ICAR-ATARI

वार्षिक प्रतिवेदन

ANNUAL REPORT 2016-17

भाकृअनुप
ICAR

भाकृअनुप – कृषि तकनीकी अनुप्रयोग संस्थान (अटारी)

(पहले क्षेत्रीय परियोजना निदेशालय, क्षेत्र - V)

ICAR-Agricultural Technology Application Research Institute (ATARI)

(Formerly Zonal Project Directorate, Zone-V)

क्रीडा परिसर/CRIDA Campus, संतोषनगर/Santoshnagar,
हैदराबाद/Hyderabad - 500 059

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Edited by:
Y.G.Prasad
K.Dattatri
Chari Appaji
G.Rajender Reddy
J.V.Prasad
A.R.Reddy
B.Malathi

Editorial assistance:
Vanusha Baregal, Himabindu Tanguturi, Ramanjaneyulu, Sridevi, Swapna Palley

Published by:
Dr.Y.G.Prasad
Director
ICAR-Agricultural Technology Application Research Institute (ATARI),
Zone V, CRIDA Campus, Santoshnagar, Hyderabad-500059.

Back cover:
Cluster Frontline Demonstrations (CFLDs) on Pigeonpea by farm women at Solapur

PREFACE

The ICAR-Agricultural Technology Application Research Institute (ATARI), Hyderabad is vested with the responsibility of coordination and monitoring of technology application and frontline extension education programs through Krishi Vigyan Kendras (KVKs) in three states viz. Andhra Pradesh, Telangana and Maharashtra. Six additional KVKs sanctioned during the XII plan were established during 2016-17 that include three each in the states of Andhra Pradesh and Telangana. At present there are 85 KVKs in the Zone including 24 in Andhra Pradesh, 16 in Telangana and 45 in Maharashtra. The ATARI is also vested with the responsibility of strengthening of agricultural extension research and knowledge management.

During 2016-17, KVKs assessed 577 technologies and conducted 19088 frontline demonstrations in farmers' fields, undertook 4937 training programmes covering 176166 participants including farmers, farm women, rural youth and extension functionaries. KVKs conducted 8975 number of cluster frontline demonstrations on pulses covering an area of 3884 ha under the National Food Security Mission (NFSM). Similarly, 6250 number of CFLDs were conducted on oilseeds covering an area of 1931 ha under National Mission on Oilseeds and Oilpalm (NMOOP).

Activities under the tribal sub plan were undertaken in tribal mandals/villages by 16 KVKs in the Zone under four major thematic areas viz., Agri-service center, Micro-enterprises, Skill development training and Agro-eco tourism. For the first time, 12 KVKs were identified as skill development training centres by Agriculture Skill Council of India (ASCI). Twenty four skill development training programmes of 200 hours duration on 12 job roles/ qualification packs involving 480 youth were successfully undertaken.

Seed hubs for pulses started functioning at 14 KVKs in Zone-V in the states of Andhra Pradesh (4), Telangana (2) and Maharashtra (8). During 2016-17, seed hub KVKs produced 2108 q of seed for supply of quality seed of greengram, blackgram, pigeonpea and bengalgram. Sixty three enterprise units were established empowering 196 youth under Attracting Rural Youth in Agriculture (ARYA) Project. Ten skill training programmes were conducted covering 1084 youth. Under the innovative programme of Mera Gaon Mera Gaurav (MGMG), 13 ICAR-research Institutes in the Zone implemented various activities in 460 adopted villages involving 103 teams comprising of 409 scientists. A total of 2892 activities were undertaken during the year.

Human Resource Development (HRD) activities were jointly organized by the Directorates of Extension (SAUs) and ATARI benefiting 2522 KVK staff in the Zone. About 118081 farmers were given direct access to institutional resources through six Agricultural Technology Information Centers in the Zone. A number of Extension activities were taken up by the KVKs with the participation of 5896277 farmers, farm women and extension personnel. Pre-Kharif and Pre-Rabi kisan sammelans were organized by 59 KVKs covering 27019 farmers. All the KVKs were equipped with mini soil testing lab to provide soil testing service to farmers. A total of 605111 Soil Health Cards were distributed to farmers by KVKs in Andhra Pradesh (24409), Telangana (7100) and Maharashtra (573602).

We acknowledge the contribution of Vice-Chancellors and Directors of Extension of SAUs, Horticulture and Veterinary Universities and Directors of ICAR institutes in Zone-V for providing necessary technological backstopping to the KVKs. We greatfully acknowledge the constant support, guidance and encouragement received from Dr. T. Mohapatra, Secretary, DARE and Director General, ICAR and Dr. A.K. Singh, DDG (AE). I complement all the Senior Scientists & Heads, and staff of KVKs in the Zone for their dedicated efforts towards implementation of the scheme and all my colleagues at ATARI for compiling the Annual Report.

ICAR reorganized the 8 ATARIs into 11 with revised jurisdiction of states under each ATARI. ATARI, Pune (Zone-VIII) will henceforth coordinate KVKs in Maharashtra while ATARI, Hyderabad (Zone-X) will coordinate KVKs in Tamil Nadu and Puducherry in addition to the existing KVKs in Andhra Pradesh and Telangana.

Dr. Y. G. Prasad,

Director

कार्यकारी सारांश

भारतीय कृषि अनुसंधान परिषद ने वर्ष 2015 में क्षेत्रीय परियोजना निदेशालय का नाम बदलकर कृषि तकनीकी अनुप्रयोग संस्थान (अटारी) कर दिया। कृषि तकनीकी अनुप्रयोग संस्थान के अधिदेश को परिशोधित कर कृषि विज्ञान केंद्रों द्वारा प्रौद्योगिकी अनुप्रयोग एवं अत्याधुनिक प्रसार शिक्षा कार्यक्रमों का समन्वयन एवं एवं मॉनीटरी कर दिया गया। कृषि तकनीकी अनुप्रयोग संस्थान ने आंध्र प्रदेश, तेलंगाना एवं महाराष्ट्र के राज्यों में कृषि प्रसार अनुसंधान एवं ज्ञान प्रबंधन को मज़बूत करने की जिम्मेदारी भी ले रखी है।

क्षेत्र-v में 85 कृषि विज्ञान केंद्र हैं जिनमें से आंध्र प्रदेश में 24, तेलंगाना में 16 एवं महाराष्ट्र में 45 शामिल हैं। आंध्र प्रदेश के 24 कृषि विज्ञान केंद्रों में से 18 राज्य कृषि विश्वविद्यालयों के साथ, 2 भाकृअनुप के संस्थानों के साथ एवं 4 गैर सरकारी संगठनों के साथ हैं। तेलंगाना में, 10 कृषि विज्ञान केंद्र राज्य कृषि विश्वविद्यालयों के साथ, एक भाकृअनुप के संस्थान के साथ एवं 5 गैर सरकारी संगठनों के साथ हैं। महाराष्ट्र में, 16 कृषि विज्ञान केंद्र राज्य कृषि विश्वविद्यालयों के साथ, एक भाकृअनुप के संस्थान के साथ, 27 गैर सरकारी संगठनों के साथ तथा एक मुक्त विश्वविद्यालय से जुडा है।

वर्ष के दौरान, कृषि विज्ञान केंद्रों द्वारा 5405 फार्म पर जांच प्रक्रियाओं द्वारा 577 प्रौद्योगिकियों का मूल्यांकन एवं परिष्करण किया गया है। जांचे गए इन प्रौद्योगिकियों में, 437 प्रौद्योगिकियां फसलों से संबंधित, 85 पशु संबंधी एवं 55 महिला एवं शिशु संबंधी हैं। फसलों के मामले में शामिल किए गए प्रमुख विषय क्षेत्रों में किस्मों का मूल्यांकन, सस्ययन प्रणालियां, समेकित रोग प्रबंधन, समेकित नाशीजीव प्रबंधन, समेकित पोषक प्रबंधन, समेकित खरपतवार प्रबंधन, समेकित फसल प्रबंधन, संसाधन संरक्षण प्रौद्योगिकियां, कृषि यांत्रिकी एवं औज़ार हैं। पशुओं के मामले में, नस्ल मूल्यांकन, नस्ल सुधार, रोग प्रबंधन, चारा एवं पोषक प्रबंधन, समेकित कृषि प्रणालियां एवं उत्पादन प्रबंधन जैसे विषयों का मूल्यांकन एवं परिष्करण शामिल हैं। ग्रामीण महिला के सशक्तिकरण के अंतर्गत, श्रम में कटौती, स्वास्थ्य एवं पोषण, मूल्य संवर्धन एवं उद्यमिता विकास जैसे विषय क्षेत्रों में फार्म पर जांचों का आयोजन किया गया।

आंध्र प्रदेश के कृषि विज्ञान केंद्रों में फसलों सहित बागवानी प्रजातियों(712), पशुओं (183) एवं ग्रामीण महिला (8) के सशक्तिकरण को शामिल कर 1024 फार्म जांचों के आयोजनों द्वारा 162 प्रौद्योगिकियों की उपयुक्तता का मूल्यांकन किया। तेलंगाना में फसलों सहित बागवानी प्रजातियों (441), पशुओं (122) एवं ग्रामीण महिला (60) के सशक्तिकरण को शामिल कर 623 फार्म जांचों के आयोजनों द्वारा 121 प्रौद्योगिकियों की उपयुक्तता का मूल्यांकन किया गया। महाराष्ट्र में फसलों सहित बागवानी प्रजातियों (3638), पशुओं (981) एवं ग्रामीण महिला (836) के सशक्तिकरण को शामिल कर 3758 फार्म जांचों के आयोजनों द्वारा 294 प्रौद्योगिकियों का मूल्यांकन किया गया।

6500 हेक्टेयर के क्षेत्र को शामिल कर कुल 19088 अग्रिम प्रदर्शनों का कार्यान्वयन किया गया। क्षेत्र-v में कृषि विज्ञान केंद्रों द्वारा तिलहनों के अंतर्गत 1490 हेक्टेयर क्षेत्र में कुल 3301 अग्रिम प्रदर्शनों का आयोजन किया गया। प्रदर्शनों के अंतर्गत शामिल किए गए प्रमुख तिलहन फसलों में मूंगफली, तिल, सूरजमुखी, अरंड, कुसुम, सोयाबीन, अलसी, रामतिल(niger) शामिल हैं। दलहनों के मामले में, कृषि विज्ञान केंद्रों ने खरीफ एवं रबी मौसम के दौरान 2920 हेक्टेयर क्षेत्र में 6901 प्रदर्शनों का आयोजन किया। दलहनों के प्रदर्शनों के अंतर्गत शामिल किए गए प्रमुख फसलों में उड़द, चना, छोटी मटर, मूंग, अरहर, लोबिया एवं कुल्थी हैं। इसी प्रकार, क्षेत्र-v में कृषि विज्ञान केंद्रों ने अन्य फसलों जैसे कि मोटे अनाज, व्यवसायिक फसल, मिलेट, चारा एवं बागवानी फसलों पर 2088 हेक्टेयर क्षेत्र में 5642 प्रदर्शनों का आयोजन किया। इसके अलावा कृषि विज्ञान केंद्रों ने उन्नत औजार एवं उपकरणों पर 621 प्रदर्शनों, पशुधन नस्लों पर 1291 प्रदर्शनों एवं महिला सशक्तिकरण पर 1332 प्रदर्शनों का भी आयोजन किया।

प्रशिक्षण कृषि विज्ञान केंद्र की एक मुख्य गतिविधि है, जो विभिन्न उन्नत प्रौद्योगिकियों के बारे में ज्ञान एवं कौशल को बढ़ावा देने में प्रमुख भूमिका निभाता है। वर्ष के दौरान, क्षेत्र-v के कृषि विज्ञान केंद्रों द्वारा 133376 किसान, 21845 ग्रामीण युवा एवं 20945 प्रसार अधिकारी सहित 176166 सहभागियों को शामिल कर 4937 प्रशिक्षण कार्यक्रमों का आयोजन किया गया।

आंध्र प्रदेश में कृषि विज्ञान केंदों ने कृषि महिलाएं, ग्रामीण युवा एवं प्रसार अधिकारियों सहित 34748 किसानों को शामिल कर 980 प्रशिक्षण कार्यक्रमों का आयोजन किया, जबकि तेलंगाना में कृषि विज्ञान केद्रों ने 37385 लाभार्थियों के लिए 1001 पाठ्यक्रमों का आयोजन किया। महाराष्ट्र के कृषि विज्ञान केंद्रों ने 1040333 लाभार्थियों के लिए 2956 पाठ्यक्रमों का आयोजन किया। प्रशिक्षणों के अंतर्गत शामिल किए गए मुख्य विषय क्षेत्रों में फसल उत्पादन, बागवानी, मृदा स्वास्थ्य एवं उर्वरता प्रबंधन, पशुधन उत्पादन एवं प्रबंधन, गृहविज्ञान/महिला सशक्तिकरण, कृषि अभियांत्रिकी, पादप संरक्षण, मत्स्य पालन, क्षमता निर्माण एवं सामुहिक शक्ति, कृषि-वानिकी आदि थे।

क्षेत्र-v के कृषि विज्ञान केंद्रों ने 16864 किसानों एवं कृषि महिलाओं एवं ग्रामीण युवा को शामिल कर 428 प्रायोजित प्रशिक्षण कार्यक्रमों का भी आयोजन किए। उद्यमिता विकास को बढ़ावा देने, आय निर्माण एवं स्व-रोज़गार प्रदान करने के लिए विशेषकर ग्रामीण युवा एवं बीच में ही शिक्षा छोड़ने वाले 9269 लाभार्थियों के लिए कृषि विज्ञान केंद्रों द्वारा 339 व्यावसायिक प्रशिक्षण कार्यक्रमों का आयोजन किया गया। प्रमुख विषय क्षेत्रों में फसल उत्पादन एवं प्रबंधन, फसल कटाई के बाद की प्रौद्योगिकी एवं मूल्य संवर्धन, पशुधन एवं मत्स्य पालन, आय निर्माण की गतिविधियां आदि शामिल थे।

उन्नत कृषि प्रौद्योगिकियों पर जागरूकता प्रदान करने के लिए क्षेत्र-v के कृषि विज्ञान केंद्रों द्वारा 5896277 किसानों, कृषि महिलाओं एवं प्रसार अधिकारियों की सहभागिता से 25750 प्रसार गतिविधियों का आयोजन किया गया। प्रसार गतिविधियों में सलाह सेवा, प्रदर्शन दौरे, पशु स्वास्थ्य शिविर, प्रौद्योगिकी सप्ताह, सामुहिक चर्चा, प्रदर्शनों की पद्धत्ति , मृदा स्वस्थ्य शिविर, किसान मेला, किसान गोष्ठी आदि शामिल थे। उन्नत कृषि प्रौद्योगिकियों पर सूचना के प्रसार में तेजी लाने के लिए, क्षेत्र-v के कृषि विज्ञान केंद्रों ने 5076 प्रकाशन प्रकाशित किए। कृषि विज्ञान केंद्रों ने किसानों को 438629 क्विंटल का बीज एवं क्षेत्र तथा बागवानी फसलों के अभिजात किस्मों के 64250 पौधों की आपूर्ति भी की। कृषि विज्ञान केंद्रों ने 203838 क्विंटल का जैव-उर्वरक एवं 5239 क्विंटल का जैव-कीटनाशक का भी उत्पादन कर किसानों तक पहुंचाया।

कृषि विज्ञान केंद्रों ने मृदा पोषण स्तर को जानने एवं जिले में व्याप्त सूक्ष्म कृषि परिस्थितियों में मृदा जांच आधारित पोषक सिफारिशों को तैयार करने के लिए मृदा परीक्षणों का भी आयोजन किया। कृषि विज्ञान केंद्र द्वारा मृदा (228034), जल (10010), पौधा (726) एवं उर्वरक/खाद (80) सहित कुल 238850 नमूनों का विश्लेषण किया गया। जिससे आंध्र प्रदेश, तेलंगाना एवं महाराष्ट्र के 11885 गांवों में रहने वाले 276723 किसानों को लाभ हुआ।

राज्य कृषि विश्वविद्यालयों के प्रसार शिक्षा निदेशालय एवं कृषि तकनीकी अनुप्रयोग संस्थान (अटारी) द्वारा प्रशिक्षण, सम्मेलनों एवं कार्यशालाओं के माध्यम से कृषि विज्ञान केंद्रों को प्रौद्योगिकी सहायता एवं मानव विकास संसाधन प्रदान किया जाता है। पांच प्रसार निदेशालयों एवं क्षेत्रीय परियोजना निदेशालय द्वारा संयुक्त रूप से आयोजित किए गए कुल 83 मानव संसाधन विकास गतिविधियों से क्षेत्र में 2522 कृषि विज्ञान केंद्र के कर्मचारियों को लाभ मिला। संस्थागत संसाधनों को सीधे किसानों तक पहुचाने के लिए, विभिन्न प्रौद्योगिकी उत्पादों को एकल गवाक्ष वितरण के लक्ष्य से क्षेत्र-v में भाकृअनुप ने छह कृषि प्रौद्योगिकी सूचना केंद्रों की स्थापना की। वर्ष के दौरान कुल 118081 किसानों ने अद्यतन प्रौद्योगिकी सूचना एवं बीज तथा रोपण सामर्गी जैसे क्रांतिक प्रौद्योगिकी उत्पादों के बारे में जानने के लिए छह कृषि प्रौद्योगिकी सूचना केंद्रों का दौरा कर बीज एवं पादप सामग्री जैसे क्रांतिक प्रौद्योगिकी उत्पादों को प्राप्त किया।

आंध्र प्रदेश (24409), तेलंगाना (7100) एवं महाराष्ट्र (573602) में कृषि विज्ञान केंद्रों द्वारा कुल 605111 मृदा स्वास्थ्य कार्डों का वितरण किया गया। कार्डों में मृदा जांच विश्लेषणों के आधार पर पोषकों/उर्वरकों को फसलवार सिफारिश प्रदान किया गया, जिन्हें किसान अपनाकर अपने खेतों में उर्वरकों के उपयोग को कम कर सके, जिससे कृषि लागत में कमी, टिकाऊ फसल उत्पादन एवं मृदा स्वास्थ्य हेतु उर्वरक उपयोग क्षमता में वृद्धि हो सके।

15 कृषि विज्ञान केंद्रों द्वारा क्षेत्र-v में निक्रा परियोजना का प्रौद्योगिकी प्रदर्शन घटक का कार्यान्वयन किया गया जिसमें तीन राज्यों के जलवायु समुत्थान प्रौद्योगिकियों एवं प्रक्रियाओं का प्रदर्शन किया गया। कृषि विज्ञान केंद्रों द्वारा अपनाए गए गांवों में संस्थागत हस्तक्षेपों के अंतर्गत प्राकृतिक संसाधन प्रबंधन में 1829 प्रदर्शनों, फसल उत्पादन प्रणालियों में 1620, पशुधन एवं मत्स्य उत्पादन प्रणालियों में 1137, 1098 प्रदर्शनों का आयोजन किया गया। इसके साथ ही 18341 किसानों एवं 4811 कृषि महिलाओं सहित 8862 सहभागियों को शामिल कर 319 प्रशिक्षण कार्यक्रमों का आयोजन किया गया।

वर्ष 2016-17 के दौरान तीन कृषि विज्ञान केंद्र (नेल्लूर, नलगोंडा एवं नागपुर) द्वारा आर्या(युवा को कृषि की ओर आकर्षित करना एवं उसे कृषि कार्य में बनाए रखना/Attracting and Retaining Youth in Agriculture) परियोजना का कार्यान्वयन किया गया। 196 युवाओं को रोज़गार प्रदान करने के लिए तिरसठ उद्यमों की स्थापना की गई। 1084 युवाओं के लिए दस कौशल प्रशिक्षण कार्यक्रमों का आयोजन किया गया।

आंध्र प्रदेश, तेलंगाना एवं महाराष्ट्र को शामिल कर रबी (2016-17) के दौरान क्षेत्र-v में 74 कृषि विज्ञान केंद्रों द्वारा राष्ट्रीय खाद्यान्न सुरक्षा मिशन(NFSM) के अंतर्गत दलहनों पर रबी केंद्रों में अग्रिम प्रदर्शनों का आयोजन किया गया। 3884 हेक्टेयर क्षेत्र में कुल 8975 क्षेत्र स्तरीय प्रदर्शनों का आयोजन किया गया। इसी प्रकार, रबी मौसम के दौरान 41 कृषि विज्ञान केंद्रों द्वारा तिलहन फसलों में एनएमओओपी के अंतर्गत 1931 हेक्टेयर क्षेत्र में 6250 केंद्र अग्रिम प्रदर्शनों का आयोजन किया गया। जिला/राज्य की औसतों की तुलना में क्षेत्र स्तरीय प्रदर्शनों में दलहनों एवं तिलहनों की उत्पादकता अधिक थी जिसे अपनाकर पैदावार के अंतराल को दूर किया जा सकता है।

उन्नीस कृषि विज्ञान केंद्रों ने 2285 किसानों, प्रसार अधिकारियों एवं वैज्ञानिकों को शामिल कर पादप किस्मों का संरक्षण एवं किसान अधिकार अधिनियम (पीपीवी एवं एफआरए) पर 21 जागरुकता कार्यक्रमों का आयोजन किया।

175 लाख रुपए (150 लाख रुपए साधारण एवं 25 लाख रुपए पूंजी) के कुल परिव्यय से क्षेत्र के 16 कृषि विज्ञान केंद्रों (आंध्र प्रदेश में 6, तेलंगाना में 5 एवं महाराष्ट्र में 5) द्वारा जनजाति समुदाय की सामाजिक-आर्थिक परिस्थितियों को सुधारने के लक्ष्य से जनजाति उप योजन (टीएसपी) का कार्यान्वयन किया गया। कृषि विज्ञान केंद्रों का चयन कृषि विज्ञान केंद्र के अंतर्गत जिला/मंडल/गांवों में रहने वाले जनजातियों के प्रतिशत के आधार पर किया गया। कृषि सेवा केंद्र, सूक्ष्म उद्यम, कौशल विकास प्रशिक्षण एवं कृषि-पारिस्थितिक पर्यटन जैसे चार प्रमुख विषय क्षेत्रों के अंतर्गत जनजाति उप योजना को लागू करने वाले कृषि विज्ञान केंद्रों की गतिविधियों का कार्यान्वयन किया गया।

भारतीय कृषि कौशल परिषद (एएससीआई) द्वारा क्षेत्र-v में 12 कृषि विज्ञान केंद्रों को कौशल विकास प्रशिक्षण केंद्रों के रूप में पहचाना गया। आंध्र प्रदेश, तेलंगाना एवं महाराष्ट्र राज्यों के 480 युवाओं ने 12 कार्य भूमिका/योग्यता पर 200 घंटों की अवधि वाले चौबीस कौशल प्रशिक्षण कार्यक्रमों को सफलतापूर्वक पूरा किया।

आंध्र प्रदेश(4), तेलंगाना(2) एवं महाराष्ट्र(8) राज्यों के 14 कृषि विज्ञान केंद्रों में दलहनों के लिए बीज भंडार शुरू किया गया। वर्ष 2016-17 के दौरान, मूंग, उड़द एवं चना के अत्याधुनिक एवं अधिक पैदावार देने वाली किस्मों से 2108 क्विंटल का बीज उत्पादन किया गया।

आंध्र प्रदेश, तेलंगाना एवं महाराष्ट्र में स्थित 13 भाकृअनुप-अनुसंधान संस्थानों द्वारा मेरा गांव मेरा गौरव का कार्यान्वयन किया गया। 13 संस्थानों द्वारा अपनाए गए 460 गोंवों में कुल 409 वैज्ञानिकों के 103 दलों द्वारा विभिन्न कार्यक्रमों का आयोजन किया गया। वैज्ञानिकों ने 1121 बार गांवों का दौरा किया एवं 18579 ग्रामीणों एवं किसानों से 1101 इंटरफेस बैठकों का आयोजन किया। कुल 97 जागरुकता एवं प्रदर्शन कार्यक्रमों का आयोजन किया गया। कृषि, पशु पालन, कुक्कुट पालन, उन्नत उपकरण एवं अन्य संबंधी कार्यक्रमों पर 221 कार्यक्रमों का आयोजन किया गया। किसानों एवं महिला किसानों को उन्न्त कृषि प्रक्रियाओं पर विभिन्न प्रकार का साहित्य (249) प्रदान किया गया।

वर्ष 2016-17 के दौरान जन प्रतिनिधियों सहित सभी पणधारियों के सहयोग से कई प्रसार गतिविधियों का आयोजन किया गया। 13 जन प्रतिनिधियों की भागीदारी से 27019 किसानों में कृषि प्रौद्योगिकियों एवं सरकार द्वारा चलाई जा रही पहलुओं के बारे में जागरु_कता लाने के लिए कुल 59 कृषि विज्ञान केंद्रों द्वारा रबी पूर्व किसान सम्मेलनों का आयोजन किया गया।

5 दिसंबर, 2016 को विश्व मृदा दिवस के उपलक्ष में माननीय संसद सदस्यों एवं विधान सभा सदस्यों द्वारा किसानों में करीब 11615 मृदा स्वास्थ्य कार्डों का वितरण किया गया।

EXECUTIVE SUMMARY

Indian Council of Agricultural Research redesignated the Zonal Project Directorate (ZPD) as Agricultural Technology Application Research Institute (ATARI) in 2015. The mandate of ATARI has been revised as coordination and monitoring of technology application and frontline extension education programs through Krishi Vigyan Kendras (KVKs). The ATARI is also vested with the responsibility of strengthening of agricultural extension research and knowledge management in the states of Andhra Pradesh, Telangana and Maharashtra. ICAR reorganized the 8 ATARIs into 11 with revised jurisdiction of states under each ATARI. ATARI, Pune (Zone-VIII) will henceforth coordinate KVKs in Maharashtra while ATARI, Hyderabad (Zone-X) will coordinate KVKs in Tamil Nadu and Puducherry in addition to the existing KVKs in Andhra Pradesh and Telangana.

Six additional KVKs sanctioned during the XII plan were established during 2016-17 that include three each in the states of Andhra Pradesh and Telangana. There are 85 KVKs in Zone-V which include 24 in Andhra Pradesh, 16 in Telangana and 45 in Maharashtra. Of the 24 KVKs in Andhra Pradesh, 18 are with SAU, 2 are with ICAR Institutes and 4 are with Non-Governmental Organizations (NGO). In Telangana, 10 KVKs are with SAUs, one is with ICAR institute and 5 are with NGOs. In Maharashtra, 16 KVKs are with SAUs, one with ICAR institute, 27 with NGOs and one with Open University.

During the year, KVKs assessed and refined 577 technologies by laying out 5405 On-Farm Trials. Of these technologies tested, 437 technologies were related to crops, 85 are related to animals and 55 are related to women. The important thematic areas covered in case of crops include Varietal Evaluation, Cropping Systems, Integrated Disease Management, Integrated Pest Management, Integrated Nutrient Management, Integrated Weed Management, Integrated Crop Management, Resource Conservation technologies, Farm Machinery and Equipment. In case of animals, thematic areas such as Breed Evaluation, Breed Improvement, Disease Management, Feed and Nutrition Management, Integrated Farming Systems and Production & Management were assessed and refined. Under the empowerment of rural women, on-farm trials were conducted in thematic areas viz., drudgery, reduction, health and nutrition, value addition and entrepreneurship development.

KVKs in Andhra Pradesh assessed the suitability of 162 technologies by conducting 1024 On-Farm Trials covering crops including horticultural species (712), animals (183) and empowerment of rural women (8). KVKs in Telangana assessed the suitability of 121 technologies by conducting 623 on-farm trials covering crops including horticultural species (441), animals (122) and empowerment of rural women (60). KVKs in Maharashtra assessed 294 technologies by organizing 3758 trials that include crops including horticultural species (3638), animals (981) and women empowerment (836).

A total of 19088 frontline demonstrations were implemented covering an area of 6500 ha. Among them 3301 Frontline demonstrations covering 1490 ha under oilseeds were organized by KVKs in Zone-V. The

major oilseed crops that were covered under demonstrations include groundnut, sesamum, sunflower, castor, safflower, soybean, linseed and niger. In case of pulses, KVKs organized 6901 demonstrations covering 2920 ha during *kharif* and *rabi* seasons. The major crops covered under pulses demonstrations are blackgram, chickpea, fieldpea, greengram, pigeonpea, cowpea and horsegram. Similarly, KVKs in Zone -V organized 5642 demonstrations covering 2088 ha on other crops i.e. cereals, commercial crops, millets, fodder and horticultural crops. KVKs also organized 621 demonstrations on improved tools and implements, 1291 demonstrations on livestock species and 1332 demonstrations on women empowerment.

Training is an important activity of KVK, which plays a pivotal role in enhancing the knowledge and skill about various improved technologies. During the year, KVKs in Zone-V organized 4937 training programmes covering 176166 participants that include 133376 farmers, 21845 rural youth and 20945 extension functionaries.

KVKs in Andhra Pradesh organized 980 training courses with a participation of 34748 farmers including farmwomen, rural youth and extension functionaries, while the KVKs in Telangana conducted 1001 courses for 37385 beneficiaries. KVKs in Maharashtra conducted 2956 courses for 104033 beneficiaries. The main thematic areas covered under training include crop production, horticulture, soil health and fertility management, livestock production and management, home science/ women empowerment, agricultural engineering, plant protection, fisheries, capacity building and group dynamics, agro-forestry, etc.

KVKs in Zone-V also organized 428 sponsored training programmes covering 16864 farmers and farmwomen and rural youth. In order to facilitate entrepreneurship development, income generation and self-employment, especially among rural youth and school dropouts, KVKs organized 339 vocational training programmes for 9269 beneficiaries. The important thematic areas include crop production and management, post harvest technology and value addition, livestock and fisheries, income generation activities, etc.

To create awareness on improved agricultural technologies the KVKs of Zone-V organized 25750 extension activities with participation of 5896277 farmers, farmwomen and extension personnel. The extension activities included advisory services, exposure visits, animal health camps, technology week, group discussions, method demonstrations, soil health camps, kisan melas, kisan ghostis, etc. In order to accelerate rapid dissemination of information on improved farm technologies, KVKs in Zone-V brought out 5076 publications. KVKs also supplied 23623 q of seed and 4521064 saplings of elite species of field and horticultural crops to farmers. KVKs also produced 2834 q of bio-fertilizers and 456 q of bio-pesticides were supplied to farmers.

KVKs also have undertaken soil and water testing to ascertain the soil nutrient status and also to make soil test based nutrient recommendations in the prevailing micro-farming situations in the district. A total of 238850 samples including soil (228034), water (10010), plant (726) and fertilizers/manures

(80) were analyzed by the KVKs that benefited 276723 farmers belonging to 11885 villages in Andhra Pradesh, Telangana and Maharashtra.

The Directorates of Extension Education of State Agricultural Universities and Agricultural Technology Application Research Institute (ATARI) facilitate technological backstopping and Human Resource Development to the KVKs through trainings, seminars, workshops, etc. A total of 83 HRD activities benefitting 2522 KVK staff in the Zone were jointly organized by the ten directorates of extension and the Agricultural Technology Application Research Institute. To facilitate direct access of farmers to institutional resources, ICAR established six Agricultural Technology Information Centers in Zone-V with the objective of single window delivery of various technology products. During the year a total of 118081 farmers visited the six ATICs to know the latest technology information and to obtain critical technology products viz. seed and planting material.

A total of 605111 Soil Health Cards were distributed to farmers by KVKs in Andhra Pradesh (24409), Telangana (7100) and Maharashtra (573602). Crop-wise recommendations of nutrients/ fertilizers as per soil test analysis were provided in the cards for adoption by farmers to rationalize fertilizer use in their farms, thereby reducing cost of cultivation to enhance fertilizer use efficiency for sustainable crop production and soil health.

Technology Demonstration component of NICRA project in Zone-V was implemented by 15 KVKs which demonstrated climate resilient agricultural technologies and practices across three states. KVKs conducted 1829 demonstrations in Natural Resource Management (NRM), 1620 in crop production systems, 1137 in livestock and fisheries production systems, 927 ha area was covered under institutional interventions in adopted villages, 319 training programmes covering 8862 participants, and 23152 extension activities covering 18341 farmers and 4811 farm women.

ARYA (Attracting and Retaining Youth in Agriculture) project was implemented in three KVKs of the Zone (Nellore, Nalgonda and Nagpur) during the year 2016-17. Sixty three enterprise units were established empowering 196 youth. Ten skill training programmes were conducted covering 1084 youth.

Cluster Frontline Demonstrations on Pulses under NFSM were organized by 74 KVKs comprising of Andhra Pradesh, Telangana and Maharashtra in Zone-V during 2016-17 across three seasons. A total of 8975 FLDs were conducted covering an area of 3884 ha under pulses. Similarly, 6250 cluster frontline demonstrations covering 1931 ha were conducted under NMOOP in oilseed crops by 74 KVKs during Kharif and rabi 2016-17. Productivity of pulses and oilseeds realized in FLDs was higher than the district/ state averages indicating potential for bridging the yield gap.

Nineteen KVKs organized 21 awareness programmes on Protection of Plant Varieties and Farmers' Rights Act (PPV&FRA) to cover 2285 farmers, extension personnel and scientists.

The Tribal Sub Plan (TSP) which is aimed at ameliorating the socio-economic conditions of tribal communities was implemented by 16 KVKs of the Zone (6 in AP, 5 in Telangana and 5 in Maharashtra)

with a total outlay of Rs. 175 lakhs (Rs.150 Lakhs General and Rs.25 Lakhs Capital). The activities of the KVKs implementing TSP have been covered under four major thematic areas, viz., Agri-service center, Micro-enterprises, Skill development training and Agro-eco tourism.

Agriculture Skill Council of India (ASCI) identified 12 KVKs as skill development training centers in Zone-V. Twenty four skill development training programmes of 200 hours duration on 12 job roles/ qualification packs involving 480 youth were successfully undertaken in three states.

Seed hubs for pulses started functioning at 14 KVKs in Zone-V in the states of Andhra Pradesh (4), Telangana (2) and Maharashtra (8). During 2016-17, seed hub KVKs produced 2108 q of seed for supply of quality seed of greengram, blackgram, pigeonpea and bengalgram.

Mera Gaon Mera Gaurav (MGMG) program was implemented by 13 ICAR research institutes in Andhra Pradesh, Telangana and Maharashtra states. A total of 409 scientists through 103 teams from 13 institutes adopted 460 villages and implemented various activities. Scientists have made 1121 visits to adopted villages and organized 1101 interface meetings in which 18579 rural people and farmers were participated. A total of 97 awareness cum demonstration programmes and 221 training programmes on agriculture, animal husbandry, poultry, improved implements and other related programmes were conducted. Various types of literature (249) on improved agricultural practices were provided to the farmers & farm women.

A number of extension activities were taken up during 2016-17 with the participation of all stakeholders including public representatives. A total of 59 KVKs organized pre-rabi kisan sammelans creating awareness of agricultural technologies and ongoing government initiatives among 27019 farmers with the participation of 13 public representatives.

As part of World Soil Day celebrations on 5th December, 2016, nearly 11615 soil health cards were distributed to farmers by Hon'ble Members of Parliament (MPs) and Members of Legislative Assembly (MLAs) and officials.

CONTENTS

1. INTRODUCTION

ICAR-Agricultural Technology Application Research Institute (ATARI)

A massive programme by the name "Lab to Land" was launched by the National Co-ordination committee during 1979-80, the golden jubilee year of ICAR for ensuring successful transfer of economically viable and socially acceptable technologies generated in the laboratories to farmers' fields. The objective of the programme was to adopt 50000 small and marginal farmers and landless labourers throughout the country to transfer available farm technologies of crop production, livestock farming, farm tools and implements, pisciculture, sericulture, apiculture, etc., including crop-livestock integration and the programme was implemented from September, 1979. To facilitate the implementation and monitoring of the Lab to Land programme, the country was divided into eight Zones and Zonal Co-ordination units were established for each Zone during the same year. Zonal Coordination Unit for Transfer of Technology, Zone-V was established in September, 1979 as Cess Fund Scheme at Andhra Pradesh Agricultural University, Hyderabad primarily to monitor the activities of the Lab to Land Programme in the states of Andhra Pradesh and Maharashtra. The unit was shifted to the campus of Central Research Institute for Dryland Agriculture (CRIDA), Hyderabad during the year 1985 and it remained operational till 1986. It was later brought under the plan scheme of ICAR during the year 1986.

All the other ICAR supported Transfer of Technology Projects that were implemented in the Zone viz. Krishi Vigyan Kendras (KVK), Trainers Training Centre (TTC), National Demonstration Scheme (NDS), Operational Research Projects (ORP), All India Coordinated Project on SC / ST (AICRP SC/ ST) and Special Projects on Oilseeds were brought under the umbrella of the Zonal Co-ordination unit during the year 1987. The additional responsibility of monitoring the Frontline Demonstrations (FLD) on oilseeds under Oilseeds Production Programme (OPP) and pulses under National Pulse Project (NPP), farm implements and cotton was entrusted with the ZC unit during the years 1990 and 1991. In 1995, a pilot project on Institute Village Linkage Programme (IVLP) launched by the council for Technology Assessment and Refinement (TAR) was also implemented in the Zone by the unit. In 1998, Zonal Research Stations under the State Agricultural Universities (SAU) were strengthened to take up the additional functions of KVKs and these re-mandated KVKs have also been monitored by the unit since then.

The X and XI Five Year Plan (FYP) period was marked by a phenomenal impetus in the establishment of new KVKs in Zone-V covering the states of Andhra Pradesh and Maharashtra. During XI FYP period, Council approved establishment of 97 new KVKs which included 24 additional KVKs in geographically larger districts, 12 each in the states of Andhra Pradesh and Maharashtra. With the addition of several new KVKs in each Zone, ICAR has upgraded all the eight Zonal Coordination Units to the status of Directorates and thus Zonal Project Directorate (ZPD), Zone-V came into existence during the year 2009. It was in this year under report that another major change took place in the Division of Agricultural Extension, ICAR in terms of a change in the status of the ZPDs into Institutes with the mandate of Extension Research being added and the post of Zonal Project Director

being upgraded to that of Director with effect from 2015. The ZPD is now redesignated as "Agricultural Technology Application Research Institute (ATARI). Further, ICAR reorganized the 8 ATARIs into 11 with revised jurisdiction of states. ATARI, Hyderabad is redesignated as Zone-X for coordination of KVKs in AP, Telangana, Tamil Nadu & Pondicherry. In XII plan, 11 additional KVKs were sanctioned out of which six were established in AP & Telangana (each).

The ATARI has the following mandate

- Coordination and monitoring of technology application and Frontline Extension Education Programs
- Strengthening Agricultural Extension Research and Knowledge Management

The ICAR-ATARI, Hyderabad functions under the administrative control of Division of Agricultural Extension of ICAR headed by the Deputy Director General (Agricultural Extension). The ATARI is headed by the Director who is assisted by the Principal Scientists, Senior Scientists, technical, administrative and supporting staff. The requisite infrastructure for the smooth functioning of ATARI was built in the same premises as ICAR- Central Research Institute for Dryland Agriculture (CRIDA), Santoshnagar, Hyderabad.

Krishi Vigyan Kendra

Krishi Vigyan Kendra (Farm Science Center) is a science/ technology led, farmer centric institution, established with the purpose of providing knowledge and skill training to the farmers, rural youth and field-level extension workers. Vocational training in agriculture and allied fields through KVK has become the need of the hour for ensuring livelihood security and enhancing farm income which is envisaged to be doubled by 2020. The farmers not only require knowledge and understanding of intricacies of new technologies but also more skills to adopt the same in varied and complex field situation on their farms. In view of this, the role of KVK was further enhanced by adding the responsibility of on-farm testing and front-line demonstrations of major agricultural technologies to dovetail the same with location specific environment. In order to equip the present day farmers to face the challenges of information explosion and to bridge the digital divide, KVKs were also given the other responsibility of acting as knowledge and resource centre of agricultural and allied technologies. The use of ICT by KVKs has been substantial to provide necessary and timely information on weather , markets and solutions to various day to day problems faced by farmers.

The mandate of KVKs is

- On-farm testing to assess the location specificity of agricultural technologies under various farming systems.
- Organize frontline demonstrations to establish production potential of technologies on the farmer's fields.
- Capacity development of farmers and extension personnel to update their knowledge and skills in frontier agricultural technologies and enterprises.
- Work as Knowledge and Resource Centre for improving overall agricultural economy in the operational area.

2. KRISHI VIGYAN KENDRAS

2.1 Status

With the establishement of six additional KVKs sanctioned in XII plan and one KVK sanctioned in XI plan, the strength of KVK in the Zone has gone upto 85 in three states of Andhra Pradesh, Telangana and Maharashtra. The state-wise break-up includes 24 in Andhra Pradesh, 16 in Telangana and 45 in Maharashtra (Table 2.1). Of the 24 KVKs in Andhra Pradesh, 18 are with SAU, 2 with ICAR institutes and 4 are with Non-Governmental Organizations (NGO). In Telangana,10 KVKs are with SAUs 1 with ICAR and 5 with NGOs. In Maharashtra, 16 KVKs are with SAUs, one with ICAR institute, 27 with NGOs and one with Open University.

Table: 2.1. Status of KVKs

State	No. of rural districts	No. of KVKs				Total
		SAU	ICAR	NGO	Other Educational Institutes	
Andhra Pradesh	13	18	2	4	-	24
Telangana	9	10	1	5	-	16
Maharashtra	33	16	1	27	1	45
Total	**55**	**44**	**4**	**36**	**1**	**85**

2.2 Staff

The details of staff position of KVKs in different states are given in Table 2.2. Out of 1358 posts sanctioned in the Zone, 893 are filled with regular staff and 160 positions with contractual staff (Overall 78% positions filled). Three additional KVKs each in Andhra Pradesh and Telangana and one additional KVK in Maharashtra were established in 2016-17 for which recruitment process has been initiated.

Table: 2.2. Consolidated staff position

Category	Andhra Pradesh			Telangana			Maharashtra			Total		
	S	F	V	S	F	V	S	F	V	S	F	V
Programme Coordinator	24	20	4	16	10	6	45	27	18	85	57	28
Subject Matter Specialist	144	59	85	96	47	49	270	230	40	510	336	174
Programme Assistant	72	18	54	48	17	31	135	109	26	255	144	111
Assistant	24	18	6	16	11	5	45	40	5	85	69	16
Stenographer Grade-III	24	9	15	16	8	8	45	33	12	85	50	35
Driver	48	19	29	32	16	16	90	77	12	170	112	58
Skilled Supporting Staff	48	22	26	32	25	7	90	78	12	170	125	45
Total	**384**	**165**	**219**	**256**	**134**	**122**	**720**	**594**	**131**	**1360**	**893**	**467**

S=Sanctioned, F= Filled, V=Vacant

2.3 Infrastructure

In order to facilitate proper functioning of KVKs, modest infrastructure is provided by ICAR. The details of land, buildings, vehicles and other facilities at KVKs are presented in Table 2.3. The other infrastructure such as rainwater harvesting structure and Integrated Farming System models are provided to some selected KVKs, while the buildings and vehicles are provided to all the KVKs by ICAR.

Table:2.3 Details of infrastructure available with KVKs in Andhra Pradesh

S. No	KVK/ District	Land with KVK (ha)	Admin Building	Farmers Hostel	Staff Quarters	SWTL	Mini Soil Testing Lab	Demon-stration Units	Vehicles
1	Anantapur	22.25	Yes	Yes	Yes	Yes	Yes	3	Yes
2	Anantapur (K)	20	Yes	Yes			Yes		Yes
3	Chittoor	38.5	Yes	Yes	Yes	Yes		3	Yes
4	Chittoor (K)	20					Yes		Yes
5	East Godavari (P)	22.5	Yes	Yes			Yes		Yes
6	East Godavari	14.55	Yes	Yes	Yes	Yes	Yes	3	Yes
7	Guntur	22	Yes	Yes	Yes	Yes		3	Yes
8	Guntur (Lam Farm)	24	Yes				Yes	3	Yes
9	Kadapa	10.4	Yes	Yes	Yes		Yes	3	Yes
10	Krishna	20.56	Yes	Yes	Yes		Yes	3	Yes
11	Krishna (G)	20					Yes	2	Yes
12	Kurnool	20	Yes	Yes	Yes	Yes	Yes	3	Yes
13	Kurnool (B)	20	Yes	Yes			Yes		Yes
14	Nellore	24	Yes	Yes	Yes	Yes	Yes	3	Yes
15	Prakasam	20		Yes		Yes	Yes	3	Yes
16	Prakasam (K)	20					Yes		
17	Srikakulam	21.23	Yes	Yes	Yes	Yes	Yes	3	Yes
18	Visakhapatnam	20	Yes	Yes	Yes	Yes	Yes	2	Yes
19	Vizianagaram	29.22	Yes	Yes		Yes	Yes	3	Yes
20	West Godavari	15	Yes	Yes	Yes	Yes	Yes	3	Yes
21	West Godavari (V)	20	Yes	Yes			Yes		Yes

Table: 2.4 Details of infrastructure available with KVKs in Telangana

S. No	KVK/ District	Land with KVK (ha)	Admin Building	Farmers Hostel	Staff Quarters	Soil & Water testing lab	Mini Soil Testing Lab	Demonstration Units	Vehicles
1	Adilabad	15		Yes		Yes	Yes	2	Yes
2	Adilabad-2	20							
3	Karimnagar	20	Yes	Yes	Yes	Yes	Yes	3	Yes
4	Karimnagar (R)	20	Yes	Yes			Yes		Yes
5	Khammam	25.68	Yes	Yes			Yes	3	Yes
6	Khammam-2	20							
7	Mahabubnagar	20	Yes	Yes	Yes	Yes	Yes	3	Yes
8	Mahabubnagar (P)	21	Yes	Yes			Yes		Yes
9	Medak	20	Yes	Yes	Yes	Yes	Yes	3	Yes
10	Medak-2	20							
11	Nalgonda	25.6	Yes	Yes	Yes	Yes	Yes	3	Yes
12	Nalgonda (K)	22.5	Yes	Yes			Yes		Yes
13	Nizamabad	19.4	Yes	Yes	Yes		Yes	1	Yes
14	Ranga Reddy	25.2	Yes	Yes		Yes	Yes	2	Yes
15	Warangal	18.4	Yes	Yes	Yes	Yes	Yes	3	Yes
16	Warangal (M)	20	Yes	Yes			Yes		Yes

Table: 2.5 Details of infrastructure available with KVKs in Maharashtra

S. No	KVK/ District	Land with KVK (ha)	Admin Building	Farmers Hostel	Staff Quarters	Soil & Water testing lab	Mini Soil Testing Lab	Rain Water Harvesting Structure	Demonstration units	Vehicles
1	Ahmednagar	18.72	Yes	Yes	Yes	Yes	Yes	Yes	3	Yes
2	Ahmednagar (D)	20.69					Yes			Yes
3	Akola (U)	22.64	Yes	Yes	No		Yes			Yes
4	Amravati (D)	20.00	Yes	Yes	Yes	Yes	Yes	Yes	3	Yes
5	Amravati (G)	24.32	Yes	Yes	Yes	Yes	Yes		3	Yes
6	Aurangabad	20.00	Yes	Yes	Yes	Yes	Yes		3	Yes
7	Aurangabad (G)	21.19	Yes	Yes	No		Yes			Yes
8	Beed	21.41	Yes	Yes	Yes	Yes	Yes	Yes	3	Yes
9	Beed (K)	20.00	Yes	Yes			Yes			Yes
10	Bhandara	17.30	Yes	Yes	Yes	Yes	Yes		2	Yes
11	Buldana	21.25	Yes	Yes	Yes	Yes	Yes	Yes	2	Yes
12	Buldhana (ARS)	20.00	Yes	Yes			Yes			Yes

S. No	KVK/ District	Land with KVK (ha)	Ad-min Build-ing	Farm-ers Hostel	Staff Quar-ters	Soil & Water testing lab	Mini Soil Testing Lab	Rain Water Harvesting Structure	Demon-stration units	Vehicles
13	Chandrapur	22.00	Yes	Yes	Yes	Yes	Yes		3	Yes
14	Dhule	20.00	Yes	Yes	No	Yes	Yes	Yes	3	Yes
15	Gadchiroli	16.38	Yes	Yes	Yes		Yes		3	Yes
16	Gondia	20.00	Yes	Yes	Yes		Yes		2	Yes
17	Hingoli	20.00	Yes	Yes	Yes	Yes	Yes	Yes	2	Yes
18	Jalgaon	20.00	Yes	Yes	Yes	Yes	Yes		3	Yes
19	Jalgaon (M)	23.79	Yes	Yes			Yes			Yes
20	Jalna	32.37	Yes	Yes	Yes	Yes	Yes	Yes	3	Yes
21	Kolhapur	22.00	Yes	Yes	Yes	Yes	Yes		2	Yes
22	Latur	20.00	Yes	Yes	Yes		Yes		1	Yes
23	Nagpur	20.05	Yes	Yes		Yes	Yes		1	Yes
24	Nanded	21.00	Yes	Yes	Yes	Yes	Yes		2	Yes
25	Nanded (S)	21.17	Yes	Yes			Yes			Yes
26	Nandurbar	20.00	Yes	Yes	Yes	Yes	Yes	Yes	3	Yes
27	Nashik	36.70	Yes	Yes		Yes	Yes		3	Yes
28	Nashik (M)	19.25	Yes	Yes			Yes			Yes
29	Osmanabad	20.00	Yes	Yes	Yes	Yes	Yes		2	Yes
30	Parbhani	17.21	Yes	Yes	Yes	Yes	Yes		3	Yes
31	Pune (B)	20.00	Yes	Yes	Yes	Yes	Yes	Yes	2	Yes
32	Pune (N)	20.00	Yes	Yes			Yes			Yes
33	Raigarh	20.00		Yes		Yes	Yes		3	Yes
34	Ratnagiri	20.08	Yes	Yes	Yes	Yes	Yes	Yes	3	Yes
35	Sangli	20.66	Yes	Yes		Yes	Yes		3	Yes
36	Satara	20.00	Yes	Yes	Yes	Yes	Yes		3	Yes
37	Satara (B)	20.00	Yes	Yes			Yes			Yes
38	Sindhudurg	20.55	Yes			Yes	Yes		2	Yes
39	Solapur	23.75	Yes	Yes	Yes	Yes	Yes		3	Yes
40	Solapur (M)	22.02	Yes	Yes			Yes			Yes
41	Thane	20.00	Yes	Yes	Yes	Yes	Yes	Yes	3	Yes
42	Wardha	21.42	Yes	Yes	Yes	Yes	Yes		3	Yes
43	Washim	24.50	Yes	Yes	Yes	Yes	Yes		2	Yes
44	Yavatmal	24.07	Yes	Yes	Yes	Yes	Yes		2	Yes
45	Yavatmal (Darwah)	20.00					Yes		1	

2.4 Revolving Fund

The total revolving fund generated by KVKs in the Zone is Rs. 1113.84 lakh of which Rs. 315.55 lakh is generated by KVKs in Andhra Pradesh, Rs.170.43 lakh is generated by KVKs in Telangana and Rs. 627.86 lakh by KVKs in Maharashtra (Table 2.6). KVK-wise status is given in Tables 2.7, 2.8.

Table: 2.6 Status of revolving fund (Rs. in lakh)

State	Balance on 31.3.2017
Andhra Pradesh	315.55
Telangana	170.43
Maharashtra	627.86
Total	**1113.84**

Table: 2.7 Status of revolving fund in KVKs of Andhra Pradesh (Rs. In lakh)

KVK	Balance on 31.03.2017	KVK	Balance on 31.03.2017
Anantapur (Reddipalli)	11.65	Kurnool (Yagantipalle)	43.66
Anantapur (Kalyandurg)	3.74	Kurnool (Banavasi)	11.61
Chittoor (RASS)	36.34	Nellore	1.58
Chittoor (Kalikiri)	4.64	Prakasam (Darsi)	6.67
East Godavari (Kalavacherla)	6.04	Prakasam (Kandukur)	
East Godavari (Pandirimamidi)	16.59	Srikakulam	34.23
Guntur		Visakhapatnam	35.43
Guntur (Lam)	5.04	Vizianagaram	7.41
Kadapa	14.74	West Godavari (Undi)	0.82
Krishna (Garikapadu)	22.15	West Godavari (VRGudem)	12.89
Krishna (Ghantasala)	40.32	**Total**	**315.55**

Table: 2.8 Status of revolving fund in KVKs of Telangana (Rs. In lakh)

KVK	Balance on 31.03.2017	KVK	Balance on 31.03.2017
Adilabad	6.66	Nalgonda (Gaddipalli)	40.4
Karimnagar (Jammikunta)	27.79	Nalgonda (Kampasagar)	15.44
Karimnagar (Ramagirikhilla)		Nizamabad	4.46
Khammam	30.22	Warangal (Malyal)	29.62
Mahabubnagar (Madanapuram)	3.37	Warangal (Mamnoor)	2.45
Mahabubnagar (Palem)	3.37		
Medak	6.45	**Total**	**170.43**

Table: 2.9 Status of revolving fund in KVKs of Maharashtra (Rs. In lakh)

KVK	Balance on 31.03.2017	KVK	Balance on 31.03.2017
Ahmednagar (Babhleshwar)	40.22	Nagpur	8.63
Ahmednagar (Dahigaon)	0	Nanded (Pokharni)	3.37
Akola	1.42	Nanded (Sagroli)	6.63
Amravati (Durgapur)	97.33	Nandurbar	13.35
Amravati (Ghatkhed)	14.04	Nashik (YCMOU)	14.83
Aurangabad	18.36	Nashik (Malegaon)	2.41
Aurangabad (MGM Gandheli)	1.93	Osmanabad	10.38
Beed (Ambajogai)	73.71	Parbhani	3.10
Beed (Khamgaon)	1.13	Pune (Baramati)	7.19
Bhandara	31.71	Pune (Narayangaon)	14.53
Buldhana (Jalgaon Jamod)	38.42	Raigad	11.47
Buldhana (PDKV)	0.4	Ratnagiri	9.33
Chandrapur	8.21	Sangli	13.91
Dhule	2.50	Satara (Karad)	14.07
Gadchiroli	21.64	Satara (Borgaon)	1.00
Gondia	14.56	Sindhudurg	1.81
Hingoli	6.85	Solapur (Khed)	13.23
Jalgaon (Pal)	22.61	Solapur (Mohol)	3.21
Jalgaon (Mumrabad)	0.55	Thane	31.56
Jalna	0.56	Wardha	1.40
Kolhapur	9.67	Washim	3.72
Latur	29.91	Yavatmal (Darwah)	3.00
		Total	**627.8**

2.5 Scientific Advisory Committee (SAC) Meetings

The number of SAC meetings conducted by KVKs in three states is given in Table 2.10. A total of 70 SAC meetings were conducted by KVKs.

Table: 2.10. Details of SAC meetings conducted in Zone-V

State	No. of KVKs	SAC Meetings conducted by KVKs
Andhra Pradesh	21	20
Telangana	13	12
Maharashtra	44	38
Total	**78**	**70**

3. ACHIEVEMENTS

3.1 Technology Assessment

During the year, KVKs assessed 577 technologies at different locations by laying out 5405 on-farm trials on farmers' fields (Table 3.1). Out of these 437 technologies were related to crops followed by animals (85) and women empowerment (55).

The thematic area-wise on-farm trials conducted by KVKs in Andhra Pradesh, Telangana and Maharashtra are furnished in Table 3.2. The main thematic areas covered in case of animals are Breed Evaluation, Breed Improvement, Disease Management, Feed and Nutrition Management, Integrated Farming Systems and Production & Management. In case of crops, the thematic areas include Varietal Evaluation, Cropping Systems, Integrated Disease Management, Integrated Pest Management, Integrated Nutrient Management, Integrated Weed Management, Integrated Crop Management, Resource Conservation technologies, Farm Machinery and Equipment. Under empowerment of rural women, on-farm trials were conducted in thematic areas viz., drudgery reduction, health and nutrition, value addition and entrepreneurship development.

KVKs in Andhra Pradesh assessed the suitability of 162 technologies by organizing 1024 on-farm trials on crops including horticultural species (712) animals including fisheries (183), and empowerment of rural women (129). In Telangana, KVKs assessed the suitability of 121 technologies by conducting 623 on-farm trials covering animals (122), crops including horticultural species (441) and empowerment of rural women (60). In case of Maharashtra, KVKs assessed 294 technologies by organizing 3758 trials that include animals (626), crops including horticultural species (2485) and women empowerment (647)

Table: 3.1. Details of technologies assessed by KVKs

Category	No. of technologies	No. of trials	No. of KVKs
Andhra Pradesh			
Crops	128	712	18
Animals	26	183	10
Women Empowerment	8	129	7
Sub Total	**162**	**1024**	
Telangana			
Crops	92	441	12
Animals	18	122	8
Women Empowerment	11	60	7
Sub Total	**121**	**623**	
Maharashtra			
Crops	217	2485	32
Animals	41	626	23
Women Empowerment	36	647	18
Sub Total	**294**	**3758**	

Category	No. of technologies	No. of trials	No. of KVKs
Zone-V			
Crops	437	3638	62
Animals	85	931	41
Women Empowerment	55	836	32
Total	**577**	**5405**	

Table: 3.2. Details of thematic area wise technologies assessed by KVKs

Thematic Area	No. of Technologies	No. of trials	No. of KVKs
Crops			
Integrated Nutrient Management	82	671	40
Varietal Evaluation	115	1007	52
Integrated Pest Management	75	634	43
Integrated Crop Management	47	401	28
Integrated Disease Management	23	193	20
Small Scale Income Generation Enterprise	2	12	2
Weed Management	21	136	18
Resource Conservation Technology	18	90	15
Farm Management	8	69	6
Integrated Farming System	6	39	6
Seed/ Plant Production	2	20	2
Post Harvest Technology/Value addition	9	93	7
Drudgery Reduction	23	227	17
Storage Technique	6	46	9
Sub Total	**437**	**3638**	
Animals			
Disease Management	17	212	11
Evaluation of Breeds	18	185	18
Feed and Fodder management	23	268	23
Nutrition Management	14	154	12
Production and Management	9	34	6
Others (Pl. specify)	4	78	4
Sub Total	**85**	**931**	
Women Empowerment			
Drudgery Reduction	31	534	26
Entrepreneurship Development	5	39	6
Health and Nutrition	16	236	17
Value Addition	3	27	3
Sub Total	**55**	**836**	

Table: 3.3. Details of thematic area wise assessment of technologies in Andhra Pradesh

Thematic Area	No. of Technologies	No. of trials	No. of KVKs
Crops			
Integrated Nutrient Management	12	54	6
Varietal Evaluation	20	101	10
Integrated Pest Management	20	85	10
Integrated Crop Management	11	43	5
Integrated Disease Management	8	31	7
Small Scale Income Generation Enterprise	1	2	1
Weed Management	2	12	2
Resource Conservation Technology	7	25	5
Farm Management	3	35	2
Integrated Farming System	1	1	1
Seed/Plant Production	1	10	1
Drudgery Reduction	5	37	1
Storage Techniques	1	5	1
Sub Total	**92**	**441**	
Animals			
Disease Management	6	43	3
Evaluation of Breeds	4	13	2
Feed and Fodder management	2	11	2
Nutrition Management	3	52	1
Production and Management	3	3	1
Sub Total	**18**	**122**	
Women Empowerment			
Drudgery Reduction	6	40	6
Entrepreneurship Development	2	7	2
Health and Nutrition	3	13	4
Sub Total	**11**	**60**	

Table: 3.4. Details of thematic area wise assessment of technologies in Telangana

Thematic Area	No. of Technologies	No. of trials	No. of KVKs
Crops			
Integrated Nutrient Management	20	142	12
Varietal Evaluation	55	270	16
Integrated Pest Management	17	92	12
Integrated Crop Management	8	42	8
Integrated Disease Management	4	18	5

Thematic Area	No. of Technologies	No. of trials	No. of KVKs
Weed Management	7	42	7
Resource Conservation Technology	5	18	5
Farm Management	2	9	2
Integrated Farming System	3	17	3
Post Harvest Technology/ Value addition	1	5	1
Drudgery Reduction	3	31	6
Storage Techniques	3	26	6
Sub Total	**128**	**712**	
Animals			
Disease Management	5	19	4
Evaluation of Breeds	7	57	5
Feed and Fodder management	8	47	5
Nutrition Management	1	10	1
Production and Management	4	20	3
Others (Pl. specify)	1	30	1
Sub Total	**26**	**183**	
Women Empowerment			
Drudgery Reduction	8	129	7
Sub Total	**8**	**129**	

Table: 3.5. Details of thematic area wise assessment of technologies in Maharashtra

Thematic Area	No. of Technologies	No. of trials	No. of KVKs
Crops			
Integrated Nutrient Management	50	475	22
Varietal Evaluation	40	636	26
Integrated Pest Management	38	457	21
Integrated Crop Management	28	316	15
Integrated Disease Management	11	144	8
Small Scale Income Generation Enterprise	1	10	1
Weed Management	12	82	9
Resource Conservation Technology	6	47	5
Farm Management	3	25	2

Thematic Area	No. of Technologies	No. of trials	No. of KVKs
Integrated Farming System	2	21	2
Seed/Plant Production	1	10	1
Post Harvest Technology/Value addition	8	88	6
Drudgery Reduction	15	159	10
Storage Technique	2	15	2
Sub Total	**217**	**2485**	
Animals			
Disease Management	6	150	4
Evaluation of Breeds	7	115	11
Feed and Fodder management	13	210	16
Nutrition Management	10	92	10
Production and Management	2	11	2
Others (Pl. specify)	3	48	3
Sub Total	**41**	**626**	
Women empowerment			
Drudgery Reduction	17	365	13
Entrepreneurship Development	3	32	4
Health and Nutrition	13	223	13
Value Addition	3	27	3
Sub Total	**36**	**647**	

PERFORMANCE OF TECHNOLOGIES

3.1.1 FIELD CROPS

Varietal evaluation

Performance of RNR-15048 Paddy variety

RNR 15048 matures in 125 days as compared to BPT 5204 (150 days) and recorded about 6% yield increase when compared to farmers practice. In addition to yield, blast incidence was not observed in the trial.

KVK Chittoor (RASS)

Technology Assessed	No. of trials	Yield (q/ha)	*Net Returns (Rs./ha)*	BC Ratio
Technology: RNR 15048	10	69.00	45000	1.90
Farmers Practice: BPT 5204		65.08	40000	1.80

Paddy variety RNR 15048, KVK Chittoor (RASS)

Foxtail Millet variety Suryanandi, KVK East Godavari (Pandirimamidi)

Testing of improved varieties in Foxtail millet

To enhance the yield potential of foxtail variety, an improved variety "Suryanandi" was evaluated for its performance in the tribal areas of East Godavari district by KVK East Godavari (Pandirimamidi). The variety "Suryanandi" gave 35% increase in yield over local variety and matured 10 days earlier than the check.

KVK East Godavari (Pandirimamidi)

Technology Assessed	No. of trials	Yield (q/ha)	Net Returns (Rs. /ha)	B:C ratio
Foxtail millet (Suryananandi)	5	21.25	19000	2.26
Farmers Practice (Srilakshmi)		16.50	10400	1.65

Finger millet variety for rainfed situations

Farmers are using local variety i.e. Dhavali gari finger millet for cultivation. This is late duration variety which is of 130 to 135 days for harvesting. It is susceptible to blight disease and hence resulting in low yield. KVK, Nashik (YCMOU) assessed the performance of Phule Nachani variety which is erect and non-lodging with duration of 115-120 days. Phule Nachani variety recorded an average yield of 5.70 q/ha compared to local variety (3.75 q/ha).

KVK Nashik (YCMOU)

Technology Assessed	No. of trials	Yield (q/ha)	Net Returns (Rs./ha)	B:C ratio
Finger millet variety Phule Nachani	10	5.70	16200	1.40
Farmers practice (Local variety - Dhavali gari ragi)		3.75	12050	1.24

OFT demo plot of Finger Millet var. Phule Nachani at KVK Nashik (YCMOU)

Performance of yellow mosaic resistant cultivar of Blackgram (GBG-1)

KVKs of Guntur (Lam) and Krishna (Garikapadu) evaluated the performance of YMV tolerant variety over popular cultivated variety LBG 752/PU 31. About 15 % increase in yields was observed over farmers' variety.

KVK Krishna (Garikapadu)

Technology Assessed	No. of trials	Yield (q/ha)	Net Returns (Rs. /ha)	BC Ratio
Blackgram YMV resistant cultivar (GBG -1)	10	12.30	55300	3.9
Farmers Practice: LBG 752		10.64	40840	2.05

KVK Guntur (lam)

Technology Assessed	No. of trials	Yield (q/ha)	Net Returns (Rs./ha)	B:C ratio
Blackgram YMV resistant cultivar (GBG -1)	9	9.65	41862	3.2
Farmers practice LBG-752		7.14	25065	2.2

OFT of improved Blackgram variety, KVK Guntur (Lam)

Assessment of improved Okra cultivar Phule Vimukta

KVK Dhule assessed the new improved YMV resistant okra cultivar Phule Vimukta released by MPKV, Rahuri which gave 5 % increase in yield over hybrids with a BC ratio of 5.46 and net returns of Rs 260073.

KVK Dhule

Technology Assessed	No. of trials	Yield (q/ha)	Net Returns (Rs. /ha)	B:C ratio	% increase in yield over control
Improved YMV resistant Okra cultivar (Phule Vimukta)	13	1803.1	260073	5.46	5.01
Hybrids		1704.2	186553	4.19	

Improved variety of Okra Phule Vimukta, KVK Dhule

Assessment of improved Soybean varieties

Farmers generally prefer JS-335 which is less tolerant to terminal drought, girdle beetle, shoot fly and diseases like pod blight and prone to early after maturity. Assessment trial was conducted by KVK Beed (Ambajogai) with improved MAUS-158 and 162 and 71 which gave higher yield and better returns.

KVK Beed (Ambajogai)

Technology Assessed	No. of trials	Yield (q/ha)	Net Returns (Rs./ha)	B:C Ratio	Number of branches/plant	Number of pods/plant
Soybean varieties MAUS-71	10	22.25	43000	2.46	14.4	123-140
MAUS-162		23.25	46000	2.55	15.9	132-150
MAUS-158		24.37	49360	2.65	14.2	146-160
Farmers Practice (JS 335)		14.87	20860	1.76	12.2	77-85

Performance of Soybean variety MAUS-158, KVK Beed (Ambajogai)

Assessment of Soybean variety MACS-1188 in Marathwada

MACS-1188, a recently released variety for cultivation in Marathwada was assessed at Nanded which gave > 9 q/ha yield advantage over JS 335.

KVK Nanded (Pokharni)

Technology Assessed	No. of trials	Yield (q/ha)	Net Returns (Rs./ha)	B:C ratio
Varietal evaluation of Soybean MACS-1188	5	29.16	53432	3.1
Farmers Practice JS 335		20.58	37466	2.6

Performance of MACS -1188 Soybean variety, KVK Nanded (Pokharni)

Assessment of improved Wheat variety NIAW-1994 (Phule Samadhan)

Improved wheat variety NIAW-1994 was assessed along with soil test based nutrient application and sowing with seed drill for better crop stand. Phule Samadhan gave an additional yield of 5 q/ha.

KVK Aurangabad

Technology Assessed	No. of trials	Yield (q/ha)	Net returns (Rs./ha)	B:C ratio
Wheat variety NIAW-1994 (Phule Samadhan)	10	36.5	46000	2.73
Farmers practice (Lok-1)		31.2	39320	1.95

Performance of improved Wheat variety NIAW-1994 (Phule Samadhan)

3.1.2 Horticultural crops

Assessment of improved Tomato variety (Arka Rakshak)

Arka Rakshak tomato variety with triple resistance to leaf curl virus, bacterial wilt and early blight was evaluated by KVK Hingoli which gave 354 q/ha compared to farmers practice (265 /ha) with a B:C ratio of 4.53.

KVK Hingoli

Technology Assessed	No. of trials	Yield (q/ha)	Net Returns (Rs. /ha)	B:C ratio
Tomato variety Arka Rakshak	10	354	193200	4.53
Farmers Practice (Private hybrids)		265	113100	2.56

Performance of Tomato variety (Arka Rakshak), KVK Hingoli

Performance of high yielding Sugarcane variety (2003 T 121)

Farmers cultivate 86 V 96 variety of Sugarcane which is low yielding and flowers at the time of harvesting. 2003 T 121 sugarcane variety developed by ANGRAU is early maturing, non-flowering type with a duration of 10 months, tolerant to red rot and with a sucrose content of 19-20% was evaluated for its performance in Chittoor district. The variety gave an yield advantage of 9.0 q/ha over check.

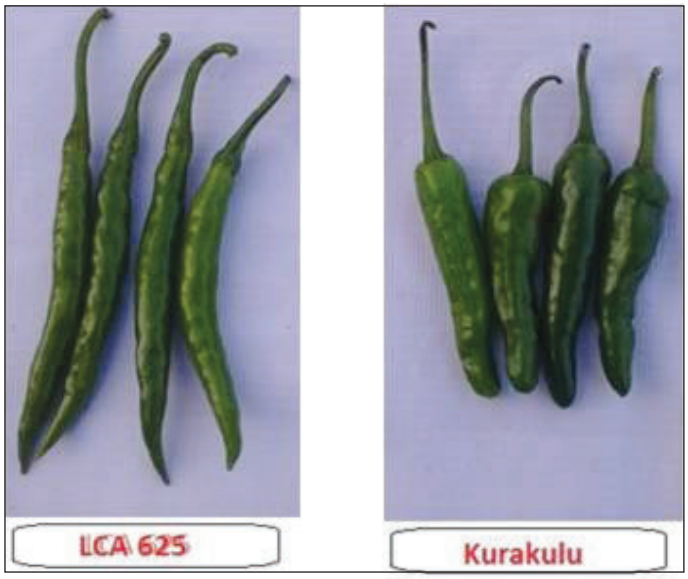
KVK Chittoor (RASS)

Technology Assessed	No. of trials	Yield (q/ha)	Net returns (Rs. /ha)	B:C ratio
Sugarcane variety (2003 T 121)	4	107	112000	1.87
Farmers Practice (Variety 86 V 96)		98	91800	1.71

Early maturing Sugarcane variety (2003 T 121), KVK Chittoor (RASS)

Chilli variety LCA-625

The high yielding chilli variety LCA 625 was tested in three districts: Warangal, East Godavari and Mahabubnagar. LCA-625 recorded higher yield than check. Low seed cost and better tolerance to sucking pests and diseases make LCA 625 competetive to private hybrids.



Performance of LCA 625 Chilli variety

KVK Mahabubnagar (Madanapuram)

Technology Assessed	No. of trials	Yield (q/ha)	Net Returns (Rs. /ha)	B:C ratio
LCA-625	5	46.0	332500	3.63
Farmers Practice (Kurakulu)		40.9	295635	2.720

Evaluation of Turmeric variety (JTS-6)

JTS-6 turmeric variety proposed for release in 2016 and recommended for cultivation in Telangana was tested in Nizamabad, Warangal and Chittoor districts. The variety recorded 21.5% increased yield with more dry rhizome recovery compared to local Armoor variety grown by the farmers in Nizamabad district. In Warangal district, the improved variety showed an increase of 8.5% over the local with higher dry rhizome recovery yield (17.2 %) with higher curcumin. In Chittoor district, JTS-6 variety raised through single node in protrays gave 56 q/ha with B:C ratio of 1.9. Compared to conventional method of cultivation, farmers saved more than half of the seed material.

KVK Nizamabad

Technology Assessed	No. of trials	Yield (q/ha)	Net Returns (Rs./ha)	B:C ratio
Turmeric variety JTS - 6	3	65.83	476350	1.74
Farmers Practice (Armoor)		54.16	368750	1.50

Performance of Turmeric variety (JTS-6) in Nizamabad

Evaluation of nematode resistant variety of Marigold (Arka Agni)

Marigold is the major flower crop of Anantapur and Nellore districts. Farmers are growing low yielding varieties which have low market rate with low resistance to nematodes which causes heavy losses to crops. Hence there is a need to introduce high yielding nematode resistant marigold varieties which. Improved variety Arka Agni gave higher number of round flowers (150-200 flowers/plant) with shelf life of 3-4 days as compared to lower number of smaller sized flowers (100-150 flowers/plant).

KVK Anantapur (Kalyandurg)

Technology Assessed	No. of trials	Yield (q/ha)	Net Returns (Rs./ ha)	B: ratio
Marigold variety (Arka Agni)	3	136	359000	8.32
Local variety		88.4	189000	5.52

KVK Nellore

Technology Assessed	No. of trials	Yield (q/ha)	Net Returns (Rs. /ha)	B:C ratio
Marigold variety (Arka Agni)	3	136.1	223360	7.17
Local Marigold variety		86.2	141242	3.58

Evaluation of Marigold variety (Arka Agni)

Assessment of Ginger variety

KVK East Godavari introduced "Maran' varieties for assessing their performance in 5 locations against the farmers' practice of local (Narsipatnam local) variety. Sprouted seed material was distributed to farmers and the seed was sown on elevated/ raised seed beds after thorough seed treatment. Recommended package of practices were followed, and over 115% increase in yield of variety Maran was recorded as compared to local variety. Crop vigour is good and no incidence of pests and disease

KVK East Godavari

Treatments	No. of trials	Yield (q/ha)	Net Income (in Rs.)	B:C Ratio
Local variety (Narsipatnam local)	5	51.8	51,720	1:1.5
Variety 'Maran'		128.6	1,92,940	1:2.0

Performance of improved kharif Onion varieties

KVK Beed (Ambajogai) and KVK Beed (Khamgaon) assessed the performance of improved varieties of onion Bhima Super and Bhima Raj for their suitablilty for cultivation in Beed district. Results showed that Bhima super gave higher yield with good characteristics of bulb size, weight, colour and ring traits. Variety Bhima Super is best for cultivation during kharif season in Beed district.

KVK Beed (Ambajogai & Khamgaon)

Technology Assessed	No. of trials	Yield (t/ha)	Net Returns (Rs./ha)	B:C ratio	Average weight g/bulb	Percentage of single ring onion
Bhima Super	10	245.5	101440	2.06	70	80
Bhima Raj		201.5	56162	1.59	65	80
Farmers practice		144.1	19666	1.30	60	20

Onion varieties (Bhima Super and Bhima Raj)

Crop Diversification

Crop Diversification with ginger crop for higher returns

Adilabad district has large area under irrigated red soils which is suitable for ginger cultivation. KVK Adilabad tested Ginger as an alternate crop instead of turmeric which is cultivated in the district. Ginger gave 45% higher returns with a B:C Ratio of 4.7 indicating its suitability for cultivation in irrigated red soils.

KVK Adilabad

Technology Assessed	No. of trials	Yield (q/ha)	Net Returns (Rs./ha)	B:C Ratio
Ginger	5	300	828000	4.7
Turmeric		100	460000	2.9

Performance of ginger crop in Adilabad district

Integrated Nutrient Management

Enrichment of soil fertility and enhancement of farmers income through demonstration of Greengram as preceding crop to Paddy

Paddy yields are declining year after year due to continuous monocropping which has depleted the nutrients. Organic carbon is on the decline. Only few farmers raise green manure crops before kharif paddy while most of them leave the land fallow in Warangal district. Feasibility of Greengram as a preceding crop to kharif paddy was tested by KVK Warangal (Mamnoor) and KVK Warangal (Malyal). Performance of paddy was very good in the field where greengram was raised as preceding crop despite reducing nitrogen application by 25%. At Malyal, 16.5 % increase in Paddy yield was observed in the trial where greengram preceded paddy.

KVK Warangal (Mamnoor)

Technology Assessed	No. of trials	Yield (q/ha)	Net Returns (Rs./ha)	B:C ratio
Raising Greengram as preceding crop to kharif paddy	5	Paddy: 75 Greengram: 4	77000	2.10
Farmers Practice (Leaving land fallow and directly raising sole paddy)		70	56000	1.90

KVK Warangal (Malyal)

Technology Assessed	No. of trials	Yield (q/ha)	Net Returns (Rs./ha)	B:C ratio
Raising Greengram as preceding crop to paddy	5	58	73325	1.79
Farmers Practice: (Leaving land fallow and directly raising sole paddy)		50	59390	1.54

Soil enrichment through Greengram cultivation preceding rabi Paddy crop

Assessment of micronutrient spray in rabi Groundnut

KVKs Anantapur (Kalyandurg) tested application of micronutrients (Formula-4) @1.25 kg/ha at 30 and 60 days after sowing which gave 1 q/ha yield advantage.

KVK Anantapur (Kalyandurg)

Technology Assessed	No. of trials	Yield (kg/ha)	Net Returns (Rs./ha)	B:C ratio
Application of micro nutrients along with macro nutrients	5	21.40	67268	2.17
Farmers Practice-application of Macro nutrients only		20.45	58823	1.98

Effect of micronutrients application on Chilli yield

KVK Krishna conducted trials to show the performance of micronutrient sprays on chillies at 25-30 days after transplanting followed by sprays at 30 days interval. The results indicated that foliar spray of micronutrient enhanced quality of produce and also resulted in higher yields.

KVK Krishna

Technology Assessed	No. of trials	Yield (q/ha)	Net Returns (Rs./ha)	B:C ratio
Application of micronutrient sprays	5	68.71	230776	2.50
Farmers Practice		57. 71	173176	2.15

Cropping Systems

Intercropping of cotton with greengram, soybean and pigeonpea was tested by KVK, Adilabad. Cotton + greengram recorded highest B:C ratio when compared to sole cotton.

KVK Adilabad

Technology Assessed	No. of trials	Yield (q/ha)		Net Returns (Rs./ha)	B:C ratio
		Cotton	Intercrop		
Cotton + soybean (1:1)	3	21.3	5.5	26000	2.10
Cotton + Greengram (1:1)		23.0	4	30000	2.24
Sole cotton		22.5		25000	2.14
Cotton + Pigeonpea (8:1)		20.0	2.8	23000	1.95

Assessment of Pigeonpea based intercropping systems in rainfed situation

On farm testing on assessment of pigeonpea based intercropping Systems in rainfed situation was conducted during the kharif 2016 by KVK Kurnool (Yagantipalle). Among the cropping systems, greengram and blackgram resulted in highest pigeonpea equivalent yields.

KVK Kurnool (Yagantipalle)

Technology Assessed	No. of trials	Yield (q/ha)	Pigeonpea Equivalent Yield (q/ha)	Land equivalent ratio (LER)	Net Returns (Rs./ha)	B:C ratio
Pigeonpea + Greengram (1:5)	6	8.54	14.38	1.53	25247	1.53
Pigeonpea + Blackgram(1:5)		8.30	13.68	1.43	20090	1.53
Pigeonpea + Setaria 1:5)		7.90	11.95	1.64	21036	1.43
Farmers practice (Pigeonpea) (Sole)		10.10	10.10	1.0	18855	1.52

Performance of Pigeonpea intercropping systems in Kurnool

Intercropping of Pigeonpea + Greengram as alternative to Bt Cotton in rainfed red chalka soils

In order to change the cropping system in red chalka soils which have medium fertility with low N, medium P and high K, alternate crops to cotton were evaluated by KVK Warangal (Mamnoor). Intercropping of pigeonpea + greengram gave highest net returns compared to farmers practice.

KVK Warangal (Mamnoor)

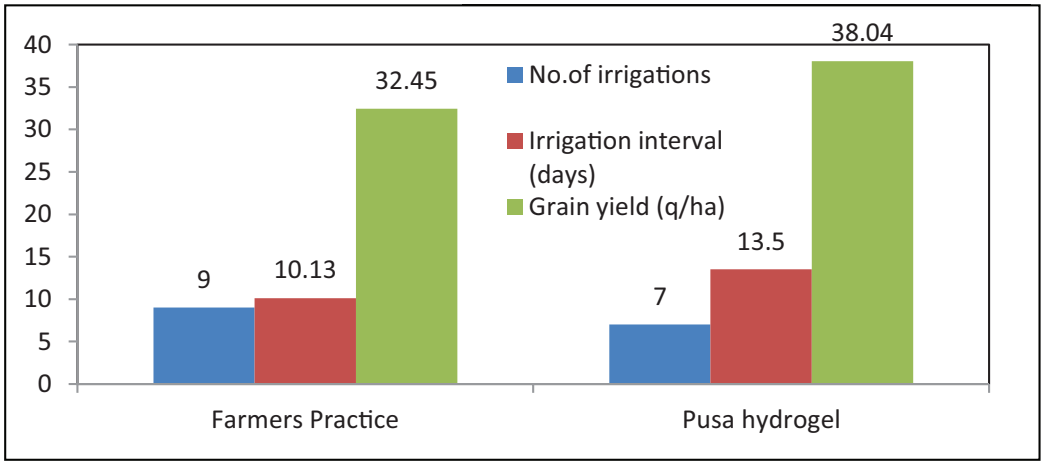
Technology Assessed	No. of trials	Yield (q/ha)	Net Returns (Rs./ha)	B:C ratio
Intercropping Pigeonpea and Greengram (1: 3)	5	Greengram-4.5 Pigeonpea-17.5	73000	3.07
Planting Bt Cotton hybrid		10	51000	1.66

Intercropping of pulse crops as alternative to Cotton, KVK Warangal (Mamnoor)

Performance of Pusa hydrogel on Wheat in medium black soils

Pusa hydrogel, a semi-synthetic super absorbent polymer, was assessed in wheat crop to reduce moisture stress and increase water use efficiency. Line Sowing of wheat along with Pusa hydrogel application @2.5 kg/ha using seed cum fertilizer drill gave 17% increased yield over farmers practice and reduced frequency of irrigation by 3.4 days on an average.

Technology Assessed	No. of trials	Yield (q/ha)	Net Returns (Rs./ha)	B:C ratio
Line Sowing of wheat along with Pusa hydrogel application @2.5kg/ha by seed cum fertilizer seed drill.	13	38.04	34864	2.34
Farmers Practice(Line Sowing of wheat)		32.45	28420	2.20



Effect of Pusa hydrogel on Wheat

Intercropping of Potato in Sugarcane

KVK Nandarbar evaluated the intercropping of potato in sugarcane which gave 83 q/ha potato yield in 85 days with additional returns of Rs.82145 with a B:C ratio of 2.62.

KVK Nandurbar

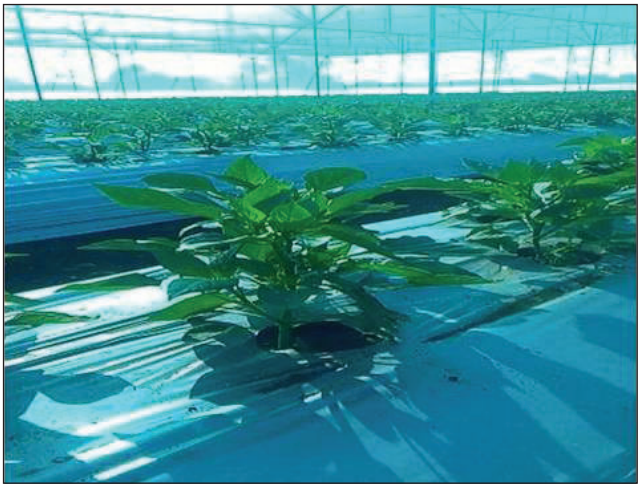
Technology Assessed	No. of trials	Yield (q/ha)	Net Returns (Rs./ha)	B:C ratio
Potato intercropping in sugarcane	10	Sugarcane: 1196.9 Potato: 83.0	227243	2.62
Farmers Practice		1175	145098	2.28

Soil test based nutrient application in Capsicum

KVK Beed (Ambajogai) conducted assessment trials on soil test based nutrient application in Capsicum under shade net. Application of water soluble fertilizers @ 2 kg twice a week during rabi season gave 37% higher fruit yield with a B:C ratio of 1.64.

KVK Beed (Ambajogai)

Technology Assessed	No. of trials	Yield (q/ha)	Net Returns (Rs./ha)	B:C ratio	Average weight of g/fruit	Height of plant (cm)
Application of Water soluble fertilizer in capsicum	10	2025	118750	1.64	175	140
Farmers Practice		1275	74768	1.10	125	110

Soil test based nutrient application in Capsicum under shadenet

Check Basin Former for Onion Cultivation

In Nashik district, most of the farmers cultivate onion in check basins which is labour intensive and costly. KVK Nashik (Malegaon) assessed check basin former implement for onion cultivation which was developed by MPKV, Rahuri. The practice minimized cost of production of onion by Rs.1875 to Rs.2500/ ha. The implement could cover 0.5 ha/h.

KVK Nashik (Malegaon)

Technology Assessed	No. of trials	Yield (q/ha)	Net Returns (Rs./ha)	B:C ratio
Phule check basin former	5	435	172750	1.57
Farmers Practice		420	160500	1.42


Assessment of Phule Check Basin Former for onion cultivation, KVK Nashik (Malegaon)

Application of urea briquette fertilizer in Rice

Low yield is the major constraint in Paddy crop due to imbalanced use of fertilizer. Farmers are unaware about soil testing, seed treatment & fertilizer management. KVK Pune (Narayangaon) assessed the application of urea briquette @162.5kg/ha which gave 19% higher yield with net returns of Rs.91000 and a B:C ratio of 2.41.

KVK Pune (Narayangaon)

Technology Assessed	No. of trials	Yield (q/ha)	Net returns (Rs. /ha)	B:C ratio
Application of urea briquette fertilizer use in Rice	10	39.50	91000	2.41
Farmers practice		33.00	56000	1.81

Urea briquette application in Rice, KVK Pune (Narayangaon)

Growth regulator on Soybean in black soils

KVK Ahmednagar (Babhleshwar) assessed the foliar application of growth regulator chloromequot chloride @ 1000 ppm applied at 40 days after sowing on soybean to prevent excessive vegetative growth and to induce flowering. Foliar application of chloromequot chloride on soybean gave 10.5% higher yield than farmers practice.

KVK Ahmednagar (Babhleshwar)

Technology Assessed	No. of trials	Yield (q/ha)	Net Returns (Rs./ha)	B:C ratio
Foliar application of plant growth regulator: Chlormequot chloride @ 1000 ppm at 40 DAS	13	24.80	71745	1.75
Farmers practice		22.45	64925	1.63

Greengram intercropping in Cotton

Wide row spacing in Bt Cotton (150 x 30 cm) with greengram intercropping (1:1) was assessed by KVK, Nagpur. Cotton yield was 21q/ha C1 q/ ha yield of cotton and additional yield of greengram 4 q/ ha with B:C ratio of 2.72. As far as net income is concerned cotton farmers get Rs 43000 / ha while demo farmers got Rs 86300 /ha.

KVK Nagpur

Technology Assessed	No. of trials	Yield (t/ha)	Net Returns (Rs./ha)	B:C ratio
Maintaining the optimum plant population by wide row spacing (5ft. x 1ft.) with greengram as intercrop (1:1)	10	2.1 + 4 (Greegram)	86300	2.72
Sowing of sole cotton on 4ft. x4ft./3ft. x3ft. spacing		1.6	43000	1.95

Wide row spacing in Cotton intercropped with Greengram, KVK Nagpur

3.1.3. Integrated Pest and disease management

Management of white fly in Brinjal

Heavy infestation of white fly is being regularly noticed on brinjal crop during summer season. Area under this crop is steadily increasing and the farmers are unaware of the proper management practices. KVK Ahmednagar (Babhleshwar) tested the use of Spiromesifen 240 SC to effectively manage this pest. Application @ 0.75 ml/lit two sprays at 10 days interval after pest incidence gave 12.5 % higher yield than farmers practice. Pest intensity of white fly was reduced to 2.2 % as compared to 7.4 % in farmers practice.

KVK Ahmednagar (Babhleshwar)

Technology Assessed	No. of trials	Yield (q/ha)	Net Returns (Rs. /ha)	B:C ratio
Use of karanj oil and sticky traps, sprayof Spiromesifen 240 SC @ 0.75 ml/l	13	337.5	187369	2.39
Farmers Practice		300	169217	2.16

Insect proof Nylon nets for quality vegetable seedling production

The production of good quality vegetable seedlings is essential for optimizing crop growth and yields in vegetable crops. For prevention of viral infestation due to sucking pests like white fly, jassids and aphids, nursery seedling stage is crucial for establishment of a healthy crop. Insect proof nylon nets (50 mesh) was assessed for quality vegetable seedling production by KVK Nashik (YCMOU). This technology gave higher returns due to production of healthy seedling at farmer level.

KVK Nashik (YCMOU)

Technology Assessed	No. of trials	Yield (q/ha)	Net Returns (Rs./ha)	B:C ratio
Insect proof nylon net in vegetable nurseries	20	290	135020	1.40
Farmers Practice		225	63500	1.37

Use of foliar micronutrient formulation for quality and productivity in Banana

KVK Dhule tested foliar micronutrients formulation in Banana/Product developed by IIHR, Bangalore, along with recommended spray scheduled @5g/l,5,6,7 and 9 months after planting. B:C ratio was 2.9 compared to 1.8 in farmers practice.

KVK Dhule

Technology Assessed	No. of trials	Yield (q/ha)	Net Returns (Rs. ha)	B:C ratio	Avg Bunch weight (Kg)
Foliar micronutrients formulation (Banana Special)	10	82.36	439329	2.9	22.25
Farmers Practice		72.73	282713	1.8	19.52

Quality Banana production with foliar micronutrient sprays, KVK Dhule

Management of Tomato pin worm (Tomato Leaf miner)

Leaf miner, Tuta absoluta is a new pest on tomato and other cucurbit crops. IPM practices were tested against it in KVK Mahabubnagar and KVK Adilabad. Yield advantage was 9.9% over farmers' practice of relying on pesticides alone.

KVK Adilabad

Technology Assessed	No. of trials	Yield (q/ha)	Net Returns (Rs./ha)	B:C ratio
IPM Practices	3	406	201000	2.5
i) Pheromone traps @ 4 / acre				
ii) Border crop (Marigold)				
iii) Neem Oil @ 5ml/l (regular intervals)				
iv) Need Based chemicals : Spinosad @ 0.3ml/l and chlorantraniliprole 0.3 ml/ l.				
Farmers practice: Triazophos @2ml/l, Neem Oil @ 5ml/ lt Novaluron @ 1 ml/l and Spinosad @0.3 ml/l		375	174000	2.2

KVK Mahabubnagar (Madanapuram)

Technology Assessed	No. of trials	Yield (q/ha)	Net Returns (Rs./ha)	B:C ratio
IPM Practices	10	242	96450	3.01:1
Farmers Practice (Chemicals alone)		176	59950	2.29:1

IPM practices for Tomato pin worm, KVK Mahabubnagar (Madanapuram)

IPM in Chillies

KVK Warangal (Malyal)

In Warangal district, integrated pest management practices (healthy nursery, border crop, erecting yellow sticky traps, need based chemical spray with insecticides) were tested against farmers practice of insecticidal sprays. Following the IPM technology, farmers realized yield of 65 q/ha as against farmers practice of 54 q/ha.

KVK Warangal (Malyal)

Technology Assessed	No. of trials	Yield (q/ha)	Net Returns (Rs./ha)	B:C ratio
IPM practices in chillies	5	65	304750	2.5
Farmers Practice: Chemical control		54	225950	1.7

IPM in chilli, KVK Warangal (Malyal)

Thrips and blotch management in Onion

KVK Kurnool assessed IPM module for management of thrips and blotch disease in onion which gave 8% higher yield compared to farmers practice.

KVK Kurnool (Yagantipalle)

Technology Assessed	No. of trials	Yield (q/ha)	Net Returns (Rs./ha)	B:C ratio
IPM practices in Onion • Sticky traps • Spray of Fipronil 5% @ 2 ml/l + Chlorothalonil @ 2 g/l at 30, 45 DAS and 60 DAS (3 sprays)	5	212.5	456902	1.22
Farmers Practice : Sprays of Carbosulfan @ 2 ml/l and COC @ 3 g/l		196.5	422500	1.06

3.1.4 Livestock species

Introduction of Osmanabadi goat in East Godavari district

Local goats give birth to one kid per year. They are poor milk yielders. Hence goat rearing is not much remunerative. The Osmanabadi goat is a native breed of Marathwada region of Maharashtra. The breed is dual purpose, useful both for meat and milk. KVK East Godavari (Kalavacharla) introduced the goat breed in the district. Results indicated that Osmanabadi goat was well adapted to East Godavari climate with better kidding ability, weight gain and milk yield.

KVK East Godavari (Kalavacherla)

Technology Assessed	No. of trials	Yield (Kids born)	Net Returns (Rs.)	B:C ratio
Osmanabadi goats	6	10	80000	8
Local breed		6 goats	42000	7

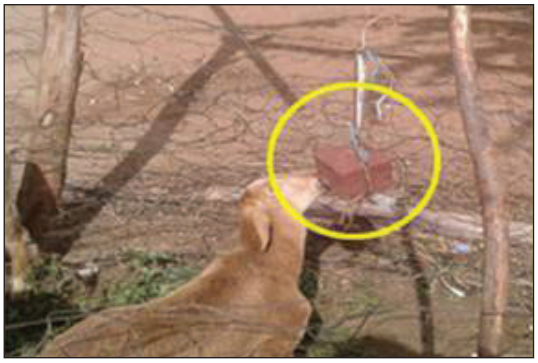
Assessing the performance of Osmanabadi goats, KVK East Godavari (Kalavacherla)

Use of mineral lick brick in Goat

KVK Osmanabad assessed the use of mineral lick brick in goats. It was observed that mineral supplementation induced early maturity and improved reproductive performance over farmers practice. With mineral supplementation problems such as faded hair, balding tail and rough skin declined.

KVK Osmanabad

Treatments	Reproduction by early maturity (/day)	Disease Resistance
Technology Assessed : feeding mineral lick brick + farmers practice	165	70% ability to fight common infection and parasites and general poor health
Farmers practice. Green Fodder 3kg + 400g Dry fodder + 200g concentrates.	193	40% ability to fight common infection and parasites and general poor health



Assessment of mineral lick block

Use of Mineral mixture, Mineral blocks to improve the milk production and breeding efficiency in cows.

Farmers provide available dry and green fodder & also send resort to grazing without giving concentrate or any other supplementary feed. This results in reduced breeding efficiency, longer inter-calving period, loss of milk and calf production. It leads to serious economic losses. KVK Amravati (Durgapur) assessed feeding and mineral mixture @50-100 g mineral blocks & commom salt (25-50 g/animal/day). Mixture. Results showed that combined effect of mineral mixture and mineral licking block with common salt increased milk yield and B:C ratio (1:62) as compared to farmer practice.

KVK Amravati (Durgapur)

Technology Assessed	No .of trials	Av. Milk Yield	Net Returns (Rs. /cow/day)	B:C ratio	Data on Other performance indicators
Mineral mixture @50-100 gms, mineral blocks & Common Salt @25-50 gms/ Animal/Day in conc. mixture	10	4.55 lit	70	1:1.62	Breeding Efficiency
Use of common salt @ 10-20 gms/ Animal/Day in conc. mixture		3.69 lit	48	1:1.49	Infertility

Treatment of anoestrus condition in cattle

The anoestrus percentage is moderate due to poor health management in cattle leading to poor heat induction and lengthening of calving period. KVK Beed, Ambajogai tested the effect of clomiphene citrate to induce heat in cattle. Timely management through use of Fertvet, Bollus Ferites, Bollus Ecostas was taken up. The technology tested resulted in enhancing heat induction by 65% as against farmers practice of 35%. The timely heat induction also regulated the production performance. The irregularity in heat induction can thus be corrected with timely treatment.

KVK Beed (Ambajogai)

Technology Assessed	No. of trials	Heat Induction%
Timely management through use of Fertvet, Bollus Ferites, Bollus Ecostas	25	60
Farmers Practice use of Prajana & Hitali		35

Feeding of Area Specific Mineral Mixture (ASMM) to lactating cows

Deficiency of minerals in the diet leads to prolonged inter-calving period, delayed ovulation, low milk yield in cows and late maturity in heifers. Area Specific Mineral Mixture (ASMM) prepared for Nagpur district as per formulation given by MAFSU @ 50g/cow/day for 100 days was assessed. 2 cows of each farmer were selected for assessing the effect of feeding of ASMM. All the farmers were feeding commercially available mineral mixture in varying quantity to their cows. One cow of each farmer fed with commercial mineral mixture available in local market was observed as farmer's practice and other experimental cow was fed with ASMM daily. The results indicated that there was slight improvement in milk production but significant improvement in reproductive performance with no occurrence of metabolic diseases due to inclusion of specific mineral premix in the daily diet of cows under trial. These is an increased milk yield as well as number of days in milking of treated cattle. Animals maintained on area specific mineral premix showed heat symptoms within 55-60 days after calving.

AI in a cow fed with ASMM

Concentrate prepared with ASMM

KVK Nagpur

Technology Assessed	No. of trials	Average Milk Yield (l/cow/day)	Net Returns (Rs./cow/lactation)	B:C ratio
Feeding of area specific mineral mixture (ASMM) @ 50 g/cow/day in addition to its daily diet for 100 days	30	9.25	24315	1.69
Feeding of mineral mixture available in local market @ 50 g/cow/day in addition to its daily diet for 100 days		8.75	21720	1.54

Data on other performance indicators

S.No.	Indicator	Farmers practice	ASMM
i)	Inter calving period (days)	397	340
ii)	Onset of oestrus after parturition (days)	115-120	55-60
iii)	No. of cows conceived	23	29
iv)	Conception rate (%)	76.67	96.67
v)	Incidence of metabolic diseases (%)	6.67	0
vi)	Fat content in milk (%)	4.0	4.5

Fisheries

Assessment of depth of pond as a factor for optimum growth of Vannamei prawn culture

Due to over stocking and over feeding, water quality is getting deteriorated in farming ponds, due to high pH, increase in Hydrogen Sulphide & Ammonia concentrations and low dissolved Oxygen levels. The growth rate and survival rates of Vannamei are affected due to lower pond depths especially in summer period. KVK Nellore evaluated the culture of vannamei species at different depths of pond. Good survival and growth rate were observed at 5-6 feet depth with survival rate of 70.4% and food conversion ratio (FCR) of 1.6 as against survival rate of 57.7 % & FCR of 1.94 in farmers practice.

KVK Nellore

Treatments	Yield (Kg/acre)	Net returns (Rupees)	B:C Ratio
Optimum pond depth for Vannamei prawn culture	1758	301000	1.79
Farmers practice	1273	139500	1.50

Vannamei catch, KVK Nellore

Sericulture

Foliar application of micro nutrients in Mulberry plantation

Farmers are not following the recommended foliar application of micronutrients resulting in low quality and less number of leaves in mulberry plants, leading to low cocoon production i.e., 40 to 50 kg/batch from 100 egg masses. Foliar application of micronutrients spray @ 35 days after cutting was evaluated by KVK Beed. Results indicated that foliar application of micronutrients improved leaf quality parameters and increased cocoon production by 21.7%

KVK Beed

Technology Assessed	No. of trials	Yield (q/ha)	Net Returns (Rs./ha)	B:C ratio	Per Cocoon weight (g)	No. of cocoons/kg	Size of leaves (cm)
Foliar micronutrient spray	5	218.45	59756	2.93	2.18	459.8	8.5
Farmers Practice		179.55	46296	2.64	1.78	559.9	6.78

Effect of foliar micronutrient spray on Mulberry, KVK Beed

3.1.5 Gender Specific Technologies

Drudgery reduction through use of agricultural implements

Assessment of Easy planter in transplantation of vegetable crops

Transplanting vegetable crops is resulting in great drudgery to the farm women due to in-appropriate postures and also inculcating more labour which in turn increases the cost of cultivation in vegetable crops. More number of women labour are required for transplantation which involves high cost on labour, more time, less efficacy on transplantation besides farm women facing lot of strain and pain in transplantation of vegetable crops which causes drudgery. To over come this problem, Easy planter was tested by four KVKs in Andhra Pradesh (Anantapur, Reddipalli, KVK Kurnool, KVK Chittoor and KVK Krishna). Three women labour could complete the transplanting of one acre within 3 to 4 hours.

Parameters observed	Traditional transplanting	Transplanting by using Easy Planter	Remarks
Time taken (hrs.)	8 hrs per acre	3 to 4 hours per acre	An amount of Rs. 500/- was saved by using easy planter apart from saving time
Number of plants per acre	16000 plants per acre in a Spacing 1-1.5 feet	15000 plants per acre with a Spacing 1-1.5 feet	
Cost of Labour	8 members per acre (Rs. 800/-)	3 members per acre (Rs. 300/-)	
Plant survival rate	60-70%	95-98% with healthy plants	

Drudgery index:

Activities	Coefficient pertaining difficulty score (X)	Coefficient pertaining to performance (y)	Coefficient pertaining to average time spent (Z)	DI
Easy Planter	0.46	0.2	0.6	42.00
Farmers practice	0.73	0.2	0.7	54.33

- DI Score between 70 & above = Maximum drudgery
- DI Score between 50 & 70 =Moderate drudgery
- DI Score between 50 & below=Minimum drudgery

Assessment of fertilizer dispenser (for application of fertilizer) in vegetable crops

More number of women labour are required for dispensing the fertilizers to the crops which involves high cost on labour, high cost on fertilizer, besides farm women facing lot of strain and pain in dispensing the fertilizer which causes drudgery. To reduce drudgery in women, to reduce the cost on labour and to apply fertilizer evenly to all the plants fertilizer dispenser is introduced to the farm women by three KVKs in

Andhra Pradesh (KVK Kurnool, KVK Chittoor and KVK Krishna). Fertilizer Dispenser was introduced for applying fertilizer in chilli crop, labour saving was Rs.600/- and cost on fertilizer was saved by Rs.2,000/- per acre. With the use of fertilizer dispenser, the drudgery was reduced from minimum to moderate, compared to manual application which was recorded from moderate to maximum. It was also noticed that, with the use of fertilizer dispenser the time taken for the activity, energy spent for the work and area covered was ranged from satisfied to moderately satisfied.

Performance of the technology

Observations	Manual	Applying with Fertilizer Dispenser	Remarks
Labour required/ac/crop period	16	12	• Uniform distribution of fertilizer • Avoids improper application • Fertilizer use efficiency is good due to application of correct quantity of fertilizer at root Zone
Cost Saving on labour for application of fertilizer/ac	Rs.2400/-	Rs.1800/-	
Saving of fertilizer/ac	-	Rs.2000/-	

Improved application of fertilizers using fertilizer dispenser

3.2 Frontline Demonstrations (FLDs)

KVKs organized frontline demonstrations (FLDs) to demonstrate the production potential of the important varieties and various production technologies at several location-specific farming/ agro-ecological situations. Training programmes and field days were organized for extension workers and farmers for rapid dissemination of improved technologies.

3.2.1 Field crops

A total of 13019 demonstrations covering 5509 ha under pulses, cereals, oilseeds, millets, commercial crops (cotton, sugarcane& tobacco) and fodder crops were organized by KVKs in Zone-V (Table 3.2.1). The major categories covered under FLDs in Andhra Pradesh include pulses (1573), cereals (326) and oilseeds (716). In Telangana, pulses (884), cereals (265) and oilseeds (294). In Maharashtra the major categories of the demonstrations are pulses (4444), millets (292), oilseeds (2291) and cereals (526). In pulses, 2833 demonstrations covering 1115 ha were organized in chickpea followed by pigeonpea (2178), greengram (1020) and blackgram (976). Among oilseed crops, 1397 demonstrations covering 586 ha were organized in soybean followed by groundnut (1124), sesamum (460), safflower (116), sunflower (96), linseed (73), niger (25) and castor (10). In cotton 506 demonstrations covering 206 ha were organized, while in sugarcane 158 demonstrations were organized in 60 ha. Among fodder crops, 135 demonstrations covering 25.65 ha were organized.

Table: 3.2.1. Details of category wise area under FLDs on field crops

Crop/ Category	Andhra Pradesh		Telangana		Maharashtra		Total	
	No. of Demos	Area (ha)	No. of Demos	Area (ha)	No. of Demos	Area (ha)	No. of Demos	Area (ha)
Cereals								
Maize	72	54.80	68	33.20	69	24.00	209	112.00
Rice	254	119.70	197	95.00	343	105.26	794	319.96
Wheat					114	34.80	114	34.80
Total	326	174.50	265	128.20	526	164.06	1117	466.76
Millets								
Finger Millet	15	6.00	10	4.00	49	9.40	74	19.40
Pearl Millet	20	10.00	30	10.40	38	12.60	88	33.00
Sorghum	510	204.00	10	4.00	205	73.60	725	281.60
Foxtail Millet			8	4.60			8	4.60
Total	545	220.00	58	23.00	292	95.60		
Oil Seeds								
Groundnut	312	185.80	154	63.60	658	261.40	1124	510.80

Crop/ Category	Andhra Pradesh		Telangana		Maharashtra		Total	
	No. of Demos	Area (ha)	No. of Demos	Area (ha)	No. of Demos	Area (ha)	No. of Demos	Area (ha)
Sesamum	328	174.00	32	20.00	100	40.00	460	234.00
Sunflower	76	47.60	10	0.40	10	1.00	96	49.00
Castor			10	4.00			10	4.00
Safflower			78	37.00	38	30.00	116	67.00
Soybean			10	4.00	1387	581.90	1397	585.90
Linseed					73	30.00	73	30.00
Niger					25	10.00	25	10.00
Total	716	407.40	294	129.00	2291	954.30	3301	1490.70
Pulses								
Blackgram	708	240.20	73	34.00	16	2.00	976	354.2
Chickpea	85	48.80	233	112.80	2515	993.50	2833	1155.10
Fieldpea	13	4.60			10	3.80	23	8.40
Greengram	294	146.80	196	94.40	530	223.20	1020	464.40
Pigeonpea	473	220.00	382	176.20	1323	517.00	2178	913.20
Cowpea							16	2.00
Horsegram					35	3.60	35	3.60
Lathyrus					15	20.00	15	20.00
Total	1573	740.40	884	417.40	4444	1763.1	6901	2920.90
Commercial								
Cotton	106	39.00	168	72.40	232	94.60	506	206.00
Sugarcane	10	4.00	4	2.00	144	54.16	158	60.16
Tobacco	6	1.00					6	1.00
Total	122	44.00	172	74.40	376	148.76	670	267.16
Fodder								
Maize			7	1.50			7	1.50
Sorghum			70	18.25			70	18.25
Berseem					10	1.00	10	1.00
Hybrid Napier Grass					28	2.90	28	2.90
Marvel grass					10	1.00	10	1.00
Oat					10	1.00	10	1.00
Total			77	19.75	58	5.9	135	25.65
Grand Total	**3282**	**1586.30**	**1750**	**791.75**	**7987**	**3131.72**	**13019**	**5509.77**

Pulses

In Andhra Pradesh, frontline demonstrations in chickpea were organized at Anantapur, Kadapa and Kurnool with improved variety NBeG-3 and recommended package of practices which gave higher yield (10.17 q/ha) compared to local check. In Telangana, Karimnagar, Mahabubnagar, Adilabad and Medak with improved variety Digvijay, NBeG-49 and NBeG-3 along with improved management gave higher yield (13.66 q/ha) compared to local check. In Maharashtra, higher yield response (25.99%) was noted with cv. BDNG-797, JAKI-9218, and Digvijay along with integrated nutrient management practices compared to farmers practice at Chandrapur, Ahmednagar, Beed, Dhule, Gondia, Kolhapur, Latur, Nagpur, Nanded, Nandurbar, Osmanabad, Satara, Sangli, Wardha, Amravati, Aurangabad, Buldhana, Pune, Nashik, Solapur and Jalna (Table 3.2.2).

Demonstrations in pigeonpea were organized by KVKs in Andhra Pradesh (Anantapur, Chittoor, East Godavari, Krishna, Kurnool, Prakasam, Visakhapatnam and Srikakulam) with improved varieties (cv. PRG-158 and LRG-41) gave higher yield (18.46 q/ha) compared to local check. Adilabad, Karimnagar, Khammam, Medak, Mahabubnagar, Nalgonda and Nizamabad of Telangana and improved varieties (cv. PRG-176 and WRG-65) gave higher yield (17.51 q/ha) compared to local check. In Maharashtra, improved varieties viz. BDN-711, PKV-TARA with improved management practices gave average yield increase of 28.30% in demonstrations at Ahmednagar, Aurangabad, Beed, Buldhana, Jalna, Chandrapur, Dhule, Hingoli, Gadchiroli, Lature, Nanded, Nagpur, Osmanabad, Pune, Wardha, Solapur, Washim, Amravati, and Yavatmal.

In blackgram, demonstrations were conducted at Chittoor, East Godavari, Krishna, Kurnool, Nellore, Prakasam, Visakhapatnam, Srikakulam and West Godavari in Andhra Pradesh with improved variety (TBG-104, LBG-787, MASH 114) and Integrated nutrient management, which resulted in higher yield response (13.72 q/ha) compared to local cheek.

Frontline demonstrations in greengram were organized at Chittoor, East Godavari, Kurnool, Nellore, Visakapatnam and Srikakulam with improved management and high yielding varieties viz. TM96-2, WGG-42 and LGG 460 which resulted in higher yield response (8.24 q/ha) compared to local cheek in Andhra Pradesh. Nalgonda in Telangana with nutrient management and improved variety, there was 26.18% increase in yield. At Aurangabad, Buldhana, Latur, Nanded, Nandurbar and Osmanabad, BM 2003-2 gave 34.15 per cent increase in yield as compared to local check.

FLD on Integrated Crop Management in Pigeonpea at KVK Beed (Khamgaon)

Chickpea var. Digvijay, KVK Amravati (Ghatked)

Table 3.2.2: Performance of FLDs on pulses

State	Crop	No. of Demos	Area (ha)	Yield (q/ha)		Increase (%)
				Demo	Check	
AP	Blackgram	513	240.20	13.72	12.23	12.18
AP	Chickpea	85	48.80	10.17	9.33	9.00
AP	Fieldpea	13	4.60	10.90	7.18	51.81
AP	Greengram	294	146.80	8.24	6.89	19.59
AP	Pigeonpea	473	220.00	18.46	15.45	19.48
TS	Blackgram	73	34.00	8.77	5.87	49.40
TS	Chickpea	233	112.80	13.66	11.10	23.06
TS	Greengram	196	94.40	13.69	10.85	26.18
TS	Pigeonpea	382	176.20	17.51	14.44	21.26
MS	Blackgram	195	80.00	8.36	6.06	37.95
MS	Chickpea	2515	993.50	16.24	12.89	25.99
MS	Cowpea	16	2.00	11.00	8.00	37.50
MS	Fieldpea	10	3.80	25.57	23.16	10.41
MS	Greengram	530	223.20	7.66	5.71	34.15
MS	Horsegram	35	3.60	7.50	6.18	21.36
MS	Lathyrus	15	20.00	3.03	2.35	28.94
MS	Pigeonpea	1323	517.00	15.05	11.73	28.30

Oilseeds

KVKs organized frontline demonstrations on soybean in twenty five districts of Maharashtra (Ahmednagar, Amravati, Dhule, Pune, Solapur, Jalgaon, Satara, Aurangabad, Beed, Buldhana, Hingoli, Jalna, Kolhapur, Latur, Nanded, Nandurbar, Nashik, Osmanabad, Parbhani, Sangli, Washim, Wardha and Yavatmal) improved varieties KDS-344, MAUS-158, MAUS-162, JS-336, MAUS-71, MACS-1188, JS-9560 and DS-228 were demonstrated along with nutrient management and plant protection measures. Results showed that improved varieties and management practices gave higher yield in Maharashtra (21.06 q/ha) compared to local check (Table 3.2.3). In Telangana, improved varieties viz. Basara along with improved management practices gave average yield (23 q/ha) in demonstrations at Adilabad.

Frontline demonstrations on groundnut were conducted in Andhra Pradesh, covering Anantapur, Chittoor, Guntur, Kadapa, Kurnool, Nellore, Srikakulam and in Telangana covering Adilabad, Mahabubnagar, Nalgonda and Warangal. Improved variety Dharani gave higher average yield (16.43 q/ha) in Andhra Pradesh and Telangana (22.77 q/ha) compared to local check. Similarly in Maharashtra, demonstrations were organized at Amravati, Buldhana, Dhule, Gondia, Hingoli, Kolhapur, Latur, Nanded, Nandurbar, Nashik, Satara, Pune, Ratnagiri, Sangli, Sindhudurg, Thane and Washim. Improved varieties viz. cv. TG-37A, TG-24, and JL-286 with nutrient management resulted

Field Day at KVK Pune (Baramati)

higher yield (17.92 q/ha) than local check (14.58 q/ha) (Table 3.2.3).

In case of sunflower, improved management practices resulted in higher yield 17.73 q/ha in Andhra Pradesh, 18.75 q/ha in Telangana and 16.59 q/ha in Maharashtra compared to local check (Table 3.2.3). Frontline demonstrations on sesamum organized in East Godavari, Guntur, Krishna, Kurnool, Visakaptnam, Srikakulam and West Godavari with improved varieties of YLM-66 gave yield of 9.24q/ha in Andhra Pradesh. In safflower yield increased to the tune of 14.47 per cent as compared to local check at KVK Latur. Frontline demonstrations on castor in Telangana and linseed in Maharashtra gave higher yields (35.8 and 26.3%, respectively) compared to local check.

Table 3.2.3: Performance of FLDs on oilseeds

State	Crop	No. of Demos	Area (ha)	Yield (q/ha)		Increase (%)
				Demo	Check	
AP	Groundnut	312	185.80	16.43	9.64	70.44
AP	Sesamum	328	174.00	9.24	6.98	32.38
AP	Sunflower	76	47.60	17.73	13.77	28.76
TS	Castor	10	4.00	8.15	6.00	35.83
TS	Groundnut	154	63.60	22.77	18.48	23.21
TS	Safflower	78	37.00	11.43	8.72	31.08
TS	Sesamum	32	20.00	7.80	6.40	21.88
TS	Soyabean	10	4.00	23.00	19.00	21.05
TS	Sunflower	10	0.40	18.75	17.00	10.29
MS	Sunflower	10	1.00	16.59	13.12	26.45
MS	Groundnut	658	261.40	17.92	14.58	22.91
MS	Linseed	73	30.00	4.03	3.19	26.33
MS	Niger	25	10.00	4.50	3.10	45.16
MS	Safflower	38	30.00	8.70	7.60	14.47
MS	Sesamum	100	40.00	8.92	6.50	37.23
MS	Soybean	1387	581.90	21.06	16.58	27.02

Cereals

Frontline demonstrations in rice were organized in Andhra Pradesh (Krishna, Srikakulam, Vishakhapatnam, Nellore, Kurnool, Kadapa, West Godavari, Chittoor, East Godavari. In Telangana Karimnagar, Mahabubnagar, Nalgonda and Warangal and in Maharashtra (Chandrapur, Gondia, Kolhapur,

FLD on management of blight and blast in rice at KVK Kurnool (Yagantipalle)

Nashik, Nandurbar, Pune, Thane and Ratnagiri). Improved varieties viz. cv. KNM-118, JGL-3844 and RNR-15048 (Andhra Pradesh and Telangana) and cv. Phule Samrudhi, Kajrat-7 (Maharashtra) along with improved management resulted in higher yield as compared to local check (Table 3.2.4).

Maize demonstrations were organized in Andhra Pradesh (Guntur, Krishna, Kurnool and Srikakulam) and in Telangana (Karimnagar, Khammam, Ranga Reddy and Warangal) and Ahmednagar, Amravati, Jalna, Pune and Solapur in Maharashtra with improved varieties viz. DHM-117, Kaveri and Sugar-75 and improved management such as zero tillage, soil test based nutrient management etc. Results indicated that improved varieties along with improved crop management technologies recorded higher yields (11.10, 13.11 and 4 percent in Andhra Pradesh, Telangana and Maharashtra respectively) compared to local check (Table 3.2.4).

In Maharashtra (Ahmednagar, Beed, Buldhana, Nashik, Kolhapur, Pune, Sangli and Satara) organized demonstrations on wheat with high yielding variety viz. NIAW along with management practices such as nutrient and weed management. There was increase in yield (21.79%) due to improved varieties and management compared to local check (Table 3.2.4).

Table 3.2.4: Performance of FLDs in cereals

State	Crop	No. of Demos	Area (ha)	Yield (q/ha)		Increase (%)
				Demo	Check	
AP	Maize	72	54.80	65.78	59.21	11.10
AP	Rice	254	119.70	61.98	56.77	9.18
TS	Maize	68	33.20	81.97	72.47	13.11
TS	Rice	197	95.00	66.06	58.87	12.21
MS	Maize	69	24.00	58.04	55.81	4.00
MS	Rice	343	105.26	52.10	37.68	38.26
MS	Wheat	114	34.80	35.60	29.23	21.79

Commercial crops

Frontline demonstrations on cotton were organized in Andhra Pradesh (Anantapur, East Godavari, Guntur, Kadapa, Kurnool, Prakasam and Srikakulam). In Telangana (Adilabad, Mahabubnagar, Nalgonda, Ranga Reddy and Warangal) and in Maharashtra (Amravati, Dhule, Hingoli, Jalna, Nanded, Nandurbar, Parbhani, Wardha and Washim) with improved varieties and management practices (Pest and nutrient management). Results indicated that improved varieties and management technologies resulted in higher yield in Andhra Pradesh (22.53 q/ha) in Telangana (24.88 q/ha), and Maharashtra (20.36 q/ha) compared to local varieties and management (Table 3.2.5).

Sugarcane demonstrations organized in Maharashtra (Ahmednagar, Kolhapur, Pune, Nashik and Sangli) focused mainly on integrated nutrient management along with improved management practices resulted in higher yield of 23.27% in Maharashtra (Table. 3.2.5).

Soil Test based Nutrient Management in Bt Cotton at KVK Kurnool (Yagantipalle)

Table 3.2.5: Performance of FLDs in commercial crops

State	Crop	No. of Demos	Area (ha)	Yield (q/ha)		Increase (%)
				Demo	Check	
AP	Cotton	106	39.00	22.53	19.99	12.71
AP	Sugarcane	10	4.00	75.00	67.00	11.94
AP	Tobacco	6	1.00	17.50	13.22	32.38
TS	Cotton	168	72.40	24.88	21.46	15.94
TS	Sugarcane	4	2.00	55.75	52.68	5.83
MS	Cotton	232	94.60	20.36	16.76	21.48
MS	Sugarcane	144	54.16	89.16	72.33	23.27

Millets

Frontline demonstrations on sorghum, in Andhra Pradesh (East Godavari), in Telangana (Ranga Reddy, Adilabad) and in Maharashtra (Pune and Wardha) conducted frontline demonstrations. Improved varieties PSV-56, Phule Revati, Phule vasudha, Parbhani Moti and PKV Kranti and integrated nutrient management resulted in higher yield in Andhra Pradesh (28.29 q/ha) and Maharashtra (17.78 q/ha). FLDs in Finger millet were organized in Telangana (Ranga Reddy) with improved variety (PRS-2) resulted in higher yield (10.10 q/ha).

Pearl millet demonstrations in Telangana (Mahabubnagar) with high yielding variety and improved management practices resulted in higher yields (19.67 %). In Maharashtra (Dhule, Nashik, Pune) with improved variety Dhanshakti increased yield by 25.77% (Table 3.2.6). KVK, Medak (Telangana) conducted frontline demonstrations on foxtail millet with improved variety (SIA-3085). There was higher yield response with improved variety (33.33 %).

Demonstration of Pearl millet hybrid PHB-3 at KVK Chittoor (RASS)

Table 3.2.6: Performance of FLDs on millets

State	Crop	No. of Demos	Area (ha)	Yield (q/ha)		Increase (%)
				Demo	Check	
AP	Finger millet	15	6.00	15.13	8.00	89.13
AP	Pearl millet	20	10.00	33.80	29.78	13.50
AP	Sorghum	510	204.00	28.29	24.26	16.61
TS	Finger millet	10	4.00	10.10	8.00	26.25
TS	Foxtail Millet	8	4.60	10.00	7.50	33.33
TS	Pearl millet	30	10.40	19.67	14.09	39.60

State	Crop	No. of Demos	Area (ha)	Yield (q/ha)		Increase (%)
				Demo	Check	
TS	Sorghum	10	4.00	12.65	8.32	52.04
MS	Finger millet	49	9.40	11.13	8.44	31.87
MS	Pearl millet	38	12.60	26.99	21.46	25.77
MS	Sorghum	205	73.60	17.78	13.51	31.61

Fodder Crops

Table 3.2.7: Performance of FLDs in fodder crops

State	Crop	No. of Demos	Area (ha)	Yield (q/ha)		Increase (%)
				Demo	Check	
TS	Maize	7	1.50	62.40		
TS	Sorghum	70	18.25	155.00	85.00	82.35
MS	Berseem	10	1.00	263.64		
MS	Hybrid Napier Grass	28	2.90	1278.33	911.67	40.22
MS	Marvel grass	10	1.00	656.00	350.00	87.43
MS	Oat	10	1.00	392.60		

3.2.2 Horticultural crops

A total of 2825 demonstrations covering 990.55 ha under fruits, vegetables, plantation crops, spices and condiments were organized by KVKs in Zone-V (Table 3.2.8). The major categories covered in Andhra Pradesh include vegetables (348), fruits (302), spices and condiments (46) and flowers (43). in Telangana include vegetables (150), fruits (72), spices and condiments (45) and flowers (30). In Maharashtra, also the demonstrations were conducted on vegetables (451), fruits (318), spices & condiments (547) and flowers (42). In vegetables, 339 demonstrations were organized on Green Chilli in 131.80 ha followed by Tomato (223), Okra (110), Brinjal (80) and Potato (36). Among 692 demonstrations on fruits, 203 demonstrations covering 105.40 ha were organized on Mango followed by Pomegranate (169), Sweet Orange (103), Watermelon (91), Banana (74) and Acid lime (25). In Plantation crops 431 demonstrations covering 155.90 ha were organized in the Zone.

Table 3.2.8: Details of category wise area under FLDs in Horticultural crops

Crop/Category	Andhra Pradesh		Telangana		Maharashtra		Total	
	No. of Demos	Area (ha)	No. of Demos	Area (ha)	No. of Demos	Area (ha)	No. of Demos	Area (ha)
Vegetables								
Bittergourd			10	4.00	21	2.10	31	6.10
Bottlegourd			10	2.00			10	2.00
Brinjal	20	12.00			60	16.10	80	28.10
Capsicum	2	0.40			28	2.80	30	3.20
Carrot			5	0.40			5	0.40
Cauliflower					18	1.80	18	1.80
Coriander			5	1.00	5	1.25	10	2.25
Cucumber			10	4.00			10	4.00
Dolichos bean					10	1.00	10	1.00
Elephant Foot Yam	5	1.00					5	1.00
Fenugreek					5	1.25	5	1.25
Frenchbean					12	2.40	12	2.40
Green chilli	164	73.80	52	18.80	123	39.20	339	131.80
Okra	22	5.40	20	8.00	68	17.10	110	30.50
Potato					36	9.00	36	9.00
Ridge gourd	10	4.00					10	4.00
Tomato	125	54.50	38	13.20	60	20.40	223	88.10
Yard long bean					5	0.25	5	0.25
Total	348	151.10	150.00	51.40	451.00	114.65	949	317.15
Spices								
Ginger	10	2.00	10	4.00	5	2.00	25	8.00
Onion	10	4.00	5	1.00	461	162.20	476	167.20
Turmeric	26	7.80	30	12.00	62	12.60	118	32.40
Garlic					19	1.10	19	1.10
Total	46	13.80	45.00	17.00	547.00	177.90	638	208.70
Flower								
Marigold	33	14.00	20	3.40	37	4.60	90	22.00
Tube rose	10	2.00	10	2.00			20	4.00

Crop/Category	Andhra Pradesh		Telangana		Maharashtra		Total	
	No. of Demos	Area (ha)	No. of Demos	Area (ha)	No. of Demos	Area (ha)	No. of Demos	Area (ha)
Gaillardia					5	1.00	5	1.00
Total	43	16.00	30.00	5.40	42.00	5.60	115	27.00
Fruits								
Acid lime	20	8.00	5	0.50			25	8.50
Banana	28	10.60			46	13.30	74	23.90
Grape					20	8.00	20	8.00
Guava	5	1.00					5	1.00
Mango	160	94.40	20	5.00	23	6.00	203	105.40
Muskmelon	2	0.40					2	0.40
Pomegranate					169	63.60	169	63.60
Sweet Orange	55	22.00	23	8.00	25	8.00	103	38.00
Watermelon	32	12.40	24	9.60	35	11.00	91	33.00
Total	302	148.80	72.00	23.10	318.00	109.9	692	281.80
Plantation								
Cashew	350	140.00			6	0.60	356	140.60
Cocoa bean	6	1.00					6	1.00
Coconut	5	2.00					5	2.00
Drum stick			10	4.00	49	7.80	59	11.80
Subhabul					5	0.50	5	0.50
Total	361	143.00	10.00	4.00	60	8.90	431	155.90
Grand Total	**1100**	**472.7**	**307**	**100.90**	**1418**	**416.95**	**2825**	**990.55**

Vegetables

Twelve districts in Andhra Pradesh (Anantapur, Chittoor, East Godavari, Guntur, Kadapa, Krishna, Kurnool, Nellore, Prakasam,Visakhapatnam, Srikakulam and West Godavari). Eight districts in Telangana (Adilabad, Karimnagar, Khammam, Nalgonda, Mahabubnagar, Medak, Ranga Reddy and Warangal) and 22 districts in Maharashtra (Ahmednagar, Amravati, Aurangabad, Beed, Buldhana, Dhule, Hingoli, Gadchiroli, Jalna, Kolhapur, Latur, Nanded, Nandurbar, Nashik, Osmanabad, Pune, Raigad, Sangli, Satara, Solapur, Washim and Yavatmal) organized frontline demonstrations on tomato, brinjal, okra, potato etc. with improved varieties and management practices. Results showed that improved varieties and management practices on tomato recorded higher yields in Andhra Pradesh (396.51/ha), Telangana (643.33 q/ha) and Maharashtra (734.93 q/ha) compared to local check (Table 3.2.9).

Table 3.2.9 : Performance of FLDs on vegetables

State	Crop	No. of Demos	Area (ha)	Yield (q/ha)		Increase (%)
				Demo	Check	
AP	Brinjal	20	12.00	569.00	470.00	21.06
AP	Capsicum	2	0.40	200.00	157.00	27.39
AP	Elephant Foot Yam	5	1.00	21.40		
AP	Green chilli	164	73.80	96.03	79.39	20.96
AP	Okra	22	5.40	92.59	75.89	22.01
AP	Ridge gourd	10	4.00	101.50	75.00	35.33
AP	Tomato	125	54.50	396.51	371.45	6.75
TS	Bittergourd	10	4.00	120.00	97.50	23.08
TS	Bottlegourd	10	2.00	380.00		
TS	Carrot	5	0.40	200.00	120.00	66.67
TS	Coriander	5	1.00	5.75	3.73	54.16
TS	Cucumber	10	4.00	74.80	72.64	2.97
TS	Green chilli	52	18.80	72.44	63.93	13.31
TS	Okra	20	8.00	79.25	63.88	24.06
TS	Tomato	38	13.20	643.33	388.67	65.52
MS	Bittergourd	21	2.10	135.50	110.20	22.96
MS	Brinjal	60	16.10	262.31	221.41	18.47
MS	Capsicum	28	2.80	850.55	758.15	12.19
MS	Cauliflower	18	1.80	249.23	192.38	29.55
MS	Coriander	5	1.25	4.50		
MS	Dolichos bean	10	1.00	8.70	7.60	14.47
MS	Fenugreek	5	1.25	3.85		
MS	Frenchbean	12	2.40	41.25	35.00	17.86
MS	Green chilli	123	39.20	175.01	140.53	24.54
MS	Okra	68	17.10	110.16	91.35	20.59
MS	Potato	36	9.00	193.00	168.50	14.54
MS	Tomato	60	20.40	734.93	588.60	24.86
MS	Yard long bean	5	0.25	68.70	59.00	16.44

AP=Andhra Pradesh, TS-Telangana, MS=Maharashtra

Fruits

Frontline demonstrations on banana were conducted in three districts of Andhra Pradesh (East Godavari, Kadapa and Srikakulam) and in four districts of Maharashtra (Ahmednagar, Nanded, Nandurbar and Satara) with improved management practices. There was higher yield with improved technology both in Andhra Pradesh (606.33 q/ha) and Maharashtra (575.40 q/ha) compared to local practice (Table 3.2.10). Similar response was also noted in pomegranate (35.37% in Maharashtra), mango (22.36% in Andhra Pradesh, 29.45% in Telangana and 15.91% in Maharashtra) and Sweet Orange (Andhra Pradesh 15.23%, Telangana 29.83% and Maharashtra 17.42% (Table 3.2.10).

Effect of micro nutrient application on Banana bunch yield at KVK Srikakulam

Effect of boron on growth and yield parameters in melons at KVK Anantapur (Kalyandurg)

Table 3.2.10: Performance of FLDs on fruits

State	Crop	No. of Demos	Area (ha)	Yield (q/ha)		Increase (%)
				Demo	Check	
AP	Acid lime	25	8.50	1480.00	1325.00	11.70
AP	Banana	28	10.60	606.33	519.67	16.68
AP	Guava	5	1.00	152.50	122.50	24.49
AP	Mango	160	94.40	87.56	71.56	22.36
AP	Muskmelon	2	0.40	32.50	29.25	11.11
AP	Sweet Orange	55	22.00	164.00	142.33	15.23
AP	Watermelon	32	12.40	142.64	118.51	20.36
TS	Acid lime	5	0.50	2500.00	2000.00	25.00
TS	Mango	20	5.00	76.87	59.38	29.45
TS	Sweet Orange	23	8.00	22.37	17.23	29.83
TS	Watermelon	24	9.60	337.50	295.00	14.41
MS	Banana	46	13.30	575.40	499.73	15.14

State	Crop	No. of Demos	Area (ha)	Yield (q/ha)		Increase (%)
				Demo	Check	
MS	Grape	20	8.00	362.30	316.50	14.47
MS	Mango	23	6.00	255.00	220.00	15.91
MS	Pomegranate	169	63.60	196.67	145.28	35.37
MS	Sweet Orange	25	8.00	199.14	169.60	17.42
MS	Watermelon	35	11.00	294.38	248.50	18.46

Plantation crops

Frontline demonstrations on cashew nut were organized in East Godavari and West Godavari of Andhra Pradesh with improved management practices including pest and disease control and nutrient management. Results indicated that improved management practices gave higher average yield of 9.63 q/ha and 15.51 q/ha over local check in Andhra Pradesh and Maharashtra respectively. Similar response was also noted at Nanded, Pune and Solapur in Drumstick (20.72%) of Maharashtra.

Table 3.2.11: Performance of FLDs on plantation crops

State	Crop	No. of Demos	Area (ha)	Yield (q/ha)		Increase (%)
				Demo	Check	
AP	Cocoa bean	6	1.00	10.80	7.50	44.00
AP	Cashew	350	140.00	9.63	5.50	75.09
AP	Coconut	5	2.00	12300 nuts	9600 nuts	28.13
TS	Drum stick	10	4.00	260.00	166.00	56.63
MS	Cashew	6	0.60	15.51	12.68	22.32
MS	Drumstick	49	7.80	130.65	108.23	20.72
MS	Subabul	5	0.50	407.20	350.00	16.34

Spices and Condiments

Frontline demonstrations on turmeric were organized with improved varieties and management practices. Results showed that improved varieties and management practices recorded higher yield in Andhra Pradesh (97.40 q/ha), Telangana (100 q/ha) and Maharashtra (180.88 q/ha) compared to local check (Table 3.2.11). Similarly, the yield response to improved management practices including varieties was higher in garlic (23.07% in Maharashtra) as compared to local check.

Frontline demonstrations on onion with improved varieties (cv. Bhima Shakti, Agrifound Light Red, Akola Safed) and management practices showed higher yield response of 1.98% in Andhra Pradesh, 13.56% in Telangana and 20.02% in Maharashtra compared to local check (Table 3.2.11).

Table 3.2.12: Performances of FLDs on Spices

State	Crop	No. of Demos	Area (ha)	Yield (q/ha)		Increase (%)
				Demo	Check	
AP	Ginger	10	2.00	111.20	102.40	8.59
AP	Onion	10	4.00	244.25	239.50	1.98
AP	Turmeric	26	7.80	97.40	88.68	9.83
TS	Ginger	10	4.00	125.36	98.28	27.55
TS	Onion	5	1.00	188.21	165.74	13.56
TS	Turmeric	30	12.00	100.00	65.00	53.85
MS	Garlic	19	1.10	80.61	65.50	23.07
MS	Ginger	5	2.00	193.00	129.00	49.61
MS	Onion	461	162.20	216.59	180.46	20.02
MS	Turmeric	62	12.60	180.88	160.85	12.45

Flowers

In Andhra Pradesh, frontline demonstrations were organized on Marigold and Tuber rose. Improved varieties and management practices resulted in 19.91% and 33.82% yield increase in Marigold and Tuber rose respectively. Marigold with improved varieties and management practices resulted in 64.81% yield increase over local practice in Telangana.

In Maharashtra, frontline demonstrations were organized in Marigold and Gaillardia. Demonstration of Marigold and Gaillardia showed an increased yield of 26.91% and 17.46% over check plots.

FLD on assessment of improved Tuberose var. Prajwal at KVK Anantapur (Kalyandurg)

Table 3.2.13: Performances of FLDs on Flowers

State	Crop	No. of Demos	Area (ha)	Yield (q/ha)		Increase (%)
				Demo	Check	
AP	Marigold	33	14.00	109.65	91.44	19.91
AP	Tube rose	10	2.00	9.10	6.80	33.82
TS	Marigold	20	3.40	101.90	61.83	64.81
TS	Tube rose	10	2.00	4.83	3.25	48.62
MS	Gaillardia	5	1.00	7.40	6.30	17.46
MS	Marigold	37	4.60	74.99	59.09	26.91

3.2.3 Tools and Implements

KVKs organized 621 demonstrations on 38 improved tools and implements to reduce the drudgery of farm women and facilitate timely field operations viz. land and seed bed preparation, planting/sowing, weeding and intercultural operations, harvesting and threshing (Table 3.2.13). Out of 621 demonstrations, 138 demonstrations were organized to improve the farm operations in case of Groundnut followed by Rice (123), Soybean (89), Cotton (77) and Chickpea (54). Among various field operations, demonstrations were conducted on land and seed bed preparation (286) followed by Post Harvest Technology (118), Harvesting (88) and Threshing (58), Weeding and Intercultural operations (56).

Table 3.2.14: Details of FLDs on improved tools and implements

Crop	AP		TS		MS		Total	
	NI	ND	NI	ND	NI	ND	NI	ND
Brinjal					1	10	1	10
Chickpea					1	54	1	54
Cotton					5	77	5	77
Groundnut	1	5			6	133	7	138
Maize			3	19	1	5	4	24
Mogra					1	4	1	4
Okra					1	25	1	25
Potato	1	10					1	10
Rice			3	28	5	95	8	123
Sorghum					1	15	1	15
Soybean					4	89	4	89
Tomato	1	10					1	10
Wheat			1	26	1	13	2	39
Mango	1	3					1	3
Total	**4**	**28**	**7**	**73**	**27**	**520**	**38**	**621**

NI=Number of implements, ND=Number of demonstrations

Table 3.2.15: Details of operation wise FLDs on improved tools and implements

Name of operation	AP	TS	MS	Total
Land and seed bed preparation	10	58	218	286
Weeding and Intercultural operations	15		41	56
Plant protection equipments			15	15
Harvesting	3	5	80	88
Threshing			58	58
Post harvest technology		10	108	118
Total	**28**	**73**	**520**	**621**

Table 3.2.16: Performance of FLD on Improved Tools, Implements and Farm Equipment

Land and seed bed preparation	No. of Farmers/Demonstrations	Area (ha)
BBF Planter	137	72
CRIDA Planter	8	13
Drum seeder	30	7.1
Planting and seeding	13	5.2
Potato Planter	10	4
Ridger	10	2
Rotavator	56	20
Six Row Planter	12	6
Sub soiler & Dead furrow	10	3.8
Weeding and Intercultural operations		
Cono weeder	20	2.1
Mogi Wheel Hoe	10	2
Power weeder	21	11
Wheel Hoe	5	2
Plant protection equipments		
H.T.P. Sprayer	15	7.2
Harvesting		
Combine Harvester	5	2
Mango harvesters	3	1.2
Okra Mitten	35	4.5
Paddy Reaper	20	10
Swastik hoe	10	0.2
Vaibhav Sickle	5	0.1
Vertical conveyor reaper	10	4
Threshing		
Groundnut decorticator	38	8
Paddy thresher cum winnower	20	10
Post harvest technology		

Land and seed bed preparation	No. of Farmers/Demonstrations	Area (ha)
Brush cutter	8	5
Groundnut stripper	40	2
Maize Sheller	7	15
Slasher	25	10
Sorghum up rooter	15	5
Spiral separator	23	0
Total	**621**	**234.4**

3.2.4 Livestock and other enterprises

In order to demonstrate the efficacy of improved technologies, KVKs organized 1291 demonstrations on various livestock species. The state and enterprise wise details of demonstrations are furnished in Table 3.2.16.

Table 3.2.17: Details of FLDs on livestock and other enterprises

Category	Andhra Pradesh		Telangana		Maharashtra		Total	
	NT	ND	NT	ND	NT	ND	NT	ND
Cattle	3	178	2	19	3	598	8	795
Goatary			1	5	3	135	4	140
Poultry	1	60			4	225	5	285
Fisheries	3	43	2	27			5	70
Piggery	1	1					1	1
Total	**8**	**282**	**5**	**51**	**10**	**958**	**23**	**1291**

NT= Number of Technologies, ND=Number of Demonstrations

The performance of various improved technologies vis-à-vis the indicators with regard to livestock species are presented in Table 3.2.17. The improved technologies significantly increased the milk yield and reduced the incidence of mastitis and other diseases in dairy animals. In case of poultry, improved breeds like Rajasree, Swarnandhara, Giriraja, Vanaraja and Gramapriya were demonstrated for meat and egg yield, while de-worming and mineral mixtures were tested for weight gain in sheep and goat.

Table 3.2.18: Performance of FLDs on Livestock Enterprises

State	Enterprise	Technology	No. of Farmers
AP	Cow	Disease management	36
AP	Cow	Feed and Nutrition Management	75
AP	Cow	Feed and Nutrition Management	13
AP	Cow	Breed evaluation	10
AP	Cow	Disease management	14
AP	Buffalo	Feed and Nutrition Management	10
AP	Buffalo	Disease management	20
AP	Piggery	Feed and Nutrition Management	1
AP	Poultry	Breed evaluation	60
AP	Fisheries	Disease management	18
AP	Fisheries	Production and Management	18
AP	Fisheries	Water Management	7
		Total	**282**
TS	Buffalo	Feed and Nutrition Management	10
TS	Buffalo	Disease management	9
TS	Goatary	Breed evaluation	5
TS	Fisheries	Disease management	7
TS	Fisheries	Production and Management	20
		Total	**51**
MS	Cow	Breed evaluation	22
MS	Cow	Disease management	95
MS	Cow	Feed and Nutrition Management	370
MS	Buffalo	Disease management	13
MS	Buffalo	Feed and Nutrition Management	98
MS	Goatary	Breed evaluation	13
MS	Goatary	Disease management	43
MS	Goatary	Feed and Nutrition Management	79
MS	Poultry	Breed evaluation	177
MS	Poultry	Disease management	13
MS	Poultry	Feed and Nutrition Management	25
MS	Fishery	Production and Management	10
		Total	**958**
		Grand Total	**1291**

3.2.5 Gender specific technologies

To relieve farm women of household drudgery and improve their health, nutritional status and income, KVKs organized 1332 demonstrations (Table 3.2.18). Among technologies demonstrated on health and nutrition of women and children iron and protein fortified diet resulted in increased hemoglobin in pregnant women.

Table 3.2.19: Performance of FLDs on Gender Specific Technologies

Thematic Area/Technology	No. of Demonstrations	Parameter	Demo	Check
Drudgery Reduction				
Protective clothing (Use of aprons, gloves and caps)	206	Quantity kg/ 1 hr	9.90	8.75
Cotton picking bag	2	Work output (kg/hr)	5.4	4.5
Bhendi cutter	22	Kg/day/person	100	50
Three tyned weeder	12	Drudgery time reduction (%)	40	-
Cycle hoe	58	Cost of operation (Rs/ha)	921	2455
Dung collector	10	Time (Min)	30	50
Serrated Sickle	10	Harvesting Area (ha/hr)	0.12	0.04
Maize sheller	5	Labour (Man/1.6 q)	1	4
Household drudgery reduction				
Ground nut decorticator	10	Kg/hr	58	21
Solar Dryer (Chillies)	82	Moisture (%) after 5 Days	8	65
Potato peeling and chips maker	17	Time (hr/10 kg)	1.0	4.0
Grain Cleaner cum grader	170	Time required /q	15 min	6 hr
Entrepreneurship development				
Backyard poultry	21	Eggs/year	2613	1355
Mushroom production	33	Yield kg/bag	35.2	27.2
Sericulture	38	Cocoon yield (Kg/100 DFLs)	75.5	52.0
Household food security				
Nutritional Garden	360	Expenditure on vegetables/month	150	750
Nutritional supplements	23	Increase in Hemoglobin levels	1.3	0.4
Grain storage in polythene bags	65	Shelf life (months)	10	4
Insect probe trap	65	% of grain damage	7	18

Thematic Area/Technology	No. of Demonstrations	Parameter	Demo	Check
Value Addition				
Value added ragi laddu	35	Increase in Hemoglobin levels (gm/person)	2.7	1.3
Soya poha laddoo	15	Hemoglobin (gm)	9.1	8.0
Soya paneer	5	Kg/day/person	56	42
Soya flour	10	Kg/Q soybean	65	
Dal processing	25	Quintals/hr	1.10	0.15
Jamun value addition	33	Quantity Kg/hr	7.5	2.1

3.3 Training

One of the major mandates of the Krishi Vigyan Kendra's is capacity development of farmers and extension personnel to update their knowledge and skills on modern agricultural technologies. Accordingly, KVK's conducted training programmes on agricultural and allied technologies to increase the production and productivity of crops, dairy and others.

Table 3.3.1: Details of client wise training programs organized by KVKs in Zone -V

Clientele	No. of. Courses	Other Beneficiaries			SC/ST Beneficiaries			Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Andhra Pradesh										
EF	109	1515	1924	3439	473	712	1185	1988	2636	4624
FFW	757	11819	4427	16241	5117	3439	8543	16729	7877	24899
RY	114	2240	1414	3654	858	713	1571	3098	2127	5225
Total	**980**	**15574**	**7765**	**23334**	**6448**	**4864**	**11299**	**21815**	**12640**	**34748**
Telangana										
EF	136	1692	913	2605	428	207	635	2120	1120	3240
FFW	748	14229	4551	18766	4964	7020	12014	19439	11350	30757
RY	117	1617	747	2364	425	599	1024	2042	1346	3388
Total	**1001**	**17538**	**6211**	**23735**	**5817**	**7826**	**13673**	**23601**	**13816**	**37385**
Maharashtra										
EF	330	7862	2638	10500	1636	945	2581	9498	3583	13081
FFW	2240	41389	14374	53458	17578	8797	23261	57853	23150	77720

Clientele	No. of. Courses	Other Beneficiaries			SC/ST Beneficiaries			Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
RY	386	7103	2638	9741	2038	1405	3443	9189	4043	13232
Total	**2956**	**56354**	**19650**	**73699**	**21252**	**11147**	**29285**	**76540**	**30776**	**104033**
Zone										
EF	575	11069	5475	16544	2537	1864	4401	13606	7339	20945
FFW	3745	67437	23352	88465	27659	19256	43818	94021	42377	133376
RY	617	10960	4799	15759	3321	2717	6038	14329	7516	21845
Total	**4937**	**89466**	**33626**	**120768**	**33517**	**23837**	**54257**	**121956**	**57232**	**176166**

EF=Extension Functionaries, FFW=Farmers and Farm Women, RY=Rural Youth

Table 3.3.2: Details of training programs conducted for farmers in Zone-V

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Weed Management	48	1104	186	1269	306	122	397	1274	228	1660
Resource Conservation Technologies	61	1070	185	1187	611	168	718	1596	378	1903
Cropping Systems	45	1098	141	1156	475	104	579	1582	246	1828
Crop Diversification	18	423	27	450	129	40	169	552	67	619
Integrated Farming	42	581	92	682	441	78	519	1021	170	1201
Micro Irrigation/irrigation	15	312	38	350	57	31	88	369	69	438
Seed production	38	791	86	876	330	63	393	1121	149	1272
Nursery management	9	233	33	266	31	6	37	264	39	303
Integrated Crop Management	300	7383	1107	7944	2976	776	2993	10037	1921	10955
Soil & water conservation	30	811	123	917	140	41	157	849	181	1105
Integrated nutrient management	73	1462	254	1645	551	115	618	1951	369	2263
Production of organic inputs	29	876	232	1055	289	89	303	1134	311	1368
Others	62	1241	111	1377	381	75	456	1647	186	1833
Total	**770**	**17385**	**2615**	**19174**	**6717**	**1708**	**7427**	**23397**	**4314**	**26748**
II Horticulture										
a) Vegetable Crops	12	580	89	669	222	92	314	802	181	983
Production of low value and high volume crops	73	1953	297	2288	478	91	533	2399	447	2821
Off season vegetables	34	646	150	796	154	88	242	800	243	1043

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery raising	53	963	573	1536	287	191	508	1548	496	2044
Exotic vegetables	11	138	141	279	52	67	119	190	208	398
Export potential vegetables	13	314	12	326	33	3	36	347	15	362
Grading and standardization	13	247	25	272	86	42	128	333	67	400
Protective cultivation	31	647	166	795	247	53	278	881	219	1073
organic farming	2	36	0	36	26	0	26	62	0	62
Others	43	995	214	1209	175	33	208	1170	247	1417
Sub total	**285**	**6519**	**1667**	**8206**	**1760**	**660**	**2392**	**8532**	**2123**	**10603**
b) Fruits										
Training and Pruning	23	501	133	634	125	67	192	626	200	826
Layout and Management of Orchards	21	441	72	491	134	29	134	562	101	625
Cultivation of Fruit	56	1309	194	1493	365	95	419	1675	289	1912
Management of young plants/ orchards	22	593	159	636	200	38	110	693	197	746
Rejuvenation of old orchards	19	341	96	437	720	380	1100	1061	476	1537
Export potential fruits	11	291	26	317	58	7	65	349	33	382
Micro irrigation systems of orchards	13	230	83	307	67	33	70	294	123	392
Plant propagation techniques	6	87	45	132	33	21	54	120	66	186
Commercial fruit Production	1	16	22	38	20	17	37	36	39	65
Others	18	341	193	534	75	30	105	418	223	639
Sub total	**190**	**4150**	**1023**	**5019**	**1797**	**717**	**2286**	**5834**	**1747**	**7310**
c) Ornamental Plants										
Nursery Management	3	47	58	66	47	35	16	83	93	82
Management of potted plants	1	20	0	20	5	0	5	25	0	25
Export potential of ornamental plants	3	15	30	33	24	20	23	25	50	56
Propagation techniques of Ornamental Plants	1	10	6	16	2	3	5	12	9	21
Others	12	181	45	226	59	28	87	248	93	341
Sub total	**20**	**273**	**139**	**361**	**137**	**86**	**136**	**393**	**245**	**525**
d) Plantation crops										
Production and Management technology	22	293	31	314	291	133	405	584	164	748
Processing and value addition	10	132	116	248	32	36	68	164	152	316

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Others	4	137	11	148	16	0	16	153	11	164
Sub total	**36**	**562**	**158**	**710**	**339**	**169**	**489**	**901**	**327**	**1228**
e) Tuber Crops										
Production and Management technology	12	383	36	419	73	23	96	456	59	515
Sub total	**12**	**383**	**36**	**419**	**73**	**23**	**96**	**456**	**59**	**515**
f) Spices										
Production and Management technology	28	148	155	188	421	145	368	495	300	556
Processing and value addition	18	57	101	126	48	17	14	86	118	140
Others	21	0	0	0	0	0	0	0	0	80
Sub total	**67**	**205**	**256**	**314**	**469**	**162**	**382**	**581**	**418**	**776**
g) Medicinal and Aromatic Plants										
Nursery management	13	325	108	433	187	75	262	512	183	685
Production and management technology	7	295	35	330	52	28	80	347	63	410
Post harvest technology and value addition	6	207	6	212	37	5	42	244	11	255
Others	2	0	0	0	30	13	43	30	13	43
Sub total	**28**	**827**	**149**	**975**	**306**	**121**	**427**	**1133**	**270**	**1393**
Total	**638**	**12919**	**3428**	**16004**	**4881**	**1938**	**6208**	**17830**	**5189**	**22350**
III Soil Health and Fertility Mangmt										
Soil fertility management	37	703	182	855	202	81	248	877	263	1103
Integrated water management	11	287	52	339	61	22	82	348	74	422
Integrated Nutrient Management	64	1314	238	1469	406	167	485	1647	405	1950
Production and use of organic inputs	50	696	446	964	645	356	959	1312	727	1991
Management of Problematic soils	27	488	229	717	152	93	245	640	322	962
Micro nutrient deficiency in crops	15	243	54	297	50	18	68	293	72	365
Nutrient Use Efficiency	20	372	110	452	100	29	95	446	139	547
Balanced use of fertilizers	24	607	83	742	174	54	228	833	137	970
Soil and Water Testing	66	1352	352	1704	529	226	735	1841	551	2462
Others	18	505	88	593	103	26	129	608	114	722
Total	**332**	**6567**	**1834**	**8132**	**2422**	**1072**	**3274**	**8845**	**2804**	**11494**

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
IV Livestock Production and Management										
Dairy Management	66	1274	396	1532	565	226	760	1817	618	2394
Poultry Management	94	1589	833	2401	1087	682	1731	2704	1600	4197
Piggery Management	4	23	59	24	62	11	7	37	70	31
Rabbit Management	0	0	0	0	0	0	0	0	0	0
Animal Nutrition Management	43	526	178	758	449	160	454	897	337	1210
Disease Management	63	1197	256	1476	414	102	514	1636	358	1990
Feed & fodder technology	96	1591	371	1853	665	221	898	2268	592	2952
Production of quality animal products	15	297	100	397	88	52	140	385	152	537
Others	37	458	392	703	364	242	606	822	634	1456
Total	**418**	**6955**	**2585**	**9144**	**3694**	**1696**	**5110**	**10566**	**4361**	**14767**
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	54	168	711	879	206	505	711	374	1196	1540
Design and development of low/minimum cost diet	27	93	367	470	108	203	311	201	572	781
Designing and development for high nutrient efficiency diet	29	21	402	409	62	449	490	77	851	899
Minimization of nutrient loss in processing	3	25	51	71	10	48	58	35	99	129
Processing and cooking	14	235	267	502	57	164	221	292	441	733
Gender mainstreaming through SHGs	18	80	229	309	35	92	127	115	321	436
Storage loss minimization techniques	31	140	414	588	97	198	246	192	616	832
Value addition	115	441	1552	2037	395	984	1277	759	2532	3364
Women empowerment	71	191	1422	1622	118	931	1051	300	2355	2675
Location specific drudgery reduction technologies	58	399	780	1179	207	457	664	606	1249	1855
Rural Crafts	11	100	107	253	103	104	169	164	236	417
Women and child care	65	142	864	993	75	1300	1356	211	2164	2349
Others	91	332	1394	1715	167	2493	2631	489	3830	4323
Nutrition garden in School	9	12	161	173	15	52	67	27	213	240
Hygiene & Sanitation	3	41	31	72	11	4	15	52	35	87
Total	**599**	**2420**	**8752**	**11272**	**1666**	**7984**	**9394**	**3894**	**16710**	**20660**

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
VI Agricultural Engineering										
Farm Machinary and its maintenance	39	561	53	614	347	2053	2400	908	2106	3014
Installation and maintenance of micro irrigation systems	25	467	56	523	111	3	114	578	59	637
Use of Plastics in farming practices	3	92	33	125	0	8	8	92	41	133
Production of small tools and implements	1	39	0	39	4	0	4	43	0	43
Repair and maintenance of farm machinery and implements	23	470	41	511	141	47	188	611	88	699
Small scale processing and value addition	16	343	112	455	119	67	186	462	179	641
Post Harvest Technology	25	532	178	710	228	98	326	760	276	1036
Others	33	223	269	492	119	209	328	342	478	820
Total	**165**	**2727**	**742**	**3469**	**1069**	**2485**	**3554**	**3796**	**3227**	**7023**
VII Plant Protection										
Integrated Pest Management	184	4642	574	5207	1560	440	1937	6147	1037	7117
Integrated Disease Management	112	2453	411	2797	1132	420	1451	3540	828	4248
Biocontrol of pests and diseases	57	1409	256	1710	637	213	850	2093	466	2562
Production of bio control agents and bio pesticides	11	148	39	187	93	42	135	241	82	322
Others	107	2271	693	2560	1200	406	1039	3245	1096	3599
Total	**471**	**10923**	**1973**	**12461**	**4622**	**1521**	**5412**	**15266**	**3509**	**17848**
VIII Fisheries										
Integrated fish farming	14	241	38	279	248	39	287	489	72	561
Carp breeding and hatchery management	6	146	7	153	42	3	45	188	10	198
Carp fry and fingerling rearing	8	143	20	163	33	22	55	176	42	218
Composite fish culture	9	114	6	100	81	8	89	195	14	209
Hatchery management and culture of freshwater prawn	0	44	3	47	23	6	29	63	9	72
Breeding and culture of ornamental fishes	3	22	15	37	12	20	32	34	35	69

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Portable plastic carp hatchery	3	96	0	96	0	0	0	96	0	96
Pen culture of fish and prawn	15	382	2	384	69	0	69	439	2	441
Shrimp farming	14	253	10	243	94	6	100	332	13	345
Edible Oyster farming	0	0	0	0	0	0	0	0	0	0
Pearl culture	0	0	0	0	0	0	0	0	0	0
Fish processing and value addition	3	20	57	77	0	0	0	20	57	77
Others	54	1074	129	1203	387	68	455	1460	197	1657
Total	**129**	**2535**	**287**	**2782**	**989**	**172**	**1161**	**3492**	**451**	**3943**
IX Production of Inputs at site										
Seed Production	4	72	15	87	16	3	19	88	18	106
Planting material production	10	108	104	212	31	35	66	137	136	273
Bio-agents production	4	88	0	88	52	15	67	140	15	155
Bio-pesticides production	0	0	0	0	0	0	0	0	0	0
Bio-fertilizer production	8	245	17	262	6	6	12	251	23	274
Vermicompost production	14	216	177	280	6	13	19	222	190	392
Organic manures production	1	22	0	22	5	0	5	27	0	27
Small tools and implements	9	293	36	329	71	16	87	364	52	416
Production of livestock feed and fodder	9	273	45	318	66	12	78	339	57	396
Mushroom Production	5	51	38	89	12	27	39	64	64	128
Apiculture	8	144	10	154	56	6	62	200	16	216
Sericulture	7	115	27	142	28	14	42	143	41	0
Total	**79**	**1627**	**469**	**1983**	**349**	**147**	**496**	**1975**	**612**	**2383**
X Capacity Building and Group Dynamics										
Leadership development	8	428	38	466	81	1	82	509	39	548
Group dynamics	28	688	82	770	166	44	210	854	126	980
Formation and Management of SHGs	20	194	111	305	137	75	211	331	186	517
Mobilization of social capital	7	241	52	293	383	75	458	624	127	751
Entrepreneurial development of farmers/youths	29	618	182	800	146	77	223	1004	259	1263
WTO and IPR issues	9	81	0	81	16	150	166	188	150	338
Others	28	764	141	905	179	77	256	943	218	1161
Importance of soil health, interpretation of soil health cards	2	48	3	51	22	0	22	70	3	73

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Farmers Sensitization Programme on IIDS	5	107	19	124	59	11	70	166	30	196
Capacity building training programme to gram sarpanch & Progressive farmers	2	54	15	69	25	6	31	79	21	100
Awareness cum training programme on PPV & FR Act, 2001	3	70	19	89	19	15	34	89	34	123
Skill Development Training	2	64	0	64	16	0	16	80	0	80
Total	**143**	**3357**	**662**	**4017**	**1249**	**531**	**1779**	**4937**	**1193**	**6130**
XI Agroforestry										
Integrated Farming Systems	1	22	5	27	1	2	3	23	7	30
Total	**1**	**22**	**5**	**27**	**1**	**2**	**3**	**23**	**7**	**30**
Grand Total	**3745**	**67437**	**23352**	**88465**	**27659**	**19256**	**43818**	**94021**	**42377**	**133376**

During 2016-17, in Andhra Pradesh state, the KVK's conducted a total of 757 courses to 24899 farmers and farm women. The thematic areas of the training included crop production, horticulture, soil health and fertility management, live stock production and management, women empowerment, agricultural engineering, plant protection, Fisheries, production of inputs viz., seed, seedlings, bio-fertilizers, bio-pesticides, bio-agents mushroom, honey sericulture etc

Under crop production, the maximum number of trainings (60) were organized on integrated crop management followed by integrated nutrient management (20), weed management (17) and resource conservation technology (17).

In Horticulture i.e. in vegetables, production of low value and high volume crops (19), nursery raising (13), protective cultivation (11).

In fruit crops, the highest number of training programmes were conducted on rejuvenation of old orchards (17) for 1469 farmers followed by training and pruning (10) and cultivation of fruits (10). Training on micro irrigation systems in orchards also organized (8 No) in which 279 farmers were participated.

Under Soil health management a total of 35 courses were conducted for 1346 farmers. Training programme on production and use of organic inputs (11 No) were organized for 364 farmers.

In Livestock Production Management training courses were conducted on dairy management (8), poultry management (9), animal nutrition management (9). On feed and fodder technology 12 trainings were organized for 547 farmers.

For farmers and rural women a total of 125 training programmes were conducted in Andhra Pradesh State in which 3547 were participated during the year 2016-17. Highest number of training courses conducted on value addition of agricultural, dairy and other products in which 1019 women participated. On plant protection 76 trainings were conducted for 3118 farmers.

In Fisheries, the trainings include shrimp training (8) followed by composite Fish culture (6) for 330 farmers.

Under capacity building and group dynamics 28 training programmes were conducted in which 1383 farmers and women participated.

Table 3.3.3: Details of training programmes for Farmers in Andhra Pradesh

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Weed Management	17	361	54	415	84	58	142	325	32	557
Resource Conservation Technologies	17	268	59	327	144	32	193	384	116	518
Cropping Systems	8	156	5	171	42	15	57	208	20	228
Crop Diversification	6	132	5	137	76	23	99	208	28	236
Integrated Farming	6	109	36	154	38	21	59	146	57	213
Micro Irrigation/irrigation	7	181	25	206	40	14	54	221	39	260
Seed production	10	180	22	202	56	12	68	236	34	270
Nursery management	3	74	11	85	12	4	16	86	15	101
Integrated Crop Management	60	1138	113	1251	400	69	469	1535	185	1720
Soil & water conservatioin	6	143	35	178	19	18	37	87	53	215
Integrated nutrient management	20	292	85	347	114	56	170	376	141	517
Production of organic inputs	4	71	53	114	37	13	50	78	66	164
Others	27	375	78	478	182	66	248	582	144	726
Total	**191**	**3480**	**581**	**4065**	**1244**	**401**	**1662**	**4472**	**930**	**5725**
II Horticulture										
a) Vegetable Crops										
Production of low value and high volume crops	19	363	134	497	62	31	93	425	164	590
Off season vegetables	8	177	39	216	52	31	83	229	70	299
Nursery raising	13	321	58	379	83	39	122	404	97	501
Exotic vegetables	2	23	35	58	27	25	52	50	60	110
Grading and standardization	1	48	11	59	15	6	21	63	17	80
Protective cultivation	11	256	77	333	84	35	119	340	112	452
Others	18	399	86	485	83	25	108	482	111	593
Sub total	**72**	**1587**	**440**	**2027**	**406**	**192**	**598**	**1993**	**631**	**2625**
b) Fruits										
Training and Pruning	10	198	67	265	92	53	145	290	120	410
Layout and Management of Orchards	1	2	1	3	24	3	27	26	4	30
Cultivation of Fruit	10	209	24	233	43	16	59	250	40	292
Management of young plants/orchards	4	84	28	112	15	5	20	99	33	132

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Rejuvenation of old orchards	17	291	91	382	707	380	1087	998	471	1469
Micro irrigation systems of orchards	8	181	37	218	23	23	46	204	67	279
Commercial fruit Production	1	16	22	38	20	17	37	36	39	65
Others	7	161	61	222	64	25	89	227	86	311
Sub total	**58**	**1142**	**331**	**1473**	**988**	**522**	**1510**	**2130**	**860**	**2988**
c) Ornamental Plants										
Others	9	135	35	170	56	26	82	199	81	280
Sub total	**9**	**135**	**35**	**170**	**56**	**26**	**82**	**199**	**81**	**280**
d) Plantation crops										
Production and Management technology	17	219	30	239	265	131	376	484	161	645
Sub total	**17**	**219**	**30**	**239**	**265**	**131**	**376**	**484**	**161**	**645**
e) Tuber crops										
Production and Management technology	3	79	15	94	27	15	42	106	30	136
Sub total	**3**	**79**	**15**	**94**	**27**	**15**	**42**	**106**	**30**	**136**
f) Spices										
Production and Management technology	11	28	19	47	49	48	97	77	67	144
Processing and value addition	12	0	0	0	0	0	0	0	0	0
Others	21	0	0	0	0	0	0	0	0	80
Sub total	**44**	**28**	**19**	**47**	**49**	**48**	**97**	**77**	**67**	**224**
g) Medicinal and Aromatic Plants										
Production and management technology	3	62	16	78	15	12	27	77	28	105
Post harvest technology and value addition	2	47	1	48	9	3	12	56	4	60
Sub total	**5**	**109**	**17**	**126**	**24**	**15**	**39**	**133**	**32**	**165**
Total	**208**	**3299**	**887**	**4176**	**1815**	**949**	**2744**	**5122**	**1862**	**7063**
III Soil Health and Fertility Management										
Soil fertility management	4	73	17	90	19	10	29	92	27	119
Integrated water management	1	22	3	25	3	2	5	25	5	30
Integrated Nutrient Management	5	100	22	122	30	14	44	130	36	166

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Production and use of organic inputs	11	188	33	221	89	54	143	277	87	364
Management of Problematic soils	3	105	102	207	27	26	53	132	128	260
Micro nutrient deficiency in crops	2	46	3	49	11	2	13	57	5	62
Nutrient Use Efficiency	2	42	3	45	9	2	11	51	5	56
Balanced use of fertilizers	2	46	4	50	4	6	10	50	10	60
Soil and Water Testing	5	168	31	199	26	4	30	194	35	229
Total	**35**	**790**	**218**	**1008**	**218**	**120**	**338**	**1008**	**338**	**1346**
IV Livestock Production and Management										
Dairy Management	8	151	15	166	73	14	87	224	29	253
Poultry Management	9	128	55	183	46	50	96	211	133	344
Animal Nutrition Management	9	107	23	130	83	37	120	190	60	250
Disease Management	6	99	40	139	34	20	54	133	60	193
Feed & fodder technology	12	228	45	273	133	56	189	361	101	547
Production of quality animal products	1	8	0	8	5	2	7	13	2	15
Others	2	24	0	24	5	2	7	29	2	31
Total	**47**	**745**	**178**	**923**	**379**	**181**	**560**	**1161**	**387**	**1633**
V Home Science/Women Empowerment										
Household food security by kitchen gardening and nutrition gardening	12	24	169	193	16	153	159	40	322	352
Design and development of low/minimum cost diet	4	0	87	87	0	33	33	0	120	120
Designing and development for high nutrient efficiency diet	4	0	57	57	0	47	47	0	104	104
Minimization of nutrient loss in processing	1	0	34	34	0	11	11	0	45	45
Processing and cooking	2	0	37	37	0	10	10	0	47	47
Gender mainstreaming through SHGs	4	6	92	98	14	22	36	20	114	134
Storage loss minimization techniques	5	36	61	97	13	54	67	49	115	164

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Value addition	40	52	562	614	47	356	403	99	920	1019
Women empowerment	14	40	214	254	10	145	155	50	361	411
Location specific drudgery reduction technologies	6	22	66	88	10	68	78	32	144	176
Rural Crafts	1	0	23	23	0	4	4	0	27	27
Women and child care	10	5	173	178	0	139	139	5	312	317
Others	22	60	317	378	24	230	254	84	547	631
Total	**125**	**245**	**1892**	**2138**	**134**	**1272**	**1396**	**379**	**3178**	**3547**
VI Agricultural Engineering										
Farm Machinary and its maintenance	1	25	0	25	5	0	5	30	0	30
Use of Plastics in farming practices	1	14	8	22	0	8	8	14	16	30
Total	**2**	**39**	**8**	**47**	**5**	**8**	**13**	**44**	**16**	**60**
VII Plant Protection										
Integrated Disease Management	39	812	194	1006	379	190	569	1191	384	1575
Biocontrol of pests and diseases	24	612	138	750	252	120	372	864	258	1122
Production of bio control agents and bio pesticides	4	37	6	43	45	32	77	82	38	120
Others	9	194	44	238	53	10	63	247	54	301
Total	**76**	**1655**	**382**	**2037**	**729**	**352**	**1081**	**2384**	**734**	**3118**
VIII Fisheries										
Integrated fish farming	2	18	6	24	21	5	26	39	6	45
Carp breeding and hatchery management	0	0	0	0	0	0	0	0	0	0
Carp fry and fingerling rearing	1	20	5	25	3	2	5	23	7	30
Composite fish culture	6	57	6	63	80	8	88	137	14	151
Breeding and culture of ornamental fishes	1	0	0	0	10	20	30	10	20	30
Shrimp farming	8	103	0	103	73	3	76	176	3	179
Fish processing and value addition	0	0	0	0	0	0	0	0	0	0
Others	11	224	53	277	67	17	84	291	70	361
Total	**29**	**422**	**70**	**492**	**254**	**55**	**309**	**676**	**120**	**796**
IX Production of Inputs at site										

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Planting material production	1	0	0	0	0	0	0	0	0	0
Bio-agents production	1	35	0	35	15	15	30	50	15	65
Mushroom Production	3	31	28	59	0	14	14	31	42	73
Apiculture	4	61	0	61	29	0	29	90	0	90
Sericulture	7	115	27	142	28	14	42	143	41	
Total	**16**	**242**	**55**	**297**	**72**	**43**	**115**	**314**	**98**	**228**
X Capacity Building and Group Dynamics										
Leadership development	3	54	6	60	36	1	37	90	7	97
Group dynamics	2	40	3	43	19	2	21	59	5	64
Formation and Management of SHGs	1	22	7	29	12	3	15	34	10	44
Mobilization of social capital	5	211	50	261	37	10	47	248	60	308
Entrepreneurial development of farmers/youths	2	48	20	68	13	7	20	61	27	88
Others	7	297	36	333	52	14	66	349	50	399
Importance of soil health, interpretation of soil health cards	1	20	0	20	18	0	18	38	0	38
Farmers Sensitization Programme on IIDS	1	40	0	40	25	0	25	65	0	65
Capacity building training programme to gram sarpanch & Progressive farmers	2	54	15	69	25	6	31	79	21	100
Awareness cum training programme on PPV & FR Act, 2001	2	52	19	71	14	15	29	66	34	100
Skill Development Training	2	64	0	64	16	0	16	80	0	80
Total	**28**	**902**	**156**	**1058**	**267**	**58**	**325**	**1169**	**214**	**1383**
Grand Total	**757**	**11819**	**4427**	**16241**	**5117**	**3439**	**8543**	**16729**	**7877**	**24899**

In Telangana, a total of 745 training courses were organized for farmers in which 30,757 participated. The highest number of trainings (143) were conducted on women empowerment by SMS home science which includes value addition, income generation, women and child care in which 6989 women were participated.

In plant protection thematic areas, a total of 120 training courses were organized on Integrated Pest Management (IPM) (56), Integrated Disease Management (IDM) (43) and Bio-control of Pests and Diseases (10) and production of Bio-control agents and products (6). In crop production thematic area 109 training courses, under horticulture 139 courses and under soil health and fertility management 109 courses were conducted for farmers and women.

Table 3.3.4: Details of training programmes for Farmers in Telangana

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Weed Management	9	223	66	289	82	16	98	305	82	387
Resource Conservation Technologies	16	296	22	318	140	16	156	436	38	474
Cropping Systems	9	235	19	254	212	19	231	447	38	485
Crop Diversification	6	159	2	161	22	2	24	181	4	185
Integrated Farming	4	161	27	188	9	3	12	170	30	200
Micro Irrigation/irrigation	1	8	11	19	2	7	9	10	18	28
Seed production	8	186	16	201	139	4	143	325	20	347
Nursery management	2	38	12	50	6	2	8	44	14	58
Integrated Crop Management	23	595	36	631	175	30	205	790	101	856
Soil & water conservation	5	161	32	193	12	9	21	173	41	214
Integrated nutrient management	9	217	17	234	75	13	88	292	30	322
Production of organic inputs	11	600	120	720	140	33	173	740	153	893
Others	6	210	0	210	17	0	17	227	0	227
Total	**109**	**3089**	**380**	**3468**	**1031**	**154**	**1185**	**4140**	**569**	**4676**
II Horticulture										
a) Vegetable Crops										
Production of low value and high volume crops	6	258	7	265	67	3	70	325	10	335
Off season vegetables	**14**	212	85	297	66	36	102	278	126	404
Nursery raising	21	227	369	596	104	112	246	629	213	842
Exotic vegetables	6	61	94	155	9	36	45	70	130	200
Export potential vegetables	1	35	6	41	2	0	2	37	6	43
Protective cultivation	12	236	57	293	121	7	128	357	64	421
Organic farming	2	36	0	36	26	0	26	62	0	62
Sub total	**62**	**1065**	**618**	**1683**	**395**	**194**	**619**	**1758**	**549**	**2307**
b) Fruits										
Training and Pruning	7	164	61	225	28	9	37	192	70	262
Layout and Management of Orchards	8	187	16	203	17	12	29	204	28	232
Cultivation of Fruits crops	9	247	47	294	63	11	74	310	58	368
Management of young plants/ orchards	7	229	11	240	26	13	39	255	24	279
Rejuvenation of old orchards	2	50	5	55	13	0	13	63	5	68
Export potential fruits	4	148	16	164	31	5	36	179	21	200

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Plant propagation techniques	1	10	12	22	3	2	5	13	14	27
Managemnt of flower & fruit drop in fruit crops	1	34	0	34	1	0	1	35	0	35
Mulching in fruit crops	1	30	7	37	5	5	10	35	12	47
Nutrient management in fruit crops	1	20	0	20	5	0	5	25	0	25
Use of Herbicides in Vegetables	1	14	7	21	5	4	9	19	11	30
Sub total	**42**	**1133**	**182**	**1315**	**197**	**61**	**258**	**1330**	**243**	**1573**
c) Ornamental Plants										
Nursery Management	2	12	10	22	2	2	4	14	12	26
Propagation techniques of Ornamental Plants	1	22	4	26	11	3	14	33	7	40
Others	3	103	11	114	16	0	16	119	11	130
Sub total	**6**	**137**	**25**	**162**	**29**	**5**	**34**	**166**	**30**	**196**
f) Spices										
Production and Management technology	10	297	77	374	181	64	245	478	141	609
Processing and value addition	1	80	5	85	16	1	17	96	6	102
Others	3	135	5	139	18	2	20	153	7	160
Sub total	**14**	**512**	**87**	**598**	**215**	**67**	**282**	**727**	**154**	**871**
g) Medicinal and Aromatic Plants										
Nursery management	6	127	28	155	7	7	14	134	35	169
Production and management technology	6	85	12	97	6	1	7	91	13	104
Post harvest technology and value addition	3	114	25	139	15	6	21	129	31	160
Sub total	**15**	**326**	**65**	**391**	**28**	**14**	**42**	**354**	**79**	**433**
Total	**139**	**3173**	**977**	**4149**	**864**	**341**	**1235**	**4335**	**1055**	**5380**
III Soil Health and Fertility Management										
Soil fertility management	21	346	121	467	108	60	168	454	181	635
Integrated water management	5	92	18	110	10	4	14	102	22	124
Integrated Nutrient Management	6	81	42	123	26	9	35	106	51	158
Production and use of organic inputs	9	301	33	334	68	5	73	369	38	407

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Management of Problematic soils	14	293	96	389	36	13	49	289	79	438
Micro nutrient deficiency in crops	7	214	31	245	73	19	92	287	50	337
Nutrient Use Efficiency	11	100	50	150	200	150	350	300	200	500
Balance use of fertilizers	8	159	46	195	34	2	36	193	48	231
Soil and Water Testing	28	761	355	1116	580	232	812	1341	637	1928
Total	**109**	**2347**	**792**	**3129**	**1135**	**494**	**1629**	**3441**	**1306**	**4758**
IV Livestock Production and Management										
Dairy Management	3	30	14	44	8	5	13	38	19	57
Poultry Management	4	18	33	51	10	7	17	28	40	68
Animal Nutrition Management	4	32	20	52	7	5	12	39	25	64
Disease Management	4	126	28	154	74	9	83	200	37	237
Feed & fodder technology	9	81	26	107	27	11	38	108	37	145
Production of quality animal products	1	0	0	0	0	0	0	0	0	0
Total	**25**	**287**	**121**	**408**	**126**	**37**	**163**	**413**	**158**	**571**
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	6	21	119	140	14	100	114	35	219	254
Design and development of low/minimum cost diet	8	26	74	100	6	50	56	32	124	156
Designing and development for high nutrient efficiency diet	6	0	41	41	0	82	82	0	123	123
Minimization of nutrient loss in processing	7	0	152	152	0	112	112	0	264	264
Processing and cooking	8	12	16	28	7	233	240	19	249	268
Gender mainstreaming through SHGs	3	0	94	94	0	20	20	0	110	110
Storage loss minimization techniques	4	0	0	0	0	40	40	0	40	40
Value addition	28	40	244	284	20	602	622	60	846	906
Women empowerment	31	3	388	391	0	2094	2094	3	2482	2485
Location specific drudgery reduction technologies	9	12	161	173	15	52	67	27	213	240

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Rural Crafts	3	41	31	72	11	4	15	52	35	87
Women and child care	18	74	236	310	22	155	177	96	391	487
Others	10	0	0	0	0	1820	1820	0	1820	1820
Nutrition garden in School	1	5	48	53	0	0	0	5	48	53
Hygiene & Sanitation	1	20	25	45	0	0	0	20	25	45
Total	**143**	**254**	**1629**	**1883**	**95**	**5364**	**5459**	**349**	**6989**	**7338**
VI Agril. Engineering										
Farm Machinary and its maintenance	16	308	31	339	96	43	139	404	74	478
Installation and maintenance of micro irrigation systems	5	186	31	217	80	33	113	266	64	330
Use of Plastics in farming practices	2	75	4	79	19	6	25	94	10	104
Total	**23**	**569**	**66**	**635**	**195**	**82**	**277**	**764**	**148**	**912**
VII Plant Protection										
Integrated Pest Management	56	1299	184	1483	657	188	845	1959	369	2328
Integrated Disease Management	43	850	76	926	320	51	371	1169	127	1296
Biocontrol of pests and diseases	10	193	32	225	61	34	95	254	66	320
Production of bio control agents and bio pesticides	6	146	7	153	42	3	45	188	10	198
Others	5	83	15	98	30	20	50	113	35	148
Total	**120**	**2571**	**314**	**2885**	**1110**	**296**	**1406**	**3683**	**607**	**4290**
VIII Fisheries										
Integrated fish farming	0	44	3	47	23	6	29	63	9	72
Carp breeding and hatchery management	1	22	0	22	2	0	2	24	0	24
Carp fry and fingerling rearing	3	96	0	96	0	0	0	96	0	96
Composite fish culture	14	362	2	364	69	0	69	419	2	421
Hatchery management and culture of freshwater prawn	5	130	10	140	21	3	24	136	10	146
Fish processing and value addition	6	61	90	151	27	29	56	86	116	202
Others	3	53	0	53	37	0	37	90	0	90
Total	**32**	**768**	**105**	**873**	**179**	**38**	**217**	**914**	**137**	**1051**

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
IX Production of Inputs at site										
Seed Production	7	206	16	222	4	6	10	210	22	232
Planting material production	6	160	41	201	4	12	16	164	53	217
Vermicompost production	9	293	36	329	71	16	87	364	52	416
Organic manures production	7	256	24	280	64	6	70	320	30	350
Mushroom Production	1	0	22	22	0	5	5	0	27	27
Total	**30**	**915**	**139**	**1054**	**143**	**45**	**188**	**1058**	**184**	**1242**
X Capacity Building and Group Dynamics										
Leadership development	4	62	6	68	27	8	35	89	14	103
Group dynamics	8	81	0	81	16	150	166	97	150	247
Mobilization of social capital	1	28	3	31	4	0	4	32	3	35
Entrepreneurial development of farmers/youths	4	67	19	84	34	11	45	101	30	131
Others	1	18	0	18	5	0	5	23	0	23
Total	**18**	**256**	**28**	**282**	**86**	**169**	**255**	**342**	**197**	**539**
Grand Total	**748**	**14229**	**4551**	**18766**	**4964**	**7020**	**12014**	**19439**	**11350**	**30757**

During 2016-17, 44 KVKs. in Maharashtra conducted 2240 training courses for farmers and farm women in which 77720 were participated.

Under crop production 470 training courses, home science & women empowerment (347), live stock production and management (313), plant protection (339), horticulture (306), soil health and fertility management (220) courses were organized by KVKs.

In all, during 2016-17 for farmers and farm women, a total of 3745 training courses were organized by 77 KVK's in which 133376 were participated in Andhra Pradesh, Telangana and Maharashtra states. The percentage of women participation was 31.77 percent.

Among the various thematic areas, on Crop Production (770) courses, on Horticulture 638 (including vegetables, fruits, flowers and medicinal and aromatic plants), 599 on women empowerment, 471 on plant protection and 418 courses on Live Stock Production and Management were conducted to the farmers and farm women.

Table 3.3.5: Details of training programmes for Farmers in Maharashtra

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Weed Management	22	520	66	565	140	48	157	644	114	716
Resource Conservation Technologies	28	506	104	542	327	120	369	776	224	911
Cropping Systems	28	707	117	731	221	70	291	927	188	1115
Crop Diversification	6	132	20	152	31	15	46	163	35	198
Integrated Farming	32	311	29	340	394	54	448	705	83	788
Micro Irrigation/irrigation	7	123	2	125	15	10	25	138	12	150
Seed production	20	425	48	473	135	47	182	560	95	655
Nursery management	4	121	10	131	13	0	13	134	10	144
Integrated Crop Management	217	5650	958	6062	2401	677	2319	7712	1635	8379
Soil & water conservatioin	19	507	56	546	109	14	99	589	87	676
Integrated nutrient management	44	953	152	1064	362	46	360	1283	198	1424
Production of organic inputs	14	205	59	221	112	43	80	316	92	311
Others	29	656	33	689	182	9	191	838	42	880
Total	**470**	**10816**	**1654**	**11641**	**4442**	**1153**	**4580**	**14785**	**2815**	**16347**
II Horticulture										
a) Vegetable Crops										
Production of low value and high volume crops	48	1332	156	1526	349	57	370	1649	273	1896
Off season vegetables	12	257	26	283	36	21	57	293	47	340
Nursery raising	19	415	146	561	100	40	140	515	186	701
Exotic vegetables	3	54	12	66	16	6	22	70	18	88
Export potential vegetables	12	279	6	285	31	3	34	310	9	319
Grading and standardization	12	199	14	213	71	36	107	270	50	320
Protective cultivation	8	155	32	169	42	11	31	184	43	200
Others	37	1176	217	1393	314	100	414	1490	317	1807
Sub total	**151**	**3867**	**609**	**4496**	**959**	**274**	**1175**	**4781**	**943**	**5671**
b) Fruits										
Training and Pruning	6	139	5	144	5	5	10	144	10	154
Layout and Management of Orchards	12	252	55	285	93	14	78	332	69	363
Cultivation of Fruit	37	853	123	966	259	68	286	1115	191	1252
Management of young plants/ orchards	11	280	120	284	159	20	51	339	140	335

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Rejuvenation of old orchards	0	0	0	0	0	0	0	0	0	0
Export potential fruits	7	143	10	153	27	2	29	170	12	182
Micro irrigation systems of orchards	5	49	46	89	44	10	24	90	56	113
Plant propagation techniques	5	77	33	110	30	19	49	107	52	159
Others	11	180	132	312	11	5	16	191	137	328
Sub total	**94**	**1973**	**524**	**2343**	**628**	**143**	**543**	**2488**	**667**	**2886**
c) Ornamental Plants										
Nursery Management	2	17	51	29	42	30	6	48	81	35
Management of potted plants	0	0	0	0	0	0	0	0	0	0
Export potential of ornamental plants	2	1	23	12	19	16	14	6	39	26
Propagation techniques of Ornamental Plants	1	10	6	16	2	3	5	12	9	21
Others	0	0	0	0	0	0	0	0	0	0
Sub total	**5**	**28**	**80**	**57**	**63**	**49**	**25**	**66**	**129**	**82**
d) Plantation crops										
Production and Management technology	5	74	1	75	26	2	29	100	3	103
Processing and value addition	9	110	112	222	21	33	54	131	145	276
Others	1	34	0	34	0	0	0	34	0	34
Sub total	**15**	**218**	**113**	**331**	**47**	**35**	**83**	**265**	**148**	**413**
e) Tuber crops										
Production and Management technology	9	304	21	325	46	8	54	350	29	379
Processing and value addition	0	0	0	0	0	0	0	0	0	0
Others	0	0	0	0	0	0	0	0	0	0
Sub total	**9**	**304**	**21**	**325**	**46**	**8**	**54**	**350**	**29**	**379**
f) Spices										
Production and Management technology	17	120	136	141	372	97	271	418	233	412
Processing and value addition	6	57	101	126	48	17	14	86	118	140
Others	0	0	0	0	0	0	0	0	0	0
Sub total	**23**	**177**	**237**	**267**	**420**	**114**	**285**	**504**	**351**	**552**
g) Medicinal and Aromatic Plants										
Nursery management	3	28	31	59	6	11	17	34	42	76
Production and management technology	3	153	14	167	21	15	36	174	29	203

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Post harvest technology and value addition	1	25	0	25	10	0	10	35	0	35
Others	2	0	0	0	30	13	43	30	13	43
Sub total	**9**	**206**	**45**	**251**	**67**	**39**	**106**	**273**	**84**	**357**
Total	**306**	**6773**	**1629**	**8070**	**2230**	**662**	**2271**	**8727**	**2351**	**10340**
III Soil Health and Fertility Management										
Soil fertility management	27	545	153	668	177	70	212	694	223	880
Integrated water management	7	151	24	175	43	14	56	194	38	232
Integrated Nutrient Management	59	1214	216	1347	376	153	441	1517	369	1784
Production and use of organic inputs	39	508	413	743	556	302	816	1035	640	1627
Management of Problematic soils	3	37	6	43	17	7	24	54	13	67
Micro nutrient deficiency in crops	8	105	33	138	29	12	41	134	45	179
Nutrient Use Efficiency	12	249	65	284	65	18	49	289	83	333
Balanced use of fertilizers	13	260	46	358	102	43	145	414	89	503
Soil and Water Testing	47	891	225	1116	467	209	656	1358	437	1795
Others	5	164	29	193	23	0	23	187	29	216
Total	**220**	**4124**	**1210**	**5065**	**1855**	**828**	**2463**	**5876**	**1966**	**7616**
IV Livestock Production and Management										
Dairy Management	50	964	335	1171	458	210	637	1400	541	1910
Poultry Management	57	700	423	1102	461	400	823	1152	830	1925
Piggery Management	4	23	59	24	62	11	7	37	70	31
Animal Nutrition Management	31	389	141	584	358	118	321	669	258	903
Disease Management	53	1080	183	1286	370	75	443	1475	258	1729
Feed & fodder technology	84	1363	326	1580	532	165	709	1907	491	2405
Production of quality animal products	14	289	100	389	83	50	133	372	150	522
Others	20	302	322	477	152	85	237	454	407	861
Total	**313**	**5110**	**1889**	**6613**	**2476**	**1114**	**3310**	**7466**	**3005**	**10286**
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	33	63	516	579	163	341	514	226	837	1043
Design and development of low/minimum cost diet	22	93	280	383	108	170	278	201	452	661

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Designing and development for high nutrient efficiency diet	25	21	345	352	62	402	443	77	747	795
Minimization of nutrient loss in processing	2	25	17	37	10	37	47	35	54	84
Processing and cooking	6	214	111	325	43	54	97	257	175	432
Gender mainstreaming through SHGs	6	48	63	111	15	20	35	63	83	146
Storage loss minimization techniques	20	104	312	450	84	62	97	143	378	545
Value addition	68	389	838	1271	348	516	762	660	1348	2081
Women empowerment	49	139	1192	1340	101	553	656	231	1745	1996
Location specific drudgery reduction technologies	49	377	620	997	197	369	566	574	995	1569
Rural Crafts	6	100	84	230	103	60	125	164	169	350
Women and child care	27	97	447	531	55	559	595	146	1006	1126
Others	34	143	661	792	69	160	200	202	764	970
Total	**347**	**1813**	**5486**	**7398**	**1358**	**3303**	**4415**	**2979**	**8753**	**11798**
VI Agril. Engineering										
Farm Machinary and its maintenance	28	536	53	589	342	233	575	878	286	1164
Installation and maintenance of micro irrigation systems	24	462	8	470	111	3	114	573	11	584
Use of Plastics in farming practices	1	58	0	58	0	0	0	58	0	58
Production of small tools and implements	1	39	0	39	4	0	4	43	0	43
Repair and maintenance of farm machinery and implements	7	162	10	172	45	4	49	207	14	221
Small scale processing and value addition	11	157	81	238	39	34	73	196	115	311
Post Harvest Technology	23	457	174	631	209	92	301	666	266	932
Others	15	149	33	182	97	54	151	246	87	333
Total	**110**	**2020**	**359**	**2379**	**847**	**420**	**1267**	**2867**	**779**	**3646**
VII Plant Protection										
Integrated Pest Management	184	4642	574	5207	1560	440	1937	6147	1037	7117
Integrated Disease Management	73	1641	217	1791	753	230	882	2349	444	2673
Biocontrol of pests and diseases	33	797	118	960	385	93	478	1229	208	1440

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Production of bio control agents and bio pesticides	7	111	33	144	48	10	58	159	44	202
Others	42	778	465	839	490	208	131	1039	673	970
Total	**339**	**7969**	**1407**	**8941**	**3236**	**981**	**3486**	**10923**	**2406**	**12402**
VIII Fisheries										
Integrated fish farming	2	30	0	30	166	0	166	196	0	196
Carp breeding and hatchery management	0	0	0	0	0	0	0	0	0	0
Carp fry and fingerling rearing	2	40	0	40	0	0	0	40	0	40
Composite fish culture	3	57	0	37	1	0	1	58	0	58
Hatchery management and culture of freshwater prawn	0	0	0	0	0	0	0	0	0	0
Breeding and culture of ornamental fishes	1	0	15	15	0	0	0	0	15	15
Portable plastic carp hatchery	0	0	0	0	0	0	0	0	0	0
Pen culture of fish and prawn	1	20	0	20	0	0	0	20	0	20
Shrimp farming	1	20	0	0	0	0	0	20	0	20
Edible oyster farming	0	0	0	0	0	0	0	0	0	0
Fish processing and value addition	3	20	57	77	0	0	0	20	57	77
Total	**13**	**187**	**72**	**219**	**167**	**0**	**167**	**354**	**72**	**426**
IX Production of Inputs at site										
Seed Production	4	72	15	87	16	3	19	88	18	106
Planting material production	3	47	14	61	4	6	10	51	20	71
Biofertilizer production	1	39	1	40	2	0	2	41	1	42
Vermicompost production	8	56	136	79	2	1	3	58	137	175
Organic manures production	1	22	0	22	5	0	5	27	0	27
Production of livestock feed and fodder	2	17	21	38	2	6	8	19	27	46
Mushroom Production	2	20	10	30	12	13	25	33	22	55
Apiculture	4	83	10	93	27	6	33	110	16	126
Total	**25**	**356**	**207**	**450**	**70**	**35**	**105**	**427**	**241**	**648**
X Capacity Building and Group Dynamics										
Leadership development	5	374	32	406	45	0	45	419	32	451
Group dynamics	26	648	79	727	147	42	189	795	121	916
Formation and Management of SHGs	19	172	104	276	125	72	196	297	176	473

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Mobilization of social capital	2	30	2	32	346	65	411	376	67	443
Entrepreneurial development of farmers/youths	23	508	156	664	106	62	168	854	218	1072
WTO and IPR issues	1	0	0	0	0	0	0	91	0	91
Others	20	467	83	550	127	58	185	594	141	735
Total	**96**	**2199**	**456**	**2655**	**896**	**299**	**1194**	**3426**	**755**	**4181**
XI Agroforestry										
Integrated Farming Systems	1	22	5	27	1	2	3	23	7	30
Total	**1**	**22**	**5**	**27**	**1**	**2**	**3**	**23**	**7**	**30**
GRAND TOTAL	**2240**	**41389**	**14374**	**53458**	**17578**	**8797**	**23261**	**57853**	**23150**	**77720**

Dr. A.K. Singh DDG (AE) ICAR interacting with women enterprenuers at KVK Amravati (Durgapur) who have undergone training on value addition.

To create employment generation, providing income and promoting entrepreneurship development in rural youth, number of training courses were conducted by KVKs on agriculture and allied areas. A total of 617 courses were organized for 21845 rural youth in Andhra Pradesh Telangana and Maharashtra states. The training areas include Value addition in agriculture, dairy, fisheries, animal husbandry products (33 No), production of organic inputs (48), sheep and goat rearing (40). Nursery management (33), integrated farming (37), dairying (25), Poultry production (27), protected cultivation etc. The details of state wise training programmes organized for rural youth are presented in tables 3.3.7, 3.3.8 and 3.3.9.

Dr. A. K. Singh DDG (AE) visit to KVK Amravati (Durgapur)

Table 3.3.6: Details of training programs for rural youth in Zone-V

Activity	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery Management of Horticulture crops	33	580	214	794	101	171	272	757	385	1142
Bee keeping	18	234	51	285	139	31	170	373	82	455
Capacity building for ICT application	1	7	16	23	8	15	23	15	31	46
Cold water fisheries	1	28	0	28	2	0	2	30	0	30
Commercial fruit production	10	338	55	393	57	29	86	395	84	479
Composite fish culture	2	65	0	65	0	0	0	65	0	65
Dairying	25	474	54	528	133	21	154	607	75	682
Designing and development for high nutrient efficiency diet	1	0	13	13	0	4	4	0	17	17
Fish harvest and processing technology	1	8	2	10	2	1	3	10	3	13
Fry and fingerling rearing	2	43	0	43	8	0	8	51	0	51
Household food security	2	12	94	106	8	64	72	20	158	178
Income generation activities for empowerment of rural youth & Women	3	20	20	40	22	1	23	42	21	63
Information networking among farmers	1	18	6	24	11	7	18	29	13	42
Integrated farming	37	843	190	1033	277	125	402	1120	315	1435
Integrated Nutrient management	1	19	23	42	13	2	15	32	25	57
Integrated Pest Management	12	182	93	275	94	42	136	276	135	411
Livestock feed and fodder production	4	93	64	157	85	32	117	178	96	274
Low cost and nutrient efficient diet designing	2	18	72	90	6	56	62	24	128	152
Mobile Application Technologies	1	72	0	72	8	0	8	80	0	80
Mushroom Production	23	473	219	692	275	144	419	748	363	1111
Parthenium Management	1	21	5	26	2	1	3	23	6	29
Planting material production	6	148	18	166	43	12	55	191	30	221
Post Harvest Technology	11	138	76	214	46	47	93	184	123	307
Poultry production	27	337	121	458	248	129	377	585	250	835
Production of organic inputs	48	689	153	842	208	43	251	897	196	1093
Production of quality animal products	4	24	10	34	47	3	50	71	13	84

Activity	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops	4	124	92	216	24	7	31	148	99	247
Protected cultivation of vegetable crops	25	439	136	575	138	71	209	549	207	756
Rejuvenation of old orchards	1	16	22	38	20	17	37	36	39	75
Repair and maintenance of farm machinery and implements	20	556	232	788	163	25	188	719	257	976
Rural Crafts	6	89	252	341	11	143	154	100	395	495
Safer Use of Pesticides	1	15	0	15	1	0	1	16	0	16
Seed production	19	473	71	544	124	51	175	597	122	719
Sericulture	16	215	51	266	35	20	55	250	71	321
Sheep and goat rearing	40	1059	142	1201	234	77	311	1289	219	1508
Small scale processing	13	125	213	338	34	66	100	159	279	438
Soil Testing	7	87	68	155	22	19	41	109	87	196
Tailoring and Stitching	8	0	131	131	0	104	104	0	235	235
Training and pruning of orchards	6	140	20	160	16	10	26	156	30	186
Value addition	80	518	1004	1522	213	766	979	735	1770	2505
Vermi culture	26	535	121	656	196	144	340	731	265	996
Women and child care	1	0	39	39	0	22	22	0	61	61
Other	67	1685	636	2321	247	195	442	1932	831	2763
Grand Total	**617**	**10960**	**4799**	**15759**	**3321**	**2717**	**6038**	**14329**	**7516**	**21845**

Table 3.3.7: Details of training programmes for rural youth in Andhra Pradesh

Activity	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Bee keeping	4	40	30	70	15	15	30	55	45	100
Capacity building for ICT application	1	7	16	23	8	15	23	15	31	46
Commercial fruit production	6	271	33	304	34	17	51	305	50	355
Dairying	4	66	6	72	27	2	29	93	8	101
Household food security	2	12	94	106	8	64	72	20	158	178
Information networking among farmers	1	18	6	24	11	7	18	29	13	42
Integrated farming	6	142	35	177	37	22	59	179	57	236

Activity	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Integrated Nutrient management	1	19	23	42	13	2	15	32	25	57
Integrated Pest Management	8	111	82	193	65	42	107	176	124	300
Livestock feed and fodder production	4	93	64	157	85	32	117	178	96	274
Low cost and nutrient efficient diet designing	2	18	72	90	6	56	62	24	128	152
Mobile Application Technologies	1	72	0	72	8	0	8	80	0	80
Mushroom Production	12	329	165	494	168	101	269	497	266	763
Nursery Management of Horticulture crops	7	208	68	276	28	32	60	236	100	336
Planting material production	1	22	0	22	5	3	8	27	3	30
Post Harvest Technology	1	15	0	15	15	0	15	30	0	30
Production of organic inputs	5	80	22	102	43	19	62	123	41	164
Productivity enhancement in field crops	4	124	92	216	24	7	31	148	99	247
Protected cultivation of vegetable crops	1	26	15	41	9	7	16	35	22	57
Protected cultivation technology	1	7	16	23	8	15	23	15	31	46
Rejuvenation of old orchards	1	16	22	38	20	17	37	36	39	75
Repair and maintenance of farm machinery and implements	2	66	0	66	19	0	19	85	0	85
Rural Crafts	1	0	19	19	0	4	4	0	23	23
Seed production	5	115	22	137	35	18	53	150	40	190
Sericulture	7	15	35	50	5	10	15	20	45	65
Sheep and goat rearing	2	54	18	72	28	10	38	82	28	110
Small scale processing	1	2	49	51	0	12	12	2	61	63
Tailoring and Stitching	1	0	37	37	0	9	9	0	46	46
Training and pruning of orchards	0	0	0	0	0	0	0	0	0	0
Value addition	7	3	131	134	13	37	50	16	168	184
Vermi culture	7	167	39	206	61	33	94	228	72	300
Other	8	122	203	325	60	105	165	182	308	490
Grand Total	**114**	**2240**	**1414**	**3654**	**858**	**713**	**1571**	**3098**	**2127**	**5225**

Table 3.3.8: Details of training programmes for rural youth in Telangana

Activity	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Composite fish culture	2	65	0	65	0	0	0	65	0	65
Dairying	1	21	0	21	2	0	2	23	0	23
Fish harvest and processing technology	1	8	2	10	2	1	3	10	3	13
Fry and fingerling rearing	2	43	0	43	8	0	8	51	0	51
Integrated farming	6	166	21	187	64	5	69	230	26	256
Integrated pest mamangement	1	32	0	32	22	0	22	54	0	54
Mushroom Production	3	55	25	80	11	7	18	66	32	98
Nursery Management of Horticulture crops	13	194	90	284	24	96	120	218	186	404
Poultry production	1	0	14	14	0	8	8	0	22	22
Production of organic inputs	21	173	52	225	73	11	84	246	63	309
Production of quality animal products	1	10	6	16	4	2	6	14	8	22
Protected cultivation of vegetable crops	7	139	61	200	33	8	41	172	69	241
Repair and maintenance of farm machinery and implements	10	355	162	517	95	14	109	450	176	626
Rural Crafts	1	0	26	26	0	7	7	0	33	33
Seed production	2	85	12	97	10	12	22	95	24	119
Sericulture	2	51	4	55	16	10	26	67	14	81
Sheep and goat rearing	1	0	0	0	0	0	0	0	0	0
Tailoring and Stitching	3	0	40	40	0	35	35	0	75	75
Training and pruning of orchards	3	77	20	97	11	10	21	88	30	118
Value addition	29	27	195	222	15	362	377	42	557	599
Vermiculture	3	62	0	62	21	0	21	83	0	83
Other	4	54	17	71	14	11	25	68	28	96
Grand Total	**117**	**1617**	**747**	**2364**	**425**	**599**	**1024**	**2042**	**1346**	**3388**

Table 3.3.9: Details of training programmes for rural youth in Maharashtra

Activity	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Bee keeping	14	194	21	215	124	16	140	318	37	355
Cold water fisheries	1	28	0	28	2	0	2	30	0	30
Commercial fruit production	4	67	22	89	23	12	35	90	34	124
Dairying	20	387	48	435	104	19	123	491	67	558
Designing and development for high nutrient efficiency diet	1	0	13	13	0	4	4	0	17	17
Income generation activities for empowerment of Rural youth & Women	3	20	20	40	22	1	23	42	21	63
Integrated farming	24	522	122	644	176	98	274	698	220	918
Integrated farming	1	13	12	25	0	0	0	13	12	25
Integrated pest maman-agement	3	39	11	50	7	0	7	46	11	57
Mushroom Production	8	89	29	118	96	36	132	185	65	250
Nursery Management of Horticulture crops	13	178	56	234	49	43	92	303	99	402
Parthenium Management	1	21	5	26	2	1	3	23	6	29
Planting material production	5	126	18	144	38	9	47	164	27	191
Post Harvest Technology	10	123	76	199	31	47	78	154	123	277
Poultry production	26	337	107	444	248	121	369	585	228	813
Production of organic inputs	22	436	79	515	92	13	105	528	92	620
Production of quality animal products	3	14	4	18	43	1	44	57	5	62
Protected cultivation of vegetable crops	16	267	44	311	88	41	129	327	85	412
Quail farming	0	0	0	0	0	0	0	0	0	0
Repair and maintenance of farm machinery and implements	8	135	70	205	49	11	60	184	81	265
Rural Crafts	4	89	207	296	11	132	143	100	339	439

Activity	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Safer use of Pesticides	1	15	0	15	1	0	1	16	0	16
Seed production	12	273	37	310	79	21	100	352	58	410
Sericulture	7	149	12	161	14	0	14	163	12	175
Sheep and goat rearing	37	1005	124	1129	206	67	273	1207	191	1398
Shrimp farming	0	0	0	0	0	0	0	0	0	0
Small scale processing	12	123	164	287	34	54	88	157	218	375
Soil Testing	7	87	68	155	22	19	41	109	87	196
Tailoring and Stitching	4	0	54	54	0	60	60	0	114	114
Training and pruning of orchards	3	63	0	63	5	0	5	68	0	68
Value addition	44	488	678	1166	185	367	552	677	1045	1722
Vermi culture	16	306	82	388	114	111	225	420	193	613
Women and child care	1	0	39	39	0	22	22	0	61	61
Other	55	1509	416	1925	173	79	252	1682	495	2177
Grand Total	**386**	**7103**	**2638**	**9741**	**2038**	**1405**	**3443**	**9189**	**4043**	**13232**

As per the mandate of Krishi Vigyan Kendra, Capacity Development Programmes for district level extension functionaries were organized by KVKs in Andhra Pradesh, Telangana and Maharashtra States. A total of 575 trainings were conducted in which 20945 extension functionaries were participated. On productivity enhancement 170 number of courses were taken up with the participation of 6216 personnel. In Integrated pest and disease management 136 courses were conducted followed by integrated nutrient management (36), on women and child care (22), Care & maintenance of farm machinery & implements(20), production and use of organic inputs (19), household food security (18), Livestock feed and fodder management (16), protected cultivation (15) etc. Out of 20945 participants, 7339 i.e., 35 percent are women extension functionaries.

The state wise particulars of training programmes conducted for extension functionaries are present in tables 3.3.11, 3.3.12 and 3.3.13.

Table 3.3.10: Details of trainings for Extension Functionaries in Zone -V

Activity	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops	170	3698	1479	5177	651	388	1039	4349	1867	6216
Integrated Pest Management	103	2463	935	3398	592	298	890	3055	1233	4288
Integrated Nutrient management	36	816	250	1066	173	91	264	989	341	1330
Rejuvenation of old orchards	12	393	77	470	117	58	175	510	135	645
Protected cultivation technology	15	284	70	354	136	32	168	420	102	522
Production and use of organic inputs	19	346	154	500	77	22	99	423	176	599
Care & maintenance of farm machinery & implements	20	385	100	485	85	61	146	470	161	631
Gender mainstreaming through SHGs	10	108	198	306	18	40	58	126	238	364
Formation and Management of SHGs	3	42	16	58	34	8	42	76	24	100
Women and Child care	22	240	591	831	59	246	305	299	837	1136
Low cost and nutrient efficient diet designing	15	98	287	385	34	101	135	132	388	520
Group Dynamics and farmers organization	12	271	136	407	93	58	151	364	194	558
Information networking among farmers	14	303	81	384	60	26	86	363	107	470
Capacity building for ICT application	14	257	134	391	43	26	69	300	160	460
Management in farm animals	15	234	99	333	41	27	68	275	126	401
Livestock feed and fodder production	16	236	122	358	61	33	94	297	155	452
Household food security	18	188	211	399	64	108	172	252	319	571

Activity	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Other	52	553	451	1004	166	219	385	719	670	1389
MDP Training Programme	2	22	50	72	6	12	18	28	62	90
Micro irrigation in crops	2	70	5	75	12	0	12	82	5	87
Mulching in fruit crops	1	12	4	16	4	4	8	16	8	24
Organic Farming	1	18	8	26	0	0	0	18	8	26
Production technology of Agricultural and Horticultural crops	1	17	12	29	6	4	10	23	16	39
Role of KVK In Agriculture	1	6	1	7	0	0	0	6	1	7
Water Management in fruit crops	1	9	4	13	5	2	7	14	6	20
Grand Total	**575**	**11069**	**5475**	**16544**	**2537**	**1864**	**4401**	**13606**	**7339**	**20945**

Table 3.3.11: Details of trainings for Extension Functionaries in Andhra Pradesh

Activity	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops	21	429	265	694	113	66	179	542	331	873
Integrated Pest Management	34	580	558	1138	187	167	354	767	725	1492
Integrated Nutrient management	5	90	108	198	31	35	66	121	143	264
Rejuvenation of old orchards	1	0	0	0	15	5	20	15	5	20
Protected cultivation technology	4	67	18	85	21	9	30	88	27	115
Production and use of organic inputs	7	164	136	300	41	17	58	205	153	358
Gender mainstreaming through SHGs	4	0	146	146	0	30	30	0	176	176

Activity	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Formation and Management of SHGs	1	18	0	18	8	4	12	26	4	30
Women and Child care	12	5	390	395	6	212	218	11	602	613
Low cost and nutrient efficient diet designing	1	0	42	42	0	28	28	0	70	70
Group Dynamics and farmers organization	2	35	9	44	14	8	22	49	17	66
Information networking among farmers	1	16	7	23	6	4	10	22	11	33
Capacity building for ICT application	2	29	12	41	11	4	15	40	16	56
Management in farm animals	1	21	19	40	2	2	4	23	21	44
Livestock feed and fodder production	3	25	29	54	11	9	20	36	38	74
Household food security	2	0	30	30	0	68	68	0	98	98
Other	8	36	155	191	7	44	51	43	199	242
Grand Total	**109**	**1515**	**1924**	**3439**	**473**	**712**	**1185**	**1988**	**2636**	**4624**

Table 3.3.12: Details of trainings for Extension Functionaries in Telangana

Activity	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops	21	344	166	510	63	32	95	407	198	605
Integrated Pest Management	26	409	223	632	62	44	106	471	267	738
Integrated Nutrient management	9	121	50	171	32	20	52	153	70	223
Rejuvenation of old orchards	3	33	9	42	4	1	5	37	10	47
Protected cultivation technology	7	85	25	110	67	11	78	152	36	188

Activity	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Production and use of organic inputs	5	38	9	47	9	3	12	47	12	59
Care & maintenance of farm machinery & implements	5	97	30	127	33	15	48	130	45	175
Gender mainstreaming through SHGs	2	35	17	52	10	6	16	45	23	68
Formation and Management of SHGs	1	8	2	10	6	0	6	14	2	16
Women and Child care	2	0	45	45	0	4	4	0	49	49
Low cost and nutrient efficient diet designing	2	35	17	52	10	6	16	45	23	68
Group Dynamics and farmers organization	3	35	17	52	10	6	16	45	23	68
Information networking among farmers	1	45	45	90	0	0	0	45	45	90
Capacity building for ICT application	5	84	79	163	8	2	10	92	81	173
Management in farm animals	2	30	6	36	4	2	6	34	8	42
Livestock feed and fodder production	5	93	21	114	19	8	27	112	29	141
Household food security	5	22	82	104	15	17	32	37	99	136
Other	29	140	50	190	61	20	81	201	70	271
Production technology of Agricultural and Horticultural crops	1	17	12	29	6	4	10	23	16	39
Mulching in fruit crops	1	12	4	16	4	4	8	16	8	24
Water Management in fruit crops	1	9	4	13	5	2	7	14	6	20
Grand Total	**136**	**1692**	**913**	**2605**	**428**	**207**	**635**	**2120**	**1120**	**3240**

Table 3.3.13: Details of trainings for Extension Functionaries in Maharashtra

Activity	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops	128	2925	1048	3973	475	290	765	3400	1338	4738
Integrated Pest Management	43	1474	154	1628	343	87	430	1817	241	2058
Integrated Nutrient management	22	605	92	697	110	36	146	715	128	843
Rejuvenation of old orchards	8	360	68	428	98	52	150	458	120	578
Protected cultivation technology	4	132	27	159	48	12	60	180	39	219
Production and use of organic inputs	7	144	9	153	27	2	29	171	11	182
Care & maintenance of farm machinery & implements	15	288	70	358	52	46	98	340	116	456
Gender mainstreaming through SHGs	4	73	35	108	8	4	12	81	39	120
Formation and Management of SHGs	1	16	14	30	20	4	24	36	18	54
Women and Child care	8	235	156	391	53	30	83	288	186	474
Low cost and nutrient efficient diet designing	12	63	228	291	24	67	91	87	295	382
Group Dynamics and farmers organization	7	201	110	311	69	44	113	270	154	424
Information networking among farmers	12	242	29	271	54	22	76	296	51	347
Capacity building for ICT application	7	144	43	187	24	20	44	168	63	231
Management in farm animals	12	183	74	257	35	23	58	218	97	315
Livestock feed and fodder production	8	118	72	190	31	16	47	149	88	237
Household food security	11	166	99	265	49	23	72	215	122	337

Activity	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Other (Soil and Water testing/ Post Harvest Management/ICM)	15	377	246	623	98	155	253	475	401	876
MDP Training Programme	2	22	50	72	6	12	18	28	62	90
Micro irrigation in crops	2	70	5	75	12	0	12	82	5	87
Organic Farming	1	18	8	26	0	0	0	18	8	26
Role of KVK In Agriculture	1	6	1	7	0	0	0	6	1	7
Grand Total	**330**	**7862**	**2638**	**10500**	**1636**	**945**	**2581**	**9498**	**3583**	**13081**

3.3.1. Sponsored Training

Krishi Vigyan Kendras in Andhra Pradesh, Telangana and Maharashtra conducted number of vocational training courses to farmers, rural youth, school dropouts and women to create self employment and income generation in the rural areas. On the whole, 339 vocational training programmes were conducted for 9269 youth in three states. The maximum number of courses were conducted on Value addition (59), followed by Poultry Farming (26), Sheep and Goat rearing (22), Commercial floriculture, Dairy farming (15) etc.

The details of state wise vocational training courses conducted are presented in tables 3.3.15, 3.3.16 and 3.3.17.

Agri-entrepreneurship Development Training Programme at KVK Amravati (Durgapur)

Table 3.3.14: Details of sponsored training programmes in Zone-V

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop production and management	12	387	163	450	89	14	103	476	177	553
Increasing production and productivity of crops	68	2379	277	2632	564	107	671	2943	384	3327
Commercial production of vegetables	11	395	16	411	170	87	256	565	103	668
Agronomy	6	111	49	160	193	55	248	304	104	408
Entomology	2	59	10	69	36	6	42	95	16	111
Vegetable (Chilli)	1	39	9	48	9	3	12	48	12	60
Improved Gram cultivation technology & seed production	1	24	0	24	0	0	0	24	0	24
Improved onion cultivation technology & seed production	1	29	12	41	0	0	0	29	12	41
Organic farming (ASCI)	1	7		7	12	1	13	19	1	20
Others (Quality seed grower) (ASCI)	1	17		16	3		3	20		20
Integrated Farming system (NFDB)	1	13	1	14	6		6	19	1	20
Sub total	**105**	**3460**	**537**	**3872**	**1082**	**273**	**1354**	**4542**	**810**	**5252**
Production and value addition										
Fruit Plants	24	464	54	518	115	26	141	579	85	664
Ornamental plants	1	15	4	19	4	2	6	19	6	25
Spices crops	12	165	57	222	32	27	59	197	84	281
Soil health and fertility management	20	557	80	637	108	25	133	665	105	770
Production of Inputs at site	15	169	86	255	588	234	822	757	320	1077
Methods of protective cultivation	5	133	13	146	25	3	28	158	24	182
Others	33	920	160	1080	385	76	461	1305	236	1541
Sub total	**110**	**2423**	**454**	**2877**	**1257**	**393**	**1650**	**3680**	**860**	**4540**

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Post harvest technology and value addition										
Processing and value addition	41	597	405	1002	164	333	497	761	738	1499
Friends of coconut trees (CDB)	1	15		15	5		5	20		20
Others	4	117	24	141	38	12	50	155	35	190
Sub total	**46**	**729**	**429**	**1158**	**207**	**345**	**552**	**936**	**773**	**1709**
Farm machinery										
Farm machinery, tools and implements	3	75	16	91	80	23	103	155	39	194
Others	2	6	0	6	30	4	34	36	4	40
Sub total	**5**	**81**	**16**	**97**	**110**	**27**	**137**	**191**	**43**	**234**
Livestock and fisheries										
Livestock production and management	23	289	64	353	233	306	539	522	370	892
Animal Nutrition Management	12	290	20	310	92	80	92	147	85	152
Animal Disease Management	16	266	93	359	80	81	129	116	154	220
Fisheries Management	14	282	30	312	69	46	115	351	86	437
Carp fry & fingerling production	1	20		20				20		20
Litopenaeus Vannamei farming	1	20		20		0		20	0	20
Fish farming	3	60	20	80	10		10	70	20	90
Ornamental fish rearing & Breeding	1	22		22				22		22
Value addition	2	42	5	47				42	5	47
Monosex Tilapia farming	2	31	19	50	10	5	15	41	24	65
Pre stocking management of nursery & culture pond	1	20		20				20		20
Shrimp farming	2	35	5	40	10	10	20	45	15	60

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery rearing of IMC seed	2	35		35	5		5	40		40
Improved fodder cultivation	1	38	0	38	0	0	0	38	0	38
Others	18	174	37	211	196	47	243	367	76	443
Sub total	**99**	**1624**	**293**	**1917**	**705**	**575**	**1168**	**1861**	**835**	**2566**
Home Science										
Household nutritional security	4	0	52	52	0	58	58	0	110	110
Economic empowerment of women	23	8	566	574	10	285	295	18	829	847
Drudgery reduction of women	3	5	75	80	0	23	23	5	98	103
Others	8	32	80	112	14	47	61	46	127	173
Scientific method of seed & food grain storage	1	82	4	86	1	0	1	83	4	87
Kisan Gosthi	1	46	0	46	9	0	9	55	0	55
Farmers Scientist Interaction	1	39	12	51	2	2	4	41	14	55
Sub total	**41**	**212**	**789**	**1001**	**36**	**415**	**451**	**248**	**1182**	**1430**
Agricultural Extension										
Capacity Building and Group Dynamics	14	411	76	487	130	23	153	541	99	640
Others	8	308	94	402	66	25	91	374	119	493
Sub total	**22**	**719**	**170**	**889**	**196**	**48**	**244**	**915**	**218**	**1133**
Grand Total	**428**	**9248**	**2688**	**11811**	**3593**	**2076**	**5556**	**12373**	**4721**	**16864**

Table 3.3.15: Details of sponsored training programmes in Andhra Pradesh

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop production and management	12	387	163	450	89	14	103	476	177	553
Increasing production and productivity of crops	27	527	117	644	135	34	169	662	151	813
Commercial production of vegetables	0			0			0	0	0	0
Organic farming (ASCI)	1	7		7	12	1	13	19	1	20
Others (Quality seed grower) (ASCI)	1	17		16	3		3	20		20
Integrated Farming system (NFDB)	1	13	1	14	6		6	19	1	20
Sub total	**42**	**951**	**281**	**1131**	**245**	**49**	**294**	**1196**	**330**	**1426**
Production and value addition										
Fruit crops	3	76	0	76	26	0	26	102	0	102
Ornamental plants	0			0			0	0	0	0
Spice crops	0			0			0	0	0	0
Soil health and fertility management	3	95	15	110	20	0	20	115	15	130
Production of Inputs at site	1	35		35	15		15	50	0	50
Methods of protective cultivation	1	22	5	27	10	2	12	32	15	47
Others	5	172	30	202	94	21	115	266	51	317
Sub total	**13**	**400**	**50**	**450**	**165**	**23**	**188**	**565**	**81**	**646**
Post harvest technology and value addition										
Processing and value addition	17		256	256	36	148	184	36	404	440
Friends of coconut trees (CDB)	1	15		15	5		5	20		20
Others	2	70	15	85	32	9	41	102	23	125
Sub total	**20**	**85**	**271**	**356**	**73**	**157**	**230**	**158**	**427**	**585**

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Livestock and fisheries										
Livestock production and management	1	17	1	18	0	0	0	17	1	18
Animal Nutrition Management	10	240	10	250	80	80	80	80	80	80
Animal Disease Management	10	230	20	250	50	50	50	50	50	50
Fisheries Management	3	30		30	29	36	65	59	36	95
Others	1	16		16	4		4	20	0	20
Sub total	**25**	**533**	**31**	**564**	**163**	**166**	**199**	**226**	**167**	**263**
Home Science										
Household nutritional security	2	0	0	0	0	45	45	0	45	45
Economic empowerment of women	3	0	52	52	0	11	11	0	33	33
Drudgery reduction of women	0			0			0	0	0	0
Others	2	22	10	32	8	5	13	30	15	45
Sub total	**7**	**22**	**62**	**84**	**8**	**61**	**69**	**30**	**93**	**123**
Agricultural Extension										
Capacity Building and Group Dynamics	4	124	4	128	44	8	52	168	12	180
Others	3	27	10	37	35	15	50	62	25	87
Sub total	**7**	**151**	**14**	**165**	**79**	**23**	**102**	**230**	**37**	**267**

Table 3.3.16: Details of sponsored training programmes in Telangana

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop production and management										
Increasing production and productivity of crops	5	106	60	166	33	18	51	139	78	217

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Commercial production of vegetables	2	25	12	37	12	10	22	37	22	59
Sub total	**7**	**131**	**72**	**203**	**45**	**28**	**73**	**176**	**100**	**276**
Production and value addition										
Fruit crops	2	76	0	76	2	0	2	78	0	78
Ornamental plants	0	0	0	0	0	0	0	0	0	0
Spice crops	0	0	0	0	0	0	0	0	0	0
Soil health and fertility management	3	106	12	118	5	6	11	111	18	129
Production of Inputs at site	0	0	0	0	0	0	0	0	0	0
Methods of protective cultivation	0	0	0	0	0	0	0	0	0	0
Others	13	232	18	250	202	20	222	434	38	472
Sub total	**18**	**414**	**30**	**444**	**209**	**26**	**235**	**623**	**56**	**679**
Post harvest technology and value addition										
Processing and value addition	2	59	10	69	12	10	22	71	20	91
Others	1	28	4	32	6	2	8	34	6	40
Sub total	**3**	**87**	**14**	**101**	**18**	**12**	**30**	**105**	**26**	**131**
Farm machinery										
Farm machinery, tools and implements	2	75	16	91	37	16	53	112	32	144
Others	0	0	0	0	0	0	0	0	0	0
Sub total	**2**	**75**	**16**	**91**	**37**	**16**	**53**	**112**	**32**	**144**
Livestock and fisheries										
Livestock production and management	0	0	0	0	0	0	0	0	0	0
Animal Nutrition Management	0	0	0	0	0	0	0	0	0	0
Animal Disease Management	1	13	0	13	6	1	7	19	1	20
Fisheries Nutrition	0	0	0	0	0	0	0	0	0	0

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Fisheries Management	5	132	0	132	18	0	18	150	0	150
Others	3	52	30	82	9	8	17	58	30	88
Sub total	**9**	**197**	**30**	**227**	**33**	**9**	**42**	**227**	**31**	**258**
Home Science										
Household nutritional security	0	0	0	0	0	0	0	0	0	0
Economic empowerment of women	1	0	23	23	0	7	7	0	30	30
Drudgery reduction of women	1	0	30	30	0	0	0	0	30	30
Others	4	0	45	45	0	40	40	0	85	85
Sub total	**6**	**0**	**98**	**98**	**0**	**47**	**47**	**0**	**145**	**145**
Agricultural Extension										
Capacity Building and Group Dynamics	0	0	0	0	0	0	0	0	0	0
Others	1	42	0	42	8	0	8	50	0	50
Sub total	**1**	**42**	**0**	**42**	**8**	**0**	**8**	**50**	**0**	**50**
Grand Total	**46**	**946**	**260**	**1206**	**350**	**138**	**488**	**1293**	**390**	**1683**

Table 3.3.17: Details of sponsored training programmes in Maharashtra

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop production and management										
Increasing production and productivity of crops	36	1746	100	1822	396	55	451	2142	155	2297
Commercial production of vegetables	9	370	4	374	158	77	234	528	81	609
Agronomy	6	111	49	160	193	55	248	304	104	408
Entomology	2	59	10	69	36	6	42	95	16	111

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Vegetable (Chilli)	1	39	9	48	9	3	12	48	12	60
Improved Gram cultivation technology & seed production	1	24	0	24	0	0	0	24	0	24
Improved onion cultivation technology & seed production	1	29	12	41	0	0	0	29	12	41
Sub total	**56**	**2378**	**184**	**2538**	**792**	**196**	**987**	**3170**	**380**	**3550**
Production and value addition										
Fruit crops	19	312	54	366	87	26	113	399	85	484
Ornamental plants	1	15	4	19	4	2	6	19	6	25
Spice crops	12	165	57	222	32	27	59	197	84	281
Soil health and fertility management	14	356	53	409	83	19	102	439	72	511
Production of Inputs at site	14	134	86	220	573	234	807	707	320	1027
Methods of protective cultivation	4	111	8	119	15	1	16	126	9	135
Others	15	516	112	628	89	35	124	605	147	752
Sub total	**79**	**1609**	**374**	**1983**	**883**	**344**	**1227**	**2492**	**723**	**3215**
Post harvest technology and value addition										
Processing and value addition	22	538	139	677	116	175	291	654	314	968
Friends of coconut trees (CDB)										
Others	1	19	5	24	0	1	1	19	6	25
Sub total	**23**	**557**	**144**	**701**	**116**	**176**	**292**	**673**	**320**	**993**
Farm machinery										
Farm machinery, tools and implements	1	0	0	0	43	7	50	43	7	50
Others	2	6	0	6	30	4	34	36	4	40
Sub total	**3**	**6**	**0**	**6**	**73**	**11**	**84**	**79**	**11**	**90**

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Livestock and fisheries										
Livestock production and management	22	272	63	335	233	306	539	505	369	874
Animal Nutrition Management	2	50	10	60	12	0	12	67	5	72
Animal Disease Management	5	23	73	96	24	30	72	47	103	150
Fisheries Nutrition										
Fisheries Management	6	120	30	150	22	10	32	142	50	192
Carp fry & fingerling production	1	20		20				20		20
Litopenaeus Vannamei farming	1	20		20		0		20	0	20
Fish farming	3	60	20	80	10		10	70	20	90
Ornamental fish rearing & Breeding	1	22		22				22		22
Value addition	2	42	5	47				42	5	47
Monosex Tilapia farming	2	31	19	50	10	5	15	41	24	65
Pre stocking management of nursery & culture pond	1	20		20				20		20
Shrimp farming	2	35	5	40	10	10	20	45	15	60
Nursery rearing of IMC seed	2	35		35	5		5	40		40
Improved fodder cultivation	1	38	0	38	0	0	0	38	0	38
Others	14	106	7	113	183	39	222	289	46	335
Sub total	**65**	**894**	**232**	**1126**	**509**	**400**	**927**	**1408**	**637**	**2045**
Home Science										
Household nutritional security	2	0	52	52	0	13	13	0	65	65
Economic empowerment of women	19	8	491	499	10	267	277	18	766	784
Drudgery reduction of women	2	5	45	50	0	23	23	5	68	73

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Others	2	10	25	35	6	2	8	16	27	43
Scientific method of seed & food grain storage	1	82	4	86	1	0	1	83	4	87
Kisan Goshthi	1	46	0	46	9	0	9	55	0	55
Farmers Scientist Interaction	1	39	12	51	2	2	4	41	14	55
Sub total	**28**	**190**	**629**	**819**	**28**	**307**	**335**	**218**	**944**	**1162**
Agricultural Extension										
Capacity Building and Group Dynamics	10	287	72	359	86	15	101	373	87	460
Others	4	239	84	323	23	10	33	262	94	356
Sub total	**14**	**526**	**156**	**682**	**109**	**25**	**134**	**635**	**181**	**816**
Grand Total	**268**	**6160**	**1719**	**7855**	**2510**	**1459**	**3986**	**8675**	**3196**	**11871**

3.3.2. Vocational Training

In addition to regular training programmes organized, KVKs conducted sponsored training programmes from ATMA, MANAGE and other agencies. During the year under report, a total of 428 sponsored training courses were conducted in which 16864 farmers, women, rural youth and extension functionaries were participated. The maximum number of courses were conducted on increasing production and productivity of crops (68), processing and value addition (41), Live Stock production and management (23), Animal Disease Management (6) , Fisheries management (14), Soil health and fertility management (20), production of inputs at site (15), etc.

Table 3.3.18: Details of Vocational Training programmes in Zone-V

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop production and management										
Commercial floriculture	20	190	80	270	11	34	45	201	114	315
Commercial fruit production	5	125	27	152	11	6	17	136	33	169
Commercial vegetable production	8	169	30	199	14	4	18	183	34	217
Integrated crop management	9	63	44	107	7	12	19	82	56	138
Organic farming	13	197	41	238	91	42	133	166	205	371
Others	21	357	65	422	163	40	203	361	264	620
Post harvest technology and value addition										
Value addition	59	246	655	901	141	558	699	732	1058	1790
Others	7	52	98	150	4	32	36	155	31	186
Livestock and fisheries										
Dairy farming	15	193	67	260	78	53	131	221	170	391
Composite fish culture	5	125	0	125	19	36	55	161	19	180
Sheep and goat rearing	22	365	99	464	144	81	225	500	179	679
Piggery	1	20	0	20	0	0	0	20	0	20
Poultry farming	26	255	102	357	265	171	436	523	269	792
Others	3	52	30	82	7	10	17	59	40	99
Income generation activities										
Vermicomposting	11	90	49	139	38	91	129	161	137	298
Production of bio-agents, bio-pesticides,	7	73	17	90	20	18	38	93	35	128
bio-fertilizers etc.	1	23	18	41	1	0	1	24	18	42
Repair and maintenance of farm machinery	2	61	5	66	21	10	31	15	82	97
and implements	1	4	4	8	0	2	2	4	6	10
Rural Crafts	4	4	46	50	0	30	30	39	71	110
Seed production	6	100	11	111	16	8	24	96	39	135
Sericulture	12	144	47	191	48	15	63	232	22	254

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Mushroom cultivation	12	169	112	281	99	69	168	203	246	449
Nursery, grafting etc.	9	140	42	182	24	31	55	123	114	237
Tailoring, stitching, embroidery, dying etc.	17	6	158	164	0	170	170	86	323	409
Agril. para-workers, para-vet training	3	44	7	51	7	0	7	51	7	58
Others	15	161	97	258	31	118	149	217	190	407
Agricultural Extension	2	33	0	33	19	0	19	52	0	52
Capacity building and group dynamics	10	112	19	131	56	54	110	168	73	241
Others	12	220	37	257	65	23	88	265	80	345
Agri tourism	1	20	2	22	4	4	8	24	6	30
Grand Total	**339**	**3813**	**2009**	**5822**	**1404**	**1722**	**3126**	**5353**	**3921**	**9269**

Table 3.3.19: Details of Vocational Training programmes in Andhra Pradesh

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop production and management										
Organic farming	6	112	20	132	56	26	82	46	168	214
Others	7	115	20	135	93	29	122	49	208	257
Post harvest technology and value addition										
Value addition	16	10	232	242	41	165	206	397	51	448
Others	3	0	70	70	0	29	29	99	0	99
Livestock and fisheries										
Dairy farming	1	20		20	30		30		50	50
Composite fish culture	1				19	36	55	36	19	55
Sheep and goat rearing	1				7	8	15	8	7	15
Poultry farming	1				8	12	20	12	8	20
Income generation activities										
Vermicomposting	1	0	23	23	0	13	13	36	0	36
Production of bio-agents, bio-pesticides, bio-fertilizers etc.	1				13	13	26	13	13	26
Repair and maintenance of farm machinery and implements	2	61	5	66	21	10	31	15	82	97

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Rural Crafts	1	0	21	21	0	14	14	35	0	35
Seed production	1	18	0	18	2	0	2	0	20	20
Sericulture	8	15	45	60	5	15	20	60	20	80
Mushroom cultivation	7	155	87	242	34	37	71	124	189	313
Nursery, grafting etc.	2	46	11	57	11	5	16	16	57	73
Tailoring, stitching, embroidery, dying etc.	3	0	41	41	0	39	39	80	0	80
Agril. para-workers, para-vet training										
Others	1		16	16		9	9	25		25
Agricultural Extension										
Others	2			0	35	15	50	15	35	50
Grand Total	**65**	**552**	**591**	**1143**	**375**	**475**	**850**	**1066**	**927**	**1993**

Table 3.3.20: Details of Vocational Training programmes in Telangana

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop production and management										
Commercial floriculture	19	171	80	251	10	34	44	181	114	295
Commercial fruit production	3	93	27	120	7	6	13	100	33	133
Commercial vegetable production	2	8	8	16	0	4	4	8	12	20
Integrated crop management	7	40	36	76	3	12	15	55	48	103
Organic farming	3	28	16	44	14	14	28	42	30	72
Others	2	4	4	8	30	2	32	34	6	40
Post harvest technology and value addition										
Value addition	17	16	71	87	0	105	105	16	367	383
Livestock and fisheries										
Dairy farming										
Composite fish culture	4	125	0	125	0	0	0	125	0	125
Others	1	0	23	23	0	7	7	0	30	30

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Income generation activities										
Vermicomposting	1	0		0	0		0	0	30	30
Production of bio-agents, bio-pesticides, bio-fertilizers etc.	2	8	8	16	0	4	4	8	12	20
Repair and maintenance of farm machinery										
and implements	1	4	4	8	0	2	2	4	6	10
Rural Crafts	2	4	4	8	0	2	2	4	36	40
Seed production	1	4	4	8	0	2	2	4	6	10
Nursery, grafting, etc.	1	4	4	8	0	2	2	4	6	10
Tailoring, stitching, embroidery, dying etc.	10	0	77	77	0	128	128	0	280	280
Others	4	0	19	19	0	96	96	0	115	115
Agricultural Extension										
Capacity building and group dynamics	2	62	0	62	18	0	18	80	0	80
Grand Total	**82**	**571**	**385**	**956**	**82**	**420**	**502**	**665**	**1131**	**1796**

Table 3.3.21: Details of Vocational Training programmes in Maharashtra

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop production and management										
Commercial floriculture	1	19	0	19	1	0	1	20	0	20
Commercial fruit production	2	32	0	32	4	0	4	36	0	36
Commercial vegetable production	6	161	22	183	14	0	14	175	22	197
Integrated crop management	2	23	8	31	4	0	4	27	8	35
Organic farming	4	57	5	62	21	2	23	78	7	85
Others	12	238	41	279	40	9	49	278	50	328

Area of Training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Post harvest technology and value addition										
Value addition	26	220	352	572	100	288	388	319	640	959
Others	4	52	28	80	4	3	7	56	31	87
Livestock and fisheries										
Dairy farming	14	173	67	240	48	53	101	221	120	341
Sheep and goat rearing	21	365	99	464	137	73	210	492	172	664
Piggery	1	20	0	20	0	0	0	20	0	20
Poultry farming	25	255	102	357	257	159	416	511	261	772
Others	2	52	7	59	7	3	10	59	10	69
Income generation activities										
Vermicomposting	9	90	26	116	38	78	116	125	107	232
Production of bio-agents, bio-pesticides,	4	65	9	74	7	1	8	72	10	82
bio-fertilizers etc.	1	23	18	41	1	0	1	24	18	42
Rural Crafts	1	0	21	21	0	14	14	0	35	35
Seed production	4	78	7	85	14	6	20	92	13	105
Sericulture	4	129	2	131	43	0	43	172	2	174
Mushroom cultivation	5	14	25	39	65	32	97	79	57	136
Nursery, grafting, etc.	6	90	27	117	13	24	37	103	51	154
Tailoring, stitching, embroidery, dying, etc.	4	6	40	46	0	3	3	6	43	49
Agril. para-workers, para-vet training	3	44	7	51	7	0	7	51	7	58
Others	10	161	62	223	31	13	44	192	75	267
Agricultural Extension										
Capacity building and group dynamics	8	50	19	69	38	54	92	88	73	161
Others	12	253	37	290	49	8	57	302	45	347
Agro tourism	1	20	2	22	4	4	8	24	6	30
Grand Total	**192**	**2690**	**1033**	**3723**	**947**	**827**	**1774**	**3622**	**1863**	**5485**

3.4 Extension Activities

To create awareness among farmers about latest improved agricultural technologies, KVKs in Zone-V organized 25750. Various extension activities covering 5896277 participants (Table 3.4.1). The extension activities included advisory services, exposure visits, animal health camps, technology week, group discussions, method demonstrations, soil health camps, kisan melas, kisan gosthi, etc. In Andhra Pradesh, KVKs organized 7521 extension activities covering 613708 participants, in Telangana a total of 5069 extension activities were organized covering 207169 participants and the corresponding figures for Maharashtra are 13151 extension activities and 5074552 participants respectively (Table 3.4.2, 3.4.3 and 3.4.5).

Table 3.4.1: Details of Extension Activities organized by KVKs in Zone-V

Activity	No. of activities	No. of farmers	No. of Extension officers	Total
Advisory Services	5398	2903508	12490	2915998
Awareness programmes on PPV & FRA 2001	19	2285	38	2323
Campaigns	13	905	30	935
Celebration of important days	532	50852	3238	54090
Crop Conference on Sugarcane	1	148	0	148
Diagnostic visits	5437	27996	3167	31163
Exhibition	225	2467779	26928	2494707
Expert / Guest lectures	41	2687	0	2687
Exposure visits	335	14555	499	15054
Ex-trainees Sammelan	32	1689	76	1765
Farm Science Club	132	3802	180	3982
Farmers Field Schools	9	235	0	235
Farmers interaction	2	1189	59	1248
Farmers' seminar/workshop	176	7865	1032	8897
Farmers Visits to KVK	381	4478	80	4558
Field Day	537	21660	1309	22969
Film Show	293	14327	617	14944
Gram Uday Se Bharat Uday Abhiyan	4	233	0	233
Group discussions	1544	33428	1812	35240
Jai Kisan Jai Vigyan Week	5	851	34	885
Kisan Gosthi	44	4779	102	4881
Kisan Gosthi	309	17051	795	17846
Kisan Mela	16	12373	221	12594
Kisan Mela	226	67582	2380	69962
Krishi Jagruti Saptaah 2016	31	1901	0	1901
Krishi Kirtan	5	1267	43	1310

Activity	No. of activities	No. of farmers	No. of Extension officers	Total
Mahila Kisan Sashaktikaran Programme (MKSP)	2	32	0	32
Mana Telangana – Mana Vyavasayam (10 days)	1	974	186	1160
Medical health camp	6	193	10	203
Method Demonstrations	1076	22139	1357	23496
Others	398	61289	3482	64771
Parthenium Awareness week	3	380	10	390
Plant/animal health camps	599	8686	388	9074
PRA survey	2	169	17	186
Pre Kharif planning meetings	14	875		875
Scientists' visit to farmers field	7230	55233	3061	58294
Self -help groups	360	6287	322	6609
Seminars	1	40	0	40
Soil health campaign	4	108	13	121
Swachhata Pakhwara	17	1166	77	1243
Telephone calls	179	179	42	221
Telephonic contacts	0	531	0	531
Vigilance awareness week	1	134	28	162
Week Celebrations	4	555	10	565
Women mela	1	74	8	82
Workshop	105	6686	981	7667
Grand Total	**25750**	**5831155**	**65122**	**5896277**

Table: 3.4.2. Details of Extension Activities organized by KVKs in Andhra Pradesh

Activity	No. of activities	No. of farmers	No. of Extension officers	Total
Advisory Services	1560	360534	9458	369992
Awareness programmes on PPV & FRA 2001	5	353		353
Celebration of important days	181	10806	951	11757
Diagnostic visits	1485	13392	1950	15342
Exhibition	73	129439	1079	130518
Exposure visits	54	1870	128	1998
Ex-trainees Sammelan	6	618	30	648
Farm Science Club	7	148	13	161
Farmers' seminar/workshop	142	6618	928	7546

Activity	No. of activities	No. of farmers	No. of Extension officers	Total
Field Day	131	4026	287	4313
Film Show	61	3081	251	3332
Group discussions	462	7692	594	8286
Kisan Gosthi	39	2887	212	3099
Kisan Mela	36	15491	901	16392
Method Demonstrations	531	9312	607	9919
Others	3	896	33	929
Plant/animal health camps	416	3679	251	3930
Scientists' visit to farmers field	2293	22471	1309	23780
Self help groups	37	1143	58	1201
Week Celebrations	4	555	10	565
Grand Total	**7521**	**594658**	**19050**	**613708**

Women farmers exposure visit

Table: 3.4.3. Details of Extension Activities organized by KVKs in Telangana

Activity	No. of activities	No. of farmers	No. of Extension officers	Total
Advisory Services	1391	132045	963	133008
Awareness programmes on PPV & FRA 2001	5	565	8	573
Celebration of important days	84	6775	236	7011
Diagnostic visits	987	4767	528	5295

Activity	No. of activities	No. of farmers	No. of Extension officers	Total
Exhibition	24	9644	166	9810
Exposure visits	22	600	25	625
Ex-trainees Sammelan	6	243	20	263
Farm Science Club	1	32	2	34
Farmers' seminar/workshop	34	1247	104	1351
Field Day	91	2853	173	3026
Film Show	45	1516	123	1639
Group discussions	389	4740	172	4912
Jai Kisan – Jai Vigyan week (7 days)	1	205	3	208
Kisan Gosthi	44	4779	102	4881
Kisan Mela	16	12373	221	12594
Mana Telangana – Mana Vyavasayam (10 days)	1	974	186	1160
Method Demonstrations	266	4526	131	4657
Others	7	1448	35	1483
Plant/animal health camps	6	298	16	314
Scientists' visit to farmers field	1643	13378	926	14304
Self -help groups	9	224	15	239
Swacchta Pakhwada (15 days)	1	247	0	247
Grand Total	**5069**	**203014**	**4155**	**207169**

Women farmers exposure visit to Tomato demonstration plots

Table: 3.4.4. Details of Extension Activities organized by KVKs in Maharashtra

Activity	No. of activities	No. of farmers	No. of Extension officers	Total
Advisory Services	2447	2410929	2069	2412998
Awareness programmes on PPV & FRA 2001	9	1367		1367
Campaigns	13	905	30	935
Celebration of important days	267	33271	2051	35322
Crop Conference on Sugarcane	1	148	0	148
Farmers interaction	2	1189	59	1248
Diagnostic visits	2965	9837	689	10526
Exhibition	128	2328696	25683	2354379
Expert / Guest lectures	41	2687	0	2687
Exposure visits	259	12085	346	12431
Extrainees Sammelan	20	828	26	854
Farm Science Club	124	3622	165	3787
Farmers Field Schools	9	235	0	235
Farmers Visits to KVK	381	4478	80	4558
Field Day	315	14781	849	15630
Film Show	187	9730	243	9973
Gram Uday Se Bharat Uday Abhiyan	4	233	0	233
Group discussions	693	20996	1046	22042
Jai Kisan Jai Vigyan Week	4	646	31	677
Kisan Gosthi	270	14164	583	14747
Kisan Mela	190	52091	1479	53570
Krishi Jagruti Saptaah 2016	31	1901	0	1901
Krishi Kirtan	5	1267	43	1310
Mahila Kisan Sashaktikaran Programme (MKSP)	2	32	0	32
Medical health camp	6	193	10	203
Method Demonstrations	279	8301	619	8920
Others	388	58945	3414	62359
Parthenium Awareness week	3	380	10	390
Plant/animal health camps	177	4709	121	4830

Activity	No. of activities	No. of farmers	No. of Extension officers	Total
PRA survey	2	169	17	186
Pre Kharif planning meetings	14	875		875
Scientists' visit to farmers field	3294	19384	826	20210
Self help groups	314	4920	249	5169
Seminars	1	40	0	40
Soil health campaign	4	108	13	121
Swachhata Pakhwada	16	919	77	996
Telephone calls	179	179	42	221
Telephonic contacts	0	531	0	531
Vigilance awareness week	1	134	28	162
Women mela	1	74	8	82
Workshop	105	6686	981	7667
Grand Total	**13151**	**5032665**	**41887**	**5074552**

Technology Week and Kisan Mobile Advisories

During the year under report, three KVKs in Andhra Pradesh, five KVKs in Telangana and 24 KVKs in Maharashtra have organized Technology Week to show case and popularize the latest technologies for the benefit of farmers. The details of various activities organized during technology week are presented in Table 3.4.5.

Table: 3.4.5. Details of Technology Week celebrations in KVKs in Zone-V

Activity	Andhra Pradesh		Telangana		Maharashtra		Zone (Total)	
	Q/No.	NF	Q/No.	NF	Q/No.	NF	Q/No.	NF
Bio Fertilizers (q)	1	90	0	0	15.42	60	16.42	150
Bio Product distribution (Kg)			0	0	294	49	294	49
Diagnostic Practicals	0	80	0	321	21	2898	21	3299
Distribution of fingerlings			0	0	0	0	0	0
Distribution of Literature (No.)	0	200	143	115	6428	24078	6571	24393
Distribution of Livestock specimen (No.)			0	0	150	27	150	27

Activity	Andhra Pradesh		Telangana		Maharashtra		Zone (Total)	
	Q/No.	NF	Q/No.	NF	Q/No.	NF	Q/No.	NF
Distribution of Planting material (No.)	0	0	198000	227	4003	3380	202003	3607
Distribution of Seed (q)			0.19	13	10	10	10.19	23
Exhibition	0	250	5	304	20	40298	25	40852
Fair			0	160	8	1660	8	1820
Farm Visit	11	578	4	606	47	35450	62	36634
Film show	0	80	0	0	28	2439	28	2519
Gosthies	0	80	5	368	47	8388	52	8836
Lectures organised	2	282	17	1069	162	17749	181	19100
Others					12	1049	12	1049
Total number of farmers visited the technology week	1546	95	4	96			1901	59816

Technology Week Celebration at KVK Nanded (Sagroli)

Kisan Mobile Advisories

To disseminate the latest information, knowledge on weather, market prices on various commodities, livestock and crop based technologies to the farmers, Kisan Mobile advisories were given by KVKs through text and voice messages. A total of 5864 messages were sent to 869750 farmers.

Table: 3.4.6. Details of Kisan Mobile Advisories

Category	Type of messages	Andhra Pradesh		Telangana		Maharashtra		Zone-V	
		NM	NF	NM	NF	NM	NF	NM	NF
Crop	Text only	165	143234	107	48462	294	7004785	566	7196481
	Voice & Text			58	1030			58	1030
	Voice only								
	Total	**165**	**143234**	**165**	**49492**	**294**	**7004785**	**624**	**7197511**
Livestock	Text only	15	13220	38	3164	167	1173169	220	1189553
	Voice & Text			30	1030	0	0	30	1030
	Voice only								
	Total	**15**	**13220**	**68**	**4194**	**167**	**1173169**	**250**	**1190583**
Weather	Text only	33	10226	20	3507	91	956636	144	970369
	Voice & Text								
	Voice only								
	Total	**33**	**10226**	**20**	**3507**	**91**	**956636**	**144**	**970369**
Marketing	Text only	9	4738			92	1242084	101	1246822
	Voice & Text								
	Voice only								
	Total	**9**	**4738**	**0**	**0**	**92**	**1242084**	**101**	**1246822**
Awareness	Text only	9	9801	18	10391	247	2802347	274	2822539
	Voice & Text			1	1030			1	1030
	Voice only	2				1	725	3	725
	Total	**11**	**9801**	**19**	**11421**	**248**	**2803072**	**278**	**2824294**
Other Enterprise	Text only	1	1550	8	5839	129	1175597	138	1182986
	Voice & Text			1	1030			1	1030
	Voice only					1	165580	1	165580
	Total	**1**	**1550**	**9**	**6869**	**130**	**1341177**	**140**	**1349596**
Grand Total	Text only	193	127644	319	11147	770	13543979	1282	13682770
	Voice & Text			90	1030			90	1030
	Voice only	2				2	166305	4	166305
	Total	**195**	**127644**	**409**	**12177**	**772**	**13710284**	**1376**	**13850105**

Table: 3.4.7. Details of other Mobile Advisories

Category	Type of messages	Andhra Pradesh		Telangana		Maharashtra		Zone-V	
		NM	NF	NM	NF	NM	NF	NM	NF
Crop	Text only	260	84895	87	8342	280	150347	627	243584
	Voice & Text	222	17780	11	6750	32	7184	265	31714
	Voice only	916	8944	768	14291	1107	6723	2791	29958
	Total	**1398**	**111619**	**866**	**29383**	**1419**	**164254**	**3683**	**305256**
Livestock	Text only	25	1302	23	2407	83	58010	131	61719
	Voice & Text	49	1326	2	1600	0	0	51	2926
	Voice only	124	174	13	3790	103	103	240	4067
	Total	**198**	**2802**	**38**	**7797**	**186**	**58113**	**422**	**68712**
Weather	Text only	1	3456	98	4324	19	47010	118	54790
	Voice & Text	98	98	13	800	0	0	111	898
	Voice only	14	14	19	2600	20	20	53	2634
	Total	**113**	**3568**	**130**	**7724**	**39**	**47030**	**282**	**58322**
Marketing	Text only	0	0	5	812	21	23560	26	24372
	Voice & Text	60	60	1	770	0	0	61	830
	Voice only	39	39	25	1840	80	80	144	1959
	Total	**99**	**99**	**31**	**3422**	**101**	**23640**	**231**	**27161**
Awareness	Text only	157	28861	5	7175	192	401639	354	437675
	Voice & Text	55	24082	1	3475	6	5348	62	32905
	Voice only	75	575	49	7575	105	105	229	8255
	Total	**287**	**53518**	**55**	**18225**	**303**	**407092**	**645**	**478835**
Other Enterprise	Text only	239	1540	4	1500	70	75658	313	78698
	Voice & Text	83	1384	7	800	0	0	90	2184
	Voice only	1934	1934	45	1090	647	647	2626	3671
	Total	**2256**	**4858**	**56**	**3390**	**717**	**76305**	**3029**	**84553**
Grand Total	Text only	297	83917	130	14271	643	714128	1070	812316
	Voice & Text	47	1302	109	16320	26	8880	182	26502
	Voice only	1840	3640	991	25511	1781	1781	4612	30932
	Total	**2184**	**88859**	**1230**	**56102**	**2450**	**724789**	**5864**	**869750**

Table: 3.4.8. Details of other extension programmes

Category	Andhra Pradesh		Telangana		Maharashtra		Zone-V	
	No. of activities	No. of KVKs	No. of activities	No. of KVKs	No. of activities	No. of KVKs	No. of activities	No. of KVKs
Animal health camps (Number of animals treated)	33 (2740)	10	6 (1466)	5	78 (5967)	25	117 (10173)	40
Bi- Monthly Newsletters (English, Telugu)			12	1			12	1
Electronic Media (CD/ DVD)	1	1	4	2	119	10	124	13
Extension Literature	119	15	83 (500)	10	339(6500)	39	541(7000)	64
Medical camp					6	1	6	1
News paper coverage	1960	16	794	13	1663	36	4417	65
Others (Soil health camping/information corners/Telephonic queries)	24	4	3	1	6430	14	6457	19
Popular articles	354	14	138	11	382	38	874	63
Radio Talks	244	16	144	9	372	26	760	51
TV Talks	232	13	110	12	94	21	436	46
Total	**2967 (2740)**		**1294 (1966)**		**9483 (12467)**		**13744 (17173)**	

3.5 Publications

The KVKs of Zone-V have brought out 5076 publications, which include 125 popular articles, 67 Leaflets/folders/Pamphlets, 263 technical reports, 68 Research Papers, 209 Books/ Brochures, CD/VCD/ DVDs, etc., and provided to the farmers and other clientele. The details are given in Table 3.5.1

Release of Publications on Pulses during Zonal Review Workshop on CFLD at ATARI Hyderabad

Table: 3.5.1. Details of Publications by KVKs

Types of Publication	Andhra Pradesh	Telangana	Maharashtra	Zone -V
Award & recognition			1	1
Book Chapters	6	4	11	21
Books	16	6	184	206
Conference papers			1	1
Extension folder			1	1
Folders	14		34	48
Leaflets		4		4
Pamphlets	15			15
Brochures		3		3
Poster presentation			10	10
Ongoing research projects			2	2
Pocket cards & diary	3		3	6
Popular articles	0	25	100	125
Research papers	25	5	38	68
Seminar Papers	11	1	27	39
Success Story			2	2
Technical bulletins	51	39	4050	4140
Technical reports	140	33	90	263
Training Manual	3	31	42	76
Workshops			1	1
Others	12	4	29	45
Total	**296**	**155**	**4626**	**5076**

Table : Table: 3.5.2. News letters published

Type of Newsletter published	Andhra Pradesh	Telangana	Maharashtra	Zone -V
CTRI News Letter	4			4
Krishi e-News letter	3			3
KVK e-Newsletter	6			6
KVK Rudrur Bi- Monthly news letters (English & Telugu)		50		50
Dnyaneshwar Krishi Vratta			500	500
Krishi Vigyan Kendra			1000	1000
Krishivratta			12	1
KVK NEWS LETTER (monthly)			12	12
News paper – D. Lokmat, D. Divyabharati, D. Deshonnati				
Vasundhara Magazine			1500	1500

3.6 Critical Technology Products

KVKs produce seed of improved varieties/hybrids of crops, planting materials of selected plant species, bio products, improved live stock breeds and species to provide them to the farmers thereby facilitating rapid technology transfer.

3.6.1 Seed and Planting Material

One of the responsibilities of KVKs is to act as Knowledge and Resource center. Hence KVKs produced 21245 quintals seed of cereals and millets, 49 quintals of oilseeds, about 2306 quintals of pulses and supplied to about 7943 farmers (Table 3.6.1).

Table: 3.6.1. Production and supply of seed

Category	Andhra Pradesh			Telangana			Mahrashtra			Zone-V		
	Quantity (Q)	Value (Rs)	No. of farmers	Quantity (Q)	Value (Rs)	No. of farmers	Quantity (Q)	Value (Rs)	No. of farmers	Quantity (Q)	Value (Rs)	No. of farmers
Cereals millets	2527	5094772	1591	3223	8083057	5417	641	1146121	200	21245	14323950	7208
Commercial crops	0	0	0	0	0	0	23	283640	4	23	283640	4
Oilseeds	0	0	0	0	0	0	49	111284	69	49	111284	69
Pulses	1310	8668170	46	366	638965	435	630	918349	181	2306	10225484	662
Grand Total	**3837**	**13762942**	**1637**	**3589.7**	**8722022**	**5852**	**1343**	**2459395.35**	**454**	**23623**	**24944358**	**7943**

Planting material

A total of 445435 slips of fodder crops, 1216352 vegetable seedlings of tomato, brinjal, chilli etc., 61291 saplings of forestry and plantation were supplied to 311326 farmers in the Zone (Table 3.6.2).

Table:3.6.2. Production and supply of planting material

Category	Andhra Pradesh			Telangana			Maharashtra			Zone-V		
	Number	Value (Rs)	No. of farmers	Number	Value (Rs)	No. of farmers	Number	Value (Rs)	No. of farmers	Number	Value (Rs)	No. of farmers
Cereals							2371594	7114782	724	2371594	7114782	724
Fodder (Slips)	770	0	4	198190	105840	200	246665	392227	105250	445435	498067	105250
Forestry/ plantation	0	0	0	10200	0	50	51091	289391	60	61291	289391	110
Medicinal & Aromatic	14035	25749	0	166700	0	3125	3206	66400	91	183941	92149	3216
Ornamental	155460	408018	13	37890	28350	300	49100	357615	13865	242450.85	793983	13878
Vegetables	218974	237756	158	150922	171500	15	846456	1145216	187990	1216352	1554472	188148
Grand Total	**389239**	**671523**	**175**	**563902**	**305690**	**3690**	**3568112**	**9365631**	**307980**	**4521064**	**10342844**	**311326**

Bio-products and bio-agents

KVKs produced 283388 Kg of bio-fertilizers and 45587 Kg of bio pesticides made available to farmers. Details of which are given in (Table 3.6.3).

Table: 3.6.3. Production and supply of bio-products and bio-agents

Category	Andhra Pradesh			Telangana			Maharashtra			Zone-V	
	Quantity (kg)	Value (Rs)	No. of farmers	Quantity (kg)	Value (Rs)	No. of farmers	Quantity (kg)	Value (Rs)	No. of farmers	Quantity (kg)	Value (Rs)
Bio-fertilizer	6000	12000	0	196626	1136001.25	1785	80762	2055581	7143	283388	3203582.25
Bio-agents	87.5	4375	0	1210	65000	20	725	3750	15	2022.5	73125
Bio-pesticide	0	0	0	2000	300000	162	14623.5	1817870	1294	16623.5	2117870
Bio-product	26729	70057	342	0	0	0	212.39	106249	37	26941.39	176306
Grand Total	**32816.5**	**86432**	**342**	**199836**	**1501001.25**	**1967**	**96322.89**	**3983450**	**8489**	**328975.39**	**5570883.3**

3.6.2 Livestock Species

A total of 169229 live stock species, comprising of Fish spawn/seed of 5005 numbers, 163843 back yard poultry chicks, 311 dairy animals and 70 sheep and goat have been produced and provided to the farmers (Table 3.6.4).

Table: 3.6.4. Details of production of live stock, sheep and goat, poultry breed and fisheries

Category	Andhra Pradesh		Telangana		Maharashtra		Zone-V	
	Number	Value (Rs)	Number	Value (Rs)	Number	Value (Rs)	Number	Value (Rs)
Poultry	4846	507413	2669	199798	156328	2246484	163843	2953695
Dairy animals	255	25500	0	0	56	743000	311	768500
Fisheries	0	0	5005	50000	0	0	5005	50000
Sheep and goat	11	46310	0	0	59	328660	70	374970
Total	**5112**	**579223**	**7674**	**249798**	**156443**	**3318144**	**169229**	**4147165**

3.6.3 Soil and water testing

KVKs undertake soil and water testing primarily to ascertain the nutrient status of fields earmarked for technology assessment and refinement so as to make soil test based nutrient recommendations in various micro-farming situations of the districts. A total number of 238850 samples including soil (228034), water (10010), plant (726), compost (80) were analyzed by the KVKs benefitting 276723 farmers of 11885 villages (Table 3.6.5.).

Table: 3.6.5. Total Soil and water testing by KVKs of Zone-V

Sample	Zone Total			
	NS	NF	NV	Amount (Rs.)
Soil Samples	228034	241726	8567	24589093
Water Samples	10010	34493	3233	971680
Plant Samples	726	445	64	122300
Compost Samples	80	59	21	16000
Grand Total	**238850**	**276723**	**11885**	**25699073**

NS: No. of samples NF: No. of farmers NV: No. of villages

Table: 3.6.6. Details of soil and water testing by KVKs

Sample	Andhra Pradesh				Telangana				Maharashtra			
	NS	NB	NV	Amount (Rs.)	NS	NB	NV	Amount (Rs.)	NS	NB	NV	Amount (Rs.)
Soil Samples	15385	9866	1328	2302960	7359	8018	367	237120	205290	223842	6872	22049013
Water Samples	614	472	201	25600	115	119	12	0	9281	33902	3020	946080
Plant Samples	130	18	3	13050					596	427	61	109250
Compost Samples									80	59	21	16000
Total	**16129**	**10356**	**1532**	**2341610**	**7474**	**8137**	**379**	**237120**	**215247**	**258230**	**9974**	**23120343**

NS: No. of samples NB: No. of beneficiaries NV: No. of villages

3.7 Rainwater Harvesting

The details of training programmes on rainwater harvesting conducted by KVKs are given in Table 3.7.1.

A total of 116 courses were conducted for 6554 farmers, farm women and extension personnel.

Table: 3.7.1.Details of training programmes conducted on rainwater harvesting

District	Name of the KVK	No. of Training Programmes	No. of Demonstra-tion	No. of Plant Materials Produced	Visit by Farmers (No.)	Visit by Officials (No.)
AP						
Anantapur	KVK, Kalyandurg	4	4		143	38
Chittoor	KVK, RASS	2	4		622	150
Guntur	KVK, Lam	1	1		150	50
Krishna	KVK, Garikapadu	6	6		689	150
Prakasam	KVK, Darsi	7	5	500	48	4
Anantapur	KVK, Reddipalli	5	4		96	22
TS						
Karimnagar	KVK, Jammikunta	6	6	0	126	14
Nalgonda	KVK, Gaddipalli	3	0	0	52	12
Mahabubnagar	KVK, YFA	5				
Ranga Reddy	KVK, Ranga Reddy	32	32	0	799	20
MS						
Hingoli	KVK, Tondapur	2	1	5000	415	47
Parbhani	KVK, Parbhani	2	2	0	150	15
Aurangabad	KVK, MGM	2	2	0	150	15
Beed	KVK, Ambajogai	3	0	0	70	3
Beed	KVK, Khamgaon	3	0	0	70	3
Buldhana	KVK, Jalgaon Jamod	3	2	0	12	3
Amravati	KVK, Durgapur	5	10	0	1000	25
Jalna	KVK, Jalna	7	5	0	500	100
Kolhapur	KVK, Kolhapur	7	5	0	500	100
Thane	KVK, Thane	11	8		178	13
	Total	**116**	**97**	**5500**	**5770**	**784**

3.8 Technological Backstopping

The Directorates of Extension of State Agricultural Universities (SAU) and Agricultural Technology Application Research Institutes (ATARI) facilitate technological backstopping and Human Resource Development (HRD) to the KVKs through extension training and capacity building programmes, seminars, workshops etc. They make frequent monitoring trips to the KVKs during the crop season to review the activities. There are ten Directorates of Extension of SAUs in Zone-V under Acharya N. G. Ranga Agricultural University (Lam), Sri Venkateswara Veterinary University (Tirupati), Dr. Y.S.Rajasekhara Reddy Horticulture University (Venkataramannagudem) in Andhra Pradesh , Professor Jayashankar Telangana State Agricultural University (Hyderabad), Konda Laxman Telangana State Horticulture University, P.V. Narasimha Rao University of Veterinary, Animal and Fishery Sciences in Telangana, Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth (Dapoli), Vasantrao Naik Marathwada Krishi Vidyapeeth (Parbhani), Mahatma Phule Krishi Vidyapeeth (Rahuri) and Dr. Punjabrao Deshmukh Krishi Vidyapeeth (Akola) in Maharashtra. A total of 83 programmes benefitting 2522 KVK staff in Zone-V were jointly organized by the Directorates of Extension and Agricultural Technology Application Research Institute (Table 3.8.1). Various officials of Directorates of Extension of SAUs and other university officials made 139 visits covering 33 KVKs under their operational jurisdiction during the crop season to monitor and review the activities of KVKs (Table 3.8.2).

Table: 3.8.1. Details of training programs and meetings conducted by ATARI and SAUs of Andhra Pradesh, Telangana and Maharashtra

SAU/ ATARI	No. of meetings	No. of participants
ANGRAU, Hyderabad	21	34
Dr.YSRHU, Venkataramannagudem	2	173
SVVU, Tirupati	1	5
PJTSAU, Hyderabad	12	395
PVNRTSVU, Hyderabad	5	100
BSKVV, Dapoli	0	0
VNMKV, Parbhani	1	110
MPKV, Rahuri	10	542
PDKV, Akola	17	513
ATARI, Hyderabad	14	650
Total	**83**	**2522**

Table: 3.8.2 Details of visits by the officials of Directorate of Extension of SAU to KVKs

SAU	No. of visits	No. of KVKs
ANGRAU, Lam, Guntur	7	1
Dr.YSRHU, Venkataramannagudem	16	2
SVVU, Tirupati	2	1
PJTSAU, Hyderabad	4	3
PVNRTSVU, Hyderabad	4	1
BSKVV, Dapoli	0	0
VNMKV, Parbhani	28	8
MPKV, Rahuri	57	10
PDKV, Akola	21	7
Total	**139**	**33**

3.9 Agricultural Technology Information Centre (ATIC)

For facilitating enhanced access of farmers to sources of information, critical inputs and providers of advisory services, six ATICs have been functional in Zone-V, one each at five State Agricultural Universities, viz. Professor Jayashankar Telangana State Agricultural University (Telangana), Dr. Balasaheb Sawant Konkan Krishi Vidyapeeth, Vasantrao Naik Marathwada Krishi Vidyapeeth, Mahatma Phule Krishi Vidyapeeth and Dr. Punjabrao Deshmukh Krishi Vidyapeeth in Maharashtra and one at Central Institute for Cotton Research, Nagpur, Maharashtra. During the year 2016-17, a total of 118081 farmers visited the ATICs to access the latest technological information and critical technology products, viz. seed and planting material (Table 3.9.1). ATICs published latest technical information in the form of books, bulletins and electronic print format, viz. compact discs and digital virtual discs for the benefit of farmers. The details on number of publications by ATICs are furnished in Table 3.9.2. A total of 250105 copies of 5 various publications were sold by ATICs with revenue of Rs. 32.23 lakh benefitting 24310 farmers.

Table: 3.9.1. Details of visits of farmers to ATICs

Nature of visit	Number of farmers
Technology Information	73101
Technology Products	20029
Agro-advisory	23241
Diagnostic services	0
Exposure visits	0
Farmer-Scientists forum	1550
Others	160
Total	118081

Table: 3.9.2. Details of publication by ATICs

Publication	Number	No. of copies	Revenue (Rs.lakh)	No. of farmers
Books	43	48152	2932643	14491
Technical bulletins	16	20200	290732	9516
Technology Inventory	3	1000	0	0
CD, DVD & Video film	16	450	0	0
Leaflet	142	139778	0	278
Booklet & Pamphlet	57	40525	0	25
Total	**277**	**250105**	**3223375**	**24310**

3.10 National Innovations in Climate Resilient Agriculture (NICRA)

Under the Technology Demonstration component of NICRA in Zone-V, 15 districts (5 in Andhra Pradesh, 2 in Telangana and 8 in Maharashtra) were selected for conducting such technology demonstrations. During the year under report KVKs conducted 1829 demonstrations under NRM interventions viz., in-situ moisture conservation practices, water harvesting and recycling, ground water recharge, improved drainage in flood prone area, micro irrigation systems and various resource conservation technologies. A total of 1620 crop production demonstrations were conducted in 789 ha on drought tolerant and short duration varieties, location specific inter cropping systems, crop diversification, disease and pest management, nutrient management etc. Under livestock and fisheries interventions, KVKs covered 1137 farmers on fodder production, Hydroponic method of fodder production, Silage making, breed up gradation, mitigation of mineral deficiency, improved birds for backyard poultry, management of fishponds, etc. Under institutional interventions 927 ha area was covered under custom hiring of farm implements. KVKs also organized 319 training programmes for 8862 participants (7175 farmers and 1687 farm women) on soil health management, contingency cropping, vegetable production, farm mechanization, pest and disease management, live stock management, etc. 23152 Extension activities were conducted with participation of 18341 farmers and 4811 farm women.

Renovation of Jagannadha Naidu tank: KVK Srikakulam

Renovation of Jagannadha Naidu tank was initiated during the year 2011-12 due to low storage capacity, weakened sluices and bunds leading to over flow of water and damage to the crops during heavy rains in tank fed areas. In order to reduce the flood in tank fed fields and to overcome water scarcity at early and later stages of the crop growth, renovation of tank was initiated.

Table 3.10.1: Impact of renovation of Jagannadha naidu tank on Kharif paddy

Particulars	Before NICRA	After NICRA		
		2013-14	2014-15	2015-16
Area (ha)	120	130	130	130
Yield (q)	48	53.50	51.83	55.85
% Yield loss reduced before inception of NICRA	-	11.45	7.97	16.35
Cost of cultivation	28500	30910	38750	34438
Gross Returns	48000	53500	66410	78906
Net Returns	19500	22590	27660	44468
B:C Ratio	1.68	1.73	1.71	2.29
Total income for total area	2340000	3388500	4149000	6670200

Table 3.10.2 : Impact of renovation of Jagannadha naidu tank on Rabi crops

Crop	Before NICRA		After NICRA						
	Area (ha)	Net income (Rs.)	Area (ha)	Cost of cultivation (Rs.)	Yield (q/ha)	Price (Rs./q)	Gross income (Rs.)	Net income (Rs.)	Net income for total area (Rs.)
Maize	1	41000	8.0	31250	67.5	1400	94500	63250	506000
Greengram	3	88110	10.0	12500	5.5	6000	33000	20500	205000
Blackgram	3	55800	5.0	13000	4.0	7500	30000	17000	85000
Chick pea	-	-	4.0	18750	12.5	4000	50000	31250	125000
Sesamum	3	75000	4.0	9000	5.0	8500	42500	33500	100500
Vegetables	2	97000	7.5	45000	150.0	800	120000	75000	562500
Total	**12**	**356910**	**38.5**	**129500**	**244.5**	**28200**	**370000**	**240500**	**1583500**

Table 3.10.3 : Impact of renovation of Jagannadha naidu tank on fisheries

S.No.	Particulars	Before	After	Impact
1	Area under fish culture (ha)	10	10	Though area remained the same, water depth increased due to desilting.
2	Culture period	Upto January	Upto March	Culture period increased by 2 months
3	Cost of cultivation	Rs.170000	Rs. 182500	Cost of cultivation increased by Rs.12500/ha
4	Fish production	7.38 t/ha	9.0 t/ha	Fish production increased by 1.62 t/ ha
5	Gross returns	442800 (Rs. 60/kg)	630000 (Rs.70/kg)	Gross returns increased by Rs. 187200/ha
6	Net Returns	272800	447500	Net income increased by Rs.174700/ha after NRM intervention

By extending culture period by two months, the average weight of the harvested fish increased, resulting in increased yield by 162 kg/ha and increased cost of Rs.10/- per kg.

Plastic mulching in Tomato- KVK Chittoor (RASS)

Tomato is the major crop being cultivated extensively in an area of 143 hectares with average productivity in the range of 45-65 tonnes/ha in Chinnagottigallu mandal. Mulching is an effective method of manipulating crop growing environment to increase yield and improve product quality by controlling weed growth, ameliorating soil temperature, conserving soil moisture, reducing soil erosion, improving soil structure and enhancing organic matter content. Plastic mulching in tomato resulted in higher yield of 75.87 t/ha whereas, farmers practice (No mulching) resulted in 63.58 t/ha. Use of plastic mulching reduced weed growth at critical stages of crop growth and also helped in-moisture conservation. Number of irrigations required under farmers practice were 27 where as it was only 17 in the demonstration. Number of irrigations was reduced in plastic mulching due to availability of soil moisture for longer period.

Plastic mulching in tomato

Table 3.10.4 : Effect of plastic mulching in Tomato cultivation

Treatment	Fruit Yield (kg/ha)	Cost of cultivation (Rs/ha)	Gross income (Rs/ha)	Net income (Rs/ha)	B:C ratio
No mulching	63580	233844	370666	136822	1.37
Plastic mulching	75870	327156	442322	115166	1.45

Crop Diversification with Chysanthemum

Chrysanthemum was introduced as an alternate crop to tomato to avoid market glut and to obtain higher income in the NICRA village. Two varieties of Chrysanthemum viz. Paper White and Paper Yellow were demonstrated in the farmers field. Both the varieties performed better with an average yield of 9850 kg/ha. Cost of cultivation is high in case of chrysanthemum (Rs145907/ha) compared to tomato (Rs. 65125/ha) but it was compensated with higher net returns of Chrysanthemum (Rs.75291/ha). Thus crop diversification with chrysanthemum was well accepted by the farmers because of higher profit than tomato.

Crop Diversification with Chrysanthemum- KVK Chittoor (RASS)

Table 3.10.5 : Performance of Chrysanthemum as alternate crop to tomato

Crop	Yield (kg/ha)	Cost of cultivation (Rs/ha)	Gross income (Rs/ha)	Net income (Rs/ha)	B:C ratio
Tomato	55100	65125	201000	135875	1.99
Chrysanthemum	9850	145907	357073	211166	2.44

Direct sowing of paddy with drum seeder: West Godavari

Sowing of paddy was delayed due to late release of irrigation water in NICRA village of West Godavari district of Andhra Pradesh, thus the harvesting time coincides with heavy rains resulting in higher losses. Direct seeding with drum seeder reduces the crop duration, thus the heavy rains during the harvesting time were avoided, cost of cultivation also reduces, because of less labour requirement.

Direct seeding with drum seeder resulted in higher yield of 825 kg/ha with net income of Rs.17216/ha and a BC ratio of 2.8.

Sowing with drum seeder

Drum seeder sown field

Comparison of early matured direct sowing with drum seeder and late matured normal transplanting

Virus resistant chilli variety-Khammam

Wide spread occurrence of viral diseases emerged as a major bottleneck for profitable cultivation of chillies in khammam district of Telangana. Introduction of virus resistant chilli variety (LCA- 625) was a key adaptation which resulted in improved performance of the crop. Farmers realized 15.7% additional yield and increased net returns of Rs. 69222/ha over conventional susceptible variety Tejaswini (55.8 q/ha).

Chilli variety LCA-625

Table 3.10.6 : Performance of virus resistant variety of chilli

Treatments	Seed yield (kg/ha)	Cost of cultivation (Rs/ha)	Gross income (Rs/ha)	Net income (Rs/ha)	B:C ratio
Tejaswini	5577	259950	401544	141594	1.54
LCA-625	6453	253800	464616	210816	1.83

Supplementation of Urea Molasses Mineral Blocks to milch buffaloes-KVK Kurnool

Protein and energy are the major factors influencing milk yield in milch animals. Supplementation of protein and energy along with minerals through Urea Molasses Mineral Blocks is very effective and economical in low and medium production animals. The demonstration was conducted selecting 10 milch buffaloes. Farmers practice of feeding includes feeding of dry fodder+ rice brawn where as improved practice involves farmers method of feeding along with mineral mixture (150gm/animal/day). The animals were allowed to lick the block twice daily for 30 minutes at the time of milking. Feed supplementation with mineral mixture resulted in additional net income of Rs. 2650/6 months per animal.

Supplementation of Mineral blocks

Table 3.10.7 : Influence of Urea molasses/Mineral mixture on productivity of live stock

Treatment	Average milk yield/animal (L/day)	Total milk yield per animal (L/60days)	Cost of feeding (Rs/animal)	Gross Returns (Rs/animal)	Net returns (Rs/animal)
Farmers practice	3.47	208.2	1395	6770	5375
FPF+ urea molasses	4.01	240.6	1965	9990	8025

Captive rearing of Fish seed-KVK Srikakulam

Captive rearing of fish seed (rearing of fish fry up to fingerling size in hapa) was taken up in NICRA village tank with the following treatments.

Farmers Practice: Direct release of fingerlings in main tank (purchased from the market, Transported and released into the maintank)

Resilient Practice: Captive rearing of fish fry up to fingerling size in Hapa and releasing them into the main tank.

1500 number of fingerlings were released into the main tank for captive rearing of fish. Rs. 9220 was the total cost of cultivation in captive rearing including fry cost, feed cost and labour charges. Whereas, farmers purchase fingerlings directly from the market with Rs. 17660. Rs. 8444 was saved due to captive rearing and the mortality rate was also less as they were reared in the same situation over a period of 20-30 days.

Treatments	Cost of rearing (fry stage to finger-ling size) (Rs.)	No. of fingerlings released (No.)	Cost of each fingerlings (invested by the farmer (Rs.)	Cost incurred towards purchase of fingerlings (Rs.)	Difference in cost of investment (Rs.)
Captive rearing	9220 (inclusive of fry cost, labour cost and feed cost)	8830	Rs. 1.04 per fingerling	9220	8444 (Cost reduced on each fingerling is Rs.0.96ps)
Purchasing fingerlings from market		8830	Rs. 2.0 per fingerling	17660	

Captive rearing of fish

3.11 Attracting and Retaining Youth in Agriculture (ARYA)

Attracting and Retaining Youth in Agriculture (ARYA) is a flag ship project of ICAR that was launched during March 2015 as one of the components of National Agricultural innovation fund. The project aims to attract and empower youth in rural areas to take up agriculture and allied sector enterprises for sustainable income and employment. It also envisages to enable farm youth to establish net work groups to take up resource and capital intensive activities like processing, value addition and marketing. These objectives are proposed to be achieved through convergence with different institutions and stake holders operating in the district and making various opportunities available under various schemes/programs for sustainable development of youth. Three KVKs of the Zone viz. Nellore (A.P), Nalgonda (Telangana) and Nagpur (Maharashtra) have been sanctioned the project and the work was initiated by the three KVKs in March, 2015.

KVK, Nellore established 33 enterprise units (Mushroom production, Vermicompsting and Fruit and vegetable nurseries) in villages involving 112 rural youth. In Telangana, KVK, Nalgonda (Kampasagar) established 30 enterprise units (IFS, Bakery, Vegetable nurseries and Vermicomposting) in rural areas benefitting 122 youth. Training programmes were also organized by the three KVKs to impart skills to rural youth related to the enterprises included in the project. The three KVKs, Nellore, Nalgonda and Nagpur conducted 10 skill training programmes covering 710, 200 and 340 rural youth respectively and imparted skills to enable the youth to establish enterprises in their villages. Functional demonstration units of the earmarked enterprises were established and run on the KVK premises to give hands on training and also exposure to the rural youth involved in the project. Critical inputs, both capital and recurring were provided to rural youth (individual or group) to support initially. Market linkages were established for effective and timely marketing of the produce from the enterprise units.

Table: 3.11.1. Establishment of enterprise units during 2016-17

S. No.	State	Name of KVK	Name of enterprise established	No. of Units established in villages	No. of Youth benefitted
1	Andhra Pradesh	Nellore	Mushroom production units	10	50
			Vermicompost production units	6	24
			Fruits and Vegetables Nurseries	17	38
2	Telangana	Nalgonda (Kampasagar)	Integrated Farming Systems	9	10
			Bakery production units	3	33
			Raising of Vegetable nurseries	4	20
			Vermicompost production units	14	21

Table: 3.11.2. Skill training and exposure visits organized to rural youth during 2016-17

S. No.	State	Name of KVK	Name of training programme	No of youth benefitted
1	Andhra Pradesh	Nellore	Training on Mushroom cultivation	500
			Training on vermicompost production	50
			Training on fruits and vegetables Nurseries	160
2	Telangana	Nalgonda (Kampasagar)	Training programme on Entrepreneurship development through Promotion of Integrated Farming System	50
			Training programme on Entrepreneurship development through Bakery Products	55
			Training programme on Entrepreneurship development through Nursery Raising of Vegetables	45
			Training programme on Entrepreneurship development through Vermiculture	50
			Exposure visit on Entrepreneurship development through Promotion of Integrated Farming System	50
			Exposure visit on Entrepreneurship development through Bakery Products	55
			Exposure visit on Entrepreneurship development through Nursery Raising of Vegetables	45
			Exposure visit on Entrepreneurship development through Vermiculture	50
			Entrepreneurship development through Promotion of Integrated Farming System	10
			Entrepreneurship development through Bakery Products	33
			Entrepreneurship development through Nursery Raising of Vegetables	20
			Entrepreneurship development through Vermiculture	21

S. No.	State	Name of KVK	Name of training programme	No of youth benefitted
3	Maharashtra	Nagpur	Skill training on Development of disease free saplings of pomegranate	69
			Skill training on Vegetable and fruit processing	251
			Skill training on On spot soil testing	20

Distribution of vermi beds under ARYA Project Shade net established under ARYA Project-Kampasagar

Skill training on mushroom cultivation – Nellore Skill oriented training on Orange processing-CICR Nagpur

Vegetable nursery unit established under ARYA- Kampasagar

Review and action plan meeting of ARYA project held on 5-11-2016

3.12 Tribal Sub Plan (TSP)

The Tribal Sub Plan (TSP) which is aimed at ameliorating the socio-economic conditions of tribal communities at par with other communities was implemented by 16 KVKs of the Zone (6 in AP, 5 in Telangana and 5 in Maharashtra) with a total outlay of Rs. 175 lakhs (Rs.150 Lakhs General and Rs.25 Lakhs Capital). The KVK districts were selected based on the per cent tribal population of the District/Mandals/ Villages in which the KVKs are operating. An action plan meeting of these KVKs was held on 04-11-2016 to apprise the Heads of KVKs implementing TSP of the guidelines to be followed while implementing TSP, review the progress of work that has already been initiated and to discuss the action plan for the future. The KVKs were suggested to ensure that the benefits of the interventions/activities taken up under TSP reach exclusively tribal individuals/families/colonies/ villages. It was emphasized that more focus be given to imparting skills and establishing enterprises for ensuring livelihood security of the tribal beneficiaries. As per the guidelines of ministry of tribal welfare, Government of India, the activities of the KVKs implementing TSP have been covered under four major thematic areas viz., Agri-service center, Micro-enterprises, Skill development training and Agro-eco tourism. The achievement of activities taken up by these 16 KVKs during 2016-17 is presented in Table 3.12.1.

Table: 3.12.1. Achievements of activities undertaken by KVKs under TSP during 2016-17

S. No	Activity	Units	Achievement			
			AP	TS	MS	Zone
1	On- farm trials	Number	12	4	26	42
		No. farmers	125	130	352	607
2	Frontline demonstrations	Number	25	18	51	94
		No. farmers	1406	390	1292	3088
3	Farmers training	Number	27	19	148	194
		Participants	1307	721	4229	6257
4	Training of Rural Youth	Number	7	3	33	43
		Participants	373	114	831	1318
5	Training of Extension Personnel	Number	8	3	5	16
		Participants	334	76	124	534
6	Extension activities	Number	44	6	213	263
		Participants	2811	667	14575	18053
7	Production of seed	Quantity (q)	26.01	33.15	61.81	120.97
		No. farmers	715	263	846	1824
8	Planting material supplied	Number	236457	1399	271180	509036
		No. farmers	1105	422	561	2088

S. No	Activity	Units	Achievement			
			AP	TS	MS	Zone
9	Live-stock strains and fish finger lings supplied	Number	38364	4916	69080	112360
		No. farmers	484	475	1002	1961
10	Soil samples tested	Number	1067	900	1022	2989
		No. farmers	1056	787	1022	2865
11	Mobile agro- advisory provided to farmers	Number	305	43	75	423
		No. farmers	13102	8154	5009	26265
12	Skill development training programmes	Number	18	11	12	41
		Beneficiaries	538	290	**285**	**1113**
13	Micro-enterprises established	Number	75	24	**621**	**720**
		Participants	760	1000	**851**	**2611**

AP=Andhra Pradesh, TS=Telangana, MS=Maharashtra

A total of 41 different skill training programmes were organized by the KVKs to impart skills in agriculture and allied sector related activities benefitting 1113 tribal youth (Table 3.12.2).

Table: 3.12.2. Details of skill training programmes organized by the KVKs

S. No.	Name of the KVK	Name of the training Programme	Duration of the training (Days)	No. of trainees
1	Adilabad, Telangana	Self- employment through tailoring to tribal women	60	25
2	Nalgonda (Kampasagar), Telangana	Training programme on candle making	3	30
		Training programme on millet based bakery products	4	30
		Training programme on value added products of fruit and vegetables and pickle making	5	30
		Training programme on fabric painting	4	30
		Commercial nursery raising under shadenet	3	30
3	Warangal (Malyal), Telangana	Nursery management	3	20
		Value addition to fruits	3	20
4	Vizianagaram (RK bai), A.P	Value addition to fruits and vegetables	3	20

S. No.	Name of the KVK	Name of the training Programme	Duration of the training (Days)	No. of trainees
5	Visakhapatnam (BCT), A.P	Value addition to jack fruit	5	32
		Management of black Bengal goat	5	15
		Management of Kadaknath chicks	5	20
		Organic farming	7	30
		Value addition to millets	3	25
		Post - harvest handling of turmeric	5	60
		Preparation of botanical pesticides	5	26
		Mushroom cultivation	5	13
6	West Godavari (VR Gudem), A.P	Millet processing	1	45
		Training programme on bee keeping at Koida	5	35
		Training programme on bee keeping at ITDA, K.R.Puram	5	40
		Training programme on bee keeping at Aliveru	5	25
7	Prakasam (Darsi), A.P	Backyard poultry	3	34
		Shadenet cultivation of vegetables	3	40
		Raising and maintenance of nurseries	3	25
		Repairs of maintenance of sprayers	3	35
8	Srikakulam, A.P	Value addition to minor millets	4	28
9	Nandurbar, Maharashtra	Nursery management	7	36
		Pest Scouting	7	11
		Dal processing	4	27
10	Palghar, Maharashtra	Vaccination in poultry	1	55
		Bee keeping	2	30
		Mushroom cultivation (4 programmes)	1	60
11	Amravati (Ghatkhed), Maharashtra	Potato chip making through pillar and slicer	3	20
		Different recipes of vegetable dehydration	2	20
12	Raigad , Maharashtra	Backyard poultry	1	20

The KVKs created/established 720 physical assets / micro-enterprises by supplying critical inputs needed and by imparting necessary skills to 2611 tribal beneficiaries in 9 districts (Table 3.12.3).

Table: 3.12.3. Details of physical assets /micro-enterprises established by supplying inputs and by imparting skills

S. No.	Name of the KVK	Name of the physical asset / micro-enterprise	No. of units	No. of beneficiaries
1	Adilabad, Telangana	Taurpaulins	37	37
		Sickles	130	60
		Knapsac sprayers	25	25
		Power sprayers	17	85
2	Warangal (Malyal), Telangana	Taiwan sprayer	5	78
		Solar sprayer	5	78
		Power sprayer	5	78
		Hand sprayer	5	78
		3 tyned cultivator with 10ft bean	10	78
		Country plough	5	78
		Bullock dozer	5	78
		Drum seeder	5	78
		IIRR panel MICC for rice	78	78
		PAU panel LCC for maize	25	78
3	Visakhapatnam (BCT), A.P	Silpaulin sheets	10	10
		Vermicompost beds	5	5
4	West Godavari (VR gudem), A.P	Millet processing units	4	60
		Improved sprayers	2	300
		Sprayers	5	5
		Aata kneaders	2	2
5	Prakasam (Darsi), A.P	Backyard poultry birds	1000	200
		Acid lime seedlings	100	10
		Shadenet units	5	25
		Nellore brown sheep units	10	10
6	Srikakulam , A.P	LPG Bakey own	3	10
7	Nandurbar, Maharashtra	Backyard poulltry	103	103
		Vermicompost units	11	30
		Dal mill units	4	40
		Portable rice mill	3	45
		Implement banks	4	80
		Paddy thresher	1	20
		Egg collector in poultry unit	2	2

S. No.	Name of the KVK	Name of the physical asset / micro-enterprise	No. of units	No. of beneficiaries
8	Palghar, Maharashtra	Poultry unit	105	105
		Nutrition garden kit	200	200
		Bee keeping unit	42	21
		Mushroom unit	5	5
		Shadenet units	20	20
		Finger millet processing units	5	5
		Mushroom units	4	4
9	Amravati (Ghatkhed), Maharashtra	Nutrition garden	25	25
		Vermibeds	25	25
		Processing machines	5	5
		Osmanabadi bucks	4	4
		Hydroponic units	2	2
10	Nashik, Maharashtra	50 mesh insect net	40	40
		Vertical conveyor reaper	1	5
		Portable paddy thresher	1	1

Review and action plan meeting of Tribal sub plan (TSP) project held on 4-11-2016

Training on poultry feed production from locally available material at Nandurbar district

Poultry sheds constructed with indigenous material at KVK, Nandurbar

Training on Bee keeping in West Godavari

Millet processing unit established in East Godavari, Andhra Pradesh

Frontline demonstration of high yielding Sorghum variety in East Godavari

Supply of Sheep units, Mahabubnagar, Madanapuram

Mushroom cultivation at Visakapatnam

Milky mushrooms produced by the SHG in araku valley

Bakery unit preparing millet products

Training programme on embroidery, Adilabad

Tetrabeds of vermicomposting at KVK, Nandurabar

Collective processing and storage of seed by CDC

3.13 Soil Health Cards

Soil Health Card Scheme launched by the central government in February 2015, the scheme is tailor-made to issue 'Soil card' to farmers which will carry crop-wise recommendations of nutrients and fertilizers required for the individual farms. This is aimed to help farmers to improve productivity through judicious use of inputs.

Budget allocation of Rs 1.126 crores was given to KVKs, for providing Mini soil testing kits/ laboratory to prepare soil health cards. A total of 605111 Soil Health Cards were distributed to farmers by KVKs (Andhra Pradesh (24409), Telangana (7100) and Maharashtra (573602). The card will carry crop-wise recommendations of nutrients/fertilizers required for farms, making it possible for farmers to improve productivity by wisely using inputs.

Table: 3.13.1. Soil sample Analysis and Soil Health card Distribution by KVKs of ICAR-ATARI, Hyderabad during 2016-17

S. No	KVK	Number of soil samples analyzed	Number of Soil Health Cards distributed
Andhra Pradesh			
1.	Anantapur (R)	1048	1048
2.	Chittoor (K)	360	309
3.	Chittoor (R)	868	1075
4.	East Godavari (CTRI)	352	356
5.	Kurnool (Y)	2993	12275
6.	Nellore	1872	289
7.	Prakasam (D)	2993	2943
8.	Srikakulam	327	754
9.	Visakhapatnam	530	1255

S. No	KVK	Number of soil samples analyzed	Number of Soil Health Cards distributed
10.	Vizianagaram	822	885
11.	West Godavari (U)	1099	1099
12.	West Godavari (V)	2121	2121
	Total	**15385**	**24409**
Telangana			
13.	Adilabad	630	795
14.	Karimnagar (J)	2126	2126
15.	Mahabubnagar (YFA)	204	95
16.	Medak	1462	1382
17.	Nalgonda (G)	758	716
18.	Ranga Reddy	1280	1087
19.	Warangal (Malyal)	899	899
	Total	**7359**	**7100**
Maharshtra			
20.	Ahmednagar (B)	5005	11744
21.	Ahmednagar (D)	388	459
22.	Amravati (D)	4193	11821
23.	Amravati (G)	7692	18545
24.	Aurangabad (MGM)	213	193
25.	Aurangabad (VNMKV)	271	271
26.	Beed (Am)	3448	7193
27.	Bhandara	2205	2205
28.	Buldhana (J.Jamod)	7499	29628
29.	Buldhana (ARS)	1842	1842
30.	Chandrapur	297	171
31.	Dhule	596	676
32.	Gadchiroli	1215	1250
33.	Hingoli	18300	135736
34.	Jalgoan (Pal)	2751	2904
35.	Jalna	26322	124020
36.	Kolhapur	2502	8220
37.	Latur	17402	89416
38.	Nagpur	3910	3910
39.	Nanded (P)	5541	5541
40.	Nanded (S)	9202	7434
41.	Nandurbar	1193	1437

S. No	KVK	Number of soil samples analyzed	Number of Soil Health Cards distributed
42.	Nashik (YCMOU)	686	2282
43.	Osmanabad	6453	5819
44.	Parbhani	5922	12132
45.	Pune (N)	1578	3556
46.	Pune(B)	19883	36850
47.	Raigadh	820	1833
48.	Sangli	328	534
49.	Satara (K)	16030	14037
50.	Sindhudurg	970	742
51.	Solapur (K)	1460	1460
52.	Thane	1248	2197
53.	Wardha	2691	2357
54.	Washim	23295	23295
55.	Yavatmal	1939	1892
	Total	**205290**	**573602**

Table 3.13.2 : Summary of soil samples analysed and soil health cards distributed

S.No	State	Number of soil samples analyzed	Number of Soil Health Cards distributed
1	Andhra Pradesh	15385	24409
2	Telangana	7359	7100
3	Maharashtra	205290	573602
	Total	**228034**	**605111**

Review and planning workshop of Soil analysis and Soil Health Card distribution of AP and Telangana KVKs

World Soil Day Celebrations (5th December, 2016)

To create awareness on soil testing and Soil Health Cards to farmers, KVKs (64) celebratedWorld Soil Day on 5th December, 2016 with active participation of 40309 farmers. The dignitaries attended the programme involved public representatives viz. MPs, MLAs and local, state ministers and state level public representatives etc. Shri. Palvai Govardhan Reddy, Hon'ble Member of Parliament (Rajya Sabha), Dr.N. Sivaprasad, Hon'ble Member of Parliament, Chittoor, Shri P. Paidikondala Manikyalarao garu, Endowment Minister, A.P and Shri Sanjay Rathod, Minister of State for Revenue, M.S participated and emphasized on importance of soil testing and distributed Soil Health cards to the farmers. 11615 Soil Health Cards were distributed to farmers across the Zone.

Table 3.13.3 : Details of Soil Health Cards distributed as part of World Soil Day

S.No.	State	No. of KVKs	No. of farmers participated	No. of Soil Health Cards ditributed
1	Andhra Pradesh	15	4350	2050
2	Telangana	11	4122	1635
3	Maharashtra	38	31837	7930
	Total	**64**	**40309**	**11615**

Hon'ble M.P Shri Palvai Govardhan Reddy at KVK Nalgonda (Gaddipalli) (RASS)

Hon'ble M.P Shri Shivaprasad at KVK Chittoor

Shri. Rajendra Pawar, Chairman, Agricultural Developmental Trust at KVK Baramati (Pune)

Soil Health Card distribution at KVK Jalna

Soil Health Card distribution at KVK Kurnool (Yagantipalle)

Soil Health Card distribution at KVK Warangal (Malyal)

Soil Health Card distribution at KVK Ahmednagar (B)

Soil Health Card distribution at KVK Nashik (YCMOU)

Soil Health Card distribution at KVK sangli

Soil Health Card distribution at KVK Solapur (K)

3.14 Protection of Plant Varieties and Farmers Rights Act 2001 (PPV & FRA)

With an objective of creation of awareness among farmers and other stakeholders about the provisions of Protection of Plant Varieties and Farmers Right Act 2001, apart from ATARI, Hyderabad, 19 Krishi Vigyan Kendras (KVKs) under ATARI, Zone-V were identified for the conduct of PPV and FR act awareness cum training programme during the year 2016-17.

Awareness cum Training programme on provisions of PPV and FR act 2001 for KVK officials and other stakeholders was conducted by ATARI, Zone-V in which officials of KVKs, ICAR institutes and other stakeholders participated. Directors from sister ICAR institutes Oilseeds and Millets guided the participants on the provisions of the PPV and FR act 2001.

A total of 21 programmes were organized involving 2285 farmers, extension personnel and other stake holders involved in the transfer of technology to farmers and other end users during the year. (Table 3.14.1)

Table 3.14.1 : Training cum awareness programmes on PPV & FRA during 2016-17

State	No. of KVKs involved	No. of programmes organized	No. of participants
Andhra Pradesh	5	7	353
Telangana	5	4	565
Maharashtra	9	10	1367
Total	**19**	**21**	**2285**

PPV&FRA Training programme at KVK Washim

3.15 Cluster Frontline Demonstrations (CFLDs) on Pulses under NFSM during 2016-17

To increase the production and productivity of pulses, the Cluster Frontline Demonstrations on Pulses Programme (CFLD) was initiated by Ministry of Agriculture and Farmers Welfare, Govt. of India during Rabi 2015-16, under National Food Security Mission (NFSM). During the year 2016-17, the programme was continued and the Cluster Frontline Demonstrations on Pulses were conducted by KVKs during Kharif, Rabi and Summer seasons in Andhra Pradesh, Telangana and Maharashtra States of Zone-V. A total of 4030 ha area was allotted to Zone-V in which 3884 ha programme was implemented by organizing 8975 No of demonstrations on Pigeonpea, Chickpea, Blackgram and Greengram crops (Table 3.15.1) in three states with an achievement of 96.37%. Out of 77 KVKs operating in the Zone, 74 KVKs participated in the CFLD Programme during the year

Latest improved varieties (not older than 10 yrs) and crop production and protection technologies were demonstrated. The cost of critical inputs (seeds/ fertilizers/manures/plant protection chemicals/ herbicides), organization of field days and other extension activities etc., were funded under this scheme. Financial assistance of Rs. 7500/ha was sanctioned to each crop for inputs, extension activities and monitoring of the programme. The demonstrations were conducted in Cluster approach in interior areas by involving small and marginal farmers of weaker sections.

Group Review Meeting on CFLD Oilseeds & Pulses at ATARI, Hyderabad

Zonal Workshop Cum Training Programme on Pulses & Oilseeds 2016-17 at ATARI, Hyderabad

Table: 3.15.1 Cluster Frontline Demonstrations on Pulses during 2016-17

Sl. No.	Crops	State	Target of FLDs approved		Achievements of FLDs	
			No. of Demos	Area (ha)	No. of Demos	Area (ha)
Kharif season						
1.	Blackgram	Maharashtra	550	220	370	150
2.	Greengram	Maharashtra	825	330	820	350
3.	Pigeonpea	Maharashtra	1900	760	1647	635.2
	Total	Maharashtra	3275	1310	2837	1135.2
4.	Blackgram	Andhra Pradesh	100	40	26	20
5.	Greengram	Andhra Pradesh	275	110	286	130
6.	Pigeonpea	Andhra Pradesh	725	290	611	290
	Total	Andhra Pradesh	1100	440	923	440
7.	Greengram	Telangana	400	160	242	112
8.	Pigeonpea	Telangana	600	240	462	229.6
9.	Blackgram	Telangana	50	20	0	0
	Total	Telangana	**1050**	**420**	**704**	**341.6**
Grand Total (kharif)			**5425**	**2170**	**4464**	**1916.8**
Rabi season						
1.	Bengalgram	Maharashtra	2175	870	2636	1038.7
	Total	Maharashtra	2175	870	2636	1038.7
2.	Bengalgram	Andhra Pradesh	300	120	190	120.8
3.	Blackgram	Andhra Pradesh	825	330	801	385.2
4.	Greengram	Andhra Pradesh	375	150	227	106.8
	Total	Andhra Pradesh	1500	600	1218	612.8
5.	Greengram	Telangana	250	100	117	64.4
6.	Pigeonpea	Telangana	100	40	70	28
7.	Bengalgram	Telangana	350	140	262	128.4
8.	Blackgram	Telangana	**125**	50	85	45
	Total	Telangana	825	330	534	265.8
Grand Total (Rabi)			**4500**	**1800**	**4387**	**1917.3**
Summer Season						
1.	Greengram	Telangana	150	60	124	50
	Total	Telangana	150	60	124	50
Grand Total (Summer)			**150**	**60**	**124**	**50**
Grand Total			**10075**	**4030**	**8975**	**3884.1**

3.15.2 Cluster Frontline Demonstrations on Pulses in Andhra Pradesh during 2016-17

Blackgram:

Cluster Frontline Demonstrations on Blackgram during kharif season was conducted by KVK Kurnool in Andhra Pradesh. The technology demonstrated includes improved variety LBG-752, seed treatment with imidacloprid, application of recommended dose of fertilizers 20:50:0 NPK/ha, plant protection measures like spraying of monocrotophos and installing sticky traps. The average yield recorded in the demonstration was 9.0 q/ha against the check yield of 6.8 q/ha with an increase in yield of 32.35 percent. In rabi, Blackgram demonstrations were laid out with improved varieties viz., LBG-752, TBG-104, MASH-338, LBG-787 along with improved package of practices. The highest average yield of rabi rainfed / residual moisture condition recorded in KVK Guntur (Lam) with 12.85 q/ha against local check yield of 8.7 q/h with an increase of 47.7 percent.

Greengram:

Demonstrations on Greengram crop during kharif 2016 in Andhra Pradesh presented in table 3.15.2 shows that in Prakasam district of A.P., with the use of variety TM 96-2 along with Rhizobium, Trichoderma, soil test based nutrient application, plant protection with imidachloprid, trizophos, neem oil gave an average seed yield of 13.75 q/ha against local check of 9.5 q/ha with an increase in yield of 44.73 percent. The variety found tolerant to leaf spot. During rabi demonstrations, the average yield obtained under irrigated situation, in Chittoor district is 16 q/ha with WGG-42 a short duration high yielding variety and other package of practices.

Pigeonpea:

Improved varieties of Pigeonpea LRG-41 & 52, PRG-176 and hybrid ICPH-2740 along with bio-fertilizers (Rhizobium, PSB), bio-pesticides (Trichoderma viridae) and suitable plant protection measures were demonstrated. The highest average yield of 18.37 q/ha was obtained in Kurnool (Yagantipalle) with the use of hybrid ICPH-2740, a long duration variety against the local check yield of 11.25 q/ha with an increase of 20 percent. In rainfed situation, the highest average yield of 18 q/ha was obtained in Vizianagaram and Krishna districts with LRG-41.

Bengalgram:

CFLD on Bengalgram was organized in Andhra Pradesh during rabi season. The technology demonstrated includes improved variety with bio-fertilizers, bio-pesticides and need based plant protection measures. The highest average yield of 25 q/ha was obtained in KVK Prakasam (Darsi) with variety NBeG-49 under irrigated situation.

3.15.2 Cluster Frontline Demonstrations on Pulses in Andhra Pradesh during 2016-17

S. No.	Season	Crop	Variety	KVK	Area (ha)/ Demo No	Av. Yield q/ha		% increase over existing
						Demo	Check	
1	Kharif	Blackgram	LBG-752	Kurnool (Banavasi)	20 (26)	9	6.8	32.35
2	Kharif	Greengram	LGG-460	Kurnool (Yagantipalle)	20(30)	9.05	8.5	6.47
3	Kharif	Greengram	TM-96-2	Prakasam (Darsi)	20(50)	13.75	9.5	44.73
4	Kharif	Pigeonpea	ICPH-2740	Kurnool (Yagantipalle)	20 (24)	18.37	14.5	26.69
5	Kharif	Pigeonpea	LRG-41	Vizianagaram (R.K.Bai)	10(30)	18	12	50
6	Rabi	Bengalgram	NBeG-49	Prakasam (Darsi)	10(25)	25	11.5	117.39
7	Rabi	Bengalgram	NBeG-3	Kurnool (Yagantipalle)	9(13)	13.5	11.25	20
8	Rabi	Blackgram	TBG-104	Guntur (Lam)	20(50)	12.85	8.7	47.7
9	Rabi	Blackgram	LBG-752	Vizianagaram (R.K.Bai)	10(43)	12.56	7.7	63.11
10	Rabi	Greengram	WGG-42	Chittoor (RAAS)	16.8(21)	16	4.7	240.42
11	Rabi	Greengram	LGG-460	Vizianagaram (R.K.Bai)	10(25)	12.8	7.12	79.77

Visit by Asst. Director, DOD , Hyderabad, Govt of India to monitor CFLD Pulses, KVK Kurnool (Yagantipalle)

3.15.3 Cluster Frontline Demonstrations (CFLDs) on Pulses in Telangana during 2016-17

Greengram:

Demonstrations on Greengram in Telangana were conducted both in kharif and rabi seasons. In kharif, MGG-347 and WGG-42 varieties were demonstrated along with bio-fertilizers, NP & spraying of multi-k and plant protection measures. An average seed yield of 10.6 q/ha was recorded in Nizamabad district in medium black soils under rainfed situation with a highest yield of 16.0 q/ha while in irrigated situation, the average yield obtained was 9.1 q/ha in Warangal (Malyal) under red soils. During rabi, the average yield of Greengram obtained under irrigated situation was 15.1 q/ha with improved variety MGG-347 against the control yield of 12.30 q/ha.

Performance of Greengram CFLD under NFSM variety WGG-42, KVK Khammam (Wyra)

Pigeonpea:

In Telangana, CFLDs on Pigeonpea under irrigated situation recorded highest average yield of 24.0 q/ha with PRG-176 at Adilabad under cotton + pigeonpea intercropping system 4:1 followed by Karimnagar 20.15 q/ha in pure crop situation. The rabi demonstrations on Pigeonpea in Telangana under irrigated conditions with LRG-41 variety and improved package of practices registered highest average yield of 19.9 q/ha against check yield of 17.98 q/ha with an increase of 10.76 percent in Nalgonda (Gaddipalli).

Bengalgram:

In Telangana, Bengalgram demonstrations were organized during rabi season under irrigated situation with improved varieties NBeG-3 and NBeG-49 and package of practices. The average yield recorded is 21.6 q/ha against the check yield of 19.6 q/ha with an increase of 10.20 percent.

Demonstration of intercropping of Pigeonpea+ Greengram under CFLD at KVK Khammam (Wyra)

Blackgram:

In Telangana, the demonstrations on Blackgram were conducted during rabi season. An average yield of 9.9 q/ha against local check yield of 4 q/ha with an increase of 147.5 percent recorded in KVK, Nizamabad (Rudrur).

S. No.	KVK	Season	Crop	Variety	Area (ha)/ Demo No	Av. Yield (q/ha)		% increase over existing
						Demo	Check	
1	Nizamabad (Rudrur)	Kharif	Greengram	MGG-347	20(50)	10.6	8.75	21.14
2	Warangal (Malyal)	Kharif	Greengram	MGG-347	20(45)	9.1	6.5	40
3	Adilabad	Kharif	Pigeonpea	PRG - 176	20(50)	24	22.5	6.67
4	Karimnagar (Jammikunta)	Kharif	Pigeonpea	PRG-176	20(42)	20.15	14.7	37.07
5	Karimnagar (Ramgirikilla)	Rabi	Bengalgram	NBeG-3	21.6(39)	21.6	19.6	10.20
6	Nizamabad (Rudrur)	Rabi	Bengalgram	NBeG-3	20(50)	18.78	13.78	36.28
7	Warangal (Malyal)	Rabi	Greengram	MGG-347	20(43)	15.1	12.3	22.7
8	Khammam (Wyra)	Rabi	Greengram	WGG-42	28.4(37)	9.51	8.75	8.68
9	Nalgonda (Gaddipalli)	Rabi	Pigeonpea	LRG-41	8(20)	19.9	17.98	10.6
10	Nalgonda (Kampasagar)	Rabi	Pigeonpea	LRG-41	20(50)	16.2	12.65	28.06
11.	Nizamabad (Rudrur)	Rabi	Blackgram	LBG-787	20(34)	9.9	4	147.5

Interaction of K.Dattatri Pr. Scientist –ATARI with farmers of CFLD on Pigeonpea, KVK Karimnagar (Ramgirikhilla)

3.15.4 Cluster Frontline Demonstrations (CFLDs) on Pulses in Maharashtra during 2016-17

Blackgram:

In Maharashtra, the demonstrations on Blackgram were organized by 10 KVKs. In most of the KVKs, AKU-15, a multiple disease resistant Blackgram variety along with Rhizobium, PSB, Trichoderma Viridae, 20:50:0 NPK (Urea+SSP) Plant protection with NSKE and other insecticides against whitefly was demonstrated. On an average 9.99 q/ha seed yield was obtained against the existing farmers yield of 6.67 q/ha with an increase of 49.77 percent in the state. The highest average yield of 12.25 q/ha was recorded in KVK, Aurangabad (VNMKV) followed by 12.23 in KVK, Washim with Variety AKU-15 and Rhizobium, sulphur in medium blacksoils under rainfed situation after cotton and maize crop in sequence.

Greengram:

In Greengram, BM 2003-02 and Utkarsha varieties along with bio-fertilizers, bio-pesticides, and plant protection measures in medium to deep black soils were demonstrated under rainfed conditions. The average yields recorded under demonstrations in the state ranged from 6 to 13.5 q/ha with highest yield of 13.5 q/ha with variety Utkarsha at Aurangabad. The variety Utkarsha has synchronized maturity and less shattering. The variety BM 2003-02 also exhibited the potential of 12.45 q/ha in Amravati district followed by 11.25 q/ha in Osmanabad.

Pigeonpea:

Demonstrations on Pigeonpea were conducted in Maharashtra during kharif season. The highest pigeonpea yield under irrigated situation was recorded in Solapur i.e. 29.86 q/ha with variety BDN-711

dibbling, drip irrigation system in medium to heavy black soils followed by Ahmednagar (Dahigaon). The demonstrations under irrigated situation over various locations in the state recorded average yield of 18.72 q/ha against the check yield of 12.12 q/ha with an increase of 54.45 percent. While in rainfed situation, the yield obtained was 12.8 q/ha against local check yield of 9.16 q/ha.

Bengalgram:

In Maharashtra, demonstrations on Bengalgram were conducted during rabi season under both irrigated and rainfed situations. Under rainfed situation, an average of 9.0 q/ha was recorded, where as in irrigated situation, an average of 18.68 q/ha was registered against check yield of 12.64 q/ha with an increase of 47.81 percent in the state. The highest average yield of 25.27 q/ ha was obtained in Solapur district with variety Digvijay, drip, fertigation and improved package of practices.

CFLD on Pigeonpea variety BDN 711, KVK Beed (Ambajogai)

CFLD on Pigeonpea (BDN 711) under drip irrigation by women farmers in Solapur district

3.15.4 Cluster Frontline Demonstrations on Pulses in Maharashtra during 2016-17

S. No.	KVK	Season	Crop	Variety	Area (ha) / Demo No	Av. Yield (q/ ha)		% increase over existing
						Demo	Check	
1	Aurangabad (VNMKV)	Kharif	Blackgram	AKU-15	20 (50)	12.25	7	75
2	Washim	Kharif	Blackgram	AKU-15	20 (50)	12.23	10.52	16.25
3	Amravati (Durgapur)	Kharif	Greengram	BM 2003-02	20(50)	12.45	9.5	31.05
4	Aurangabad (VNMKV)	Kharif	Greengram	Utkarsha	20 (50)	13.5	9.25	45.94
5	Solapur	Kharif	Pigeonpea	BDN-711	20(50)	29.86	12.5	138.9

S. No.	KVK	Season	Crop	Variety	Area (ha) / Demo No	Av. Yield (q/ ha)		% increase over existing
						Demo	Check	
6	Ahmednagar (Dahigoan)	Kharif	Pigeonpea	BDN-711	20(44)	24.48	18.11	35.17
7	Solapur	Rabi	Bengalgram	Digvijay	20(50)	25.27	13.73	84.04
8	Kolhapur	Rabi	Bengalgram	Digvijay	39.3(115)	25.18	13	93.69

Demonstrations on Bengalgram variety Digvijay at KVK Amravati (Ghatked)

Publications on package of practices of Pigeonpea and Green-gram by KVK Warangal (Mamnoor)

3.16. Cluster Frontline Demonstrations (CFLDs) on Oilseeds under NMOOP during 2016-17

Cluster Frontline Demonstration Programme on Oilseeds was conducted by KVKs in Zone-V (Andhra Pradesh, Telangana & Maharashtra) under National Mission on Oilseeds and Oil Palm (NMOOP) during kharif 2016. A total of 2499 ha area was allotted to Zone-V in which 1931 ha programme was implemented by organizing 4109 demonstrations on groundnut, linseed, sunflower, soybean, sesame and safflower crops (Table3.16.1).

Table 3.16.1 : Cluster Frontline Demonstrations (CFLDs) on Oilseeds during 2016-17

Crop	State	Allocation		Achievement	
		No. of demos	Area (ha)	No. of demos	Area (ha)
Groundnut	Andhra Pradesh	400	160	285	144
	Maharashtra	150	60	50	20
	Sub total	**550**	**220**	**335**	**164**
Sunflower	Andhra Pradesh	150	60	75	40
	Maharashtra	150	60	0	0
	Sub total	**300**	**120**	**75**	**40**

Crop	State	Allocation		Achievement	
		No. of demos	Area (ha)	No. of demos	Area (ha)
Soybean	Maharashtra	1650	660	1383	585
	Telangana	300	120	0	0
	Sub total	1950	780	1383	585
Sesame	Andhra Pradesh	50	20	39	15
	Sub total	**50**	**20**	**39**	**15**
	Total Kharif Season	**2850**	**1140**	**1793**	**789**
Groundnut	Andhra Pradesh	500	200	271	168
	Telangana	250	100	230	100
	Maharashtra	650	260	511	206
	Sub total	1400	560	1012	474
Sesame	Andhra Pradesh	675	270	529	246
	Telangana	125	50	115	50
	Maharashtra	150	60	100	60
	Sub total	950	380	744	356
Sunflower	Andhra Pradesh	325	130	255	130
Safflower	Andhra Pradesh	125	50	22	30
	Telangana	175	70	52	40
	Maharashtra	275	109	138	70
	Sub total	575	229	212	140
Linseed	Maharashtra	150	60	93	42
	Total Rabi Season	**3400**	**1359**	**2316**	**1142**
	GRAND TOTAL	**6250**	**2499**	**4109**	**1931**

Cluster Frontline Demonstrations (CFLDs) on Oilseeds in Andhra Pradesh during 2016-17

Groundnut: Cluster FLDs on Groundnut were conducted in both kharif and rabi seasons in Andhra Pradesh. In kharif, the technology demonstrated includes improved variety, weed management, nutrient management under rainfed conditions. The results revealed that the technology demonstrated increased the yield of groundnut by 91.2 percent in Chittoor and 44.89 per cent in Prakasam district. During rabi, demonstrations were conducted under irrigated situation in red loamy soils with improved package of practice. The average yield recorded in West Godavari district was 42.5 q/ha with variety K-9 which is tolerant to tikka leaf spot against the local check yield of 38 q/ha with an increase of 11.84 per cent, followed by Chittoor district with an average yield of 41.7 q/ha compared to local check yield of 36.73 q/ha with an increase of 13.53 per cent.

CFLD on Groundnut var. Dharani Kharif 2016 at KVK Chittoor (RASS)

Demonstration on Sesame var. YLM 66 under NMOOP at KVK Visakhapatnam

Safflower: In safflower, the demonstrations were organized under rabi irrigated situation in medium to heavy black soils with variety PBNS-12 and package of practices. An average yield of 12.5 q/ha was obtained in Kurnool (Banavasi) against the farmers' productivity of 9.55q/ha registering an increase of 30.9 percent, followed by Anantapur (Reddipalli) with 8.96 q/ha against check yield of 2.25 q/ha.

Sesame: The varietal demonstrations of YLM-66 were taken up in KVKs of Andhra Pradesh in both kharif and rabi seasons. In kharif, improved variety YLM-66 along with other technological interventions resulted in yield about 7.66q/ ha in KVK Visakhapatnam (BCT) which was about 43.71 per cent higher than the farmers plot. In rabi, the cluster frontline demonstration on sesame were conducted in red sandy loams under irrigated situation during January/February with improved variety and recommended package of practices gave an highest average yield of 11.65 q/ha in West Godavari (Venkatramanngudem) compared to farmers' productivity of 8.75 q/ha registering an increase of 33.14 percent and in Vizianagaram district, the average yield recorded in the demonstrations was 9.25 q/ha against the farmers yield of 4.75q/ha with an increase of 94.7 percent.

Sunflower: Cluster FLDs on sunflower were conducted by 2 KVKs in Kurnool district in kharif. The technology demonstrated was improved hybrid, seed treatment, soil test based nutrient management, boron and sulphur application, pests and disease management. The results revealed that the technology demonstrated increased the yield of sunflower by 24.6 to 54.5 percent when compared with the check. In rabi, the demonstrations were conducted in three districts with improved package of practices. The highest average yield of 23 q/ha was achieved in Chittoor (RAAS) against the farmers yield of 17.3 q/ha followed by 22 q/ha in Kurnool (Banavasi) compared to local check yield of 17.9 q/ha registering an increase of 22.9 to 37.9 percent.

CFLD on Sunflower on Necrosis Management, KVK Kurnool (Yagantipalle)

Table 3.16.2 : Cluster Frontline Demonstrations (CFLDs) on Oilseeds in Andhra Pradesh during 2016-17

S. No.	Season	Crop	Variety	KVK	Area (ha) /Demo No	Av. Yield (q/ha)		% increase over existing
						Demo	Check	
1	Kharif	Groundnut	Dharani	Chittoor (RASS)	20 (24)	19.12	10	91.2
2	Kharif	Groundnut	Dharani	Prakasam (Darsi)	4 (10)	16.25	11.25	44.89
3	Rabi	Groundnut	K-9	West Godavari (V R Gudem)	50 (63)	42.5	38	11.84
4	Rabi	Groundnut	K-6	Chittoor (RASS)	25(26)	41.7	36.73	13.53
5	Kharif	Sunflower	Sunbred-275	Kurnool (Banavasi)	20 (25)	15.45	10	54.5
6	Kharif	Sunflower	Sunbred-275	Kurnool (Yagantiapalli)	21 (25)	12.46	10	24.6
7	Rabi	Sunflower	KBSH-44	Chittoor (RASS)	30 (54)	23	17.3	32.9
8	Rabi	Sunflower	Private Hybrid	Kurnool (Banavasi)	20 (25)	22	17.9	22.9
9	Kharif	Sesame	YLM-66	Visakhapatnam (BCT)	15 (39)	7.66	5.33	43.71
10	Rabi	Sesame	YLM66	West Godavari (VR Gudem)	2 (5)	11.65	8.75	33.14
11	Rabi	Sesame	YLM66	Vizianagaram	14 (33)	9.25	4.75	94.7
12	Rabi	Safflower	PBNS-12	Kurnool (Banavasi)	10 (13)	12.5	9.55	30.9
13	Rabi	Safflower	PBNS-12	Anantapur (Reddipalli)	4 (10)	8.96	2.25	298.2

Cluster Frontline Demonstrations on Oilseeds in Telangana during 2016-17

Groundnut: CFLDs on groundnut crop were conducted during rabi season by five KVKs in three districts i.e., Mahabubnagar, Nalgonda and Warangal in Telangana. The crop was sown in October-November months in red soils under irrigated condition after kharif greengram and maize. Improved K-6, K-9, K-7 varieties along with recommended package of practices. On an average, 24.49 q/ha pod yield was harvested in the demonstrations against the check yield of 20.56 q/ha with an increase of 19.11 per cent. The highest average pod yield of 29.85 q/ha and 27.92 q/ha was recorded in Nalgonda district.

CFLD on Groundnut var . K-6 with IPM in Nalgonda (Kampasagar)

Safflower: In Safflower, the demonstrations organized under rabi-irrigated situation in medium to heavy black soils with variety PBNS-12 and package of practices gave an average yield of 15.94 q/ha in Mahabubnagar district with an increase of 33.75 per cent against the local yield of 11.92 q/ha., followed by Ranga Reddy with an average yield of 9.86 q/ha against the farmers' productivity of 8 q/ha with an increase of 23.25 q/ha.

CFLD on Safflower var. PBNS-12 at KVK Mahabubnagar (Madanapuram)

Table 3.16.3 : Results of Cluster Frontline Demonstrations on Oilseeds in Telangana during 2016-17

S. No.	Season	Crop	Variety	KVK	Area (ha)/ Demo No	Av. Yield (q/ha)		% increase over existing
						Demo	Check	
1	Rabi	Safflower	PBNS-12	Mahabubnagar (Madanapuram)	18 (50)	15.22	11.92	27.68
2	Rabi	Safflower	PBNS-12	Ranga Reddy	10 (25)	9.86	8	23.25
3	Rabi	Groundnut	K-6	Nalgonda (Kampasagar)	10 (30)	29.85	28.45	4.92
4	Rabi	Groundnut	K-9	Nalgonda (Gaddipalli)	4 (10)	27.92	25.55	9.29

Cluster Frontline Demonstrations (CFLDs)on Oilseeds in Maharashtra during 2016-17

Soybean: The Cluster FLDs on Soybean were conducted by KVKs of Maharashtra in an area of 585 ha. The variety MACS 1188 along with Integrated Crop Management in KVK Ahmednagar (B) has given the highest yield of 29.82 q/ha and yield advantage of 65.67 per cent over the farmer's plot. Despite of severe droughts, the demo plots could successfully get higher yields due to various technology interventions like ICM, use of high yielding variety with use of Broad Bed Furrow planter for sowing, soil testing & fertilizer application according to soil testing report, seed treatment. However, the farmers plot has suffered losses in few places of Maharashtra due to drought conditions.

Performance of Soybean var. MACS 1188 under CFLD in KVK Ahmednagar (Babhleshwar)

Groundnut: Groundnut was demonstrated in both kharif and rabi seasons in Maharashtra. The varieties included were Phule Bharti, Phule Unnati, TG-38. In kharif, the demonstrations on groundnut in Jalagon (Pal) gave highest average yield about 26.5 q/ha which was 70.96 per cent higher than check plots. In rabi, the demonstrations in Pune (Baramati) recorded highest average yield of 28.6 q/ha with technology interventions like improved variety, polythene mulch and Broad Bed Furrow, followed by Nanded (Pokharni) with average yield of 24.37 q/ha with variety JL-776 and Integrated Nutrient Management including bio-fertilizers and registering increased yield of 55.52 percent over farmers' practice.

CFLD on summer groundnut with BBF and Polymulch in Pune (Baramati)

Safflower: Cluster FLDs on safflower in Maharashtra were conducted in rabi season under rainfed condition. The technology demonstrated include improved variety (PBNS-12), seed treatment with Azotobacter, Carbendazim. The highest average yield of 12.77 and 12 q/ha was recorded in Beed district against the control yields of 7.8 and 9.5 q/ha with an increase of 26 to 38 per cent in medium black soils.

Performance of Safflower var. PBNS-12 at KVK Beed (Khamgaon)

Sesame: Sesame was demonstrated in KVKs of Maharashtra in rabi season. The average yield obtained in the demonstrations showed that in

Nanded (Pokharni) area, an average of 8.5 q/ha yield of sesame was attained with PKV-NT-11 followed by 6.78 q /ha in Akola district with AKT-101 against local check yield of 6.52 and 5.5 q/ha with an increase of 23.27 to 30.36 percent.

Linseed: The demonstrations on Linseed conducted in three districts in Maharashtra i.e. Chandrapur, Gadchiroli and Latur with an improved variety PKVNL-260 and improved package in paddy follows both under irrigated and residual moisture conditions sown during November 2016. The highest average yield of 6.6 q/ha was recorded in Chandrapur against local check yield of 5.2 q/ha. In Latur, the yield obtained was 4.7 q/ha compared to local productivity of 4.1 q/ha. The increase in yield registered was 26.92 and 14.63 percent over existing productivity in the area.

Demonstration on Linseed var. PKV NL-260 at KVK Latur

Table 3.16.4 : Results of Cluster Frontline Demonstrations (CFLDs) on Oilseeds in Maharashtra during 2016-17

S. No.	Season	Crop	Variety	KVK	Area (ha)/ Demo No	Av. Yield (q/ ha)		% increase over existing
						Demo	Check	
1	Kharif	Soybean	MACS-1188	Pune (Narayangaon)	50 (20)	24.1	19.6	22.96
2	Kharif	Soybean	MACS 1188	Ahmednagar (Babhleshwar)	50 (20)	29.82	18	65.67
3	Kharif	Groundnut	Phule Bharti	Jalgaon (Pal)	8 (3.2)	26.5	15.5	70.96
4	Rabi	Groundnut	TG-38	Pune (Baramati)	10 (22)	28.6	27	5.95
5	Rabi	Groundnut	JL-776	Nanded (Pokharni)	12 (40)	24.37	15.67	55.52
6	Rabi	Sesame	PKV-NT-11	Nanded (Pokharni)	10 (25)	8.5	6.52	30.36
7	Rabi	Sesame	PKV NT-11	Akola	3 (9)	6.78	5.5	23.27
8	Rabi	Safflower	PBNS-12	Beed (Ambajogai)	50 (50)	12.77	7.8	38.91
9	Rabi	Safflower	PBNS-12	Beed (Khamgaon)	50 (25)	12	9.5	26.31
10	Rabi	Linseed	PKV NL-260	Chandrapur	10 (25)	6.6	5.2	26.92
11	Rabi	Linseed	PKV NL-260	Latur	10(25)	4.7	4.1	14.63

3.17 Kisan Sammelans

Sixty two KVKs of the Zone were selected for organizing pre-rabi kisan Sammelans, krishi melas, kisan gosthies, group meetings, exhibitions and demonstrations of latest technologies during 2016-17. These extension activities were taken up for creating awareness among the farmers on the latest agricultural technologies and for giving wider publicity prior to or during the rabi season. The KVKs were advised

to conduct the sammelan coinciding with world soil day which falls on 5th December. The Heads of KVKs were suggested to ensure active participation of public representatives during the sammelans. The KVKs of the Zone conducted 59 pre-rabi kisan sammelans in which a total of 27019 farmers and 13 public representatives actively participated (Table 3.17.1).

Table: 3.17.1. The details of pre-rabi kisan sammelans conducted by KVKs during 2016-17

S.No	State	No. of Kisan Sammelans organized	No. of farmers attended	No. of public representatives attended	
1	Andhra Pradesh	14	5633	MLA	6
				MLC	0
				MP	2
2	Telangana	10	4962	MLA	2
				MLC	0
				MP	1
3	Maharashtra	36	16424	MLA	1
				MLC	1
				MP	0
Total		**59**	**27019**		**13**

Finance Minister of Telangana State Shri. Eetala Rajender addressing farmers during Pre-Rabi Kisan Sammelan at KVK, Karimnagar (Jammikunta), Telangana

Farmers participating in the Pre-Kisan Sammelan at KVK, Karimnagar (Jammikunta)

Dr. Anand Singh, D.E, PJTSAU addressing farmers during Pre-Rabi Kisan Sammelan at KVK, Karimnagar (Jammikunta)

Dr. N. Sivaprasad, M.P (Tirupati) looking at the exhibits during Pre-Rabi Kisan Sammelan on 05/12/2016.

3.18 Farmers First Programme (FFP)

Table: 3.18.1. Details of the projects under Farmers First Programme

S. No.	Name of the project	Name of the Institute	Name of the Principal Investigator (PI)	Budget (Rs. in-lakhs) (2016-17)
1	Farmers' Centric Natural Resource Development for Socio Economic Empowerment in Rainfed Areas of Southern Telangana Region	ICAR-CRIDA, Hyderabad	Dr. G.Nirmala	32.75
2	Competitive oilseeds production technologies for improving profitability and socio-economic conditions of small holders in rainfed oilseeds production system of Telangana	ICAR-IIOR, Hyderabad	Dr. S.V. Ramana Rao	29.50
3	Participatory Technology Validation, Diversification, Value addition for small holders Livelihood Improvement of Central Telangana Zone	ICAR-IIMR, Hyderabad	Dr. B.Dayakar Rao	29.57
4	Enhancing profitability of oil palm based cropping system through resource use efficient technologies with farmer-scientist and stakeholders interface	ICAR-IIOPR, Pedavegi	Dr. M.V.Prasad	10.53
5	Socio-economic Empowerment of Farmers through Farming System Interventions for Sustainable Agriculture Development in Ahmednagar District	MPKV, Rahuri, Maharashtra	Dr. P.B.Kharde	7.58

Under Farmers First programme, institutions have selected villages and conducted base line survey with the consultation of stakeholders. Farmers meetings in the selected villages, diagnostic field visits were conducted and suggestions were given to farmers. Institute Advisory Committee (IAC) and Site Plan Implementation Group (SPIG) of Farmers First Programme was conducted to implement various interventions / activities in the selected villages.

Two Zonal Programme Management Committee (ZPMC) meetings were organized to screen the new project proposals received and to review the work plans and progress of existing projects at ICAR-ATARI, Hyderabad.

Distribution of Soil Health Cards to farmers of selected villages

Chaff cutter and accessories were handed over to farmers

Chaff cutter in operation in oil palm plantation

Backyard poultry training cum birds distribution - IIMR, Hyderabad, Jowar seed distribution - IIMR, Hyderabad

Farmer- Scientist interface meeting organized by ICAR-CRIDA, Hyderabad

3.19 Skill Development Training Programmes by ASCI

Twelve KVKs of the Zone conducted 24 Skill development training programmes of 200 hours duration on 12 different job roles and trained 480 youth during 2016-17. The details of the trainees are entered in Skill Data Management System (SDMS) to facilitate lending by banks and placement/wage earning of the trainees.

Table: 3.19.1. Details of Skill Development Training Programmes conducted by KVKs during 2016-17

State	KVK/ District	Job roles / Qualification Packs	No. of participants	Notional hours
Andhra Pradesh	Kurnool (Yagantipalle)	Quality Seed Grower	20	200
		Organic Grower	20	200
	West Godavari	Quality Seed Grower	20	200
		Organic Grower	20	200
Telangana	Ranga Reddy	Floriculturist (Open Cultivation)	20	200
		Animal Health Worker	20	200
	Warangal (Mamnoor)	Dairy Farmer/Entrepreneur	20	200
		Broiler Poultry Farm Worker	20	200
Maharashtra	Aurangabad (Gandheli)	Sericulturist	20	200
		Quality Seed Grower	20	200
	Beed (Ambajogai)	Small Poultry Farmer	20	200
		Gardener	20	200
	Jalna	Watershed Assistant	20	200
		Sericulturist	20	200
	Nandurbar	Quality Seed Grower	20	200
		Agriculture Extension Service Provider	20	200
	Nashik (YCMOU)	Mushroom Grower (Small Entrepreneur)	20	200
		Animal Health Worker	20	200
	Osmanabad	Organic Grower	20	200
		Dairy Farmer/Entrepreneur	20	200
	Hingoli	Gardener	20	200
		Broiler Poultry Farm Worker	20	200
	Solapur	Dairy Farmer/Entrepreneur	20	200
		Seed Processing Worker	20	200

Ag.extension Service Provider –Nandurbar

Bulb processing for seed purpose in tube rose-CRIDA

CRIDA Exposure visit to Nirmal seeds company Ltd
Quality seed grower- Nandurbar

Preparation of feed - animal health worker

3.20 Seed Hubs

To provide good quality seed of improved varieties of Pulses, Seed hub project on Pulses was initiated by Ministry of Agriculture and Farmers Welfare, Govt. of India during 2016-17. Under this project agricultural research stations of (SAUs) and Krishi Vigyan Kendras in the country were identified in different states in the country. A total of 150 Seed hubs were sanctioned during 2016-17. The funds were allotted to the tune of 1.5 crores i.e. Rs. 50. lakhs for seed processing and infrastructure development and Rs. 1.0 Crore as revolving fund to each centre.

A total of 14 Seed hubs were sanctioned to KVKs in Andhra Pradesh (4), Telangana (2) and Maharashtra (8) States. Targets were fixed to each centre to produce good quality seed of Pulses i.e. pigeonpea, greengram, blackgram and chickpea crops.

Accordingly, the KVKs produced a total of 2108.86 quintals of breeder, foundation and truthful seed of latest recommended and high yielding varieties during Kharif and Rabi seasons 2016-17.

Inauguration of Seed Hub by Dr.A.K. Singh, DDG (AE), ICAR at KVK Amravati (Durgapur)

Table: 3.20.1 Particulars of Seed Production under Seed Hub Programme, Zone-V 2016-17

S. No.	State	Name of the KVK	Crop	Variety	Season	Seed produced (q)				
						Total Target Seed	Target reached	Area (ha)	Production /Expected production	Category of seed (F/S, C/S or T/L)
1	Telan-gana	Mahbubnagar (Palem)	Pigeonpea	PRG-176	Kharif	750	200	20	200	F/S
			Pigeonpea	PRG-158	Kharif		20	3.5	39	T/L
			Blackgram	PU-31	Kharif		100	5.4	68	F/S
			Greengram	WGG-42	Kharif		40	4.2	32	F/S
			Greengram	MGG-295			40	8		F/S
			Horsegram	CRHG-19			50	2.8	7.2	T/L
2	Andhra Pradesh	Kurnool (Yagantipalle)	Pigeonpea	PRG-176	Kharif	550	200	12	200	T/L
			Pigeonpea	Asha	Kharif					
			Pigeonpea	ICPH-2740	Kharif		100	8	100	F1 Hyb.
			Chickpea (foundation)	NBeG-3	Rabi		250	16	250	F/S
			Chickpea (certified)	NBeG-49	Rabi					
3		Anantapur (Reddipalli)	Pigeonpea	LRG-41	Kharif	400	100	3.6	11.7	TL/S
			Pigeonpea	PRG-176	Kharif		100	4	20	TL/S
			Pigeonpea	LRG-41	Kharif		100	0.8		F/S
			Greengram	IPM-2-14	Kharif		50	9.2	3.16	TL/S
			Greengram	IPM-2-14	Rabi		50	2.4	0.5	TL/S
4		Krishna (Ghantasala)	Blackgram	LBG-752 &TBG-1	Rabi	500	500		60	F/S

S. No.	State	Name of the KVK	Crop	Variety	Season	Seed produced (q)				
						Total Target Seed	Target reached	Area (ha)	Production /Expected production	Category of seed (F/S, C/S or T/L)
5	Maha-rashtra	Solapur (Mohol)	Chickpea	Digvijay	Rabi	450		42	350	T/L
6		Dhule	New centre			500				

Seed Production of Blackgram variety LBG-752 at KVK Krishna (Ghantasala)

Production of Pigeonpea variety PRG-176 at KVK Kurnool (Yagantipalle)

3.21 Mera Gaon Mera Gaurav

An innovative programme o f Mera Gaon Mera Gaurav (MGMG) was implemented by 13 ICAR-Research Institutes covering Andhra Pradesh, Telangana and Maharashtra states. The purpose of the programme is to provide farmers with required information, knowledge and advisories on regular basis by adopting few villages by a team of scientists. Being a resource person of the village the Scientists are also expected to monitor the process of adoption of agricultural technologies by the farmers, besides providing information to farmers on market rates, market trends and the information on various agricultural organizations associated with agriculture will also be given so that farmers can contact them for finding solutions to their agriculture. Scientists will also create awareness among farmers about climate change, other customized services, protective measures and other issues of local and national importance. In this process of social transformation, scientist may involve local panchayat, development agencies, NGO's and private organizations. In addition, scientists may encourage the ideology of clean and good agricultural techniques for producing good quality agricultural products and can link this to Swachh Bharat System.

As a part of this programme a total of 409 scientists through 103 teams from 13 institutes adopted 460 villages and implemented various activities. Scientists have made 1121 visits to selected villages and organized 1101 interface meetings/gosthis in which 18579 rural people and farmers participated. A total of 97 awareness cum demonstration programmes, 221 training programmes on agriculture, animal husbandry, poultry, improved implements and other related programmes were conducted. Various types of literature (249) on improved agriculture practices were provided to the farmers & women (Table 3.21.2).

Table: 3.21.1 Details of ICAR Institutes participated in MGMG Programme

S.No.	Name of Institution ICAR Institutes/SAUs	No. of Teams	No. of Scientists	No of villages
1	CRIDA, Hyderabad	15	60	75
2	CICR, Nagpur	9	38	45
3	CIRCOT, Mumbai	6	21	30
4	CTRI, Rajahmundry	7	27	26
5	DOGR, Pune	3	12	15
6	DPR, Hyd	5	20	11
7	IIMR, Hyd	9	36	45
8	IIOR, Hyd	10	40	46
9	NBPGR, Hyd	19	76	95
10	NBSS&LUP, Nagpur	6	24	6
11	NIASM, Pune	7	26	36
12	NRCP, Solapur	2	10	7
13	IIOPR, W. Godavari	5	19	23
	Total	**103**	**409**	**460**

Table: 3.21.2 Details of the activities undertaken under MGMG Programme

S. No.	Activity	Activities conducted (No)	Farmers participated (No)
1	No. of visits	1121	18398
2	No. of Gosthis/interface meeting	1101	18579
3	Awareness cum demonstration programme	97	4229
4	Training	221	6897
5	Literature support provided	249	14532
6	Linkage created	61	9121
7	Technology and Machinery Demonstration Mela	42	9689
	Total	**2892**	

Distribution of Soil Health Cards at DOGR, Pune

Discussion With Poultry Farmers by DPR Scientists, Hyd

3.22. NFDB sponsored HRD Programmes in fisheries

In order to enhance the skills of farmers and farm women involved in aquaculture, a collaborative programme with National Fisheries Development Board, Hyderabad, organized 22 training programmes on various aspects of fisheries involving 12 KVKs in the Zone, with the financial support of Rs. 9.55625 lakhs from NFDB.

A total of 550 fish farmers and farm women gained knowledge and skills during the human resources development training programmes. Eleven (11) programmes were organized by 6 KVKs in Telengana involving 310 persons, while 4 KVKs were involved in organizing 7 HRD programmes in Andhra Pradesh. Four (4) programmes were conducted by two KVKs in Maharashtra state (Table 3.22.1).

Human resource development training programmes were organized on culture, capture, value addition, disease management, breeding of fish etc. State and KVK wise details of programmes organized were given in Table 3.22.2, 3.22.3 and 3.22.4.

Fish processing training programme at KVK East Godavari

Fish processing training by KVK Nalgonda

Carp fry and fingerling rearing programme at KVK Raigad

Integrated fish farming training at KVK Srikakulam

Table: 3.22.1 No. of KVKs involved state wise, no of programmes and tentative no. of participants being trained in fisheries

State	No. of KVKs involved	No. of programmes	No. of participants
Telengana	6	11	310
Andhra Pradesh	4	7	150
Maharashtra	2	4	90
Total	**12**	**22**	**550**

Table: 3.22.2 Details of HRD training programmes organized by KVKs in Telengana state

State	Name of KVK	Title of programme	Duration (days)	No. of participants
1	KVK Jammikunta, Karimnagar	Culture technologies of new emerging fish species in inland water bodies	5	36
2	KVK Jammikunta, Karimnagar	Brood fish management and seed production of commercial cultivable inland fishes	5	29
3	KVK Malyal, Warangal	Fish disease management methods	3	30
4	KVK Malyal, Warangal	Management methods of freshwater fish farming	4	30
5	KVK Mamnoor, Warangal	Common carp hapa breeding management and quality seed production	3	20
6	KVK Mamnoor, Warangal	Awareness programme on Murrel farming and management	3	20
7	KVK Wyra , Khammam	Composite fish culture, Breeding and seed rearing techniques of IMC	4	30

State	Name of KVK	Title of programme	Duration (days)	No. of participants
8	KVK Wyra ,Khammam	Integrated fish-farming methods	3	30
9	KVK Gaddipalli Nalgonda	Management of freshwater fish culture tanks	5	31
10	KVK Kampasagar, Nalgonda	Management of freshwater fish farming	3	30
11	KVK Kampasagar, Nalgonda	Value addition of fish and prawn products	3	30

Table: 3.22.3 Details of HRD training programmes organized by KVKs in Andhra Pradesh state

State	Name of KVK	Title of programme	Durtion (days)	No. of participants
1	KVK, Srikakulam	Improved aquaculture practices in carp culture	3	20
2	KVK, Srikakulam	Identification of common fish diseases in fish culture	3	20
3	KVK Nellore	Ornamental fish breeding and culture methods	5	20
4	KVK Nellore	Vannamie culture with special emphasis on better management practices	5	20
5	KVK Undi, West Godavari	Water quality, feed and disease management in fish and prawn culture	5	20
6	KVK Undi West Godavari	Integrated farming systems	5	20
7	KVK Pandiramamadi East Godavari	Composite fish culture/tank based fish culture	5	63

Table: 3.22.4 Details of HRD training programmes organized by KVKs in Maharashtra state

State	Name of KVK	Title of programme	Duration (days)	No. of participants
MS	KVK Washim	Freshwater aquaculture- An innovative approach	5	25
MS	KVK Washim	Integrated farming systems	5	25
MS	KVK Raigad	Carp fry and fingerling production	5	20
MS	KVK Raigad	*Litopenaeus vannamei* farming	5	20

3.23 Swachh Pakhwada

At ATARI –Hyderabad:

Swachh Pakhwada was observed by the institute during 16-31 October, 2016 Cleanliness drive included cleaning and sweeping of offices, corridors and premises, weeding out old records, taking stock of unserviceable and obsolete items, junk materials in the premises were undertaken on daily basis by devoting at least one hour per day for this purpose by the staff of institute. Awareness of Swachha Bharat initiative was taken up in 10 nearby schools.

Painting competition on "Swachha Bharat" theme was organised for school children and staff of ATARI during this period. Three best paintings selected in each of two categories for school children (category 1: class 5th to 7th and category 2: classes 8th to 10th) were distributed merit certificates.



Activities conducted during Swacch Pakhwada (16-31st October) at ICAR-ATARI, Hyderabad staff

At KVKs:

The program was initiated by the KVKs by administering swachhata pledge to the staff by the senior scientist and Heads in all the 78 KVKs of the Zone. 315 villages were covered during the pakhwada.

A total of 189 training programs involving over 7000 participants were organinsed during the pakhwada. 252 awareness programmes on "Swachha Bharat" theme involving 18320 participants comprising of farmers and students from schools and colleges were conducted. Proper waste management in the localities /establishment along with the participation of local bodies like Municipal/civic Corporations, Gram Panchayats were also organised. Method demonstrations on Treatment of bio-degradable waste (70), use of eco friendly technologies (55), Neem seed kernel extract preparation (6), weed management (300), 58 demonstrations on compost making, use of solar dryers were conducted.

109 VIPs including MLAs, ZP Chairman, local leaders, village Sarpanch, Hon'ble Former Members of Parliament, Dist. Collectors , senior officials of State departments of agriculture and line departments, Senior Officials of Universities (agriculture, horticulture & veterinary), Central government officials including officials from ATARI Zone-V participated in the programmes organised by KVKs.

Heads of KVKs also used all India radio, community radio facilities for transmitting message of swacch bharat.

Day to day activities carried out by KVKs were published in daily news papers, in local television channels. The activities/photographs of swachhta Pakhwada news/events emerged in print/electronic media and web site of KVK portal (kvk.icar.gov.in) /ATARI web site apart from web sites of respective KVKs.

Table: 3.23.1 Activities carried during the Swachhta Pakhwada 16-31 Oct, 2016

Programs	Number	No. of participants
Training programs organized	189	7152
Awareness programs organized for students, farmers, etc.	252	18320
Demonstrations organized (list the demonstration type)		
1. Treatment of bio-degradable waste	70	1070
2. Use of Eco-Friendly Technologies	55	1060
3. Neem seed kernel extract	6	86
4. Weed management	300	4500
5. Demonstration on Yoga	15	250
6. Demonstrations Health and Sanitation	68	63649
7. Compost making	58	615
8. Demonstration on Solar dryers	4	80
Villages covered	315	-
VIPs invited in program (who were they-local leader, MLA, MP, etc)	109	-
Number of news published during this period	87	-
Number of times the program/ event appeared in the electronic media	58	-
Number of times the photos/ news events uploaded on the website	210	-

Shri P. Pulla Rao, Hon'ble Agriculture Minister, Govt. of Andhra Pradesh, at KVK Kalyandurg, Anantapur

Dr. Santosh Tarfe Hon'ble MLA, Hingoli at KVK, Hingoli, Maharashtra

KVK Ghantasala

KVK Visakhapatnam

3.24 Important Events

Foundation stone of Nellore-2 Krishi Vigyan Kendra (KVK) unveiled by Hon'ble Union Minister

Foundation stone of additional Krishi Vigyan Kendra (KVK) in Nellore

Laying of Foundation stone of additional KVK in Nellore district of Andhra Pradesh by Shri Venkaiah Naidu, Union Minister for Urban Development, Housing & Urban Poverty Alleviation and Information & Broadcasting, Government of India

Shri M. Venkaiah Naidu, unveiled the foundation stone for establishment of additional Krishi Vigyan Kendra (KVK) in Nellore district of Andhra Pradesh under the administrative control of Dr YSR Horticultural University (YSRHU) on 13th November 2016 at Periyavaram village, Venkatagiri mandal. Shri Prathipati Pulla Rao, Minister of Agriculture, Govt. of AP inaugurated the KVK in the presence of Union Minister, State Ministers, Member of Parliament, MLA, Venkatagiri, District Collector, Dr BMC Reddy, Vice Chancellor, Dr YSR Horticultural University & Dr Chiranjeev Choudhary, Commissioner, Horticulture, Govt. of AP.

Shri Radha Mohan Singh, Hon'ble Union Minister for Agriculture & Farmers Welfare, presides Closing Ceremony of Maha Agro 2016 Expo at Aurangabad, Maharashtra

Dr A.K. Singh, DDG (AE), ICAR inaugurated the agricultural exhibition displayed by nearby KVKs, University research stations and line departments. The Chief Guest released publications brought out by KVKs on the occasion. Dr Y.G. Prasad, Director, ICAR-ATARI and Dr R.V.S.K Reddy, Director of Extension, Dr. YSRHU participated. About 2000 farmers, farm women, youth and officials participated in the inauguration event.

Shri Radha Mohan Singh, Hon'ble Union Minster for Agriculture and Farmers Welfare presided the Closing Ceremony on 27-12-16 of four-day long state-level Agri exhibition "Maha Agro 2016 Expo " at Aurangabad, Maharashtra held from 24-27th December 2016.

Shri Bandaru Dattatreya, Union Minister for State for Labour and Employment (Independent Charge), unveiled the foundation stone for establishment of additional Krishi Vigyan Kendra (KVK) in Khammam district of Telangana under the administrative control of Prof. Jayashankar Telangana State Agricultural University (PJTSAU) at Garimellapadu village, Kothagudem

Shri Bandaru Dattatreya, Hon'ble Union Minister for State for Labour and Employment lays foundation stone of additional KVK in Khammam

on 19-01-2017. Shri Ponguleti Srinivas Reddy, Member of Parliament, Khammam, Shri Pocharam Srinivas Reddy, Shri T. Nageshwara Rao, State Ministers, Government of Telangana, Shri Jalagam Venkat Rao, MLA, Kothagudem, Shri Payam Venkateshwarlu, MLA, Munuguru, Shri Thati Venkateshwarlu, MLA, Aswaraopet, Dr. V.Praveen Rao, Vice Chancellor, PJTSAU, Hyderabad and Smt. Gadipally Kavitha, ZP Chairperson, Khammam graced the inauguration event. District officials and over 500 farmers participated in the event.

New KVK building inaugurated

Shri P. Pulla Rao, Hon'ble Minister for Agriculture, Government of Andhra Pradesh inaugurated the new building of KVK Guntur (Lam) on 15 -2-17 in the presence of Shri Ravela Kishore Babu, Hon'ble Minister of Social Welfare, Government of Andhra Pradesh

Shri P. Pulla Rao, Hon'ble Minister For Agriculture, Govt. of Andhra Pradesh inaugurating new building of KVK Guntur (Lam)

Annual Zonal Workshop of KVKs of Zone V

Dr A.K. Singh, Deputy Director General (Agriculture Extension), ICAR presided over the plenary session of the Annual Zonal Workshop of Zone-V KVKs (Andhra Pradesh, Telangana & Maharashtra) on June 4th, 2016 .

Earlier, Dr. B.M.C.Reddy, Vice Chancellor, Dr. YSR Horticulture University inaugurated the Workshop on 2nd June, 2016.

Dr. Y.G. Prasad, Director, ATARI, Hyderabad presented the salient achievements of KVKs in Zone-V during 2015-16 and outlined the action plan for 2016-17.

Directors of Extension of ANGRAU, Dr. YSRHU, Dr. BSKKV, PJTSAU, SVVU, Directors of ICAR-CTRI, Rajahmundry & Director of ICAR-IIOPR, Pedavegi participated and reviewed the progress of KVKs in the workshop.

Dr.A.K.Singh, Deputy Director General (Agricultural Extension), ICAR presided over the Annual Zonal Workshop of Zone-V

Cluster Frontline Demonstration (CFLDs) of Pulses and Oilseeds

A two-day Group Meeting of 34 Krishi Vigyan Kendras in Andhra Pradesh and Telangana was organized by ATARI, Hyderabad on 19th August 2016 to review the interim progress of cluster frontline demonstrations on pulses and oilseeds under NFSM and NMOOP.

Dr Y.G.Prasad (Director, ICAR-ATARI, Hyderabad) presented an overview of the progress of over 2000 cluster frontline demonstrations during kharif 2015-16. At majority of the locations, timely planting of pulse crops was taken up for demonstration of improved cultivars along with technology package for enhancing productivity.

Dr Ch. Srinivasa Rao (Director, ICAR-CRIDA) and Dr. Vishnu Vardhan Reddy (Director, ICAR-IIOR) graced the workshop.

Director, ICAR-ATARI, Hyderabad addressing the participants of Group Meeting of Pulses and Oilseeds

Kharif Review and Rabi Progress Workshop of NICRA KVKs under ICAR-ATARI, Zone-V

Kharif Review and Rabi Progress Workshop of NICRA KVKs under ICAR-ATARI, Zone-V, Hyderabad was organized during 18-19th November, 2016 at KVK Pune (Baramati), Maharashtra. Sr. Scientist and Heads & Subject Matter Specialists from 15 NICRA KVKs of Andhra Pradesh, Telangana and Maharashtra participated in the programme.

Dr. S.N. Puri, Former Vice-Chancellor, CAU, Imphal inaugurated the workshop.

Dr. J.V.N.S. Prasad, Co-PI, NICRA-TDC, CRIDA and Dr. G. Rajender Reddy, Principal Investigator, NICRA, ICAR-ATARI, Hyderabad presented a brief report on activities carried out under the programme during kharif season.

Release of NICRA publication during the workshop

Group photo of NICRA workshop

Review and Planning Workshop of Soil Analysis and Soil Health Cards

Dr. Y.G.Prasad, Director, ICAR-ATARI, Hyderabad inaugurated the workshop of soil analysis and soil health cards for KVKs of Maharashtra was held on 10-02-17 at KVK Kosbadhill in Palghar district. Shri. Kanhaiya Chaudhary, Director, Agricultural Extension Division, New Delhi, reviewed the progress of KVKs. Dr. Vivek, SMS (Soil Science), KVK Pune (Baramati), Dr. G. Rajender Reddy coordinated the programme.

Review and Planning Workshop of Soil Analysis and Soil Health Cards held on 10th February, 2017 at KVK Kosbadhill, Palghar dist.

Faculty development programme for home scientists

Dr. Y.G. Prasad, Director, ICAR-ATARI inaugurated the 3 day faculty development programme for Subject Matter Specialists of Home Science discipline jointly organized by ATARI, Hyderabad and National Institute of micro, small and medium enterprises (ni-msme), Hyderabad on 21-2-17. Thirty five SMSs of Home Science from KVKs of Zone-V participated in the programme. The purpose was to build the capacity to develop bankable projects by home scientists.

Director, ICAR-ATARI, Hyderabad along with the participants of Faculty development programme at ni-msme, Hyderabad

Kharif Review and Rabi Action Plan meeting

A group meeting was organized on 24th September, 2016 for KVKs of Maharashtra at CICR, Nagpur. The meeting was inaugurated by Dr. K.R. Kranthi, Director, CICR, Nagpur in which Director of Extension, PDKV, Akola and Scientists from SAUs and IIPR Kanpur participated. The scientists of the KVKs of Maharashtra presented the progress of kharif CFLDs and rabi action plan.

Kharif Review and Rabi Action Plan meeting of CFLDs on Pulses and Oilseeds of KVKs of Maharashtra

Review and Action Plan meeting of Tribal Sub Plan (TSP) project

The review and action plan meeting of TSP project was conducted on 4-11-2016. Fifteen KVKs implementing the TSP programme discussed the progress and further action plan for implementation during the rabi season.

Dr. Y.G.Prasad, Director, ICAR-ATARI, Hyderabad, Dr. K. Raja Reddy, D.E, ANGRAU, Dr. K. Anand Singh, D.E, PJTSAU and Dr. B.Vijayabhinandana, Dy.D.E, ANGRAU, Heads of KVKs implementing TSP, scientific and administrative staff of ATARI, Hyderabad participated in the meeting. The meeting was coordinated by Dr. JV Prasad, Nodal officer, TSP project, ATARI-V.

Group Photo of Review and Action Plan meeting of Tribal Sub Plan (TSP) project

Review and Action Plan meeting of ARYA project

The review and action plan meeting of ARYA project was conducted on 5-11-2016 at ATARI, Hyderabad. Dr. Y.G.Prasad, Director stressed on the enhancing capacity of rural youth for enhancing their skills leading to income generation activities. Three KVKs of Zone V namely Nellore (Andhra Pradesh), Nalgonda (Kampasagar) (Telengana) and Nagpur (Maharashtra) presented their progress and discussed the plan of action for implementation.

Dr. K. Raja Reddy, D.E, ANGRAU, Dr. K. Anand Singh, D.E. PJTSAU, Dr. B. VIjayabhinandana, A.D.E. ANGRAU, Heads of KVKs implementing ARYA, participated in the meeting that was coordinated by Dr. JV Prasad, Nodal officer, ARYA project, ICAR-ATARI, Zone V.

Review and action plan meeting of ARYA project held at ICAR-ATARI, Hyderabad

Action plan meeting of Farmers First Programme (FFP)

Dr. VP Chahal, ADG (Agril. Extension) reviewed the progress of "Farmers First Programme (FFP)" being organized in Zone-V and Zone-VIII on 15-12-2016. Six nodal officers of "Farmers First" two from Zone V and four from Zone-VIII participated and presented progress under farmers first till date and action plan till 31st March 2016. Dr. The meeting was coordinated by Dr. AR Reddy, Principal scientist, ATARI.

Farmers First Programme held at ICAR-ATARI, Hyderabad

Review meeting on Status of Seed Production of Pulses under Seed Hubs and Enhancement of Breeder Seed Production for increasing indigenous production of pulses

The Review meeting on status of seed production of Pulses under Seed Hubs and Enhancement of Breeder Seed Production for increasing indigenous production of Pulses at ANGRAU, Guntur (Lam) was held on 10-1-17. Dr. Y.G.Prasad, Director, ATARI, Hyderabad , Dr. N.V. Naidu, Director of Research, ANGRAU, Dr. K. Raja Reddy, Director of Extension, ANGRAU, Dr. Vijayabhinandana, Deputy Director of Extension, ANGRAU, Dr. Ram Prasad, ADR, Guntur, Dr. Ramana, Principal Scientist (Pulses) and Scientists from Seed hubs in Andhra Pradesh participated in the deliberations

Review and Planning workshop of Soil Analysis and Soil Health Cards

Workshop on soil analysis and soil health cards for KVKs of Telangana and Andhra Pradesh was held on 27-1-17 at ATARI Hyderabad; The status on progress in soil analysis and soil health card preparation was presented by KVK Scientists (Soil Science). Mr. Masood Ali Khan, Agriculture Officer, Agriculture Commissionerate, Govt. of Telangana, Hyderabad demonstrated the registration process of the "soil health" portal. Dr. G.Rajender Reddy coordinated the programme.

Zonal Workshop cum Training Programme on Cluster Frontline Demonstrations (CFLDs) on Pulses and Oilseeds

Zonal workshop cum training programme on CFLD on pulses and oilseeds was organized at ATARI, Hyderabad from 27-28 February 2017. Dr. Y.G. Prasad, Director, ICAR-ATARI, Hyderabad, Dr. A.Vishnuvardhan Reddy, Director, ICAR-IIOR, Hyderabad Dr. Anand Singh, DE, PJTSAU, Hyderabad, Dr. Vijayabhinandana, Dy. DE, ANGRAU, Guntur, Dr. N. Sudhakar, Former Director, ICAR-ATARI, Hyderabad, Dr. Trivikram Reddy, Pulses Breeder, RARS, Nandyal, Dr. P. Jaganmohan Rao, PS, Pulses, PJTSAU,

Hyderabad, Dr. M.V. Ramana, PS, Pulses, Dr. M. Adinarayana, PS, ANGRAU, Guntur and Dr. C.J. Sonawane, Scientist (Agronomy), MPKV, Rahuri participated in the workshop. The Sr. Scientist & Heads/ Nodal officers from 78 KVKs of the Zone presented the progress of work done during 2016-17. Action plan for the year 2017-18 was discussed in detail. Dr. K Dattatri, Principal scientist and Nodal officer CFLD (Pulses) and Dr. AR Reddy, Principal scientist and Nodal officer, CFLD (Oilseeds), ICAR-ATARI, Hyderabad coordinated the workshop.

Pre-Action Plan Workshop for KVKs in Andhra Pradesh

Dr. Y.G. Prasad, Director, ICAR-ATARI, Hyderabad chaired the pre-action plan workshop at Zonal Research Stations involving both research and KVK scientists in the southern and scarce rainfall Zone of Andhra Pradesh at RARS, Tirupati on 30-12-16. The workshop was organized to discuss and compile latest technologies generated by research scientists in ICAR institutes/ SAUs so as to enable KVK SMSs to pick up location specific technologies for conduct of OFTs in adopted villages for 3 seasons/ years. Directors of research and extension from Agricultural, Horticultural and Veterinary Universities apart from scientists and Sr. Scientist & Heads of KVKs participated in the deliberations.

Pre-Action Plan Workshop for KVKs in Andhra Pradesh at RARS, Tirupati

Action plan meetings of KVKs of Western Maharashtra

Action plan meeting was jointly organized by ICAR-ATARI, Hyderabad and MPKV, Rahuri, for KVKs of western Maharashtra during 15-17th March 2017 at MPKV, Rahuri, Maharashtra. Dr. KD Kokate, Director of Extension, MPKV, Rahuri chaired the sessions. The meeting was attended by Heads of the department and Principal scientists of MPKV Rahuri apart from Dr. K. Dattatri, Principal scientist, ICAR-ATARI, Hyderabad.

ICAR-ATARI team participates in ICAR Inter-Institutional South Zone Sports Meet

ICAR-ATARI, Zone-V officials participated in ICAR Inter-Institutional South Zone Sports Meet held in the Railway Sports Complex from 22-8-2016 to 26-8-2016. The meet was organized by ICAR-NAARM, Hyderabad. The staff participated in both track and field events and games such as table tennis, badminton, chess and carrom.

Participation in ICAR-Institutional South Zone Sports meet by ICAR-ATARI staff.

4. STAFF POSITION IN AGRICULTURAL TECHNOLOGY APPLICATION RESEARCH INSTITUTE

S.No	Name	Designation
1.	Dr.Y.G.Prasad	Director
2.	Dr.K.Dattatri	Principal Scientist (Agril. Extn.)
3.	Dr.Chari Appaji	Principal Scientist (Agril. Extn.)
4.	Dr.J.V.Prasad	Principal Scientist (Agril. Entomology.)
5.	Dr.G.Rajender Reddy	Senior Scientist (Soil Science)
6.	Dr.A.R.Reddy	Principal Scientist (Agril. Economics)
7.	Smt.B.Malathi	Scientist (Agril. Economics)
8.	Shri.V.V.Ramana	Asst. Admin. Officer
9.	Shri.S.Balakamesh	Asst. Finance & Accounts Officer
10.	Vacant	Jr. Accounts Officer
11.	Vacant	Private Secretary
12.	Shri P.Venkatesh (W.e.f. 15.12.2016)	Assistant
13.	Smt.N.Archana	Lower Division Clerk
14.	Smt.G.Navneetha	Lower Division Clerk
15.	Shri.N.Vijay Kumar	Lower Division Clerk
16.	Shri. M.Sadanand	Driver
17.	Smt.Subbalakshmi	Skilled Supporting Staff

5. LIST OF KVKS IN Zone-V

S.No	KVK/District	Name and address of KVKs
	Andhra Pradesh	
1.	Anantapur (Reddipalli)	Krishi Vigyan Kendra, Reddipalli (V), B.K.Samudram (Mdl), Anantapuram (Dist) – 515701, Andhra Pradesh
2.	Anantapur (Kalyandurg)	KVK, Kalyandurg, Anantapur-515761, Andhra Pradesh
3.	Chittoor (RASS)	Vanasthali, Karakambadi Post, Renigunta Mandal, Chittoor Dt., PIN Code:517 520, Andhra Pradesh
4.	Chittoor (Kalikiri)	Krishi Vigyan Kendra, CLRC Building, Madanapalle Road, Kalikiri - 517 234. Chittoor district, Andhra Pradesh
5.	East Godavari (Kalavacherla)	KVK, Kalavacharla, Rajanagram Mandal, East Godavari district, Andhra Pradesh
6.	East Godavari (Pandirimamidi)	Krishi Vigyan Kendra, Pandirimamidi, Rampachodavaram, East Godavari District, Pin: 533 288, Andhra Pradesh
7.	Guntur (Vinayashram)	Prof. NG Ranga Krishi Vigyan Kendra, PO: Vinayashram Cherukupalli Mandal, Guntur-522309
8.	Guntur (Lam)	KVK, Lam, Guntur – 520034, Andhra Pradesh
9.	Kadapa	KVK, Near RTO Office, PO:Utukur, Kadapa, Y.S.R district Andhra Pradesh – 516003
10.	Kadapa (Vonipenta)	Krishi Vigyan Kendra, Vonipenta,Mydukur Mandal, YSR Kadapa district, Pin:516173, Andhra Pradesh
11.	Krishna (Garikapadu)	Garikapadu, Krishna District, 521175, Andhra Pradesh
12.	Krishna (Ghantasala)	C/o. Agril. Research Station, Ghantasala – 521 133, Krishna district, Andhra Pradesh
13.	Kurnool (Banavasi)	Krishi Vigyan Kendra (ANGRAU), Near G.L.S. Farm, Banavasi, Yemmiganur Mandal, Kurnool district -518360, Andhra Pradesh
14.	Kurnool (Yagantipalle)	Krishi Vigyan Kendra, Yagantipalle, Kurnool, Andhra Pradesh-518124
15.	Nellore	Krishi Vigyan Kendra, Mini By Pass Road, A.K. Nagar (Post), B.V. Nagar -524 004, Andhra Pradesh
16.	Nellore (Periyavaram)	Periyavaram, Venkatagiri Post, SPSR Nellore district, Pin- 524 132, Andhra Pradesh

S.No	KVK/District	Name and address of KVKs
17.	Prakasam (Darsi)	Krishi Vigyan Kendra, Agril. Research Station PO: Darsi, Prakasam-523247, Andhra Pradesh
18.	Prakasam (Kandukur)	Central Tobacco Research Institute ,Research Station Premises, Kandukur – 523 105, Prakasam, Andhra Pradesh
19.	Vizianagaram	Krishi Vigyan Kendra,PO: RastakuntabaiDistt. Vizianagaram–535523, Andhra Pradesh
20.	Visakhapatnam	BCT-Krishi Vigyan Kendra, Haripuram-531061, Rambilli Mandal, Visakhapatnam, Andhra Pradesh
21.	Visakhapatnam (Kondempudi)	Dr.No.6-89, Opposite Sakha Grandhalayam, Main road, Ravikamatham, Ravikamatham Mandal, Visakhapatnam-531025, Andhra Pradesh
22.	Srikakulam	Krishi Vigyan Kendra, Amadalavalasa-532185, Andhra Pradesh
23.	West Godavari (Undi)	Krishi Vigyan Kendra, Undi-534199, West Godavari district, Andhra Pradesh
24.	West Godavari (VR Gudem)	Krishi Vigyan Kendra, Venkataramannagudem, West Godavari District, Pin: 534 101, West Godavari District, Andhra Pradesh
Telangana		
25.	Adilabad	Krishi Vigyan Kendra, ARS Premises, Ramnagar, Adilabad, Pin Code 504002, Telangana
26.	Adilabad (Bellampally)	Krishi Vigyan Kendra, Budakalan Village, Bellampally Mandal, Mancherial district, Telangana
27.	Karimnagar (Jammikunta)	Krishi Vigyan Kendra, Jammikunta, Karimnagar-505122, Telangana
28.	Karimnagar (Ramgirikilla)	Krishi Vigyan Kendra, Ramagirikhilla. Ratnapur (V). Ramagiri (M), Peddapalli district-505212, Telangana
29.	Khammam	Krishi Vigyan Kendra, ARS Wyra, Distt.,Khammam – 507165, Telangana
30.	Khammam (Kothagudem)	Garimellapadu Village, Kothagudem Mandal, Khammam district, Telangana
31.	Nalgonda (Gaddipalli)	Krishi VigyanKendra, PO:Gaddipalli,Garedapalli Mandal, Dist. Nalgonda-508201, Telangana
32.	Nalgonda (Kampasagar)	Krishi Vigyan Kendra, Kampasagar, (Post): Babusaipet, (Mandal): Tripuraram,(Dist.): Nalgonda–508207, Telangana
33.	Nizamabad	KrishiVigyanKendra, Farm Science Centre,PO: Rudrur, Varmi Mandal, Dist. Nizamabad – 503188, Telangana

S.No	KVK/District	Name and address of KVKs
34.	Mahabubnagar (YFA)	YFA-Krishi Vigyan Kendra, Madanapuram (Vill. & Mdl), Wanaparthy, Mahabubnagar -509110, Telangana
35.	Mahabubnagar (Palem)	Krishi Vigyan Kendra, Palem, Mahabubnagar– 509215, Telangana
36.	Medak	Krishi Vigyan Kendra, Didgi village, Zaheerabad, Dist. Medak - 502220, Telangana
37.	Medak (Kowdipally)	Krishi Vigyan Kendra, Tunki Village, Kowdipally Mandal, Medak district, Telangana
38.	Ranga Reddy	Krishi Vigyan Kendra, Near Deer Park, Bhagyalatha Busstop, Hayathnagar Research Farm, Hyderabad – 501 505, Telangana
39.	Warangal (Malyal)	Krishi VigyanKendra, PO:Malyal, Mahabubabad, Warangal – 506101, Telangana
40.	Warangal (Mamnoor)	Krishi Vigyan Kendra, Mamnoor, Warangal-506166, Telanagana
Maharashtra		
41.	Ahmednagar (Babhleshwar)	Krishi Vigyan Kendra (PIRENS), Babhaleshwar, Tal. Rahata, Ahmednagar-413 737, Maharashtra
42.	Ahmednagar (Dahigaon)	Krishi Vigyan Kendra, Dahigaon ne, Taluka - Shevgaon Distt. Ahmednagar Pin-414502, Maharashtra
43.	Akola (Udegaon)	RDRF's Krishi Vigyan Kendra, At: Sisa (Udegaon), Post: Dongargaon, Tq. Akola district, Maharashtra
44.	Amravati (Durgapur)	Krishi Vigyan Kendra, PO: Badnere (Durgapur), Amravati – 444 701, Maharashtra
45.	Amravati (Ghatked)	Krishi Vigyan Kendra, Ghatkhed, Amravati, Near Taponeshwar Temple, Bodna Phata, Amravati to Chandur Railway Road, Post Pohara, Tq. District Amravati - 444904, Maharashtra
46.	Aurangabad (VNMKV)	Krishi Vigyan Kendra, Paithan Road, Dist: Aurangabad – 431010, Maharashtra
47.	Aurangabad (MGM)	Krishi Vigyan Kendra, Pardari road, Gandheli, Aurangabad 431007, Maharashtra
48.	Beed (Ambajogai)	Krishi Vigyan Kendra, PB No -28, Ambajogai, 431517, Dist. Beed, Maharashtra
49.	Beed (Khamgaon)	Krishi Vigyan Kendra, Khamgaon,Tal. Georai, Dist. Beed–444 303, Maharashtra

S.No	KVK/District	Name and address of KVKs
50.	Bhandara	Krishi Vigyan Kendra, Lakhandur Road, Sakoli, Dist. Bhandara-441 802, Maharashtra
51.	Buldhana (JJ)	KVK Jalgaon Jamod, Dist: Buldana-443402, Maharashtra
52.	Buldhana (ARS)	Programme Coordinator, Krishi Vigyan Kendra, Ajintha Road, Buldhana-443 001, Maharashtra
53.	Chandrapur	KVK Sindewahi, Pathari Road, Ta. Sindewahi, Dist. Chandrapur -44 12 22, Maharashtra
54.	Dhule	Krishi Vigyan Kendra, College of Agriculture, Parola Road, Dhule- 424 004, Maharashtra
55.	Gadchiroli	Krishi Vigyan Kendra, PO: Sonapur, Dist. Gadchiroli – 442 605, Maharashtra
56.	Gondia	Krishi Vigyan Kendra, Hiwara Po. Ratnara Ta. Dist. Gondia – 441 614, Maharashtra
57.	Hingoli	KVK, Tondapur, Taluq Kalmnuri, Hingoli, District Maharashtra
58.	Jalgaon (Pal)	Krishi Vigyan Kendra, Pal, At & Post - Pal, Tal - Raver, Dist Jalgaon, Pal-425 508, Maharashtra
59.	Jalgaon (Mumrabad Farm)	Krishi Vigyan Kendra, Mamurabad Farm, Jalgaon 425104, Maharashtra
60.	Jalna	Krishi Vigyan Kendra, Marathwada Sheti Sahayya Mandal, Post Box No. 45, Kharpudi, Jalna - 431203, Maharashtra
61.	Kolhapur	D. Y. Patil Education Societies, Krishi Vigyan Kendra, A/p - Talsande, Tal-Hatkanangale, Dist, Kolhapur-416112, Maharashtra
62.	Latur	Krishi Vigyan Kendra, Plot. No -P-160, Near Manjara Sugar Factory, Mahadev Nagar, Post- Gangapur Tq..Dist. Latur-413531, Maharashtra
63.	Nagpur	Krishi Vigyan Kendra, Post Box No. 2, Shankarnagar Post, Dist. Nagpur – 440 010, Maharashtra
64.	Nanded (Pokharni)	Krishi Vigyan Kendra At. Pokharni Post. Limbgaon (Rlv.), Tq. & Dist. Nanded–431 735, Maharashtra
65.	Nanded (Sagroli)	Krishi Vigyan Kendra, Shardanagar, Sagroli Tq, Biloli, Dist. Nanded-431731, Maharashtra
66.	Nandurbar	Krishi Vigyan Kendra, At. Po. Kolde, Tal. Dist. Nandurbar, Maharashtra
67.	Nashik (YCMOU)	Krishi Vigyan Kendra, YCMOU, Near Gangapur Dam, Govardhan, Gangapur, Nashik 422 222
68.	Nashik (Malegaon)	KVK Malegaon, At/post Vadel, Tal. Malegaon, Dist. Nashik -423206

S.No	KVK/District	Name and address of KVKs
69.	Osmanabad	KVK, Latur Road, Tuljapur, Osmanabad - 413601
70.	Parbhani	Krshi Vigyan Kendra, Jintur Road, Parbhani
71.	Pune (Baramati)	Krishi Vigyan Kendra, Baramati At Post: Malegaon Khurd, Tal. Baramati, Dist. Pune,Pin 413115, Maharashtra
72.	Pune (Narayangaon)	KVK, Narayangaon, Pune- Nasik Highway, Narayangaon,Tal. Junnar, Dist. Pune-410 504, Maharashtra
73.	Raigadh	Krishi Vidyan Kendra, Killa-Roha, Raigad district, Maharashtra
74.	Ratnagiri	Krishi Vigyan Kendra, At Post- Deodhe, Tal. Lanja, Ratnagiri- 416712, Maharashtra
75.	Sangli	Krishi Vigyan Kendra, A/p. Kanchanpur, Taluka-Miraj, Sangli district, Maharashtra
76.	Satara (Karad)	Krishi Vigyan Kendra, Tal Karad, Satara-415 539, Maharashtra
77.	Satara (Boargaon)	Krishi Vigyan Kendra, Borgaon Taluq, Satara district, Maharashtra
78.	Sindhudurg	Krishi Vigyan Kendra, At.P. Kirlos, Malwan Taluq, Sindhudurg-416616, Maharashtra
79.	Solapur (Khed)	Solapur-Barshi Road, At: Khed, Post: Kegaon, Tal: North Solapur, Dist: Solapur-413255, Maharashtra
80.	Solapur (Mohol)	Krishi Vigyan Kendra, Agricultural Research Station, Mohol, Dist. Solapur – 413 213,Maharashtra
81.	Thane	Krishi Vigyan Kendra, Gokhale Education Society's, Kosbad Hill, Tal. Dahanu, Dist. Thane-401 703, Maharashtra
82.	Wardha	Krishi Vigyan Kendra, Selsura,Wardha-422001, Maharashtra
83.	Washim	Suvide Foundations, Krishi Vigyan Kendra, Karda, Risod Taluq, Washim-444506, Maharashtra
84.	Yavatmal	Krishi Vigyan Kendra,Waghapur Road, Yavatmal-445 001, Maharashtra
85.	Yavatmal (Darwha)	Krishi Vigyan Kendra, Navsanjivan Shikshan Prasarak Mandal, Tq. Darwha , Dist. Yavatmal – 445 202, Maharashtra

भाकृअनुप
ICAR

भाकृअनुप – कृषि तकनीकी अनुप्रयोग संस्थान (अटारी)
(पहले क्षेत्रीय परियोजना निदेशालय, क्षेत्र - V)

ICAR-Agricultural Technology Application Research Institute (ATARI)
(Formerly Zonal Project Directorate, Zone-V)

क्रीडा परिसर/CRIDA Campus, संतोषनगर/Santoshnagar,
हैदराबाद/Hyderabad - 500 059

Tel: 040-24006500, 24530300, 245361175, Telefax: 24533543
E-mail : zcu5hyd@gmail.com, atari.hyderabad@icar.gov.in, director.atari_hyd@icar.gov.in

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