary licenses to sell their goods. They were allocated specific areas of the town Ambajogai in Beed.



Produce Purchase at Farm-Gate by FPO Hungund, Bagalkot

Context

- ♦ Hungund Horticulture Farmers Producer Company financially supported by Dept. of Horticulture and technically supported by KVK Bagalkot, Karnataka is situated in dryland mainly concentrated on onion and chilli produced by their members.
- ♦ FPO used to sell these produce to SAFAL market Bengaluru involving 600 members (20% of FPO members). Rest of the farmers used to sell their produce to retailers, APMC and local vendors
- ♦ Due to COVID 19 farmers of village and members of FPO could not sell their produce to the outside agencies.
- ♦ FPO started procuring farmers produce i.e. banana, watermelon, grapes, onion, chilli, vegetables, papaya, lime and garlic.



Produce Purchase at Farm-Gate by FPO Hungund, Bagalkot

Intervention

- ♦ FPO never used to purchase the perishable fruits and vegetables, but started procuring these produce. They started an outlet at the FPO office for retail marketing of fruits. More than 2 tons of fruits are sold at the FPO
- ♦ The produce of the members and non members of FPO was purchased at the farm gate itself which relieved the pain of more than 1800 farmers of Sulebhavi and surrounding 20-25 villages. A total of Bengalgram 245 MT, onion 128 MT, Lemon 39 MT, watermelon 30 MT, Banana 20 MT, vegetables 30, Mango 3.5 MT , Grape 2 MT were purchased and sold by the FPO in 45 days worth 1.77 crores, while the previous transaction was 7 crores for 2019-20.
- ♦ Marketing channels i.e., ITC, MORE , SAFAL and Reliance Fresh are the buyers



Helping Distressed Growers: KVK Kodugu Showed the Path

Context

- ♦ Kodagu district is growing Avocado in 500 ha as a mixed crop in coffee plantations
- ♦ Farmers in neighbouring Periyapatna taluk of Mysuru district who is growing vegetables like tomato(100 ha), chilli(260 ha) and watermelon (180 ha) were severely affected due to sudden price crash
- ♦ Covid-19 lockdown restricted market access to the growers as most of the vegetables were earlier marketed to neighbouring state of Kerala
- ♦ The avocado was mostly going to metro cities and was mainly consumed by juice shops for milk shake. With the closing of juice shops, there were no takers for avocado
- ♦ KVK is promoting an FPO called Puthari Farmers producer company for the last 3 years which is stationed at KVK campus. The FPO was mainly concentrating on Agri input sales to farmers hitherto



Helping Distressed Growers: KVK Kodugu Showed the Path

Intervention

- ♦ A temporary selling point was created in KVK campus in association with Puthari FPO to market the avocado and vegetables procured from farmers
- ♦ There was high demand for the fruit and vegetables sold from KVK campus due to its quality and competitive price and it was highlighted by local media.
- ♦ Further appreciating the efforts, the local administration provided permanent shop in APMC yard for further expansion and selling point was shifted to APMC yard, Gonikoppal

Name of produce	No. of farmers benefitted	Farm gate price during lockdown per kg	Puthari FPO offered price per kg	Selling price to consumers per kg
Avocado	32	40	50	60
Watermelon	12	7	10	14
Tomato	24	5	8	10
Chilli	35	10	12	15

- ♦ Thus farmers were benefited by higher price due to KVK intervention as follows:
Avocado (25%), watermelon (42%), tomato (60%) and chilli (20%)



KVK Kalburagi Model: Doubling farmers income and reducing consumer cost

Context

- During summer watermelon, grapes, mango and mosambi are major crops
- Regularly farmers sell through middlemen within and outside district & state
- Due to COVID19 it was difficult to sell the produce outside the district
- KVK contact farmers approached for intervention
- KVK developed a strategy and roped in Ajim Premji NGO, Dept of Horticulture, Kalyani foundation and Volunteers



Crop	Area (ha)		Production (Mt)		Market price (Rs/kg)		KVK-Supported price	Current retail price (Rs/kg)	Farmer benefit (Rs/kg)	Consumer savings (Rs/kg)
	2019	2020	2019	2020	2019	2020	2020			
Watermelon	1020	1200	51000	60000	10	3	10	15	7	5
Grapes	70	105	2100	3150	25	15	40	60	25	20
Mango	240	240	1500	800	70	50	150	250	100	150
Mosambi	20	500	20	500	40	15	40	60	25	20

KVK-Strategy: Door delivery at comfortable profit & affordable price to farmers and consumers was key strategy to ensure win-win situation for both

KVK Kalburagi Model: Doubling farmers income and reducing consumer cost

Intervention

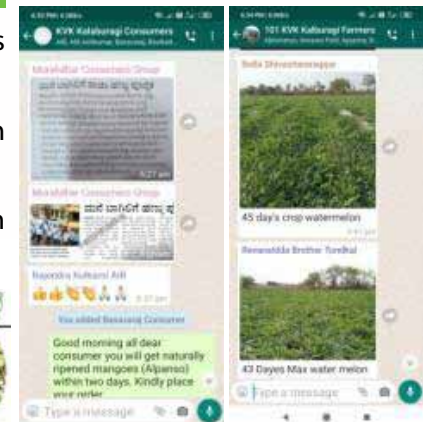
- ♦ KVK, Kalaburagi created whatsapp groups of consumers **involving 250 primary** members
- ♦ These primary members forwarded messages to average 5 other groups reaching **approximately 5000 consumers in the city**
- ♦ **101 member producers group** was formed
- ♦ From producers group products availability with quantity was regularly collected based on this consumers were informed and indents were collected

The final distribution was ensured by farmer members and COVID19 warrior volunteer groups of Kalburagi

- ♦ **For mobility of produces:** 15 vehicles from NGOs & 25 modified two wheelers of farmers were pressed in to service
- ♦ **Total 140 passes** were issued for farmers, volunteers and helpers facilitated by KVK from District Administration
- ♦ **Two fruits aggregation spots** were arranged one at KVK another at Kalyani Foundation office



Whatsapp messages



Consumer & Producers
Whatsapp groups

Establishing marketing linkage for Pineapple growers

Context

- ♦ Pineapple is an important fruit crop & it is cultivated in 1,475 hectares in Shivamogga.
- ♦ Farmers were regularly selling their Pineapple fruits for Rs.12 / kg to the traders of Shivamogga and neighboring districts. They were also selling through middle-men to other States (Maharashtra, Uttar Pradesh and Tamil Nadu).
- ♦ The traders were procuring the harvested fruits from the farm gate, farmers were selling the fruits 10-15% lower than the market rates.
- ♦ COVID-19 lockdown restricted market access to the growers.
- ♦ Regular contact farmers were approached KVK for marketing of Pineapple fruits for better price.



Establishing marketing linkage for Pineapple growers

Intervention

- ♦ KVK, Shivamogga has come to the rescue of farmers in marketing of pineapple and getting a suitable price for the fruits with the support of FPO, NGO and local agricultural extension centers.
- ♦ With the help of Horticulture department, KVK Shivamogga linked the growers to Horticultural Producers' Cooperative Marketing and Processing Society (HOPCOMS).
- ♦ Around 102 farmers of Sagara and Soraba taluks of the district were sold about 208 tonnes of Pineapple @ Rs.18/ kg to the consumers in and around Shivamogga and Bangalore city.
- ♦ KVK also advised and linked the farmers with FPO, HOPCOMS, APMC for marketing of fruits and also sold to processing units.



Marketing Farm Produce through FPOs

Context

- ♦ Vegetable growing Farmers of Salem District market their fresh vegetables in Bengaluru
- ♦ Lockdown imposed due to COVID 19 situation curtailed the long distance transportation of vegetables from Salem to Bengaluru
- ♦ Farmers could not sell their vegetables in local markets due to low demand and competition from regular suppliers.
- ♦ Farmers faced threat of loosing their vegetable crops due to lack of long distance transportation facilities



Bangalore combo pack

S.No	Vegetable Name	Weight
1	Tomato	1
2	Potato	1
3	Big Onion	1
4	Ginger	0.1
5	Garlic	0.1
6	okra	0.5
7	Bottle guard	0.5
8	Brinjal	0.5
9	Green chilly	0.15
10	Lemon**	0.1
11	Curry leaves	0.05
12	Corriander	0.05
13	mint	0.05
Total KG		5.1



Marketing Farm Produce through FPOs

Intervention

- ♦ KVK Salem roped in FPOs for direct procurement of vegetables and flowers and marketing directly
- ♦ Through Salem Veggies mobile app, 150 packs of vegetables per day @ Rs.150 each is being sent to customers on pre-order.
- ♦ Vasista Farmer Producers Company Ltd procured and sent 200 vegetable packs per day to Bangalore market
- ♦ Kalrayan Hills FPO procured and sold vegetable directly to consumers
- ♦ Arugumalai FPO marketed flowers, vegetables and fruits at farmers market
- ♦ Sarabanga and Navagana FPOs procured and marketed vegetables in Omalur
- ♦ Kolathura Farmers Club distributed vegetables directly to consumers



KVK Supplied bio-agents and facilitated marketing during lockdown

Context

- ♦ Lockdown imposed due to COVID 19 situation impeded transportation of farm inputs like fertilizers
- ♦ Availability of farm inputs like seeds, planting materials, farm animals etc. were hampered.
- ♦ Organic farmers faced hardship due to difficulties in procuring organic plant production and protection bio-agents.
- ♦ Transportation and marketing of perishable farm produces like vegetables and fruits became difficult



KVK Supplied bio-agents and facilitated marketing during lockdown

Intervention

- ♦ Organized fertilizer vehicle for the supply of inputs timely to farmers
- ♦ Arranged the door step delivery of vegetables to the consumers
- ♦ Promoted FPO (Kazhani) to procure vegetables from farm gate
- ♦ Provided 22 kgs of fodder and vegetable seeds, TANUVAS Aseel 100 chicks and Amur Carp 50,000 Fingerlings
- ♦ Supplied Herboliv+ 30 l, IIHR Banana special 100 kg; vegetable special 26 kg, Isaria fumosorosea 12 l, decomposer 10 litres, Pseudomonas fluorescence 15 kg, Trichoderma viride 12 kg



KVK Promotes FPO for Marketing of Farm Fresh Produce

Context

- ♦ Ariyalur district is comprises of six blocks with the total population of 7.55 lakhs and more than 62 % belongs to farming community.
- ♦ Farmers of the district faced problems in sourcing their inputs due to lack of transport facilities and shortage of farm labourers during lockdown period
- ♦ Problem in storing and marketing of harvested farm produces such as Groundnut, Paddy, Sesame, Maize and perishables like vegetables, muskmelon, etc.,
- ♦ Many farmers were not aware of the Government initiatives



KVK Promotes FPO for Marketing of Farm Fresh Produce

Intervention

- ♦ KVK promoting two FPCs, Andimadam Oilseed Farmer Producer Company and T.Palur Vegetables Farmer Producer Company.
- ♦ Andimadam Oilseeds FPO procured 392 Q of groundnuts from 102 farmers @Rs.60/kg for upcoming business of oil extraction.
- ♦ T.Palur Vegetables FPO procured 330 Q of maize from 110 farmers for feed mill @Rs.17/kg.
- ♦ About 450 @ of muskmelon has also been procured from 42 farmers @ Rs.10/kg by T.Palur FPO makes use of ICT tool Facebook.



FPOs solved the problem of marketing during lockdown period

Context

- ♦ Watermelon is new crop for Ramgarh district during the summer season
- ♦ During this year farmers and rural youth has started cultivation of watermelon in clusters more than 200 ha
- ♦ In Ramgarh, 11 FPOs were formed by involving more than 11000 farmers family. These FPOs covered more than 35% vegetables cultivated area (5000 ha) of the district which produce more than 60% vegetable.
- ♦ Due to Pandemic of Covid -19, lockdown disrupted the tradition linkage of farm produce and marketing linkage



FPOs solved the problem of marketing during lockdown period

Intervention

- ♦ KVK Ramgarh came forward to build functional linkage with FPOs, whole salers, retailers and growers. KVK also encouraged FPOs to facilitate transportation at procurement sites and supply to consumers.
- ♦ This initiative also emerged as platform for solution of Agri- input, crop planning for next season, attract youth for grading – assisting in marketing and transport- Crop based Cluster – Easy to approach scientists for advisory services
- ♦ Most important experienced that farmers realizing during lockdown is that they can reduce the cost of cultivation, create new market linkage through aggregation of produce, getting 15-20% higher price through organized marketing.



Value Chain Management through Farmers' Club-Startup Linkage

Context

- ♦ Cooch Behar district of West Bengal holds a significant position in steady production of variety of vegetables round the year.
- ♦ Bihar, Uttar Pradesh, Punjab, North-eastern states and Bhutan are the major consumers of vegetables from Coochbehar and Jalpaiguri. But due to lockdown, farmers fail to market and send their produces in these areas.
- ♦ Fresh green vegetables like pointed gourd, bitter gourd, brinjal, Chilli, cucumber, ridge gourd, late cauliflower, late cabbage, tomato, water melon, leafy vegetables and local banana landrace, Malbhog started getting over matured and got rotten in the field itself.



Value Chain Management through Farmers' Club-Start-up Linkage

Intervention

- ♦ Coochbehar KVK and Kisankarts Agro Management Private limited (Registered Start-up KISANKARTS.COM) jointly developed an online Farm-to-Home delivery model of fresh vegetables, fruits and other food grains
- ♦ KISANKARTS.COM has procured Green vegetables (5 t), Watermelon (90 t), Wheat (25 t), Pulses (10 t), Potato (70 t) and paid an amount of Rs. 25.91 lakh to the farmers of the villages of Coochbehar district adopted by the Krishi Vigyan Kendra within two-weeks period (9-23 April 2020). Moreover, the Start-up has booked to procure field crops in advance viz., lentil (100 mt) worth of Rs. 53.5 lakh and maize (1000 mt) worth of Rs. 1.35 crore from the farmers of Coochbehar district.



Green Basket: Association for home delivery of vegetables

Context

- ♦ East Midnapore is a vegetable growing zone which produces large quantities of different vegetables to supply to the Kolkata and other cities.
- ♦ These vegetable growers were facing a lot of trouble in transportation and marketing of the farm produce.
- ♦ Moreover, farmers did not have enough facilities to store the farm produce for marketing later when normalcy resumes.
- ♦ On the other side, the consumers were not getting vegetables on regular basis and at cheap prices.



Green Basket: Association for home delivery of vegetables

Intervention

- ♦ KVK, East Midnapore in collaboration with the Panskura vegetable producers' Company and Usha Agro, Panskura, helped farmers to start home delivery of vegetables along with the daily need articles in the nearby areas.
- ♦ The KVK also guided farmers in following government guidelines to prevent COVID-19 spread while handling the farm produce
- ♦ The initiative was named as 'Green Basket' and mainly aims to provide help during the crisis of COVID-19.
- ♦ The door-to-door delivery of vegetables enabled farmers to sell their produce at reasonable prices

করোনা ভাইরাস এর সাথে লড়াইয়ে
Green basket আপনার পাশে



আপনার বাজার করবো এবার আমরা তাই কল করুন আমাদের
মোবাইল নম্বরে আর আপনি থাকুন সুরক্ষিত নিজের বাড়িতে.

**মনে রাখবেন আমাদের
ফ্যামিলি দায়িত্ব আমাদেরই হাতে**
8768452153/9547950596/8972646800

Collective Marketing of Farm Produce with Online Platform

Context

- ♦ As most of the farmers in Malkangiri district are small farmers and most are vegetable growers, they do not have any access to sell their vegetables and there was absolutely no vehicle available/permitted for transportation for marketing during the lockdown.
- ♦ This was a very challenging and hopeless situation for the farmers and they were deeply concerned about their loss of farm produce.
- ♦ Moreover, the vegetables are highly perishable and farmers do not have proper storage structures. Thus timely marketing of the produce was essential to ensure farm income.



Collective Marketing of Farm Produce with Online Platform

Intervention

- ♦ With permission from district administration, vendors were contacted by the KVK through online portal *odihortmarketing.nic.in* of Dept. of Agriculture and Farmers Empowerment for selling farm produce.
- ♦ A group of 42 vegetables growers collectively harvested their crops like pointed gourd, tomato, onion, etc. to the tune of 550q during lockdown period. They collected vegetables, graded and packaged and sent to Kunduli market, which is 150 km away.
- ♦ By selling these items, farmers were able to get remunerative price with gross return of Rs 8.80 lakh. This innovative approach solved the farmers problem of selling their produce as well as ensure consumers need of getting quality vegetables.



FPC-led Market Linkage helped small and marginal farmers during lockdown

Context

- ♦ In Bongaigaon district of Assam, majority of vegetable growers belong to small and marginal farmers.
- ♦ In the district, there are surplus production of 9691 MT of potato, 56738 MT *rabi* vegetables and 15897 MT of *kharif* vegetables.
- ♦ KVK Bongaigaon formed an FPC "Manikpur Vegetable Producers Co. Ltd" in 2018 to ensure better income for the producers through an organization of their own.
- ♦ During lockdown period, majority of the farmers were unable to sale their produces in the market as market areas were closed and transportation was also not allowed. Thus, farmers incurred heavy losses initially.
- ♦ Although, some vendors are allowed to sale vegetables, but they do not reach small and marginal farmers.



FPC-led Market Linkage helped small and marginal farmers during lockdown

Intervention

- ♦ KVK, Bongaigaon motivated and guided The Farmers' Producers Company (FPC) and played leading role in marketing of vegetables within and outside the district and even outside the state also.
- ♦ During lockdown period, they established market linkages with the buyers of Bongaigaon and other districts where there were deficit in vegetable supply. They also established linkages with the buyers of the neighbouring state 'Meghalaya'.
- ♦ Till last week of April, 2020, they supplied 480 q of vegetables to Silchar, 100 q to Bongaigaon, 50 q to Guwahati and 250 q to Meghalaya from their producers during lockdown, amounting Rs. 10,00,000 and the process will continue in future also.
- ♦ Mr. Rajev Sarkar, a member of the FPC played an important role in supplying vegetables (400 q) amounting to Rs. 4,00,000 to meet the requirement of Bongaigaon.



Channelizing market linkage during lockdown period

Context

- ♦ Vegetables, banana , broiler chicken and pork are the livelihood sources of many farmers of Kamrup district.
- ♦ Farmers usually sell their products by themselves in the market directly in retail price or to the commission agents in wholesale price.
- ♦ Handloom textile is a traditionally integral part of Assamese culture.
- ♦ During Bihu in April month bumper sale is expected for Gamusa every year.
- ♦ Corona outbreak suddenly created demand of masks which were not available in the market.
- ♦ Due to sudden lockdown for Covid-19, access to regular market stopped to sell the farm produce as well as textile.



Channelizing market linkage during lockdown period

Intervention

- ♦ KVK, Kamrup guided and helped farmers in getting 13 passes from District Administration Kamrup (Metro) to sale their products at various designated places Guwahati city.
- ♦ The initiative of KVK motivated many farmers which are now selling their vegetable, banana, broiler chicken and pork during lockdown period.
- ♦ KVK also linked mobile vegetable and fruits vendors to take vegetables from small and marginal farmers, these efforts resulted into saling of 1296q vegetables amounting to Rs. 25,92,000/- of 400 vegetable growers.
- ♦ Banana vendors sold 4500 bunches of Malbhog banana of Rs. 13,50,000/- benefitting 10 banana growers.
- ♦ More than 13000kg broiler chicken was sold amounting to Rs.18,20,000/- and 730kg pork was sold of Rs 2,55,500/-
- ♦ Masks produced by KVK promoted SHGs and few farm products are being sold at AAU Hut.



KVK facilitates sale of maize in Morigaon district of Assam

Context

- ♦ Maize is an upcoming potential crop of district Morigaon.
- ♦ The area maize cultivation in the district is around 442 ha.
- ♦ Area and demand of maize crop is increasing with each passing year.
- ♦ Nation-wide lockdown due to COVID-19 restricted market access to farmers for sell of maize.
- ♦ Due to lockdown, the price of maize came down abruptly from Rs 18-20/kg to Rs 10/kg in 2019-20 as feed mills were closed.
- ♦ Further, restricted movement of buyer from outside district due to prevailing lockdown.



KVK facilitates sale of maize in Morigaon district of Assam

Intervention

- ♦ KVK Morigaon decided to get farmer out of this crisis.
- ♦ KVK assisted the farmer to get interdistrict pass from district authorities to sell their produce (maize) in feed mills located outside the district.
- ♦ Thus farmers could sell their produce at Rs 13.50/ kg thereby getting a benefit of Rs 3.50/kg during lockdown.
- ♦ KVK efforts helped farmers in selling 750 quintal maize of Rs 10,12,500 and earned Rs 2,62,500 (Rs 3.50/kg) more than prevailing price in their locality due to lockdown.



Linking vegetables growers to market hub by KVK East Kameng

Context

- ♦ KVK East Kameng provided French bean seeds along with other vegetable crops to farmers in January 2020.
- ♦ Farmers usually sell their produce at road side market in retail or in wholesale.
- ♦ The crop was grown successfully with attractive quality produce.
- ♦ But due to lockdown the market chain has been broken and farmers are at the point of huge loss.
- ♦ Approximately 20 to 40 quintals of vegetable produce about to rotten as there was no market for sell.



Linking vegetables growers to market hub by KVK East Kameng

Intervention

- ♦ KVK came to know about the marketing problem faces by farmers for their produce.
- ♦ KVK apprised the marketing problem of vegetable produce to the District Administration.
- ♦ District Administration immediately alerted the marketing authorities and arranged vehicles to lift the produce.
- ♦ KVK also alerted the concerned farmers to bring the produce at one community point maintaining social distancing and using masks for selling at Rs 30/kg.
- ♦ Farmers sold around 20q of vegetable produce and earned around Rs. 60000/- by the group of farmers.



Marketing of Vegetables (Chilli and Bottle guard) through FPO

Context

- ♦ A Farmers Producer Organization was formed by the KVK in Village- Joga Musahib, Block-Bhwarcol.
- ♦ Approximately 1000 farmers are active members of this FPO.
- ♦ This FPO is actively involved in vegetable production in 125 ha area with particular reference to Chilli in 100 ha area and Bottle guard in 25 ha area.
- ♦ Last year this group exported 15 Metric Ton of Chilli to Dubai with the help of APEDA and earned a net profit of Rs 8000/ tonne



Marketing of Vegetables (Chilli and Bottle guard) through FPO

Intervention

- ♦ As a result of restrictions in domestic marketing, the FPO considered exporting chilli and bottle guards to LONDON with the help of APEDA.
- ♦ First installment of 20 q vegetables has already been sent to London.
- ♦ More export consignments are being planned.
- ♦ This innovative strategy not only saved the FPO members from huge economic losses but ensured lucrative returns on the other.



Marketing Practices of FPO during Lockdown

Context

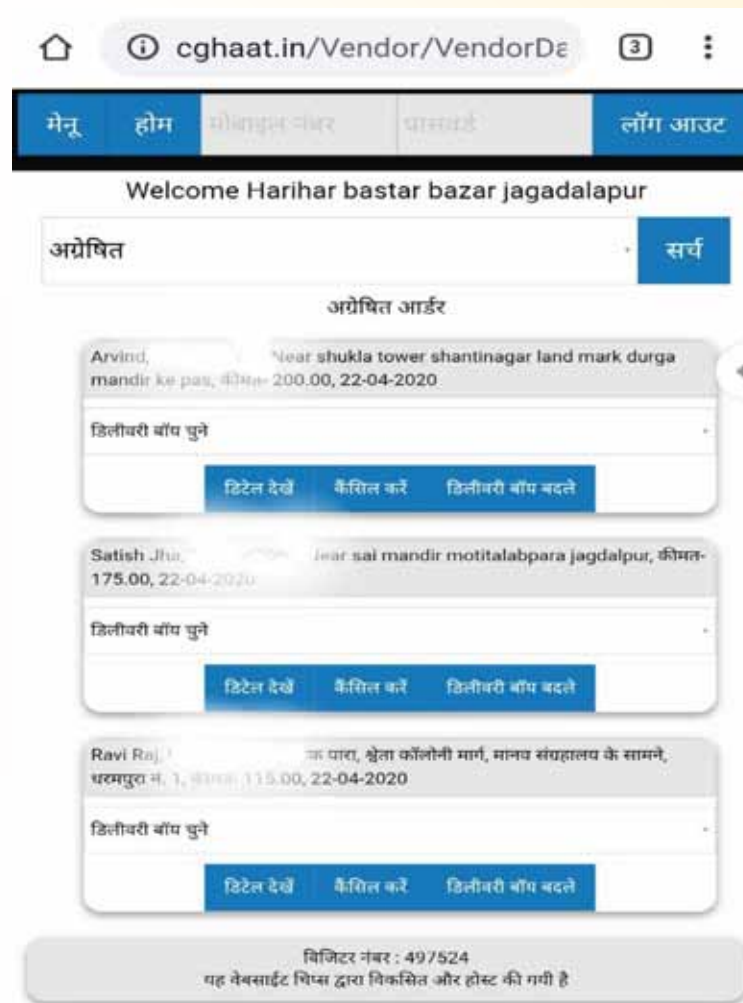
- ♦ Harihar Bastar Bazaar Bhoomgadi Mahila Krishak Producers Company Limited is a Farmer Producer Organization located at Bastar, Chhattisgarh.
- ♦ It sells large variety of organic produce, including vegetables, milk & milk products, variety of rice and pulses, millets, and processed products like tamarind candies, tomato ketchup, etc.
- ♦ During COVID-19 crisis, the group members faced problem in marketing of their farm produce; especially the vegetables and milk because of these are perishable items and lack of storage facility.



Marketing Practices of FPO during Lockdown

Intervention

- During lockdown situation this, FPO started and delivered vegetables and milk online marketing.
- This FPO is giving online delivery of vegetables through cghaat app. operated by Chief Minister in C.G.
- The residents of Jagdalpur are showing interest in online purchase of vegetables.
- On daily basis at least 8 to 10 online orders are being received and delivered.
- During delivery of vegetables, all precautions had been taken as advised by state/central government to avoid infection from corona virus.
- It is an effective way of social distancing and farmers are getting best price of their produce.



4. MECHANIZATION SOLUTIONS FOR TACKLING LABOUR SHORTAGE



The COVID-19 lockdown coincided with one of the most important agricultural operations in the country viz. wheat harvesting and marketing. As a result the movement of seasonal migration of agricultural labour within the country became unfeasible. Farmers started apprehending massive problems in their wheat harvesting and post-harvest operations. The agricultural extension system in the country explored various options to solve this problem ensuring availability of farm machines to the maximum possible farmers for ensuring smooth wheat harvesting and post-harvest operations.

Promotion of Direct Seeded Rice to tackle labour shortage

Context

- ♦ Rice is cultivated in 1.25 lakh ha area in the district
- ♦ Approximately, 95% of area is sown by transplanting method
- ♦ About 50% Farmers of the district prefer un-recommended varieties of paddy
- ♦ Conventional paddy cultivation is water, energy and labour intensive
- ♦ The problem of labour scarcity can also be viewed as opportunity to popularize resource conservation technologies
- ♦ Moreover, DSR also saves precious irrigation water about 25% as compared to the transplanted rice



Promotion of Direct Seeded Rice to tackle labour shortage

Intervention

- ♦ KVK, Bathinda motivated many farmers to follow direct seeding of the paddy and provided its two DSR machines to the NICRA village for its maximum adoption
- ♦ Looking at the increase in demand for DSR machines, information on modifying Zero Till Drill for DSR sowing was also provided to farmers
- ♦ Farmers are connected through Whats App group named 'Jhonne di sidhi bijayi' created by KVK.to provide timely advisories
- ♦ 500 q seed of short duration & DSR suitable paddy variety PR-126 was provided to farmers
- ♦ The KVK has also planned for technical support to the farmers who are sowing paddy for the first time to build confidence of the farmers in the technology



Doorstep service of farm implements during COVID-19 period

Context

- ♦ Jhunjhunu district of Rajasthan became hotspot & red zone of COVID-19 spread towards end of March month, coinciding with the main season of crop harvesting.
- ♦ Due to complete lockdown in the district, farmers were facing problem in harvesting and threshing of various crops and were unable to sell their produce.
- ♦ This situation caused tremendous distress especially for small and marginal farmers who do not own all the farm implements. Rental farm implements service providers were not easily available to these farmers with rather small holding sizes.
- ♦ Farmers started calling to KVK Jhunjhunu seeking help to come out of this situation.

JFARM SERVICES

स्वागत
JFarm Services

Hindi

बयाना, भरतपुर, Rajasthan (राजस्थान)

TUESDAY	WED	THU	FRI	SAT	SUN
28 °c 35 °c	34 °c 28 °c	33 °c 27 °c	33 °c 27 °c	32 °c 27 °c	31 °c 27 °c

MAIZE भीलवाड़ा ₹1300

भवानी मंडी ₹0

बूंदी ₹1248

प्रोफाइल आर्डर बुक टोल फ्री अन्य

Doorstep service of farm implements during COVID-19 period

Intervention

- ♦ KVK Jhunjhunu motivated these farmers through WhatsApp group, messages & other social media to take benefit of "JFARM SERVICES".
- ♦ "JFARM SERVICES" is an initiative by TAFE - Tractors and Farm Equipment Limited, which provide free doorstep service of different farm implements to farmers during COVID-19 lockdown.
- ♦ Farmers can book required implement by downloading Mobile App of JFARM Services, Message or call on toll free number 1800 4 200 100/ 1800 208 4242.
- ♦ With the active support of the KVK Jhunjhunu, as on 30 April 2020; 1210 farmers registered for the service; 710 orders were placed and 363 small and marginal farmers of the district benefited out of this service.



KVK facilitates machines for timely sowing of groundnut

Context

- ♦ The lockdown period coincided with the peak groundnut sowing season in Coimbatore
- ♦ Unprecedented exodus of migrant farm workers and fear of COVID 19 spread among farm labourers almost halted the sowing of groundnut.
- ♦ Manual de-husking of groundnut and manual sowing traditionally adopted by the groundnut growing farmers of Coimbatore district is laborious and time consuming.
- ♦ Lack of awareness and availability of mechanized decorticator and seed drill



KVK facilitates machines for timely sowing of groundnut

Intervention

- ♦ KVK Coimbatore provided manual groundnut decorticator to farmers of DFI villages of Coimbatore district
- ♦ Provided Tractor Drawn groundnut seed drill to the villagers to ensure timely sowing.
- ♦ Using the decorticator and seed drill, farmers of the DFI village sowed groundnut in 150 acres on time before the moisture dried up.
- ♦ Facilitated famers and groups for availing e pass for transportation and marketing of produces from 638 acres through Uzhavar sandai.



Linking CHCs and Machine Banks for smooth harvesting of wheat

Context

- ♦ Pakur is one of the major wheat producing districts in Jharkhand. The area under wheat is more than 6500 hectares with a production of about 22000 tons of wheat grains in the district.
- ♦ During peak harvesting period, lockdown added problems and harvesting was at stake. Moreover, due to fear psychosis, majority of labourers abstained from the field.
- ♦ Wheat growers specially medium & large farmers were anxious of losing their wheat produce.
- ♦ Many farmers approached KVK through phone and personal visit for help.



Linking CHCs and Machine Banks for smooth harvesting of wheat

Intervention

- ♦ KVK, Pakur took lead role in helping wheat farmers in all possible ways.
- ♦ KVK contacted and worked in close association with district agriculture officers, soil conservation officers as well as district administration for support and reaching farmers during lockdown.
- ♦ KVK also contacted with different custom hiring centres, implement/machine banks and implement dealers for providing combined harvesters to ease harvesting during lockdown
- ♦ All together 12 combined harvesters were made available in the district, 2 each in one block. Labourers were also mobilised through SHGs and wheat harvesting were successfully completed.
- ♦ These efforts resulted into harvesting of wheat and other rabi crops in the district.



5. ADDING VALUE FOR REDUCING LOSSES



The drastic fall in wholesale prices of fruits and vegetables forced farmers to think of not harvesting their produce and let it destroy in the fields. However, this is easier said than done as farmers had incurred tremendous cost on producing these perishable agro-commodities. Some innovative initiatives by the extension workers and farmers in the field of value addition not only saved their colossal losses but also showed a prosperous path to the others. These experiences include a wide range of agro-processing options exercised by the farmers in different parts of the country.

Value Addition of Milk during Lockdown Reduced Spoilage

Context

- ♦ Women play a significant role in the management and care of livestock.
- ♦ Role of women in dairy ranges from feeding, cleaning of shed, care of dairy animal, milking, handling of milk and its processing.
- ♦ About 500 Kg of Milk was collected from them by local vendors and Verka milk plant from the members of SHGs.
- ♦ Due to sudden arrival of COVID-19 pandemic, these small women farmers were worst hit due to poor demand of milk from local vendors.
- ♦ Seventy per cent of milk being produced by dairy farmers requires its immediate marketing to fetch cash for supporting their livelihood



Value Addition of Milk during Lockdown Reduced Spoilage

Intervention

- ◆ Members of SHGs contacted KVK, Mohali and discussed about problems faced by them in marketing of milk.
- ◆ As, milk is a highly perishable product and it can't be stored for longer duration without processing.
- ◆ Members were guided to prepare value added products of milk with longer shelf life i.e. Paneer, Butter and Ghee.
- ◆ Many dairy women farmers who were earlier trained well by the KVK Mohali and prepared 20 kg paneer, 5 kg butter and 10 kg Ghee on daily basis and received remunerative returns of their produce marketed in nearby areas by local youth and Karyana shops.



Sun Drying of Rose Petals to Minimize Losses and Ensuring Future Income

Context

- ♦ Rose (Bourbon rose) is an important flower crop for the farmers of Chittorgarh district of Rajasthan
- ♦ Rose is cultivated on around 600 ha area in Chittorgarh district with average yield of 88 q/ha fresh rose petals and economic returns of Rs. 4.40 to 4.60 lakhs/ha under favourable climatic conditions
- ♦ Farmers usually sell their fresh petals at the Pushkar (Ajmer) market through commission agents @ Rs. 50-70 per kg
- ♦ COVID – 19 lockdown restricted selling of fresh petals due to unavailability of markets.
- ♦ KVK Chittorgarh took the challenge to minimize their losses through the best post harvest management option.



Sun Drying of Rose Petals to Minimize Losses and Ensuring Future Income

Intervention

- ♦ At current situation farmers are not able to sell their floriculture produce due to unavailability of markets and transport facilities
- ♦ To overcome this problem farmers were advised by the KVK through WhatsApp and mobile advisory services to sun dry the rose petals
- ♦ Sun drying fresh rose petals reduce moisture contents of rose petals which can be stored for longer period
- ♦ Around 200 rose growers sun dried their fresh rose petals with the recovery rate of 10 -14 %.
- ♦ This has minimized the losses of farmers and ensured future income, as dry rose petals will fetch whole sale price of Rs. 250 -300/ kg, when ever the situation becomes normal.



Nagauri Pan Methi growers prepared for higher profit this year

Context

- ♦ Nagauri Pan/ Kasuri Fenugreek (*Trigonella corniculata*), locally known as Pan Methi is an important spice crop for the farmers of Nagaur district in Rajasthan. Pan Methi is cultivated in 10,000 ha in the Nagaur district of Rajasthan
- ♦ Average yield of 30-35 Q/ha of Nagauri Kasuri/ Pan Methi can be harvested (equivalent to Rs. 3.75 lakh/ha) in the district due to favourable climatic conditions
- ♦ Farmers generally sell their produce to consumers direct in market/ through commission agents to fetch good price
- ♦ COVID-19 lockdown restricted market access to the growers and they were under distress to know what to do.



Nagauri Pan Methi growers prepared for higher profit this year

Intervention

- ♦ KVK, Nagaur-I assumed the responsibility of bringing farmers out of this crisis and made about 250 farmers aware about latest machines for getting quality produce through WhatsApp, messages, audio calls etc.
- ♦ Progressive farmers used pan Methi harvester for harvesting leaves under scientific guidance of KVK, Nagaur-I. High tunnel technology along with cleaning and drying Machines for Pan Methi were practiced by such farmers to get quality produce with a potential of getting attractive profits in the future.
- ♦ Farmers who used these technologies were able to fetch price as high as Rs. 1400-15000/q as compared to Rs. 8000-9000 per q of ordinary dried Pan Methi leaves.



Sustaining income of the farmers by value addition of tomatoes

Context

- ♦ Tomato is an important vegetable crop for the farmers of Chomu block in Jaipur district of Rajasthan
- ♦ On an average 255 tonnes of tomato's are harvested from one ha area (equivalent to income of Rs. 2.37 lakh/ ha) in the district.
- ♦ Farmers usually sell their produce direct in local market or through commission agents to maximize their returns.
- ♦ COVID-19 lockdown restricted marketing in regular local mandis and the price realization is decreasing due to unavailability of transportation.



Sustaining income of the farmers by value addition of tomatoes

Intervention

- ♦ KVK Jaipur-1 has assumed the responsibility of bringing farmers out of this crisis by advising and helping the farmers for value addition to the unsold surplus tomatoes
- ♦ Under ARYA Project vocational training programme on Fruit & Vegetable Preservation and Value Addition were organized to train rural youth just before lockdown
- ♦ Due to marketing problems during lockdown, trainees decided to go for value addition of their produce and they prepared 50 quintals of Tomato Puree and 25 quintal Tomato Sauce.
- ♦ Produce will be sold after lockdown period to meet out current losses and to gain attractive profit in the future



Value added dairy products of milk helped farmers to come out of distress

Context

- ♦ Farmers in the Bhilwara district have adopted dairy farming under integrated farming mode
- ♦ Dairy farming is an supplementary source of income for the farming community round the year and even in distress.
- ♦ COVID-19 lockdown restricted market access for dairy farmers in selling their milk as usual.
- ♦ Due to lockdown the dairy farmers can not sell milk in the local market as usual.
- ♦ Due to lack of chilling facilities, farmers can not store the milk for long time, hence it was a disadvantageous situation to all of them.



Value added dairy products of milk helped farmers to come out of distress

Intervention

- ♦ KVK advised dairy farmers to manage heat stress in animals and give balanced feed to animals to meet the nutrient requirement of animals
- ♦ Dairy farmers have been advised to go for value addition of unsold surplus raw milk by making Ghee, Butter, Curd, Butter milk etc. Farmers were electronically provided with the scientific methods for doing so.
- ♦ Sh. Sanwarlal Jat, progressive farmer of Suwana village produced 80 litre of Ghee & 12000 litre of Butter milk during this period. He distributed butter milk among corona warriors and earned additional income of Rs. 30,000 without selling the milk but selling the value added products
- ♦ Other farmers also adopted it and this has helped them also in sustaining income during this abnormal time.



Value Addition of Seasonal Fruits for Avoiding Spoilage During Lockdown

Context

- ♦ Chandel is blessed with different diversity of seasonal fruits which are rich in antioxidant, vitamin and mineral.
- ♦ Farm women collect seasonal fruits from hills of Chandel and sell in the market for sustainable livelihood.
- ♦ The harvested fruits could not be sold in the market due to COVID-19 lockdown
- ♦ Fruits started deteriorating after harvesting, so post harvest processing was the only answer to save these fruits from spoilage.
- ♦ Moreover, it is difficult to store the bulky fruits for long at homes for long.



Value Addition of Seasonal Fruits for Avoiding Spoilage During Lockdown

Intervention

- ♦ KVK, Chandel took the initiative to help these needy farm women to mitigate the crisis by guiding them with appropriate technology.
- ♦ KVK advised and assisted the farm women (KL Jolhmin) from Lambung village, Chandel to start processing of papaya in the form of nutri-candy and dry preserve.
- ♦ Another farm women (Jessy Chothe) from Chandolpokpi also started preparing amla nutri-candy and salted dry preserves with the help of KVK
- ♦ Farmers prepared 30 kg of nutri-candy and 25 kg of salted dry preserves which helped the farmers to reduce the spoilage.
- ♦ When sold, it will provide farm women higher income as compared to the raw fruits



Processing and Value Addition of Tomato to avoid spoilage during lockdown

Context

- ♦ Farmers were trained for round the year vegetable production by KVK Mamit
- ♦ Many farmers of Rulpuihlim village of Mamit district were even assisted with shade net 100 m² each for promotion of usage of agro-textile.
- ♦ The farmers grow high yielding variety of tomato Arka Rakshak during second week of December 2019.
- ♦ The ripening of tomatoes coincided with the lockdown period.
- ♦ Farmers could not sell their produce to the district capital & state capital due to lockdown



Processing and Value Addition of Tomato to avoid spoilage during lockdown

Intervention

- ◆ Since farmers could not sell their produce outside the village, the KVK helped the growers for preparation of different value added products.
- ◆ Tomatoes were sun dried for chutney preparation which have longer shelf life.
- ◆ Tomato soup was prepared which was frozen for future use/ consumption.
- ◆ Tomato puree was prepared and preserved in refrigerator.
- ◆ Harvested tomatoes were also used for making sauces.
- ◆ Roasted tomatoes after sun drying were preserved in olive oil.
- ◆ Women farmers were motivated to develop such products to avoid distress sale and spoilage



Redressal of Marketing Problem of Perishable Farm Produces

Context

- ♦ Fresh milk and leafy vegetable such as cabbage, cauliflower, broccoli etc. are the most perishable farm produces of the district.
- ♦ The district produces milk to the tune of 22.0 t, cabbage to the tune 2618 tonnes and cauliflower of 2332 tonnes
- ♦ The usual process of marketing in the district is done through middlemen at a lower price.
- ♦ During the COVID-19 lockdown period, every marketing process was frozen.
- ♦ KVK immediately mobilised the local Farmers' Club and approached the Dept. of Agriculture for logistic support.



Redressal of Marketing Problem of Perishable Farm Produces

Intervention

- ◆ Permissions were obtained from DC, Thoubal district for movement of the KVK Staff and some progressive farmers to resolve the issue.
- ◆ To avoid the spoilage of fresh milk, the KVK staff taught the value addition of milk to dairy farmers through Whatsapp group.
- ◆ Part of the produce were sold in the locality itself and remaining bulk produce were collected by FPOs and other agencies through KVK and sold to various authorized outlets, which enabled farmers to fetch maximum profit due to absence of middlemen.
- ◆ Around 10 to 15 t of vegetables were sold and about 20% of total milk production were converted to various milk products during this lockdown from the district.



Processing of Tomatoes to Puree – adding value to reduce losses

Context

- ♦ Tomato is important vegetable, fetches higher price in summer season due to high demand.
- ♦ Tomato growers take advantage and cultivate on large scale during Jan-Feb.
- ♦ COVID-19 lockdown restricted market access to the growers and demand also was reduced.
- ♦ On an average tomatoes are harvested at 2.5 -3 t/ha/day.
- ♦ Farmers usually sell their produce in direct marketing or through commission agents to maximize their returns to distant markets.



Processing of Tomatoes to Puree – adding value to reduce losses

Intervention

- ♦ On one hand, KVK facilitated to sale vegetables and tomatoes in residential colonies by WhatsApp messages whereas making value added product of tomatoes in case of surplus produce.
- ♦ KVK staff suggested processing of tomatoes and linked with the processing plant for tomato puree preparation.
- ♦ The contact farmers contacted other small tomato growers so as to facilitate marketing and transportation for easy processing. The farmers got higher price than the regulated market.
- ♦ This initiative resulted into value added product of tomato and reduced the losses due to surplus production of tomatoes.



Drying grapes relieves marketing stress for FPO-Jamkhandi

Context

- ♦ Grape is an important fruit crops of Bagalkot district spread in an area of 3000 hectares. Out of which 2500 ha belongs to farmers of FPO Jamakhandi.
- ♦ COVID 19 restricted the marketing of grape exactly coinciding with harvest season.
- ♦ Farmers used to sell the fresh produce @ Rs. 40/ kg in the regular seasons. But this season due to COVID 19 rates/ kg was Rs. 25/ kg.
- ♦ Only 2000 tonne of fresh grape was sold price ranging from Rs. 25-85/ kg. About 85000 tons was converted to resins yielding into 22000 tonne of dry grapes (Average yield 35 tonne/ ha)



Drying grapes relieves marketing stress for FPO, Bagalkot

Intervention

- ♦ KVK Bagalkot in collaboration with Dept. of Horticulture, and district administration linked these farmers to HOPCOMS for fresh grape markets, but the rates were not encouraging. During the regular seasons they sold the grapes @ Rs. 40-85/kg, but this COVID season the rates were Rs. 25/kg.
- ♦ The farmers then were advised to go for resin making from about 95% of the produce. Technical support about drying through training was provided.
- ♦ Around 1000 farmers from this FPO converted 85000 tons fresh grapes into resins and came out of the crisis of marketing by producing good quality grapes. Earning net profit of Rs. 660 crores.
- ♦ They have stored their dry produce at nearby cold storage of Karnataka and Maharashtra border and will sell their produce to Sangli (Maharashtra) market.



KVK Facilitates dairy processing and marketing during lockdown

Context

- ♦ Shortage of concentrated feed faced by KVK linked non-AAVIN 200 farmers (650 dairy cows).
- ♦ Farmers could not disperse milk due to lockdown (21,000 litres)
- ♦ Disposal of surplus milk produced during lockdown period
- ♦ Difficulties in dairy maintenance and milking due to fear of COVID 19 spread
- ♦ Difficulties in distribution of milk in local market due to fear of COVID 19 spread



KVK Facilitates dairy processing and marketing during lockdown

Intervention

- ♦ Facilitated supply of concentrated feed from Aavin (Tamil Nadu Co-operative Milk Producers' Federation Limited) to KVK linked non-AAVIN dairy farmers
- ♦ Educated dairy farmers on clean milk production following SOP for COVID 19
- ♦ Facilitated linking of 200 non Aavin dairy farmers with AAVIN for sale of 21,000 litres of milk per day.
- ♦ Educated farmers and milk venders to follow SOPs for COVID-19 and facilitated sale of milk in local market
- ♦ Encouraged trained formers for value addition of milk viz., Panneer, flavoured milk, etc.



Chicory processing for generating employment for rural youth

Context

- ♦ Chicory production was introduced in the Etah district by the KVK and presently about 6000 farmers have adopted this crop which is grown in 2560 ha area
- ♦ Usually the fresh harvest was supplied to the markets right from the farmers' fields
- ♦ Due to restricted movement during lockdown period the supply of Chicory to the wholesale markets was significantly affected.



Chicory processing for generating employment for rural youth

Intervention

- ♦ KVK customized processing technology and motivated to farmers to process the chicory for future sale at remunerative prices.
- ♦ With this activity we intended to provide employment to surplus labour that returns back due to lockdown.
- ♦ Around 128000 tonne chicory, Rs. 56 crore, was processed (cleaning, washing, cutting, drying, packaging and storage) with this intervention. About 63000 Labour days were generated during 40 days of this activities.



Innovative sugarcane vinegar production from sugarcane juice

Context

- ♦ Sugarcane is an important crop in this district.
- ♦ It is being cultivated on an area of 1.13 lakh ha in the district
- ♦ On an average a yield of 66 t/ ha sugarcane is harvested with the estimated returns of Rs 214500 lakh/ ha
- ♦ Generally farmers sell their produce directly in nearby markets to the juice extractors and earn Rs. 200-210/ q as net profit
- ♦ During lockdown period selling of sugarcane juice was not possible hence demand for this section of sugarcane dried up completely.



Innovative sugarcane vinegar production from sugarcane juice

Intervention

- ♦ Krishi Vigyan Kendra, Katia, Sitapur suggested farmers to prepare sugarcane vinegar from the sugarcane juice for earning livelihood.
- ♦ Under the guidance of the KVK farmers started producing sugarcane vinegar during the lockdown.
- ♦ Farmers were easily preparing 50 liter vinegar per quintal sugarcane which can easily be stored for considerable period of time.
- ♦ Around 10-12 Sugarcane growers of the district were able to sell 60000 liters of vinegar earning a net profit of Rs 12 lakh.



Processing of Mushroom as Value Added Products

Context

- ♦ Mushroom production has been encouraged in the remote villages of Chhattisgarh for nutritional security and income generation among farmers.
- ♦ Value addition of Mushroom by the members of SHGs was encouraged for income augmentation.
- ♦ SHGs of *Machewa* village in Mahasamund district took keen interest in Mushroom cultivation.
- ♦ The SHG *Jai Ma Mahamaya Sewa Sahayta Samuh* of village got trained in production of oyster Mushroom. They were producing 20 kg oyster Mushroom daily basis.
- ♦ Due to nation-wide lockdown, they were unable to sell their produce in daily market.



Processing of mushroom as value added products

Intervention

- ♦ KVK Mahasamund advised SHG members for mushroom processing during lockdown period.
- ♦ Members started processing of mushroom into mushroom *badi* with use of *Urad dal* and *Mung dal* so that they could sell it and generate income.
- ♦ Women members who were earlier trained by KVK for *badi* making prepared round mushroom *badi* with different pulses according to demand of consumers.
- ♦ Value added mushroom products increased its shelf life, which helps them to sell the product after lockdown.
- ♦ Value added products also increased about three times returns as the price of fresh mushroom is Rs 120/kg and the selling price of processed product went up to Rs 350/kg.



6. INNOVATIVE MARKETING INITIATIVES



Disruption of marketing channels, particularly on the consumers' side, was one of the most conspicuous problems emerged in the lockdown due to the COVID-19 in India. Subsequent to the closure of retail shops for consumers the wholesale prices of perishables such as fruits and vegetables fell drastically. However, the agricultural extension system in the country acted promptly to safeguard farmers' interest by suggesting them innovative methods of marketing their produce. This section of the e-book documents various examples from all parts of the country for the awareness and emulation by the extension workers and farmers of India.

Marketing Tomato with i-TEAMS Platform: innovative way

Context

- ♦ Tomato is a widely grown vegetable in the district, both in *Kharif* and *Rabi* seasons covering an area of 211 ha.
- ♦ Farmers normally harvest around 14-15 tons of tomato per season with an economic output of Rs. 80,000/ha.
- ♦ The effect of lockdown affected marketing channels thereby limiting the farmers' income and giving rise to problems of storage of the farm produce.
- ♦ Farmers usually sell their produce directly at the local market or through middleman to outside districts
- ♦ Apart from selling raw produce, processing has wide scope as a source of additional income



Marketing Tomato with i-TEAMS Platform: innovative way

Intervention

- ♦ KVK Ri-Bhoi took the initiative to guide the farmers during this difficult situation and linked group of farmers i-TEAMS
- ♦ Through Integrated Technology Enabled Agri Management System (i-TEAMS-1917), a govt. of Meghalaya initiative, farmers were able to sell their harvested produce.
- ♦ Around 30-40 farmers of the district could sell 100-120 quintals of their produce to the market through i-TEAMS.
- ♦ KVK Ri-Bhoi also advised and assisted the farmers/ 2SHGs (40 members) through ICT tools to go for value addition of their produce to Ketchup, puree etc.
- ♦ 2 SHGs produced around 160 bottles of Tomato ketchup during the lockdown period.



Farm to Kitchen – An E-commerce Initiative by Young Entrepreneur

Context

- ♦ KVK, Jalna-I has taken an initiative to develop “Farm to Kitchen” e-commerce website for online purchase of fruits and vegetables during lock down period due to Corona virus.
- ♦ The website has been developed by innovative rural youth Mr. Pravin Ghaghav under guidance of KVK.
- ♦ The service is informally commenced from 11th April, under brand name of Sarvadnya Foods to Jalna city only.
- ♦ The purpose is to make available fresh fruits and vegetables to the doorstep of citizens particularly in lock down period, to assist farmers for marketing of their produce and to assist citizens to stay in their homes during lock down period as a preventive measure against spread of Coronavirus.



**Order your favourite fruits and vegetables
at Farm To Kitchen, the online F&V store**



Store: www.sarvadnyafoods.com
Whatsapp: +91 7773913700

शेतीमाल ग्राहकांपर्यंत पोचविण्यासाठी ऑप कृषी विज्ञान केंद्रासह कृषी विभागाच्या मार्गदर्शनाखाली युवकाचा पुढाकार

सुप्रसन्न सदाशिव

जालना, ता. १५ : शेतीमाल काढणाऱ्या शेतकरीवर्गाचे संवत्सारात सावधान असे. शेतीमाल, भाजीपाला न पडले तरीच वेळीच शाकावृक्षीय पोटापोषणसाठी 'फार्म टु किचन' असे ठराव करून घ्यावे. यातून शेतकरी यातून फायदा उभा देऊ शकतो असे. यातून शेतकरी यातून फायदा उभा देऊ शकतो असे.

कोरोनाच्या पार्श्वभूमीवर शाकावृक्षीय पोटापोषण हे गरजेचे आहे. यातून शेतकरी यातून फायदा उभा देऊ शकतो असे. यातून शेतकरी यातून फायदा उभा देऊ शकतो असे.

विद्यार्थक

शेतकरी यातून फायदा उभा देऊ शकतो असे. यातून शेतकरी यातून फायदा उभा देऊ शकतो असे.

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शेतीमाल ग्राहकांपर्यंत पोचविण्यासाठी ऑप

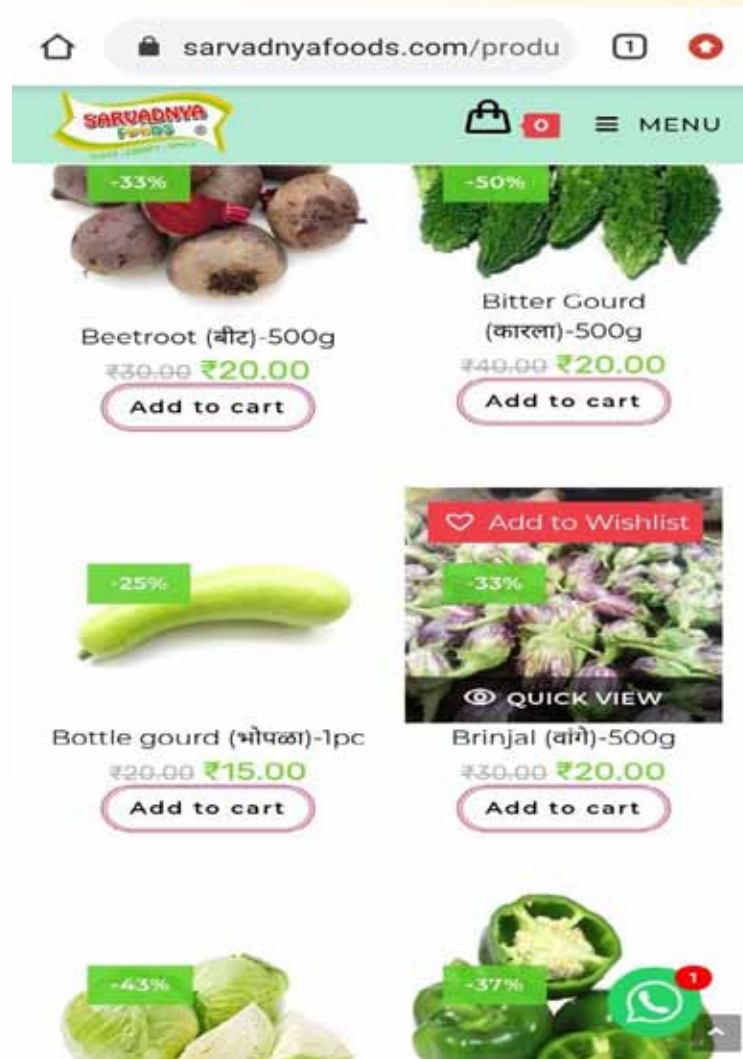
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Farm to Kitchen – An E-commerce Initiative by Young Entrepreneur

Intervention

- ♦ The website presently offers more than 40 types of fresh fruits and vegetables other than processed food products.
- ♦ The delivery is done two times in morning and evening.
- ♦ Payment options allow online payment as well as Cash on Delivery. Free shipping is available for purchase more than Rs. 200/-. Flat shopping charges @Rs.20/- if the sale is below Rs. 200/-
- ♦ Total 13 farmers are connected to this project to supply fruits and vegetables; 311 customers availed the services with total turnover of Rs.75236/- within 15 days of commencement of project. Total 25976 people have visited to website.
- ♦ The website is being converted in App very shortly which will be available on Google play store.
- ♦ The web link is: <https://sarvadnyafoods.com/>



Direct Marketing of Fish to Consumers: Distinctive model

Context

- ♦ In Washim district, farm ponds are used for freshwater fish farming.
- ♦ COVID-19 lockdown restricted market access to the fish farmers.
- ♦ Fish farming is done in 74 farm ponds in the district.
- ♦ On an average 5-6 q of fish will be harvested/farm pond which will cost Rs. 0.90 to 1 lakh @ Rs 200/kg.
- ♦ Fish farmers usually sell their produce to fish brokers @ Rs 70/kg, but due to KVK support, fish farmers were able to sell fish directly to consumers and got additional benefit of Rs. 130/kg extra.



Direct Marketing of Fish to Consumers: Distinctive model

Intervention

- ♦ KVK-Washim guided the farmers for fish harvesting & marketing.
- ♦ Harvested fresh fish sold to consumers as per their demand.
- ♦ Daily 15-20 kg fishes harvested and sold @ Rs.200/kg.
- ♦ Around 25-30 farmers sold their produce directly to consumers during lockdown period at village level.
- ♦ As fish farming is an secondary enterprise for the farmers. Fish farmers obtained additional benefit. The story of one of farmer Mr. Keshav Paighan has been published in Agroone newspaper.

बांधावर माशांची थेट विक्री करत मिळवला दुप्पट नफा

शोभास हामे

गंदीतील
संधी'वीर'

अकोला

लोकह्याऊनफुडे शेती आणि
पुष्कः उद्योगातील कामांना योग्यतः कटका काढता आहे. शोभास
विश्वेची मोठी अडचण असल्याने अनेकपेढे आर्थिक अडचणी
उभ्या राहिल्या. मात्र अशा परिस्थितीतही बाजारपेठेतील यंत्रणे हेतु
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आहेत, कपडा (ता. विरोध, जि. वाशिम) येथील केशव पायघन,
अडचणीच्या कडव्यात पायघन यांनी शेतकऱ्यातील मासे
व्यावसायिक विक्री न करता थेट ग्राहकांना विकण्यास
सुरुवात केली आहे. लोकह्याऊनफुडे एक महिन्याच्या
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अजून येथील केशव मोहिता पायघन हे प्रयोगातील
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एकरावर टाढाही आंबा लागवड आहे. **पाय ४ खर**



शेतकऱ्यांच्या बांधावर
मासे विक्री करताना केशव पायघन

तज्ज्ञांचे मार्गदर्शन

करडा (जि. वाशीम) कृषी विज्ञान केंद्राचे प्रमुख डॉ. रविंद्र काळे यांच्या
मार्गदर्शनाखाली कवठा गावात पायघन बंधुंनी शेतकऱ्यात रोहू, कटला, मृगल
या माशांचे संवर्धन सुरु केले. हैद्राबाद येथील राष्ट्रीय मत्स्य विकास मंडळामार्फत
त्यांना मत्स्यपालनाचे प्रात्यक्षिक देण्यात आले होते. यंदा लोकह्याऊनच्या
काळात थेट ग्राहकांना माशांची विक्री करून केशव पायघन यांनी मिळकतीचा
नवा पर्याय उभा केला आहे.

Providing Marketing Platform for Organic Vegetable Growers

Context

- ♦ By efforts of KVK Tapi, many farmers are cultivating vegetables and fruit crops organically.
- ♦ Farmers usually sell their produce near by Surat city directly to the consumers. But in Covid-19 situation, it is not possible for the farmers to sell their products in Surat.
- ♦ COVID-19 lockdown restricted the market access to growers.
- ♦ It is not possible to fetch premium price of organic products by delivering directly to the consumers' doorstep.
- ♦ Developing market channel is inevitable to avoid glut and rotting of produce



Providing Marketing Platform for Organic Vegetable Growers

Intervention

- ♦ Due to present situation, KVK-Tapi requested to the District Collector to provide some space for Organic Growers nearby Collectorate Office to sell their products.
- ♦ The Collector, Tapi gave positive reply and provided space free of charge.
- ♦ ATMA and Dept. of Agriculture were also involved in this endeavour and organic farmers started selling of their products daily at premium price.
- ♦ Total 17 farmers are selling different vegetables and fruits.
- ♦ Farmers are also fetching premium price of their organic products due to prime location.



Milk Pooling Helped to Realise Good Price During Lockdown

Context

- ◆ Dairy farming is a major agricultural allied activity in Punjab
- ◆ Dairy farms in peri-urban areas are prospective source of fresh milk for city residents
- ◆ City residents themselves come to these farms daily to get fresh milk
- ◆ During COVID-19 Pandemic & subsequent curfew, residents were not able to go to farms to get the milk
- ◆ Local milk procurement units in few cities also got closed and hence the problem of disposals of milk emerged at a larger scale



Milk Pooling Helped to Realise Good Price During Lockdown

Intervention

- ♦ S. Jagtar Singh, village Surtapur (Ropar) was a member of a cooperative dairy unit of Verka at village Mahlan which was working during the lockdown period
- ♦ He was contacted by KVK scientist of Ropar to assist the other farmers in disposing milk
- ♦ Milk from all units was collected and supplied at Jagtar Singh's house, who in turn supplied the pooled milk to cooperative dairy society through his own account
- ♦ Similarly, In Barnala, Sukhjot Singh, Garcia Road, Barnala and Rupinder Singh Maan in Sangrur district that were associated with the KVKs were doing door to door milk pooling and delivery of milk to solved the issue of milk marketing



KVK Promoted FPO Facilitates ease procurement of wheat during lockdown

Context

- Wheat is the major Rabi season crop for majority of farmers in Haryana
- Government procurement of wheat at MSP has been in practice in the state but lock down has restricted the access of the farmers to the market
- Wheat sale is a crucial task for farmers during the month of April & May and every farmer use to sale their produce through middlemen
- No farmer organization is involved in sale and purchase of grain direct to government, in such situation FPO can play very important role in procurement of wheat
- KVK Hisar has explored this possibility as per the need of the hour



KVK Promoted FPO Facilitates ease procurement of wheat during lockdown

Intervention

- ♦ Adampur Farmer Producer Organization (FPO) was formed by KVK Hisar and Subhash Chandra Foundation, in 2019
- ♦ With the efforts of KVK and FPO, government granted permission to FPO for procurement of wheat from farmers
- ♦ Till date (30.4.2020), FPO has procured 4000 q of wheat from registered farmers and other farmers for supply to FCI
- ♦ There is provision of 2.5% commission on wheat procurement, thus FPO and farmers members will be benefitted
- ♦ Thus, KVK has helped farmers of Hisar district in realization of remunerative price of wheat in this distress time



Direct Marketing and Raisin Production showed the way

Context

- ♦ Grapes is an important fruit crop of Ahmednagar district and is grown in 1298 ha predominantly in Rahata, Shrirampur and Kopargaon tehsil.
- ♦ Grapes growers are producing export quality grapes and following KVK's advisory on weather and pest and disease control.
- ♦ All grapes growers were unable to market their grapes due to disruption in supply chain during lockdown amidst Covid19.
- ♦ Huge financial loss was expected due to fall in prices i.e. between Rs 7 to 10 per kg from Rs 50 to 80 per kg during lockdown period.



Quality grapes production



Direct Marketing and Raisin Production showed the way

Intervention

- ♦ KVK took lead in advising Grapes growers to undertake direct marketing to consumers through use of WhatsApp user groups and use of CRS programmes of KVK.
- ♦ The help through direct to consumer selling has helped the farmer to financial gain of Rs 7.5 lakh from 2 acre orchard.
- ♦ The KVK experts convinced the grapes growers to prepare raisins to avoid distress sale following which 220 tonnes of harvested grapes were converted to raisins to prevent panic selling and fall of grapes market prices.
- ♦ It has prevented a net loss of Rs 88 lakh of six grapes growers in Rahata tehsil through raisin preparation.



Raisin production at grapes farm amidst Covid19



Digital Marketing of GI-Tagged Alphonso: NICRA Village showed the pathway

Context

- ♦ GI-Tagged Alphonso is the only crop that earns foreign exchange in Ratnagiri, Maharashtra
- ♦ Konkan exports around 50,000 tonnes of Alphonso mango worldwide.
- ♦ Lockdown posed a challenge of harvesting and marketing of 'high value-high perishable' mango during March-April.
- ♦ Closing of international shipping hubs stopped the export of mango.
- ♦ Domestic market-APMC, Vashi was closed as Mumbai is leading epicentre of COVID 19.
- ♦ NICRA farmers- Yunus Rakhanghi and Mosin Kalsekar worried about how they could do marketing of Alphonso mango? How to transport it? Who will purchase it? And at what price?



Digital Marketing of GI-Tagged Alphonso: NICRA Village showed the pathway

Intervention

- ♦ KVK already demonstrated climate-resilient technologies on 4.00 ha area.
- ♦ We provided National Agro Advisory Released by ICAR & DBSKKV, Dapoli.
- ♦ Guided farmers on Covid-19 precautions.
- ♦ Facilitated online transportation pass from Regional Transportation office, Ratnagiri.
- ♦ KVK scientists put forth the idea of social media marketing and digital payment.
- ♦ Order booked on social media, phone call from elite societies/apartments from Mumbai, Pune, Nashik, Kolhapur, Solapur.
- ♦ Consumer made payment through mobile banking & Google pay.
- ♦ Dispatched 1200 boxes having 4800 dozen mangos on gate of apartments in towns
- ♦ Total earning of Rs. 24.00 lakh.



Linking Dairy Farmers to the Consumers in Amravati

Context

- ♦ KVK Adopted Takli village where farmers produced 1600 litre milk daily.
- ♦ Milk shops/sale centres were closed due to lockdown period because of Covid-19.
- ♦ COVID-19 lockdown restricted market access to the milk producers.
- ♦ Farmers usually sold their milk in the milk processing centers or in a milk shop to maximize their returns.
- ♦ KVK took initiatives linking milk growing farmers to the consumers of Amravati city.
- ♦ KVK also guided farmers to prepare value added products in case of surplus



Linking Dairy Farmers to the Consumers in Amravati

Intervention

- ♦ KVK Provided the consumers contacts (of Amravti city) to the farmers.
- ♦ Linked the regular supply chain of milk.
- ♦ Consumers are satisfied because they are getting fresh milk in this lockdown period.
- ♦ Takali milk farmers also satisfied because they are getting good price 60 Rs per litre for buffalo milk, and Rs 40 per litre for cow milk.
- ♦ KVK also advised and assisted farmers in preparing milk products like curd, ghee & khova if milk is in surplus quantity.
- ♦ Farmers of Takali village are getting Rs 80000 daily and Rs 24 lakh in a month by saling direct to consumer and making value added products.



Inspirational Story of Pomegranate Fruit Marketing

Context

- ♦ Pomegranate is an important fruit crop for the income of NICRA villages in Kutch district.
- ♦ Pomegranate fruits were ready to harvest and to sale in the market.
- ♦ Due to lockdown period, market was closed.
- ♦ Being perishable item, fruit marketing at a time was highly essential.
- ♦ Total 460 tonnes fruits were ready to sold in market (15 farmers).
- ♦ Urgent need of marketing of fruits to avoid glut and distress sale.



Inspirational Story of Pomegranate Fruit Marketing

Intervention

- ♦ KVK Mundra, Kutch-I is associated with these farmers to help them for marketing.
- ♦ KVK linked these farmers with private local traders for marketing of the fruits at better price.
- ♦ KVK also requested APMC, Anjar on telephone to help these farmers to purchase their products.
- ♦ By these efforts private traders allowed for transportation and they purchased the fruits @ Rs. 45 to 70/kg from the farmers' farm.
- ♦ By the way farmers get Rs. 2.30 crores from Pomegranate of 58 ha land of 15 farmers in Bhalot village.



Direct Marketing of Watermelon: Producer to Consumer

Context

- ♦ Watermelon crop is cultivated in 30 hectares in Shirahatti block of Gadag district promoted mainly under Comprehensive Horticulture Development Scheme of Department of Horticulture
- ♦ Advisories on production technology was rendered by KVK through personal contact, phone calls and whatsapp group
- ♦ Average productivity of Watermelon is 25 ton per ha
- ♦ Major marketing channels are traders and commission agents
- ♦ Harvesting of fruits was coincided with COVID-19 lockdown period. Thus restricting the farmers access to market and traders.
- ♦ Traders supply chain network was affected due to transport restriction to other places
- ♦ There was misconception among the people not to consume watermelon and other fruits due to fear of Corona Virus
- ♦ Approximately 700 – 800 tons of watermelon of 29 farmers belonging to 14 villages was at marketing risk due to lock down
- ♦ Farm gate procurement by the traders was the usual practice followed for marketing of watermelon



Direct Marketing of Watermelon: Producer to Consumer

Intervention

- ◆ District Administration, KVK & Department of Horticulture jointly organised awareness programmes in villages and towns to address the misconception on consumption of fruits
- ◆ Publicity was given on availability of fruits and its nutrition through digital media
- ◆ Direct marketing was facilitated from growers to consumers in the villages and towns.
- ◆ HOPCOMS, Bengaluru started procurement Centre at Shirahatti.
- ◆ Department of Horticulture arranged transportation vehicle at farmers cost from field to other villages/towns/HOPCOMS
- ◆ About 630 tons of watermelon was sold through direct marketing in 22 villages, 4 towns and HOPCOMS
- ◆ Farmers got average price of Rs.10000/ton as against at Rs.6000/ton sold during previous year
- ◆ Farmers incurred overhead cost of Rs.1600/ton for marketing
- ◆ Farmers got additional income of Rs.2400/ton this year from direct marketing during lockdown period
- ◆ Consumers got fruits at 50% less price compared to previous year



Modified Marketing Approach in Oyster/ Milky Mushrooms

Context

- ♦ Mushroom Growers normally sell their fresh produce through different super markets, malls and local vendors
- ♦ Ban on single use plastics in the state. Plastic trays, stand pouches and even the simple PP covers were not acceptable by the super markets.
- ♦ During this lock down period, government regulations posed a threat on the sustenance of mushroom growers due to the closure of super markets, malls and the inevitable concept of social distancing.
- ♦ Very high demand for value added products of mushrooms



Modified Marketing Approach in Oyster / Milky Mushrooms

Intervention

- ♦ The packages were set to 3 different types-Card board boxes, with transparent window, Plastic tray packs reusable at household level, & Tray packs made up of molded areca sheaths.
- ♦ Production estimation data is shared among Mushroom Growers' Consortium of KVK & mushroom packets are delivered at doorstep along with other provisions and value added products of mushrooms, the next day.
- ♦ Mushroom growers are getting a price of Rs. 400/kg by direct sale during lockdown period, in the place of Rs. 300/kg earlier by selling through super markets and malls.



Fresh fish door delivery during lockdown

Context

- ◆ Main fish landing centers and retail fish outlets are closed completely or partially due to lockdown.
- ◆ Fresh fish availability in Kochi reduced drastically to 20 MT per day as against 150 MT per day on pre-lockdown days.
- ◆ More than 550 numbers of brackish water fish farmers were also facing issues in marketing due to closure of auction centres.
- ◆ Farmers were struggling to maintain fish stock due to high operational cost of Rs5000/ha/day.
- ◆
- ◆ Total of 400 MT fish was ready to harvest during the time of commencement of lockdown in Kochi back water area.



Fresh fish door delivery during lockdown

Intervention

- ♦ KVK's SHG registered during 2018 for fresh fish supply was arranged to collect fish at farm gate, clean and supply to the consumer homes by using their vehicles.
- ♦ Fish door delivery mechanism commenced on 27th March by using WhasApp group broadcast as communication tool and advertisement via radio announcement/news paper.
- ♦ Farmers were paid instantly at their farms by cash at mutually agreed price.
- ♦ Average daily supply was 510 kg worth 1.6 lakhs from 11 farmers catering to 350 homes daily.



Door delivery of Ready-to-Cook (R2C) cut-vegetables during lock down

Context

- ♦ KVK promoted farmers were not able to market vegetables viz, yams, pumpkin, cowpea, leafy vegetables, raw banana, ivy guard, snake guard, ridge guard, fruits-banana, pineapple etc.
- ♦ Housewives were not getting fresh vegetables during lockdown
- ♦ Waste disposal in apartments became an issue due to absence of cleaning staff and hence house wives preferred ready to cook items.



Door delivery of Ready-to-Cook (R2C) cut-vegetables during lock down

Intervention

- 8 Members of Kothamangalam agriculture farmer producer company Ltd., trained by SMS (Home science) via Telephone & WhatsApp messages
- Twenty types of ready to cook packets suiting to Kerala cuisine designed by scientists of KVK
- Door delivery commenced by advertising in News papers, WhatsApp was used as communication tool for taking orders. One television channel broadcasted visuals of delivery
- Daily average supply of 60 packets catering to 40 families accomplished with price of packets in the range Rs.25 to 40.
- Cost of transportation & delivery was 15 percent of the total price.



KVK encouraged timely harvest, transport and marketing during lockdown

Context

- ♦ Fish farmers of Namakkal district found it difficult to harvest and transport inland shrimp due to lockdown.
- ♦ Inadequate supply of bio-inputs to organic farmers due to low production
- ♦ Delayed harvesting of groundnut, onion and vegetables due to inadequate labours and fear of COVID 19 infection
- ♦ Non availability of adequate farm implements
- ♦ Poor maintenance of livestock due to fear of COVID 19 infection



KVK encouraged timely harvest, transport and marketing during lockdown

Intervention

- ♦ Supported fish farmers to harvest 3 t of fish and 760 kgs of shrimp and assisted in transport to Trichy market.
- ♦ Encouraged ASCI trainees to prepare and supply Panchagaviya, Jeevamirtham, Amirthakaraaisal, Fish acid, EM Karaaisal, vermi wash and Ponniyam
- ♦ Educated farmers on precautions for COVID 19 and facilitated harvest of groundnut and onion, marketing of vegetables and jasmine in farmers market
- ♦ Educated livestock and poultry farmers to maintain a healthy flock in large size
- ♦ Educated on sanitization of implements before and after use in the CH Centes.



Pooling of vegetables in village facilitates ease in marketing of vegetables

Context

- ♦ Vegetable cultivation is the primary occupation of farmers of Parawada and Achutapuram mandals of Visakhapatnam District.
- ♦ More than 60% of the farmers are small vegetable farmers and grow vegetables in an area of 30 cents to 1 acre with 2-3 varieties.
- ♦ The produce is usually sold in local shandies to earn their livelihood.
- ♦ As the local shandies could not operate during lockdown period, they have been unable to sell their produce .
- ♦ Mr K. Suresh, one of the progressive farmer and trainee of BCT -KVK since 2012 on off-season vegetable cultivation markets his produce directly in the whole sale market.



Pooling of vegetables in village facilitates ease in marketing of vegetables

Intervention

- ♦ Mr Suresh , a popular known vegetable grower, was contacted by NGOs and Politicians for supply of vegetable kits to the needy.
- ♦ KVK, Visakhapatnam (BCT) facilitated this process, coordinated with the small vegetable farmers and supplied vegetables to Mr Suresh who in turn was able to prepare the kits with 8 types of vegetables
- ♦ He supplied 42000 kits to NGOs and other agencies during the lockdown period over 40 days
- ♦ This helped the 47 small farmers sell nearly 160 tons of their produce during the lockdown period



KVK trained growers supply mushroom door to door in villages during lockdown

Context

- ♦ Mushroom is a cash crop for the small as well as big farmers in Begusarai district.
- ♦ KVK identified Mushroom entrepreneurs can play a great role to provide protein rich source items during lock down period.
- ♦ 63 farmers were provided with mushroom kit for production at home and can be used for self consumption and also can be saled if produce is in surplus.
- ♦ One small unit of mushroom can easily be handled by single person by following social distancing. KVK motivated growers to market collectively.



KVK trained growers supply mushroom door to door in villages during lockdown

Context

- ♦ KVK provided advisory and training to nearby farmers with proper prevention and maintenance of physical distance.
- ♦ KVK guide them through WhatsApp Group, Advisory in Print media and electronic media.
- ♦ KVK suggested them to sale fresh mushroom by door to door delivery. Unsold and surplus produce should be dried which can also be sold later on.
- ♦ Profit resulted from sale of mushroom is around Rs. 15000/- (60 sq.ft area). This model can be a key source of supply of rich protein diet during adverse situation and source of incredible income



Door to Door Sale Model of vegetables became common in Chatra district

Context

- ♦ KVK, Chatra introduced off season vegetable (capsicum, cauliflower, muskmelon etc.) cultivation and motivated 65 small and marginal farmers in Gidhour village with an intention to increase their incomes.
- ♦ But the unfortunate lock-down due to Covid-19 caused all sort of transportation delayed from 22 March 2020 to uncertain date. The Crops remained in the field as it is and became over matured. That could result decaying of crops.



Door to Door Sale Model of vegetables became common in Chatra district

Intervention

- ♦ KVK Chatra came forward to solve the problems of these farmers. KVK discussed with district administration and arranged pass and permission to harvest and sale the produce.
- ♦ Under guidance of KVK, team of 4-5 farmers from one village were selected for collection and sale the produce by visiting door to door.
- ♦ It was also decided that group of selected farmers would purchase all vegetables in village and would sell collectively. The profit will be shared among all. The model clicked and proved fruitful.
- ♦ Now, this model is replicated in all the blocks of Chatra district maintaining all preventive measure.



Sabji Apke Dwar: Linking Vegetable Growers to VegFed

Context

- ♦ Sahibganj district is well known for white pointed gourd and water melon cultivation.
- ♦ These crops are cultivated in around 500 ha in diara land of the district.
- ♦ Generally farmer sell their pointed gourd @ Rs 40-50 and water melon @ Rs 20-25 per kg each.
- ♦ Lockdown imposed due to COVID-19 restricted local as well as outside market access to the growers.
- ♦ As a result drastic reduction in selling price along with dumping of these vegetables at farmers doorstep was experienced.



Sabji Apke Dwar: Linking Vegetable Growers to VegFed

Intervention

- ♦ KVK Sahibganj approached District administration to address the marketing problem of gourd and melon growers.
- ♦ 'Sabji Apke Dwar' movement was initiated by DC Sahibganj under guidance of KVK. KVK in association of district agriculture and Co-operative department took joint responsibility.
- ♦ The 'Vananchal Krishak Seva Sahyog Samiti' a co-operative society registered with VegFed bridges the gap and started collection of the vegetables from growers and supplied to local vendors and also to vendors of adjoining districts like Godda, Dumka and Deoghar. This initiatives was very successful in marketing of fresh produce and farmers gained good profit by saling through Sabji Apke Swar.



Utilization of Surplus Mushroom and Door to Door Marketing

Context

- ♦ Mushroom Growers in Uttar Dinajpur district of West Bengal, especially Chopra and Islampur Blocks produce huge quantity of mushroom.
- ♦ Mushrooms growers were in real trouble during this lockdown period as the market for surplus mushroom was not easy to approach.
- ♦ They were in constant contact with KVK officials and worked according to the suggestions and minimized their losses.
- ♦ The small and marginal farmers were the most affected and were facing problems in securing their livelihood.



Utilization of Surplus Mushroom and Door to Door Marketing

Intervention

- ♦ Steps were taken by the KVK to minimize loss and generate income for the farmers.
- ♦ Door to door selling of mushrooms maintaining social distancing was advised and promoted among the producers.
- ♦ While selling in local areas, wearing mask and gloves was encouraged.
- ♦ Processing of excess produce into pickle, dry mushrooms, mushroom papad, etc. was being popularized.
- ♦ Some of them stride forward towards helping others, with the help of KVK they contacted NGOs which are providing meals to poor families and donated fresh mushrooms for nutritious meals.



Enabling Marketing of Chrysanthemum Saplings

Context

- ♦ During lockdown period, agricultural farming operations lost its natural speed.
- ♦ Farm production activities as well as the market activities faced a great challenge.
- ♦ In this situation, Mr. Kutubuddin Biswas, a resident of Ranaghat II Block of Nadia District, West Bengal and a KVK linked farmer, still engaged to raise 2 lakh chrysanthemum saplings per day, taking all precautions and sanitary measures as per govt. norms and recommendations during lockdown period.
- ♦ These are mainly spray chrysanthemum.



Enabling Marketing of Chrysanthemum Saplings

Intervention

- ♦ The KVK kept in touch with the farmers through ICT tools and kept him abreast with the transport and market situation.
- ♦ Everyday, there are about 1,50,000 to 1,75,000 numbers of spray chrysanthemum saplings transported to Bangalore, Ooty, Shillong, etc. by cargo flight during this lockdown condition.
- ♦ Nearly 85 labours are engaged daily to run the business smoothly of an area of 4.0 ha, out of which 1.33 ha area is under protected cultivation with polyshade.
- ♦ The business is still generating a per day turnover of Rs. 1,50,000 to 2,00,000.



Branding and Door Step Marketing of Mushroom

Context

- ♦ Sri Prasant Kumar Sethy is an emerging mushroom grower from Netaji Nagar, Semiliguda, Koraput. Till 2016, he was having no specific business of living.
- ♦ During 2016, KVK Koraput gave training and support for mushroom cultivation to Sri Prasant Kumar Sethy and now he is a well known mushroom grower.
- ♦ Presently, he had a well established mushroom unit at Semiliguda, where he raises more than 600 beds of oyster mushroom in a month and harvest more than 15 kg of mushroom per day and earning more than Rs1800 per day.



Branding and Door Step Marketing of Mushroom

Intervention

- ♦ During the lockdown, he was facing problem in marketing. KVK, Koraput and FIAC, Semiliguda suggested him to make packaging, labelling and providing door to door service.
- ♦ Training was imparted for packaging and labelling by the KVK.
- ♦ He has established his brand and during lockdown, he has delivered his products at the door steps of the consumers after collecting orders on phone.
- ♦ Now, even during the lockdown period, he is making good earnings.



Group Marketing Model of Self Help Groups

Context

- ♦ The women play a vital role in agriculture. During COVID-19 crisis, a women's group in the district of Jharsuguda of Odisha exhibited courage and stewardship in vegetable marketing.
- ♦ The women self help group "Maa Vaishnavi" was formed in the year 2011-12 and strengthened by Krishi Vigyan Kendra, Jharsuguda in the village Lahandabud of Jharsuguda block. The women group is comprised of 20 members.
- ♦ The capacity building of the members was done by KVK in the areas of floriculture, vegetable cultivation, value added product making and nursery raising through training and demonstrations.



Group Marketing Model of Self Help Groups

Intervention

- ♦ The KVK facilitated the mobility of the group and liasoning was established with various line departments in the district.
- ♦ During the COVID 19 crisis, the group members started collecting vegetables from the villages and near by villages and sold it at a fix point in the village with mask and social distancing. Their initiative gave them a new recognition in the district .
- ♦ The district administration gave them vehicle pass to collect the vegetables from different potential areas and to sale them in a notified area. This group has set an example for other women groups in the district.



Marketing of cucumbers through battery rickshaw drivers

Context

- ♦ Cucumber is an important zaid crop to earn additional income by the farmers of this district.
- ♦ This crop is being cultivated in 130 ha in the district
- ♦ Under favourable conditions an average yield of 25 t/ha cucumber can be harvested with a net profit Rs 0.90 lakh/ha
- ♦ Due to the lockdown, the average prices of cucumber in the wholesale markets have dropped to as low as Rs. 6-7 per kg while the farmers used to get much higher than that during normal times.
- ♦ However, the retail prices of cucumber were still Rs.18-20 per kg.



Marketing of cucumbers through battery rickshaw drivers

Intervention

- ♦ KVK advised farmers to approach the battery rickshaw drivers and motivated them to sell these cucumbers to consumers at their door steps.
- ♦ Rickshaw drivers earned Rs 300-400/ day as they received a margin of Rs 4-5 per kg .
- ♦ Around 35-40 growers of the district sold 300-350 ton cucumber through battery rickshaw drivers and net profit of Rs. 13-14 lakh was earned by them during lockdown period



7. STRENGTHENING STORAGE STRATEGIES



During the lockdown due to COVID-19 transport services could also not function at their full efficiency necessitating imperativeness of the short term storage at the production centres. Similarly, the storage of semi-perishable agro-commodities at farmers' end also become highly important. As farmers were not used to such storage practices in the past they needed to be guided through electronic communication. The entire agricultural extension system in the country especially the KVKs played very active role in this endeavour and the capacity of the farmers was developed to handle this aspect of post harvest management of their produce for possible earning of attractive livelihood in the future.

Low Cost Storage Structures improve shelf-life of onion

Context

- ♦ Onion is an important Rabi crop for the farmers of Nashik District. Rabi onion is cultivated over 2.25 lakh ha in Nashik district.
- ♦ COVID-19 lock down restricted market access to growers.
- ♦ Due to sufficient irrigation and favorable climatic conditions during 2019-20 bumper production of quality Rabi onion was expected.
- ♦ But due to lockdown situation demand and supply chain badly affected. Due to restrictions on market access onion prices went down day to day.
- ♦ There was need to improve storage life of onion, if stored scientifically. After lock down is over, farmers would be fetching good market price for onion.



Low Cost Storage Structures improve shelf-life of onion

Intervention

- ♦ KVK, Nashik-II assumed the responsibility for bringing farmers out of this crisis and reached out farmers to advise them proper technology under such situation.
- ♦ KVK advised farmers to spray 0.1% of Bavistin @ 20 days and 10 days before harvest for prevention of fungal disease during storage of onion.
- ♦ KVK also helped farmers technically to construct low cost and space efficient onion storage structure made from locally available material like iron mesh.
- ♦ About 243 farmers of KVK jurisdiction were used this technology and storage about 550 MT of quality onion.



Grain storage in godowns proved effective during lockdown

Context

- ♦ During the lockdown period, farmers are facing a lot of problem in selling their produce directly in the market.
- ♦ Hence they are in need of storage of grains after harvesting of the crop. But, farmers do not have enough space to store the produce in their small house.
- ♦ The lack of these facilities is harming the grain production of the farmers, consequences negative impact on the economic condition of the farmers as well as the overall grain production of the district, hence the farmers need to be supported in this critical situation.



Grain storage in godowns proved effective during lockdown

Intervention

- ♦ Krishi Vigyan Kendra, Piprakothi has initiated a participatory approach to solve the problems by providing godown to the farmers for storage of their grains along with necessary technical assistance to prevent it from getting damage.
- ♦ Since the inception of this kind of approach, 30 farmers under four adopted villages (Belwatiya, Dhekaha, Chandrahiya, Bara Govind) in East Champaran district were benefitted.
- ♦ They brought up their grains of different crops like lentil, wheat and mustard and put it on the godown with proper necessary protection measures before storage.



Low cost tomato storage technique for small scale tomato growers

Context

- ♦ Tomato is a major vegetable crop grown during rabi season in Bongaigaon district of Assam. Surplus production of tomato from the district is marketed in other districts of the state.
- ♦ During the lockdown period owing to COVID 19 outbreak, farmers producing tomato in small scale were facing the problem of selling tomato on regular basis as the vendors do not visit their farm regularly and were in need of some low cost storage technique.
- ♦ Small and marginal farmers do not have volume individually to transport it to distant places as it is not cost effective.
- ♦ Even storing in cold storage is also not possible.
- ♦ Value addition of the produce may create problem in marketing as they have to compete with the existing branded products.



Low cost tomato storage technique for small scale tomato growers

Intervention

- ♦ KVK Bongaingaon took an initiative to utilize a traditional innovative tomato storage practice for storage of tomato in the farmer's field.
- ♦ Low cost storage technique involves air hanging of stalked tomatoes on ceiling by tying with thread.
- ♦ For this purpose, ropes with 1-2 cm diameter are tied on two side of bamboo poles. On the rope, tomatoes are tied with stalks, keeping at least 6 feet height from the ground level and 2 feet below the roof with free air circulation.
- ♦ To protect direct light from the roof, ceiling of thick cotton cloth is placed at a distance of 1.5 feet from the roof.
- ♦ Above technology was adopted by 25 farmers for efficient storage of tomato for 30 – 35 days which will be sold later when the vendors visited their farm.



Curing and Storage of Onion for Market Supply

Context

- ♦ Shri Gajanand Kushwah is progressive farmer of village Soyat Kalan, district Agar Malwa cultivates vegetables and spice crops.
- ♦ During this season, he has cultivated onion on his farm and got bumper yield.
- ♦ But he is unable to sell his produce at remunerative price as restrictions on market access due to lockdown.
- ♦ He is worried about sell of his produce.
- ♦ This situation demands scientific storage technique for onion which can improve the storage life.



Curing And Storage of Onion for Market Supply

Intervention

- ♦ KVK scientists advised him for safe storage of onions so that he is able to get good returns after the lockdown period.
- ♦ KVK Agar Malwa suggested him removal of aerial portion and proper drying in shade for proper storage of onion .
- ♦ He started drying of onion and then filled them in jute bags especially used for storage of onion so that it can be sold after lockdown period for decent returns.
- ♦ Further, KVK also suggested him to utilize and convert the residue of onion for making vermi-compost which will improve the soil health.



8. CRUCIAL MANAGEMENT OF FEED & FODDER



Termination of transport facilities, especially during initial phase of the COVID-19 lockdown resulted in severe shortage of feed and fodder for livestock sector in India. Poultry, fishery and piggery enterprises were the worst hit due to disruption of transport facilities. However, the extension personnel proactively searched for solutions for this problem and swiftly provided them to the needy farmers throughout the country.

Azolla as an Alternate of Green Fodder During Distress

Context

- ♦ Livestock production is the sole source of income for many farmers during lean season in Rajasthan
- ♦ Green fodder is necessary to be fed to the animals for exploiting the adequate production potential of animals.
- ♦ Green fodder is also required for maintaining the general and reproductive health of the animals.
- ♦ COVID-19 lockdown restricted market access of the farmers to a significant extent towards buying the fodder seed to cultivate the green fodder for their animals.
- ♦ KVK Alwar-II took the initiative of supporting farmers by providing alternative to the green fodder.



Azolla as an Alternate of Green Fodder During Distress

Intervention

- ♦ 30 Livestock farmers have been provided Azolla culture by the KVK, Alwar-II and those farmers are also advised to give the Azolla culture to other farmers too.
- ♦ Farmers have also been made capable to produce alternative green fodder for their animals.
- ♦ Azolla can be the best alternative to other green fodders and provides most of the minerals and vitamins to the animals
- ♦ Technical advisories to the farmers are given on mobile to establish the Azolla production Unit by the KVK expert.
- ♦ Farmers are advised to feed Azolla @ 500 gm to 1 kg/ day/ animal.



Sustaining Backward Poultry with Local Feed During Lockdown

Context

- ♦ Backyard poultry farming is a source of better livelihood for the rural farmers
- ♦ Farmers normally keep 20-25 numbers of improved poultry birds per household for both meat and egg purpose.
- ♦ They usually sell their poultry birds as well as eggs directly in the local markets or hotels.
- ♦ COVID-19 lockdown restricted availability of concentrate feeds for poultry in most of the villages of the district.
- ♦ Lockdown also created financial problem to purchase the concentrate feeds as the farmers are either not having cash or the concentrates are not available in the local market



Sustaining Backward Poultry with Local Feed During Lockdown

Intervention

- ♦ KVK advised promotion of economic ration for poultry by using locally available feed resources especially maize, tapioca, sweet potato, pigweeds and other greens
- ♦ Locally available nutritive green fodder are highly perishable
- ♦ Harvested green fodders and other greens are chopped into pieces, sun dried and mixed with grinded maize/rice/ tapioca floor etc and fed to poultry
- ♦ Dried feed ingredients are eco-friendly, easily adoptable, longer shelf life, reducing losses, labour and storage space.
- ♦ Use as viable source of feed for poultry during scarcity of feeds.



Promoting silage making in poly-bags and supplying through digital platforms

Context

- ♦ Livestock production is a major income generating activities in the Pune district.
- ♦ KVK, Baramati was promoting silage making by using plastics bags. 65% of the livestock owners are small and marginal farmers & adopting this technology easily.
- ♦ KVK, Baramati has prepared video clip on silage making and sent on What's App to contact farmers & also uploaded on YouTube, KRUSHIK App where there are more than 4002 subscribers, viewed by 1,55,546 members and reached to 1,87,4042 farmers.
- ♦ Under COVID-19 situation there was shortage of silage bags due to lockdown and at the same time from 20th March to 25th April 2020, Maize fodder was available for harvesting.



Promoting silage making in poly-bags and supplying through digital platforms

Intervention

- ♦ KVK, Baramati contacted Govt. of Maharashtra and with the help of different agencies got help for transportation of silage bags.
- ♦ In this situation two companies from Maharashtra & Gujarat have supplied 1000 bags to KVK.
- ♦ This critical inputs was supplied to more than 500 farmers in the area. As per the demand 1000 silage bags order has been given.
- ♦ Milk produced by the dairy farmers is collected by the primary society and supplied to the Baramati Co-operative Milk Federation (Nandan) with assured rate of Rs 25 per litre and was supplied in urban areas with assured market.



Feed and Fodder Management during the Lockdown

Context

- ♦ In Andaman, there is large number of cattle population which depends on outside feed.
- ♦ The lockdown due to COVID-19 has impacted all sphere of activities particularly the agriculture.
- ♦ Though the government has given some relaxation, but still the farmers are facing the problem in procurement of animal/ fish feed, agriculture inputs and marketing of agriculture produce.
- ♦ In these unprecedented times, KVK North and Middle Andaman extending all possible help to reduce the hardship of famers.



Feed and Fodder Management during the Lockdown

Intervention

- ♦ As the supply chain of commercial animal feed has been severely affected during lockdown period, the KVK has taken the initiative to operate the feed mill already installed at KVK after taking permission from District magistrate.
- ♦ Presently, the KVK is preparing the feed with the help of Mayabunder Agriculture Producer Company (FPO) to supply the animal feed to the livestock farmers.
- ♦ As there is shortage of fodder resources, the KVK is helping the farmers by providing the highly nutritious hybrid Napier grown at KVK farm to the nearby dairy/goat farmers. The KVK is also providing telephonic consultation to the farmers and undertaking emergency diagnostic visit.



Utilization of dried marigold flowers as poultry feed

Context

- ♦ Floriculture is a profitable venture and is practiced by the people of Kamrup district due to its high demand in the city of Guwahati.
- ♦ Hajo area which is known as satellite town under Kamrup district has emerged as famous centre of floriculture business in Assam
- ♦ Marigold is one of the flowers that is grown extensively as soil and climate is also very much suitable for the year round cultivation.
- ♦ Marigold flowers are basically used as pot plants, loose flower or garland for decoration and beautification of houses, hall, hotel, restaurants, marriage pandals and public functions . Also it is an essential item in temples.
- ♦ Farmers/ growers sell their produce in the city to the flower shops on daily basis. But due to COVID-19 pandemic, the farmers are left stranded with their produce as there is no market due to lockdown.



Harvesting of marigold



Loose flower of marigold

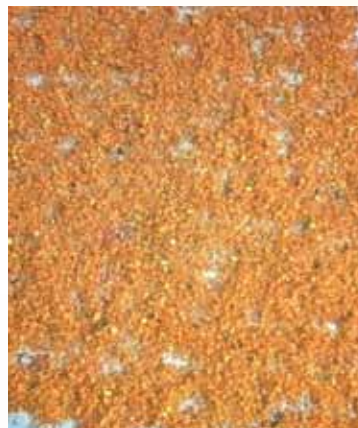


Garland making

Utilization of dried marigold flowers as poultry feed

Intervention

- ♦ KVK is guiding flower growers to dry the flower petals to be used as poultry feed.
- ♦ Floriculturists were advised to sundry the marigold flower petals which otherwise would have been wasted.
- ♦ The sun dried petals can be stored up to a period of six months.
- ♦ The dried marigold petals have a varied use ranging from edible colour extraction, natural dye, cosmetics, medicinal purpose, poultry feed etc.
- ♦ The dried petals can be fed to chickens (@ 2-3 Kg/100 Kg of feed) which not only results in a carotenoid rich egg, but is believed to have health benefit to the poultry also.



Separation of marigold petals



Separation of marigold petals



Dried marigold



Effect of Marigold feed and normal feed on egg yolk

Producing low cost fish feed by locally available material during lockdown

Context

- ♦ Fishery is one of the most important livelihood activities for the farmers of Udalguri.
- ♦ Uninterrupted fish feed is pre-requisite for fish production.
- ♦ Fish farmers approached KVK to help them in solving the problem of deficit of fish feed during lockdown period.
- ♦ During lockdown period, fish feed became deficit in local market as transportation of fish feed became a problem particularly to the rural areas.
- ♦ Thus, farmers faced problems in continuing fish farming as transportation from long distance was difficult and very costly.



Producing low cost fish feed by locally available material during lockdown

Intervention

- ♦ To solve the day to day problems faced by the fish farmers during lockdown period, what's app group was created by the KVK with 94 progressive fish farmers and officials of Department of Fisheries.
- ♦ KVK motivated and provided technology to the farmers to produce good quality fish feed using locally available materials like broken rice, maize, broken paddy, MOC, mineral mixture and dry fish. Good quality fish feed with high protein content was prepared collectively by progressive farmers and distributed to the fellow farmers.
- ♦ Progressive farmers disseminated the technologies to the fellow farmers of the respective villages/locality and about 500 farmers were benefited.
- ♦ Due to efforts of KVK, feed deficit was reduced to a great extent and helped fish farmers to continue fish farming.



Production of Azolla as Feed Supplement

Context

- ♦ During lockdown period, green fodder is a major problem for milch animals.
- ♦ The alternatives to green fodder and concentrates is Azolla.
- ♦ Azolla has high content of protein, amino acids, vitamins and minerals, feeding fresh green Azolla enhanced the milk production in livestock.
- ♦ Azolla unit has been established at KVK farm as feed supplement to the milch cattle for increasing of milk.
- ♦ This Azolla unit at KVK is serving as demonstration unit for visiting farmer.



Production of Azolla as Feed Supplement

Intervention

- ♦ To popularize Azolla cultivation amongst farmers during lock down period, KVK used whatsapp groups, KMA and news paper for dissemination of technical know how of azolla production.
- ♦ During this pandemic period, 12 farmers were provided Azolla from KVK and started its cultivation to provide nutritious feed to animals in absence of green fodder.
- ♦ KVK also provided Azolla to the poor farmers for proper feeding of their animals.
- ♦ KVK guided many farmers to utilize azolla as cheaper feed supplement on regular basis to milch animals for sustaining milk production.



9. MISCELLANEOUS INITIATIVES AND OPTIONS



The agricultural extension system in the county facilitated several activities with the intent to save farmers from colossal losses due to deprivation of provisions and options. Such experiences of facilitation have very wide range right from provision of inputs to relaxation in lockdown on the pretext of special needs of the agricultural sector. The KVK system in the country played very vital role here.

Connecting Bee Keepers to Apple Growers

Context

- ♦ In district Shimla of Himachal Pradesh most of the farmers grow apple as their main crop
- ♦ Flowering in apple was initiated in the month of April and for the pollination process to be perfectly efficient, pollinating agents (honey bees) are utmost required
- ♦ Due to COVID-19 Lockdown movement of honey bees from other district and state was restricted and created a fear of poor fruit set among the orchardists
- ♦ Non- availability of honey bee hives for apple pollination was an unprecedented incidence and KVK Shimla took the challenge of providing bee hives to farmers very seriously.



Connecting Bee Keepers to Apple Growers

Intervention

- ♦ Scientists from KVK searched for the local beekeepers and linked them with the apple growers
- ♦ With the help of local administration and officers of department of Horticulture arranged around 2000 boxes of honey bees and delivered these boxes to the farmers of the area
- ♦ Farmers were also trained on hand pollination. Now, farmers are commonly practicing hand pollination with results
- ♦ With the help of proper pollinating technique and the presence of honey bees, the farmers of the area are expected to improve their fruit set by 20-30 per cent compared to the situation in which there was no KVK intervention.



Use of Human Medicine for Treatment of Poultry Enteritis

Context

- ♦ Backyard poultry farming is an important source of nutritional security and supplementary income for poor and landless farmers of rural areas of Mohali.
- ♦ The farmers are maintaining both local and improved breed birds under backyard production system.
- ♦ Enteritis is a common disease prevalent in chickens maintained under commercial and backyard system.
- ♦ Farmers generally use veterinary drugs for prevention and treatment of Enteritis in their birds.
- ♦ Covid-19 lockdown has restricted the availability of veterinary medicines used specifically for poultry birds.



Use of Human Medicine for Treatment of Poultry Enteritis

Intervention

- ♦ The backyard poultry farmers are in touch with KVK (Mohali) scientists for their problems
- ♦ Mr. Raghbir Singh, village- Abheypur, Dist.-Mohali, was facing problems of red colour dropping and daily 3-4 birds mortality at his farm (capacity 300 birds).
- ♦ He contacted KVK (Mohali) and discussed his problem. KVK scientists advised him to treat his birds with enteritis specific medicine in drinking water for 5 days but they couldn't find in market. He was again advised to supplement Norflox-TZ with Vimeral in drinking water for 5 days.
- ♦ He followed the instructions and didn't observe any mortality afterwards.



Promoting Nutrition Gardening during lockdown

Context

- ♦ Nutrition gardening is the easiest way of improving household food security and alleviating micronutrient deficiencies in the family
- ♦ Home-grown vegetables are cost-effective and safe being free from chemicals.
- ♦ Vegetables and Fruits produced in Nutrition gardens add to the family nutrition substantially which directly leads to reduction of food insecurity.
- ♦ This is especially important during COVID -19 lockdown period when people have limited income-earning opportunities and poor access to markets and also fear of contagious fruits and vegetables from unknown sources.
- ♦ Awareness about the intake of nutritionally rich foods will definitely help people in their fight against diseases. It will be helpful in maintaining & improving the immunity and general health by innovating different combinations and preparation by using local available sources.



Promoting Nutrition Gardening during lockdown

Intervention

- ♦ Women were guided to take care of intercultural operations in the standing crops in the Nutrition gardens. They were also advised to sow the Kharif vegetables in the Nutrition garden so that they may able to fetch fresh vegetables in the coming months.
- ♦ A total 1 lakh seedlings of vegetables, like tomato brinjal capsicum, chilli, bottle gourd, sponge gourd, cucumber and pumpkin were provided to farmers
- ♦ Women were also encouraged to grow herbs like tulsi, mint, turmeric and other medicinal plants in their Nutrition garden for the immunity.
- ♦ Advisories and messages pertaining to healthy and balanced diet, enriching the diet through sprouting and the available food resource were also sent to the groups via Whatsapp.
- ♦ Summer/Kharif vegetable kits were also distributed among women (>5236 families covered in 56 villages)



Promoting Intensive Production System of Goat Rearing

Context

- ♦ Traditional goat farmers in the state of Uttarakhand and few districts of Punjab belong to economically weaker section of the society
- ♦ They mostly raise their herds on natural grazing/extensive production system and never cared for intensive management practices for their rearing
- ♦ However due to lockdown conditions farmers are not allowed for grazing in common pasture lands created a cause of concern for their animals



Promoting Intensive Production System of Goat Rearing

Intervention

- ♦ KVK Tehri Garwal (UK) & Muktsar (Punjab) has identified few farmers which are facing trouble in grazing their goats during lock down
- ♦ KVK scientist guided & facilitated them for basic management practices of low cost housing along with home made feeder and waterer to stall-feed their goats by using locally available materials
- ♦ KVK also guided them for type of feed and fodder to be offered during stall feeding
- ♦ As a results the farmer feel confident and sustain livelihood with minimum investment



KVK Facilitates Migration of Bee-colonies to distress bee hives & keepers

Context

- ♦ Beekeeping is a sustainable enterprise in Hanumangarh district of Rajasthan generating remunerative supplementary income in addition to assured employment to the entrepreneurs as well as others.
- ♦ In Hanumangarh district 61 bee keeping units have been existing. On an average, these beekeepers generate an income of around Rs. 3600/ box from the sale of honey, wax and pollen etc.
- ♦ Total annual honey production in the district is 207 metric tonne which is equivalent to INR 3.1 crore.
- ♦ However, migration of bee-colonies to the areas of good flora in odd months is essential to maintain high productivity of honey bees.
- ♦ COVID-19 lockdown situation posed restrictions on the of beekeepers to areas of desirable flora particularly in other states



KVK Facilitates Migration of Bee-colonies to distress bee hives & keepers

Intervention

- ♦ The distressed beekeepers contacted KVK Hanumangarh-I and KVK assumed the responsibility to bringing farmers out of this crisis.
- ♦ After the pursuance of the Department of Horticulture, Jaipur and DC, Hanumangarh the beekeepers were allowed to migrate their colonies to Shri Amritsar Sahib, Bharatpur and Tonk districts to get the desirable flora for their bees during odd months.
- ♦ Around 50 beekeepers of the district with 55000-60000 beehives migrated from the district to other areas of their choice.
- ♦ KVK also advised and assisted farmers in migration to save and distress the hives and beekeepers.



Managing Fall Army Worm (FAW) Infestation in summer Maize

Context

- ♦ Maize is one of the most important cereal crops in East Garo Hills district. Farmers earn good income by growing pre-kharif maize.
- ♦ Area under maize cultivation is about 1304 ha and production is 2678 MT in the district.
- ♦ The average productivity of maize in the district is 20.54 q/ha.
- ♦ Last year, all pre-kharif (summer), *kharif* and *rabi* maize crops were affected by Fall Armyworm (FAW) (*Spodoptera frugiperda*).
- ♦ This year, due to COVID-19, farmers were again facing difficulty in managing the pest timely.



Managing Fall Army Worm (FAW) Infestation in summer Maize

Intervention

- ♦ KVK East Garo Hills guided the maize growing farmers to overcome the crisis of FAW through Telephonic discussion and Whats App.
- ♦ KVK experts visited the maize fields to check the prevalence of FAW. Farmers were advised to use light trap to capture adults of FAW
- ♦ Some of the maize fields were seen infested by FAW and farmers were immediately guided to control the pest.
- ♦ KVK distributed Neem formulation for applying @ 5ml/ litre and EPN (Solder) @ 5gm/litre) to control the pest.
- ♦ KVK is in constant touch with maize growers through ICT tools and helped them to avert the loss due to infestation of FAW.



Popularizing Nutritional Gardening in Backward Locality

Context

- ♦ Nutritional gardening is not a popular practice among the farmers in the district.
- ♦ Existing Jhum was a regular practice among the farmers, which has serious implications for the sustainability of agriculture in the region
- ♦ Mixed farming is practiced in jhum fields i.e Mixed cropping/rotation of local vegetables mainly brinjal, mustard leaves, pumpkins, ash gourds, spiny gourd, bitter gourd, rosella, turkey berry, bitter eggplant, bitter tomato, tomato, birds eye chilli, capsicum etc.
- ♦ Lockdown hampered the harvest of the crops as the jhum fields are 3-4 km away from their residences.
- ♦ Farmers were not able to harvest the crops as per their needs to meet domestic requirements. .



Popularizing Nutritional Gardening in Backward Locality

Intervention

- ♦ KVK distribution vegetable kits among farm women so that they can establish nutritional garden so that family can be supplied with local vegetables
- ♦ Terracing of slope land near the house was introduced for better management.
- ♦ Digging pits and filling the pits with manure mix with top soil were completed for cultivation of vegetables prior to lockdown.
- ♦ The objective was to ensure family nutrition and self sufficiency in vegetables within the reach of the farmers during emergency.
- ♦ The farmers have started planting of vegetable seedlings during lockdown period.
- ♦ These vegetable kitchen gardens will also provide leisure activities for the farm family during lockdown



Pest Management with neem based formulations during lockdown

Context

- ♦ Most of the farmers of South Tripura grow Rabi vegetables, which provide a steady income to the growers
- ♦ Vegetables like Brinjal, Chill and Tomato are the most vulnerable to insect-pest attacks.
- ♦ Insect attack during flowering and fruit formation stages of these crops leads to heavy losses to the farmers.
- ♦ During lock down due to COVID-19, at this advance stage of crops, farmers faced a severe problem in managing such insect pests due to non availability and accessibility of chemical insecticides in the market.



Pest Management with neem based formulations during lockdown

Intervention

- ♦ To solve the problem of sucking insect pests like aphids, whitefly, jassids, KVK, South Tripura provided technology for preparation of Neem formulation (Neem leaf: Cow Urine: Cow dung: Water = 1.5:1:1:2) to farmers.
- ♦ A farmer Mr. Janardhan Chakma of Debipur village, South Tripura prepared such Neem formulation during lockdown period as per the advice of the KVK.
- ♦ A total of 205 liters of such formulations were provided to 43 nos. of farmers (9 ha area) to control the insects by spraying the formulation @ 15-18ml/lit of water as per intensity of attack.
- ♦ Impact of treatment was that the incidence after spraying reduced to only 3.33%, which was originally 43%
- ♦ It has prevented farmers' crop from heavy losses and with minimum investment



Drought Management by Methylothropes in Small Cardamom

Context

- ♦ Small cardamom the Queen of Spices is the major cultivated crop with an area of 1.45 lakh ha in Idukki District.
- ♦ The crop is being cultivated under rainfed situation. It needs 25 to 30mm water for once in 7 days during summer which is supported by 10 labours for irrigation/ha for well grown plantation.
- ♦ The pre monsoon rainfall received from March 1, 2020 to May 2, 2020 was 197mm with a deficit of (-) 76 per cent from the normal.
- ♦ COVID19 lockdown restricted the mobility of labours from neighboring state affected the irrigation leading to reduction in formation of tillers/plant(19), number of panicles/plant (36) and capsules/ panicle(79) and weight of the capsule (21%)



Spray of PPFM by the planter



On site Low cost production of PPFM by the planter

Drought Management by Methylo-trophs in Small Cardamom

Intervention

- ♦ KVK Idukki assumed the responsibility and advised the planters (owner) to provide initial irrigation, preparation of Pink Pigmented Facultative Methylo-trophs (PPFM) and spraying to mitigate the stress.
- ♦ Spraying of PPFM @ 5L / ha helped to ensure water stress upto 45 days, withering of plants reduced more than 30% and yield increased to 20%.
- ♦ KVK produced 695L of PPFM, supplied to 178 farmers and realized Rs.1.39lakhs.
- ♦ 300 farmers benefited by online training of mass multiplication of PPFM and covered 700 ha area. Family members could covered 1.85 acres per day and saved 32% of labour requirement.
- ♦ 7 WhatsApp group created by KVK which covers 610 farmers.



PPFM applied small cardamom field

Desi chicken and small ruminants saved farmers from financial distress

Context

- ♦ Poultry production system got a big blow and several myths created against chicken meat and eggs during COVID-19
- ♦ Meat shops were closed & availability of quality meat became a constraint to consumers.
- ♦ The total number of desi chicken & small ruminants in NICRA village was 4923, reared by 342 small & marginal farmers during the lockdown time.
- ♦ Improved strains, sheds, fodder & timely vaccination provided by KVK assisted the farmers to rear healthy animals and birds
- ♦ Farmers sell their birds @Rs. 220/kg and sheep & goats @ Rs. 270/kg to middlemen normally and earn minimum profit



Desi chicken and small ruminants saved farmers from financial distress

Intervention

- ♦ KVK Namakkal advised to follow proper precautionary measures to produce safe meat and live animal sale at the village itself
- ♦ The consumers in surrounding villages and up to Erumapatti town visited the farms and purchased the birds and animals.
- ♦ Farmers sold desi chicken @ Rs. 350/kg live weight and sheep and goats @ Rs. 400/kg live weight.
- ♦ Totally 1280kg of poultry meat and 3900 kg of mutton and chevon sold by the farmers to the tune of 20.08lakhs.
- ♦ When the price for vegetables and jasmine fell down, the income from small ruminants and birds assisted 34.2 farm families



KVK ensured Supply of Quality Paddy Seed during lockdown

Context

- ♦ Rice is a predominant crop grown in all three seasons i.e. Kharif, Rabi and Kathera (Summer) under Canal, tank and well irrigation in Nalgonda District.
- ♦ Farmers in Nalgonda district cultivates rice crop in depending on availability of water. Kathhera season is very unique in the district where rice is cultivated under bore wells and drains.
- ♦ Due to incidence of Covid-19 and lock down farmers faced problems in obtaining quality seed for cultivating rice crop in Kathhera Season eventually leading to loss of the season.



KVK ensured Supply of Quality Paddy Seed during lockdown

Intervention

- ♦ To overcome this problem KVK, Kampasagar supplied Quality Foundation Seed KNM-118 to farmers of Nalgonda and Suryapet districts for summer crop (Kathhera Season) under Bore wells and open wells by following precautionary measures against Covid-19 virus.
- ♦ KVK had created confidence among farming community by supplying quality seed during this pandemic situation where is non availability of quality seed material from different agencies.
- ♦ Farmers are very happy and satisfied with the availability of quality Foundation Seed material at reasonable price at right time as they are not losing crop season and returns.



Removal of Gerbera floral buds to improve vegetative growth and delay flowering

Context

- ♦ Floriculture is a profitable venture and is practiced by the people of Kamrup district due to its high demand in the city of Guwahati.
- ♦ Hajo area which is known as satellite town under Kamrup district has emerged as famous centre of floriculture business in Assam.
- ♦ Gerbera is one of the commercial flowers in Kamrup district that is grown as soil and climate is also suitable for round the year cultivation using mulching for weed management.
- ♦ Gerbera flowers are basically used as fresh cut flower for decoration and beautification of houses, hall, hotel, restaurants, marriage pandals and public functions.
- ♦ Farmers/ growers sell their produce in the city to the flower shops on daily basis.
- ♦ But due to COVID-19 pandemic, the farmers are left stranded with their produce as there is no market due to lockdown.



Mulching in Gerbera cultivation



Removal of Gerbera floral buds to improve vegetative growth and delay flowering

Intervention

- ♦ KVK is guiding flower growers to remove the flowers and floral bud completely to encourage and enhance the vegetative growth of the gerbera crops during lockdown period.
- ♦ By providing advisories growers were advised to complete removal of floral bud along with flowers from the gerbera plant as there is no market at present situation so that the numbers of flower in next flowering will be more with better quality.
- ♦ Vegetative growth of gerbera plant should be encouraged and enhanced during lockdown period.
- ♦ It is believed that farmers will be benefited in future by earning more income from this practice.
- ♦ KVK, Kamrup advised to cultivate kharif vegetables instead of flowers during lockdown period.



Removal of floral bud and flowers to encourage and enhance vegetative growth in Gerbera cultivation and more number of flowers in next flowering

Preparation of bio-pesticide and growth enhancer to address the shortage

Context

- ♦ Farmers were using chemical pesticide to protect their crop from insect pest and diseases
- ♦ Total pesticide consumption of the district is 39000 lit which is worth Rs. 3.5 crore
- ♦ Due to lockdown pesticide supply was restricted to rural areas and movement of farmers to nearby places was difficult due to lack of public conveyance.
- ♦ Farmers started worrying about the plant health in the absence of agro-chemicals.



Preparation of bio-pesticide and growth enhancer to address the shortage

Intervention

- ♦ KVK Kannauj perceived this problem as opportunity to motivate the farmers for growing crops with the methods of organic farming in the district
- ♦ Farmers got convinced and started preparing their own bio-pesticides and growth enhancers making use of cow urine, neem, madar, dhatura, sadabahar, chilli and cow dung etc. strictly as suggested by KVK scientists
- ♦ Total 23 ha area was covered under organic farming
- ♦ Total 500 tonne of organic produce was harvested and delivered to the consumers in the district



Procurement of Non Timber Forest Produce (NTFP)

Context

- ♦ Non-timber forest product (NTFP) is a major source of income in tribal areas during off-season of agricultural activities and rainfed area.
- ♦ Tribal farmers, farm women, rural youth including other villagers from surrounding forest used to collect NTFP.
- ♦ During COVID-19 lockdown period, the procurement NTFP like mahua, tamarind, harra, chironji, etc. were stopped by Minor Forest Produce Federation (MFPP) to minimize the influence of corona virus.
- ♦ The discontinuation of NTFP procurement by MFPP caused the problem of income among tribal farmers and villagers.



Procurement of Non Timber Forest Produce (NTFP)

Intervention

- ♦ To overcome from this problem of selling and purchasing of NTFP, the SHGs were encouraged and permitted for procuring all the NTFP at local village level as per the guidelines of procurement issued by forest department or State Govt.
- ♦ Open collection point for the purchase of NTFP products was at Chaupal/Gram panchayat of the village.
- ♦ Weighing and packing of minor forest produce i.e. Mahua, Harra, Chironji and Tamarind was done by SHG members at village level
- ♦ After final packaging, the packets were sold to minor forest produce federation of the state and normal income was received by the women.



10. NEWS IN THE PRINT MEDIA



Media recognition is a very strong motivating factor for the extension workers along with an evidence of credibility of an organization as well as personnel. Efforts of the ICAR-agricultural extension network as farmers' solution providing entity during COVID-19 lockdown were widely recognised by the print media throughout the country. Further, due recognition of these efforts by the Union Minister of Agriculture and Farmers' Welfare served as a very strong stimulant to this network for working with higher energy and enthusiasm. Some of the important incidents of such news coverage have been included in this section.



“किसान हैं पहली प्राथमिकता”

कोरोना संकट और लॉकडाउन से इन अर्थव्यवस्था में सब इंसानों की कुशलता गिरी खोई-फिरायी और छोटे-से अर्थव्यवस्था से इनकी भी है। इस का समय अधिकारियों की एक एक चेहरे है। रबी की खेप फसल से अर्थव्यवस्था को सुदूर गिराने का अनुमान है। लेकिन रबी फसलों की कटाई और खरीद-फिक्री में कई साल की विफलता है। जमरूरी, दलहिया और पारसपुरा जिलों की किसानों को कुशलता बरकत है। सरकार के कदम से कुशलता बरकत है। और हाल में उम्मीद के अनुसार खरीद का उठाव में बल सकल है। ऐसे में सब कोशिशें करीब संभव के क्षेत्र पर है। फिर उम्मीद कि सब में तुरंत खरीद की क्षमता को बढ़ाकर कुशलता बरकत का समय होगा और अर्थव्यवस्था बरकत होगी।

मिर्जापुरा जिले के एक बड़े किसानों की एक टीम ने अपने फसल की प्राथमिकताओं और रबी की खेप फसल से खरीद की क्षमता को बढ़ाकर कुशलता बरकत है।

इस साल किसानों का फसल की उम्मीद है, लेकिन रबी फसलों की कटाई के समय से कोशिशें बढ़ाकर और लॉकडाउन से अर्थव्यवस्था बरकत है। और फसल की खरीद का समय बढ़ाकर कुशलता बरकत है।

रबी फसल में फसल को बढ़ाकर कुशलता बरकत है। और फसल की खरीद का समय बढ़ाकर कुशलता बरकत है।

कोरोना संकट और लॉकडाउन से इन अर्थव्यवस्था में सब इंसानों की कुशलता गिरी खोई-फिरायी और छोटे-से अर्थव्यवस्था से इनकी भी है। इस का समय अधिकारियों की एक एक चेहरे है। रबी की खेप फसल से अर्थव्यवस्था को सुदूर गिराने का अनुमान है। लेकिन रबी फसलों की कटाई और खरीद-फिक्री में कई साल की विफलता है। जमरूरी, दलहिया और पारसपुरा जिलों की किसानों को कुशलता बरकत है। सरकार के कदम से कुशलता बरकत है। और हाल में उम्मीद के अनुसार खरीद का उठाव में बल सकल है। ऐसे में सब कोशिशें करीब संभव के क्षेत्र पर है। फिर उम्मीद कि सब में तुरंत खरीद की क्षमता को बढ़ाकर कुशलता बरकत का समय होगा और अर्थव्यवस्था बरकत होगी।

किसानों की समस्याओं का फोन पर समाधान

KVK steps up to help farmers during lockdown



NL CORRESPONDENT
JAMMU TAWI, APR 28

Krishi Vigyan Kendra (KVK), Reasi functioning under the administrative control of Sher-e-Kashmir University of Agricultural Sciences and Technology-Jammu (SKUAST-J) has stepped up to support the farmers during the lockdown imposed due to the COVID-19 pandemic. It is the herculean task for the farmers to sale their farm produce and to get the agri-inputs due to lack of transportation facilities. Krishi Vigyan Kendra (KVK), Reasi is regularly providing the agro-advisories to the farmers through text messages, Whatsapp Groups messages, telephonic discussions and newspapers. KVK, Reasi is disseminating the crop

specific information to the farmers. Farmers from remote areas such as Panchari, Dharmari, Sajoga, Maslote, Bharakh, Dhraman etc. have also been advised for precautions need to be taken to avoid the pandemic COVID-19. Technical assistance for Kharif season crops have also been provided to them by the KVK, Reasi scientists. Apart from it organic inputs were provided to the farmers to prevent the insects-pests in fruits and vegetables organically. They were also facilitated to market their farm produce at a good price. A strawberry grower from Bhabber village in Reasi district, has thanked the KVK, Reasi for the technical and market support to sale his strawberry crop. A mushroom grower from Kundra village, Shiv Kumar also thanked KVK, Reasi to provide the timely advice on scientific cultivation of mushroom. Farmers are also advised to use the face masks, sanitizers and keep social distancing while doing their field activities. They have been advised to download the ArogyaSetu app. They have been asked to take consultations from the KVK scientists for the scientific guidelines. It is worthwhile to mention here that KVK, Reasi has laid more than 300 Front Line Demonstrations (FLDs) of different crops such as wheat, chickpea, G.Sarson, toria, vegetables etc. in different locations of both Reasi and Udhampur districts and has introduced some new varieties of different crops.

कृषि • मौलासर के कृषि विज्ञान केंद्र के वैज्ञानिक किसानों को फोन के जरिए दे रहे हैं कृषि सलाह किसानों की समस्याओं का फोन पर समाधान

कृषि विज्ञान केंद्र (KVK)

मौलासर के कृषि विज्ञान केंद्र के वैज्ञानिक किसानों को फोन के जरिए दे रहे हैं कृषि सलाह। किसानों की समस्याओं का फोन पर समाधान।



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कोविड-19 में कृषि सेक्टर का सराहनीय योगदान: नरेंद्र सिंह तोमर

■ 3 फीसदी रहेगी विकास दर

■ इंडिया न्यूज के घर से मंच के कार्यक्रम में बोले केंद्रीय कृषि मंत्री

आज समाज नेटवर्क

नई दिल्ली। इंडिया न्यूज के घर से मंच के कार्यक्रम में केंद्रीय कृषि मंत्री नरेंद्र सिंह तोमर ने कहा कि महामारी कोविड-19 के बीच कृषि सेक्टर ने शानदार काम किया है, इसके लिए प्रधानमंत्री नरेन्द्र मोदी का अथक प्रयास है। तोमर ने कहा कि धीरे धीरे कृषि सेक्टर पटरी पर आ रही है। जिस वक्त लोकडोवन



लगाया गया था, उसी वक्त कृषि मंत्रालय ने एक नीति बना ली थी ताकि किसान भाइयों को किसी प्रकार की दिक्कतों का सामना न करना पड़े। कृषि मंत्री ने दावा किया

है कि देश में 90 फीसदी गेहूं की कटाई हो चुकी है। अब उपार्जन किया जा रहा है। उन्होंने बताया कि वैश्विक आपदा के बावजूद भारत को विकास दर प्रभावित नहीं होगी। उनके अनुसार चालू वित्त वर्ष में जीडीपी में कृषि सेक्टर का 3 फीसदी योगदान रहेगा। ट्रांसपोर्ट के बारे में उन्होंने बताया कि हमने शुरुआत में ही केंद्रीय स्टार पर कॉल सेंटर बना लिया था। इसके लिए सभी राज्यों को 14488 पर सम्पर्क करने को कहा गया था, ताकि किसानों और चालकों को यदि किसी प्रकार की समस्या होती है तो वे इस नंबर पर फोन कर सकते हैं।

KVK educates farmers on cultivation techniques

NL CORRESPONDENT
JAMMU TAWI, MAY 03

KrishiVigyan Kendra (KVK), Reasi of Sher-e-Kashmir University of Agricultural Sciences and Technology-Jammu (SKUAST-J) is playing the vital role in helping the farmers affected by the lockdown due to COVID-19 pandemic. KVK is continuously educating the farmers on the scientific cultivation of Kharif season crops such as maize, vegetables, black gram, green gram, sesamum crops etc and facilitating the farmers to sale their farm produce. KVK scientists are regularly attending the phone calls, whatsapp messages etc. of the farmers from every nook and corner of both Reasi and Udhampur districts and sorting out their field problems. KVK, Reasi scientists are advising the farmers to use only the recommended package of practices

in their fields so that they can increase their crops production by minimizing the cost of cultivation.

Farmers have been guided on weed management, nutrients management, insect-pests and diseases management by KVK scientists. They have also been advised on food safety and security and guided on organic farming. KVK, Reasi is playing a significant role in linking sellers with the buyers so as to avoid the losses to the farmers due to lockdown. Many farmers of

Reasi district were disappointed due to lockdown as were unable to sale their farm produce. KVK, Reasi came forward to support the farmers to sale their market produce. According to Dr. Banarsi Lal, Scientist & Head of KVK, the objective is to impart the technical knowledge, facilitate them and ultimately to raise their socio-economic status.

महामारी का सामना करने में उनका योगदान डॉक्टरों, स्वास्थ्यकर्मियों और सुरक्षा बलों जितना ही है अन्नदाता किसानों का अभिनंदन करे देश



एम येकेया नायडू

आज जब भारत कोविड-19 संक्रमण के अप्रत्यूष्य प्रकोप से जूझ रहा है, तब अदम्य सहस्र के साथ इस आपदा का सामना कर रहे हमारे अनजान योद्धाओं, हमारे किसानों का भी हम अभिनंदन करें। इस महामारी का मुकाबला करने में उनका सहयोग भी उतना ही अभिन्नदंष्ट्र है जितना कि अग्रिम चिकित्सक के हमारे अन्य योद्धाओं जैसे डॉक्टर, स्वास्थ्य, सुरक्षा और स्वच्छता कर्मी का। यह कहने में कोई अतिशयोक्ति नहीं होगी कि भारत के किसानों ने सदैव जनता के हितों के लिए तथा हमारी खाद्य सुरक्षा सुनिश्चित रखने में बह-बह कर अग्रिम चिकित्सक के योद्धा की भूमिका निभाई है।

■ सजग योद्धा

कोविड-19 के संक्रमण से पैदा चुनौतियों के बावजूद उन्होंने साहस पूर्वक अपना कर्तव्य निभाया है और इस वर्ष 29.195 करोड़ टन खाद्यान्न का रिकॉर्ड उत्पादन किया है। और यह सब तब संभव हुआ है, जबकि संयुक्त राष्ट्र के खाद्य संगठन ने महामारी के कारण और संरक्षणवादी नीतियों की वजह से खाद्यान्न की विश्वव्यापी कमी होने की आशंका जताई है।

जैसे-जैसे विश्व शहरोंकरण की ओर बढ़ रहा है, देश की बढ़ती आबादी की जरूरतों के लिए परेनु खाद्य सुरक्षा पर ध्यान देना आवश्यक हो गया है। कृषि आज भी भारत की 60 प्रतिशत जनसंख्या की जीविका का मुख्य स्रोत है। हर क्षेत्र की भीत कृषि क्षेत्र भी महामारी से घुरे तहत प्रभावित हुआ है। खुद की चिता किए बगैर देश

के किसान ने न सिर्फ खेत में श्रम किया है बल्कि धान और खरीफ की अन्य फसलों की बुआई में वृद्धि भी की है। दलहन और तिलहन की बुआई का क्षेत्र भी विस्तृत हुआ है।

पूर्ण बंदी से कृषि संबंधी कार्यों को मुक्त रखने के कारण फसलों की कटाई का काम तथा आवश्यक उपकरणों की आपूर्ति भी छुट्टी स्तर पर निर्बाध रूप से चल रही है। फुल और फसल, जैसे राज्य के बीच और राज्य में ही कृषि उपकरणों का निर्बाध आवागमन, पीएम किसान योजना के तहत किसानों को 2000 रुपये की फसली किसान का भुगतान, मनरेखा के तहत दीर्घकालिक की 182 से बढ़ाकर 202 रुपये किया जाना तथा स्वच्छ कृषि ऋणों को लौटाने पर तीन महीने की राहत, ये कदम कुछ हद तक किसानों की हिम्मत जरूर बढ़ाएंगे। यह भी जरूरी है कि भावदूरी के अलावा खेती और छोटे किसानों की भी मनरेखा से शामिल किया जाए। सभी हितधारकों का साझा

खुद की चिता किए बगैर, देश के किसान ने न सिर्फ खेत में श्रम किया है, बल्कि धान और खरीफ की अन्य फसलों की बुआई में वृद्धि भी की है

प्रयास होना चाहिए कि किसानों की आमदनी दोगुनी करने के लक्ष्य को प्राप्त किया जाए और कृषि को लाभकारी बनाया जाए।

मैं कृषि में संरचनात्मक बदलाव का पक्षधर रहा हूँ ताकि इसे विद्यमान परिस्थितियों में भी स्थायित्व प्रदान किया जा सके और अधिक लाभकारी बनाया जा सके। चार आई- इरिगेशन (सिंचाई), इंफ्रस्ट्रक्चर, इन्वेस्टमेंट (निवेश),



प्रधानराज (उत्तर प्रदेश) का एक किसान खरीफ की फसल के लिए खेत तैयार करते हुए

और इंश्योरंस (बीमा) को और अधिक प्रभावी बनाने की आवश्यकता है ताकि कृषि का संतुलन विकास हो सके। किसानों की सहकारी संस्थाएँ छोटे किसानों के छोटे और बिखरे खेतों को एकज कर, आधुनिक तकनीक की मदद से सघन खेती की दिशा में बरगार सिद्ध हो सकती है।

किसानों की भूमि पालन, डेयरी, मत्स्य पालन, रेशम कीट पालन, मधुमक्खी पालन, फूल और सब्जी उत्पादन जैसे कृषि संबंधी उद्यमों को अपनाने के लिए प्रोत्साहित किया जाना चाहिए। भारत में खाद्य प्रसंस्करण उद्योग के लिए व्यक्ति संभावनाएँ हैं। कृषकों और वैज्ञानिकों के बीच निरंतर संवाद रहना चाहिए जिससे कृषि को लाभकारी, पोषक तत्वों से युक्त और मौसम की अनिश्चितता से निरापद किया जा सके। इसमें

कृषि विश्वविद्यालयों और कृषि विज्ञान केंद्रों की सक्रिय भूमिका निभानी होगी। सामाजिक चिकित्सकी किसानों की आय बढ़ाने का एक बरगार तरीका हो सकती है। यह पर्यावरणीय संतुलन को बनाए रखने, मृदा क्षरण को रोकने और आय के वैकल्पिक साधन भी सुनिश्चित करेगी।

कृषि को लाभप्रद बनाने के लिए केंद्र और राज्य सरकारों के समन्वित प्रयासों की आवश्यकता है। कृषकों के सशक्तीकरण के लिए नई कृषि नीति तैयार किए जाने और प्रभावी ढंग से कार्यान्वित किए जाने की जरूरत है। आज जब किसान असंछिन्न हैं और उनकी आवाज अमसुनी रह जाती है, ऐसे में चार पी- पार्लियामेंट (संसद), पार्लिकल लीडर्स (राजनेता), पार्लिसी मेकर्स (नीति निर्माता) तथा प्रेस का

दायित्व है कि वे उनकी अपेक्षाओं को स्वर दें, उनकी अपेक्षाओं के सम्मर्प में सकागमक माहौल बनाएं। ऋण गारंटी या अनुदान किसानों की अस्थायी राहत ही देते हैं। ये समस्या का दीर्घकालीन समाधान नहीं है।

कृषकों को लाभकारी मूल्य सुनिश्चित करने के लिए, अंतराजालीन और दीर्घकालीन दोनों उपायों की आवश्यकता है। अन्य उपायों के अलावा, कृषि उद्यमों के देशव्यापी निर्बाध आवागमन को सुनिश्चित किया जाना चाहिए तथा व्यक्ति फसल बीमा योजना बनाई जानी चाहिए और उसे प्रभावी रूप से लागू भी किया जाना चाहिए। ई माफेरेटिंग को प्रोत्साहित करने के अलावा कौलड स्टोरेज सुविधाओं तथा रोजनरेंटड चाहनों से किसानों को बड़ी सहायता मिलेगी। जौबस पटि की निर्बाध विद्युत आपूर्ति और समय से सस्ता ऋण भी कृषि को फसपदे का उद्यम बनाने के लिए आवश्यक है। इन उपायों को लागू करने से कृषि में चोटिक निवेशन रोक जा सकता है तथा युवा भी कृषि को फसपदे का बरगार बनाने के लिए आवर्षित होंगे। मैं समझे भारत की कृषि संबंधी परिवर्धियों को महामाहमी से घुरे देखने की अपेक्षा रखता हूँ। किसानों को सम्मन और कृषि को लाभप्रद मूल्य तब मिल पाएगा।

■ आत्मनिर्भरता के लिए

महामारी के इस दौर में विश्व अशां के साथ भारत की ओर देख रहा है। हमें इस अवसर का लाभ उठाना है। कृषि को विशेष रूप से प्रोत्साहित किया जाना चाहिए, जिससे न केवल हमारी आत्मनिर्भरता सुदृढ़ होगी बल्कि हम अन्य देशों को भी खाद्यान्न निर्यात कर सकेंगे और भारतीय आर्थीयव्यवस्था को और शक्ति प्रदान कर सकेंगे।

(लेखक भारत के उप राष्ट्रपति हैं)

'Maintain Social Distancing while harvesting crops'



NI, CORRESPONDENT
JAMMU TAWI, APR 20

Krishi Vigyan Kendra (KVK), Rensi of Sher-e-Kashmir University of Agricultural Sciences and Technology-Jammu (SKUAST-J) has urged the farmers to maintain social distancing while harvesting, post-harvesting operations, storage and marketing of their

Corona virus pandemic. This year the Corona virus pandemic has been coincided with the harvesting of Rabi season crops. As the lockdown is going on across the nation, the harvesting of Rabi season crops has been initiated by the farmers. Dr. Bansi Lal, In-charge, Sr. Scientist & Head of Krishi Vigyan Kendra (KVK), Rensi of Sher-

nology-Jammu (SKUAST-J) said that as agriculture being the basis of the economy, agrarian activities got relieved during the lockdown period. He urged farmers to keep at least 2 metres distance from each other while doing their field operations. He also urged the farmers that they should properly sanitize their sickles and other machineries to be used in the harvesting, bundling and threshing of crops. They were also guided to maintain the social distance at least 2 mt. during taking rest, taking meals, transfer of produce at a collection point, loading and unloading. He also stressed on the personal hygiene of the farmers. Farmers were also suggested to download the Arogya Setu app. He also asked the farmers to take consultations and be in touch with the KVK scientists for the timely advices. Farmers also discussed the availability of agro-inputs and marketing

कृषि विज्ञान केन्द्र पाहंदा में मल्टी लोकेशन ऑडियो कान्फ्रेंस

घर बैठे ही किसानों को खेती के विकास के लिए लाभकारी जानकारी दी

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ग्राम पाहंदा के कृषि विकास केंद्र में शुक्रवार को रिलायंस फाउंडेशन के उत्पादधान में मल्टी लोकेशन ऑडियो कान्फ्रेंस का आयोजन किया गया जिसमें धमघावलाक के ग्राम मुरी, कुम्हारी, गोही, कपसदा नरघा और खरघा के किसान शामिल हुए, जिसमें ईश्वरी साहू (एस. एम. एस.) कृषि विकास केंद्र- पाहंदा, रिलायंस फाउंडेशन से अर्जुन गोठी (वीमेरिक एक्सपर्ट) व मिथलेश साहू (प्रोजेक्ट मैनेजर) कान्फ्रेंस में शामिल हुए,

इस कान्फ्रेंस में सभी किसान व अधिकारी अपने घर में ही रह कर, किसानों संबंधित समस्या व इसे जुड़े योजना के बारे में चर्चा की, साथ ही रबी फसल कटाई व खरीब फसल की



तैयारी, खेत जुताई, मिट्टी परीक्षण, खाद का प्रयोग व नर्सरी प्रबंध के बारे में जानकारी दी,

साथ ही अर्जुन गोठी ने कोरोना महामारी के निवर्तन के लिए सबको अपने घर में रहने व सामाजिक दूरी बनाते हुए अपने कृषि कार्य को करने की सलाह दी है, ईश्वरी साहू ने

रिलायंस फाउंडेशन के इस इनिशिएटिव कार्य की प्रशंसा की है, साथ ही रिलायंस फाउंडेशन के अधिकारी द्वारा किसानों को संचार माध्यम के द्वारा विभागीय योजनाओं से जुड़ने और रिलायंस फाउंडेशन के निःशुल्क हेल्पलाइन नंबर के बारे में भी बताया गया,

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Innovative Agri-Solutions during COVID-19

May 2020, New Delhi

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ePublished by

Dr. S.K. Singh, Project Director Incharge (DKMA), ICAR, New Delhi,
Laser typeset & printed at : M/s. Royal Offset Printers, A-89/1, Naraina
Industrial Area, Phase-I, New Delhi-110028. Mob.: 9811622258



संपर्क करें :

किसान निकटतम कृषि विज्ञान केंद्र (केवीके), आईसीएआर अनुसंधान संस्थान और राज्य कृषि विश्वविद्यालय (एसएयू) के वैज्ञानिकों / विशेषज्ञों से संपर्क कर सकते हैं

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