वार्षिक प्रतिवेदन

ANNUAL REPORT

2018-19

भाकृअनु-कृषितकनीकीअनुप्रयोगसंस्थान (अटारी)

ICAR-Agricultural Technology Application Research Institute (ATARI)

Zone-X/ क्षेत्र 10, क्रीडापरिसर/CRIDA Campus,संतोषनगर/Santoshnagar, हैदराबाद/Hyderabad - 500059

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Edited by:

Y.G.Prasad
A.Bhaskaran
Chari Appaji
J.V.Prasad
B.Malathi

Compiled by:

KVK Subject Experts in Andhra Pradesh, Telangana, Tamil Nadu and Puducherry

Editorial assistance:

Navneetha, Vanusha, Madhuri, Ramanjaneya, Chaitanya, Sridevi, Pavani, Harini, Kavitha

Back cover:

Published by

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

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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 four states viz. Tamil Nadu, Andhra Pradesh, Telangana and Puducherry. At present there are 74 KVKs in the Zone including 32 in Tamil Nadu, 24 in Andhra Pradesh, 16 in Telangana and 2 in Puducherry. The ATARI is also vested with the responsibility of strengthening of agricultural extension research and knowledge management.

During 2018-19, KVKs assessed 810 technologies and conducted 10895 frontline demonstrations in farmers' fields, undertook 5509 training programmes covering 191924 participants including farmers, farm women, rural youth and extension functionaries. KVKs conducted 6923 number of cluster frontline demonstrations on pulses covering an area of 2880 ha under the National Food Security Mission (NFSM). Similarly, 3735 number of CFLDs were conducted on oilseeds covering an area of 1524.6 ha under National Mission on Oilseeds and Oilpalm (NMOOP).

Seed hubs for pulses started functioning at 12 KVK's in Zone-X in the states of Tamil Nadu (6), Andhra Pradesh (4) and Telangana (2). During 2018-19, seed hub KVK's produced 4164 q of seed for supply of quality seed of greengram, blackgram, redgram and bengalgram. Ninety eight enterprise units were established empowering 206 youth under Attracting Rural Youth in Agriculture (ARYA) Project. Fifteen skill training programmes were conducted covering 613 youth. Under the innovative programme of *Mera Gaon Mera Gaurav* (MGMG), 7 ICAR-research Institutes in the Zone implemented various activities in 283 adopted villages involving 68 teams comprising of 292 scientists. A total of 3965 activities were undertaken during the year.

Human Resource Development (HRD) activities were jointly organized by the Directorates of Extension (SAUs) and ATARI benefiting 2360 KVK staff in the Zone. About 6524 farmers were given direct access to institutional resources through three Agricultural Technology Information Centers in the Zone. A number of extension activities were taken up by the KVKs with the participation of 1330139 farmers, farm women and extension personnel. All the KVKs were equipped with mini soil testing laboratories to provide soil testing service to farmers. A total of 38,017 Soil Health Cards were distributed to farmers by KVKs in Tamil Nadu (11108), Andhra Pradesh (17949), Telangana (8752) and Puducherry (208).

We acknowledge the contributions of Vice-Chancellors and Directors of Extension of SAUs, Horticulture and Veterinary Universities and Directors of ICAR institutes in Zone-X for providing necessary technological backstopping to the KVKs. We gratefully 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.

Dr. Y. G. Prasad,
Director

कार्यकारी सारांश

कृषि प्रौद्योगिकी अनुप्रयोग संस्थान(अटारी), हैदराबाद को क्षेत्र X में स्थित 74 कृषि विज्ञान केंद्रों के समन्वयन कार्य का अधिदेश सौंपा गया है। वार्षिक रिपोर्ट 2018-19 में तमिलनाडु में स्थित 32, आंध्र प्रदेश के 24, तेलंगाना के 16 एवं पांडिचेरी के 2 कृषि विज्ञान केंद्रों की गतिविधियों के बारे में जानकारी दी जा रही है।

प्रौद्योगिकी मूल्यांकन

वर्ष के दौरान, कृषि विज्ञान केंद्रों ने 3939 फार्म पर जांचों द्वारा 810 प्रौद्योगिकियों का मूल्यांकन एवं परिष्करण किया। जांची गई प्रौद्योगिकियों में, 625 प्रौद्योगिकियां फसल से संबंधित, 109 पशु संबंधी एवं 45 महिलों से संबंधित हैं। फसलों के मामले में शामिल की गई प्रमुख विषय क्षेत्र हैं : किस्मों का मूल्यांकन, फसल प्रणालियां, समेकित रोग प्रबंधन, समेकित नाशीजीव प्रबंधन, समेकित पोषक प्रबंधन, समेकित खरपतवार प्रबंधन, समेकित फसल प्रबंधन, संसाधन संरक्षण प्रौद्योगिकियां, फार्म यांत्रिकीकरण एवं उपकरण। पशु के मामले में, विषय क्षेत्र जैसे कि नस्ल मूल्यांकन, रोग प्रबंधन, चारा एवं पोषक प्रबंधन एवं उत्पादन तथा प्रबंधन का मूल्यांकन एवं परिष्करण हैं। ग्रामीण महिलाओं के सशक्तिकरण के अंतर्गत विषय क्षेत्र जैसे कि श्रम में कमी, स्वास्थ्य एवं पोषण, मूल्य संवर्धन एवं उद्यमिता विकास में फार्म पर जांचों का आयोजन हैं।

तमिलनाडु के कृषि विज्ञान केंद्रों में, बागवानी प्रजातियां(806), पशु (184) एवं ग्रामीण महिलाओं का सशक्तिकरण (23) को शमिल कर 1059 फार्म पर जांचों के द्वारा 221 प्रौद्योगिकियों की अनुकूलता का मूल्यांकन किया गया। आंध्र प्रदेश के कृषि विज्ञान केंद्रों में, बागवानी प्रजातियां(1429), पशु (379) एवं ग्रामीण महिलाओं का सशक्तिकरण (102) को शमिल कर 1958 फार्म पर जांचों के द्वारा 385 प्रौद्योगिकियों की अनुकूलता का मूल्यांकन किया गया। तेलंगाना के कृषि विज्ञान केंद्रों में, बागवानी प्रजातियां(683), पशु (91) एवं ग्रामीण महिलाओं का सशक्तिकरण (85) को शमिल कर 888 फार्म पर जांचों के द्वारा 197 प्रौद्योगिकियों की अनुकूलता का मूल्यांकन किया गया। पांडिचेरी के कृषि विज्ञान केंद्रों में, बागवानी प्रजातियां(18), पशु (3) एवं ग्रामीण महिलाओं का सशक्तिकरण (13) को शमिल कर 34 फार्म पर जांचों के द्वारा 7 प्रौद्योगिकियों की अनुकूलता का मूल्यांकन किया गया।

प्रौद्योगिकी का प्रदर्शन

4332.9 हेक्टेयर क्षेत्र में कुल 10895 अग्रिमपंक्ति प्रदर्शनों का कार्यान्वयन किया गया। इनमें से क्षेत्र-X के कृषि विज्ञान केंद्रों के द्वारा तिलहनों के अंतर्गत 524.9 हेक्टेयर क्षेत्र में 1398 अग्रिमपंक्ति प्रदर्शनों का आयोजन किया गया। प्रदर्शनों के अंतर्गत शामिल किए गए प्रमुख तिलहन फसल हैं : मूंगफली, तिल, सूरजमुखी, अरंड, कुसुंभ, सोयाबीन, एवं शमतिल। कृषि विज्ञान केंद्रों के द्वारा दलहनों के मामले में, खरीफ एवं रबी मौसमों के दौरान 1404.6 हेक्टेयर

क्षेत्र में 3379 प्रदर्शनों का आयोजन किया गया। प्रदर्शनों के अंतर्गत शामिल किए गए प्रमुख फसल हैं : उड़द, चना, छोटी मटर, मूंग, अरहर, लोबिया, कुलथी एवं मोठ। इसी प्रकार, क्षेत्र x के कृषि विज्ञान केंद्रों में, धान्य, व्यावसायिक फसल, मोटे अनाज, चारा एवं बागवानी फसलों जेसे अन्य फसलों पर 2403.4 हेक्टेयर क्षेत्र में 6118 प्रदर्शनों का आयोजन किया गया।कृषि विज्ञान केंद्रों ने उन्न्त उपकरणों पर 585 एवं पशुधन प्रजातियों पर 1359 का भी आयोजन किया है।

प्रशिक्षण

प्रशिक्षण कृषि विज्ञान केंद्रों की मुख्य गतिविधि है, जो विभिन्न उन्न्त प्रौद्योगिकियों के बारे में ज्ञान एवं कौशल को बढ़ाने में प्रमुख भूमिका निभाता है। वर्ष के दौरान, क्षेत्र x के कृषि विज्ञान केंद्रों ने 191924 भागीदारियों जिसमें 155339 किसान,18868 ग्रामीण युवा एवं 17714 प्रसार अधिकारियों को शामिल कर 5509 प्रशिक्षण कार्यक्रमों का आयोजन किया।

तमिलनाडु के कृषि विज्ञान केंद्रों ने 91511 किसान जिनमें कृषि महिला, ग्रामीण युवा एवं प्रसार अधिकारयों की भागीदारी से 2794 प्रशिक्षण पाठ्यक्रमों का आयोजन किया, जबकि आंध्र प्रदेश के कृषि विज्ञान केंद्रों ने कृषि महिलाओं, ग्रामीण युवा एवं प्रसार अधिकारियों सहित 61292 किसानों की भागीदारी से 1736 प्रशिक्षण पाठ्यक्रमों का आयोजन किया। तेलंगाना के कृषि विज्ञान केंद्रों ने 37544 लाभार्थियों के लिए 914 पाठ्यक्रमों का आयोजन किया। पांडिचेरी के कृषि विज्ञान केंद्रों ने 1574 लाभार्थियों के लिए 65 पाठ्यक्रमों का आयोजन किया। प्रशिक्षण के अंतर्गत फसल उत्पादन, बागवानी, मृदा स्वास्थ्य एवं उर्वरता प्रबंधन, पशुपालन उत्पादन एवं प्रबंधन, गृह विज्ञान/महिला सशक्तिकरण, कृषि यांत्रिकीकरण, पादप संरक्षण, मछली पालन, क्षमता निर्माण एवं समूह की गतिशीलता, कृषि-वानिकी आदि के मुख्य विषय क्षेत्रों को शामिल किया गया।

क्षेत्र x के कृषि विज्ञान केंद्रों ने 37617 किसानों, कृषि महिलाओं एवं ग्रामीण यूवाओं को शामिल कर 881 प्रायोजित प्रशिक्षण कार्यक्रमों का भी आयोजन किया। विशेष कर ग्रामीण युवाओं एवं स्कूल छोडने वालों में उद्यमिता विकास, आय निर्माण एवं स्व-रोज़गार प्रदान करने के लिए, 6020 लाभार्थियों के लिए कृषि विज्ञान केंद्रों ने 292 व्यावसायिक प्रशिक्षण कार्यक्रमों का आयोजन किया। इन प्रशिक्षण कार्यक्रमों का मुख्य विषय क्षेत्र फसल उत्पादन एवं प्रबंधन, फसल कटाई के बाद की प्रौद्योगिकी एवं मूल्य संवर्धन, पशु-पालन एवं मछली पालन, आय निर्माण की गतिविधियां आदि हैं।

राष्ट्रीय भांडागार (विकास एवं नियमन) अधिनियम के अंतर्गत भांडागार विकास एवं नियमन प्राधिकारी द्वारा प्रायोजित क्षेत्र के पांच कृषि विज्ञान केंद्रों द्वारा 250 किसानों, व्यापारियों एवं दाल मिल के मालिकों के लिए पांच जागरूकता प्रशिक्षण कार्यक्रमों का आयोजन किया गया।

भारतीय कृषि कौशल परिषद द्वारा क्षेत्र-x के 35 कृषि विज्ञान केंद्रों एवं 3 भाकृअनुप के संस्थान को कौशल विकास प्रशिक्षण केंद्रों के रूप में पहचाना गया।

मछली उत्पादन को बढ़ावा देने के लिए, राज्य का मछली पालन विभाग एवं राष्ट्रीय मछली पालन विकास बोर्ड (एनएफडीबी) ने संयुक्त रूप से 5 कृषि विज्ञान केंद्रों की पहचान किया गया।

प्रौद्योगिकी प्रसार

क्षेत्र-x में उन्नत प्रौद्योगिकियों पर जागरूकता लाने के लिए 1330139 किसानों, कृषि महिलाओं एवं प्रसार अधिकारियों की भागीदारी से 43875 प्रसार गतिविधियों का आयोजन किया गया। इन प्रसार गतिविधियों में सलाह सेवाएं, प्रदर्शन दौरे, पशु स्वास्थ्य शिविर, प्रौद्योगिकी सप्ताह, समूह चर्चा, मृदा स्वास्थ्य शिविर, किसान मेले, किसान गोष्ठियां, आदि शामिल हैं। उन्नत कृषि प्रौद्योगिकियों पर सूचना के प्रसार में तेजी लाने के लिए क्षेत्र -x कृषि विज्ञान केंद्रों ने 2881 प्रकाशन प्रकाशित किए।

संस्थागत संसाधनों के बारे में किसानों को सीधी जानकारी प्रदान करने के लिए, भाकृअनुप ने विभिन्न प्रौद्योगिकी के उत्पादों की सूचना को एकल गवाक्ष के द्वारा प्रदान करने के लक्ष्य से क्षेत्र-x में तीन कृषि प्रौद्योगिकी सूचना केंद्रों की स्थापना की गई। इस वर्ष के दौरान अत्याधुनिक प्रौद्योगिकी सूचना एवं क्रांतिक प्रौद्योगिकी उत्पादों जैसे कि बीज एवं रोपण सामर्गी के बारे में जानकारी प्राप्त करने के लिए कुल 6524 किसानों ने तीन कृषि प्रौद्योगिकी सूचना केंद्रों का दौरा किया।

जांच सेवाएं एवं क्रांतिक निवेशों की आपूर्ति

मृदा पोषक स्तर एवं जिले में स्थित सूक्ष्म कृषि परिस्थितियों में किसानों को पोषक सिफारिशों पर आधारित मृदा जांच के बारे में भी जानकरी प्रदान करने के लिए कृषि विज्ञान केंद्रों ने मृदा एवं जल जांच का कार्य आरंभ किया। कृषि विज्ञान केंद्रों द्वारा 38367 मृदा नमूनों, 4146 जल नमूनों, 169 पादप नमूनाओं एवं 17 उर्वरक/खाद सहित कुल 42699 नमूनों का विश्लेषण किया, जिससे तमिलनाडु, आंध्र प्रदेश, तेलंगाना एवं पुदुचेरी में स्थित 6015 गांवों के 40498 किसानों को लाभ हुआ।

कृषि विज्ञान केंद्रों द्वारा तमिलनाडु (18252), आंध्र प्रदेश(11630), तेलंगाना(7050) एवं पुदुचेरी (692) में किसानों को कुल 37624 मृदा स्वास्थ्य कार्ड वितरित किए गए। किसानों को अपनाने के लिए कार्ड में दिए गए मृदा जांच विश्लेषणों के आधार पर पोषकों/उर्वरकों की फसल वार सिफारिश प्रदान की गई है, ताकि किसान अपने खेतों में उर्वरकों की मात्रा को नियमित कर सके जिससे खेत की लागत में कमी एवं टिकाऊ फसल उत्पादन एवं मृदा स्वास्थ्य के लिए उर्वरक उपयोग क्षमता में वृद्धि कर सके।

कृषि विज्ञान केंद्रों ने 14572 क्विंटल का बीज उत्पादन कर आपूर्ति की एवं खेती/बागवानी फसलों/पशुओं/पौल्टरी पक्षियों/मछलियों के सर्वोत्कृष्ट 36.68 लाख पौधे/आंगुलिक की आपूर्ति की। किसानों को दलहन के गुणता युक्त बीजों की आपूर्ति के लिए कृषि विज्ञान केंद्रों ने बारह बीज

हब (तमिलनाडु में 6, आंध्र प्रदेश में 4 एवं तेलंगाना में 2, जहां मूंग,उड़द, अहर एवं चना के 4164 क्विंटल बीज

उत्पादन किया)स्थापित किए। कृषि विज्ञान केंद्रों ने 248.81 क्विंटल का जैव-उर्वरक एवं 371.24 क्विंटल का जैव-कीटनाशकों का उत्पादन कर आपूर्ति भी की।

कृषि विज्ञान केंद्र के अधिकारियोंका मानव संसाधन विकास

प्रशिक्षणों, संगोष्टियों, कार्यशालाओं आदि द्वारा कृषि विज्ञान केंद्र के वैज्ञानिकों को राज्य कृषि विश्वविद्यालयों के प्रसार शिक्षा निदेशालय एवं अटारी द्वारा प्रौद्योगिकी सहायता एवं मानव संसाधन विकास का प्रशिक्षण दिया जा रहा है। तीन प्रसार निदेशालयों एवं कृषि प्रौद्योगिकी अनुप्रयोग संस्थान द्वारा संयुक्त रूप से क्षेत्र में 2360 कृषि विज्ञान केंद्र के कर्मचारियों के लाभ के लिए कुल 45 मानव संसाधन विकास गतिविधियों का आयोजन किया गया।

राष्ट्रीय जलवायु समुत्थान कृषि में नवप्रवर्तन (निक्रा)

11 कृषि विज्ञान केंद्रों द्वारा क्षेत्र-x में निक्रा परियोजना का प्रौद्योगिकी प्रदर्शन अवयव का कार्यान्वयन किया गया, जिसमें तीन राज्यों में जलवायु समुत्थान कृषि प्रौद्योगिकी एवं प्रक्रिया का प्रदर्शन किया गया। परियोजना के अंतर्गत, कृषि विज्ञान केंद्रों ने चार मापदंडों जैसे कि प्राकृतिक संसाधन प्रबंधन (1903), फसल उत्पादन (3422), पशु पालन एवं मछली पालन (1735) में 7060 प्रदर्शनों का आयोजन किया। संस्थागत हस्तक्षेपों के अंतर्गत 439 किसानों को कस्टम हायरिंग, बीज एवं चारा बैंक गतिविधियों के अंतर्गत लाया गया। निक्रा कृषि विज्ञान केंद्रों ने 139 किसानों को क्षमता निर्माण का प्रशिक्षण दिया गया एवं 3897 किसानों को जलवायु समुत्थान की प्रक्रियाओं एवं प्रौद्योगिकियों पर जागरूक किया गया।

युवाओं को कृषि कि ओर आकर्षित करना एवं उसमें बनाए रखना (आर्या)

वर्ष 2018-19 के दौरान इस क्षेत्र के तीन कृषि विज्ञान केंद्रों(नेल्लूर, नलगोंडा-कंपसागर एवं कन्याकुमारी) द्वारा आर्या (युवाओं को कृषि कि ओर आकर्षित करना एवं उसमें बनाए रखना) परियोजना का कार्यान्वयन किया गया। 206 युवाओं को सशक्त बनाने के लिए 98 उद्यम इकाइयों की स्थापना की गई। 613 युवाओं को शामिल कर 15 कौशल प्रशिक्षण कार्यक्रमों का आयोजन किया गया।

दलहन एवं तिलहनों पर केंद्रों का अग्रिम प्रदर्शन

वर्ष 2018-19 के तीन मौसमों के दौरान क्षेत्र-x में तमिलनाडु, आंध्र प्रदेश, तेलंगाना एवं पुदुचेरी के 68 कृषि विज्ञान केंद्रों द्वारा एनएफएसएम के अंतर्गत दलहनों पर केंद्र अग्रिम प्रदर्शन का आयोजन किया गया। दलहनों के अंतर्गत 2880 हेक्टेयर क्षेत्र में कुल 6923 अग्रिम प्रदर्शनों का आयोजन किया गया। इसी प्रकार, वर्ष 2018-19 के खरीफ एवं रबी के दौरान 52 कृषि विज्ञान केंद्रों द्वारा तिलहन फसलों में एनएमओओपी के अंतर्गत 1524.6 हेक्टेयर क्षेत्र में 3735 केंद्र मेंअग्रिम प्रदर्शनों का आयोजन किया गया। अग्रिम प्रदर्शनों में हुए दलहनों एवं तिलहनों की

उत्पादकता जिल/राज्य की औसत उत्पादकता से अधिक था, जो उत्पादन अंतराल को पूरा करने की क्षमता को सूचित करता है।

पहले किसान परियोजना(एफएफपी)

चार भाकृअनुप के संस्थान (आईआईएमआर, आईआईओपीआर, आईआईओआर एवं क्रीडा) एवं एक विश्वविद्यालय (टीएनयूवीएएस) ने पहले किसान परियोजना का कार्यान्वयन किया। पहले किसान परियोजना के केंद्रों ने 2670 हेक्टेयर क्षेत्र में और परियोजना अमल हो रहे गांवों के 2972 परिवारों के लिए 24 फसल हस्तक्षेपों को आरंभ किया गया। बागवानी हस्तक्षेप को 1174 परिवार वाले गांव के 417 हेक्टेयर क्षेत्र में कार्यान्वित किया गया। 3104 हेक्टेयर क्षेत्र में 15 प्राकृतिक संसाधन प्रबंधन हस्तक्षेपों को कार्यान्वित किया गया, जिससे 2542 परिवारों को लाभ मिला। श्रेष्ठ चारा किस्मों की प्रस्तुती, अहाता पौल्टी नस्लों का प्रदर्शन, खनिज एवं पोषक मिश्रणों की प्रस्तुती, ओएट्रस सिंक्रोनाइजेशन प्रोटोकॉल, पशु स्वस्थ्य शिविरों का आयोजन, भेड़ एवं बारियों में नस्ल सुधार आदि से संबंधित कुल 27 हस्तक्षेपों को शुरू किया गया जिससे 2720 परिवारों को लाभ हुआ। पहले किसान परियोजना के केंद्रों ने कृषि यंत्रों को कस्टम हायरिंग, श्रम को कम करने के उपकरणों, मोटे अनाजों का प्राथमिक प्रसंस्करण, चुने गए परिवारों में सामुदायिक मछली पालन इकाइयों को प्रोत्साहित किया गया।

जनजाति उप-योजना (टीएसपी)

इस क्षेत्र के (आंध्र प्रदेश में 6 एवं तेलंगाना में 4) 10 कृषि विज्ञान केंद्रों द्वारा जनजाति समुदायों के सामाजिक-आर्थिक परिस्थितियों को सुधारने के लिए जनजाति उप योजना को लाया गया एवं 1498 की संपत्ति/सूक्ष्म उद्यमों को प्रदान कर 2351 जनजातियों को आय बढ़ाने के अवसर प्रदान किया। 868 लाभार्थियों को कौशल विकास प्रशिक्षण(30) प्रदान किया गया।

जागरूकता प्रदानकरना

छप्पन कृषि विज्ञान केंद्रों ने 29609 किसानों, प्रसार अधिकारियों एवं वैज्ञानिकों को शामिल कर पादप किस्मों का संरक्षण एवं किसानों के अधिकारों का अधिनियम(पीपीवी एवं एफआरए) पर जागरूकता कार्यक्रमों का आयोजन किया।

दिनांक 15-9-2018 से 2-10-2018 तक की अवधि के दौरान 68 कृषि विज्ञान केंद्रों द्वारा स्वच्छता ही सेवा कार्यक्रम का आयोजन किया गया, जिसमें कृषि विज्ञान केंद्रों ने 546 गांवों में श्रम दान किया तथा अपनाए गए गांवों/सार्वजनिक स्थानों में स्वच्छता का योगदान किया।

दिनांक 5 दिसंबर, 2017 को विश्व मृदा दिवस के भाग के रूप में, माननीय सांसदों एवं विधान सभा के सदस्यों एवं सरकारी अधिकारियों द्वारा किसानों को 9278 मृदा स्वास्थ्य कार्डों का वितरण किया गया।

मेरा गावं मेरा गौरव कार्यक्रम के अंतर्गत, 7 भाकृअनुप अनुसंधान संस्थानों के 68 दलों के कुल 292 वैज्ञानिकों द्वारा 283 गांवों को अपनाया गया एवं विभिन्न गतिविधियों को कार्यन्वित किया

गया। वैज्ञानिकों ने 10233 किसानों एवं कृषि महिलाओं को शामिल कर 794 इंटरफेस बैठकों का आयोजन किया। कृषि, पशु पालन, पौल्ट्री एवं उन्नत उपकरणों पर कुल 1690 जागरूकता एवं प्रदर्शन कार्यक्रमों एवं 91 प्रशिक्षण कार्यक्रमों का आयोजन किया गया।

EXECUTIVE SUMMARY

ATARI, Hyderabad is vested with the mandate of coordination of 74 KVKs established in Zone-X. The annual report 2018-19 documents the activities of 32 KVKs in Tamil Nadu, 24 in Andhra Pradesh, 16 in Telangana and 2 in Puducherry.

Technology Assessment

During the year, KVKs assessed and refined 810 technologies by laying out 3939 On-Farm Trials. Of these technologies tested, 625 technologies are related to crops, 109 are related to animals and 45 are related to women empowerment. 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, disease management, feed and nutrition management and shelter management are 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 Tamil Nadu assessed the suitability of 221 technologies by conducting 1059 OFTs covering crops including horticultural species (806), animals (184) and empowerment of rural women (23). KVKs in Andhra Pradesh, assessed the suitability of 385 technologies by conducting 1958 OFTs covering crops including horticultural species (1429), animals (379) and empowerment of rural women (102). KVKs in Telangana, assessed the suitability of 197 technologies by conducting 888 OFTs covering crops including horticultural species (683), animals (91) and empowerment of rural women (85). KVKs in Puducherry, assessed 7 technologies by organizing 34 OFTs that include crops including horticultural species (18), animals (3) and women empowerment (13).

Technology demonstrations

A total of 10895 frontline demonstrations were implemented covering an area of 4332.9 ha. Among them 1398 front line demonstrations covering 524.9 ha under oilseeds were organized by KVKs in Zone-X. The major oilseed crops that were covered under demonstrations include groundnut, sesame, sunflower, castor, safflower, soybean and niger. In case of pulses, KVKs organized 3379 demonstrations covering 1404.6 ha during *kharif* and *rabi* seasons. The major crops covered under pulses demonstrations are blackgram, chickpea, fieldpea, greengram, pigeonpea, cowpea, horsegram and moth bean. Similarly, KVKs in Zone-X organized 6118 demonstrations covering 2403.4 ha on other crops *i.e.* cereals, commercial crops, millets, fodder and horticultural crops. KVKs also organized 585 demonstrations on improved tools and implements and 1359 demonstrations on livestock species.

Trainings

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-X organized 5509 training programmes covering 191924 participants that include 155339 farmers, 18868 rural youth and 17714 extension functionaries.

KVKs in Tamil Nadu, organized 2794 training courses with a participation of 91511 farmers including farmwomen, rural youth and extension functionaries, while KVKs in Andhra Pradesh organized 1736 training courses with a participation of 61292 farmers including farmwomen, rural youth and extension functionaries, KVKs in Telangana conducted 914 courses for 37544 beneficiaries. KVKs in Puducherry, conducted 65 courses for 1574 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-X also organized 881 sponsored training programmes covering 37617 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 292 vocational training programmes for 6020 beneficiaries. The important thematic areas include crop production and management, post harvest technology and value addition, livestock and fisheries, income generation activities *etc*.

Five awareness training programmes were conducted by five KVKs in the Zone sponsored by Warehousing Development and Regulatory Authority under National Warehousing (Development and Regulatory) Act for 250 farmers, traders and dall mill owners.

Eight skill development training programmes sponsored by ASCI were conducted by 35 KVKs and three ICAR Institute (ICAR-IIOPR, Pedavegi, ICAR-IIRR, Hyderabad and ICAR-CIBA, Chennai) and one agricultural university (PJTSAU, Hyderabad) benefitting 160 farmers.

To enhance the fish production, State Department of Fisheries and National Fisheries Development Board (NFDB) collaboratively have identified five KVKs, three in Andhra Pradesh and two in Telangana and imparted skill development training to 350 fishermen and fisherwomen in 7 reservoir area.

Technology dissemination

To create awareness on improved technologies the KVKs in Zone-X organized 43875 extension activities with the participation of 1330139 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, *kisanmelas*, *kisanghostis*, *etc*. In order to accelerate rapid dissemination of information on improved farm technologies, KVKs in Zone-X brought out 2881 publications.

To facilitate direct access of farmers to institutional resources, ICAR established three Agricultural Technology Information Centers in Zone-X with the objective of single window delivery of various technology products. During the year a total of 6524 farmers visited the three ATICs to know the latest technology information and to obtain critical technology products *viz*., seed and planting material.

Testing services and supply of critical inputs

KVKs undertook soil and water testing to ascertain the soil nutrient status and also to make soil test based nutrient recommendations to farmers in the prevailing micro-farming situations in the district. A total of 42699 samples including 38367 soil samples, 4146 water samples, 169 plant samples and 17 fertilizers/manures were analyzed by the KVKs that benefited 40498 farmers belonging to 6015 villages in Tamil Nadu, Andhra Pradesh, Telangana and Puducherry.

A total of 37624 Soil Health Cards were distributed to farmers by KVKs in Tamil Nadu (18252), Andhra Pradesh (11630), Telangana (7050) and Puducherry (692). 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, enhancing fertilizer use efficiency for sustainable crop production and soil health.

KVKs produced and supplied 14572 q of seed and 36.68 lakh saplings of elite material of field/horticultural crops. Twelve seed hub KVKs for pulses (6 in Tamil Nadu, 4 in Andhra Pradesh and 2 in Telangana produced 4164 q of seed (greengram, blackgram, redgram and bengalgram) for supply of quality seed to farmers. KVKs also produced and supplied 248.81 q of bio-fertilizers and 371.24 q of bio-pesticides.

HRD of KVK personnel

Directorates of Extension Education of SAUs and ATARI facilitated technology backstopping and Human Resources Development to KVK scientists through trainings, seminars, workshops *etc*. A total of 45 HRD activities benefitting 2360 KVK staff in the Zone were jointly organized by the three directorates of extension and the Agricultural Technology Application Research Institute.

Cluster Frontline Demonstrations on Pulses and Oilseeds

Cluster Frontline Demonstrations on Pulses under NFSM were organized by 68 KVKs comprising of Tamil Nadu, Andhra Pradesh, Telangana and Puducherry in Zone-X during 2018-19 across three seasons. A total of 6923 FLDs were conducted covering an area of 2880 ha under pulses. Similarly, 3735 cluster frontline demonstrations covering 1524.6 ha were conducted under NMOOP in oilseed crops by 52 KVKs during *kharif* and *rabi* 2018-19. Productivity of pulses and oilseeds realized in FLDs was higher than the district/ state averages indicating potential for bridging the yield gap.

National Innovations in Climate Resilience Agriculture (NICRA)

Technology demonstration component of NICRA project in Zone-X implemented by 11 KVKs demonstrated climate resilient agricultural technologies and practices across the three states. Under the project, KVKs conducted 7060 demonstrations in four modules *viz*., NRM (1903), crop production (3422), livestock and fisheries (1735). Under institutional interventions 439 farmers were covered under custom hiring, seed and fodder bank activities. NICRA KVKs undertook capacity building training of 139 farmers and created awareness among 3897 farmers on climate resilient practices and technologies.

Attracting and Retaining Youth in Agriculture (ARYA)

ARYA project was implemented by three KVKs of the zone (Nellore, Nalgonda-Kampasagar and Kanyakumari) during the year 2018-19. Ninety eight enterprise units were established empowering 206 youth. Fifteen skill training programmes were conducted covering 613 youth.

Farmer FIRST Project (FFP)

Four ICAR Institutes (IIMR, IIOPR, IIOR and CRIDA) and one University (TANUVAS) implemented Farmer FIRST project. FFP Centers undertook 24 crop interventions covering 2670 ha area and 2972 households in operational villages. Horticultural interventions were implemented in 417 ha covering 1174 households. Fifteen natural resource management (NRM) interventions were implemented in 3104 ha area benefiting 2542 households. A total of 27 interventions related to introduction of superior fodder varieties, demonstration of backyard poultry breeds, introduction of mineral and nutrient mixtures, oestrous synchronization protocols, animal health camps, breed improvement in sheep and goats *etc*., were taken up under livestock covering 2720 households. The FFP centres promoted custom hiring of farm machinery, implements for drudgery reduction, primary processing of millets, community hatchery units among target households.

Tribal Sub Plan (TSP)

The Tribal Sub Plan (TSP) aimed at ameliorating the socio-economic conditions of tribal communities was implemented by 10 KVKs in the zone (6 in Andhra Pradesh and 4 in Telangana) and facilitated creation of 1498 assets/ micro-enterprises and provided income generating opportunities to 2351 tribals. Skill development trainings (30) were imparted to 868 beneficiaries.

Creation of awareness

Fifty five KVKs organized awareness programmes on Protection of Plant Varieties and Farmers Rights Act (PPV&FRA) to cover 29609 farmers, extension personnel and scientists.

Swachhta Hi Sewa program was implemented by 68 KVKs during the period (15-9-2018 to 2-10-2018) in which KVKs performed *shramdhan* in 546 villages and contributed towards cleanliness and hygiene in adopted villages/ public places

As part of World Soil Day celebrations on 5th December, 2017, 9278 soil health cards were distributed to farmers by Hon'ble Members of Parliament (MPs) and Members of Legislative Assembly (MLAs) and Government officials.

Under *Mera Gaon Mera Gaurav* (MGMG) programme,a total of 292 scientists through 68 teams from 7 ICAR research Institutes adopted 283 villages and implemented various activities. Scientists under took 795 interface meetings covering 10233 farmers and farm women. A total of 1690 awareness cum demonstration programmes and 91
training programmes on agriculture, animal husbandry, poultry and improved implements were conducted.

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 successfultransfer ofeconomically viable and socially acceptabletechnologiesgenerated 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 was 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 Front Line 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. The status of the ZPDs was changed 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 was re-designated as "Agricultural Technology

Application Research Institute (ATARI). Further, ICAR reorganized the 8 ATARIs into 11 with revised jurisdiction of states. ATARI, Hyderabad is re-designated as Zone-X for coordination of KVKs in Andhra Pradesh, Telangana, Tamil Nadu andPuducherry. In XII plan, 11 additional KVKs were sanctioned out of which six were established in Andhra Pradesh and Telangana.

Mandates of ATARI

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 providenecessary and timely information on weather, markets and solutions to various day to day problems faced by farmers.

Mandates of KVKs

- 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 farmers' 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

The sanctioned strength of KVKs in Zone-X is 74 out of which 70 are in operation during 2018-19.

The state-wise KVKs include 32 in Tamil Nadu, 24 in Andhra Pradesh, 16 in Telangana and two in Puducherry. Out of 32 KVKs in Tamil Nadu, 19 are with SAUs (14 with TNAU, 4 with TANUVAS and one with TNJFU), two with DU, nine with NGOs and two are non functional. Of the 24 KVKs in Andhra Pradesh, 18 are with SAUs (13 with ANGRAU, 4 with Dr YSRHU and 1 with SVVU), two with ICAR (ICAR-CTRI) and four are with NGOs.Of the 16 KVKs in Telangana,10 KVKs are with SAUs (8 with PJTSAU, 1 each with SKLBTSHU and PVNRTSVU) one with ICAR (ICAR-CRIDA) and 5 with NGOs. In Puducherry, both the KVKs are administered by State Department of Agriculture.

Table 2.1.1.Status of KVKs

State	No.ofrural districts	No.of KVKs					
		SAU	ICAR	NGO	DU	SDA	Total
Tamil Nadu	32	19	-	11	2	-	32
Andhra Pradesh	13	18	2	4	-	-	24
Telangana	33	10	1	5	-	-	16
Puducherry	4	-	-	-	-	2	2
Total	**82**	**47**	**3**	**20**	**2**	**2**	**74**

2.2 Staff

The details of staff position of KVKs in different states is given in Table 2.2.1. The total sanctioned staff strength of KVKs in Zone-X stands at 1136, out of which 833 positions are filled. Scientific staff strength is 314 out of 426 sanctioned strength..

Table 2.2.1Consolidated staff position

Category	Tamil Nadu			Andhra Pradesh			Telangana			Puducherry			Total		
	S	F	V	S	F	V	S	F	V	S	F	V	S	F	V
Programme Coordinator	30	26	3	23	21	2	16	11	5	2	1	1	71	59	11
Subject Matter Specialist	180	137	37	138	100	38	96	73	22	12	4	8	426	314	105
Farm Manager	30	25	4	23	16	6	16	10	6	2	2	Nil	71	53	16
PA (Computer)	30	27	2	23	12	10	16	10	6	2	2	Nil	71	51	18
PA (Lab Tech)	30	25	4	23	11	11	16	7	8	2	2	Nil	71	45	23
Assistant	30	27	2	23	19	4	16	15	1	2	0	2	71	61	9
Stenographer (Grade-III)	30	26	3	23	16	6	16	9	7	2	1	1	71	52	17
Driver	60	48	8	46	24	19	32	18	11	4	2	2	142	92	40
SSS	60	48	10	46	28	19	32	27	6	4	3	1	142	106	36
Total	**480**	**389**	**73**	**368**	**247**	**115**	**256**	**180**	**72**	**32**	**17**	**15**	**1136**	**833**	**275**

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 Tables 2.3.1 to 2.3.4. 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.

Table2.3.1.Details of infrastructure available with KVKs in Tamil Nadu

S.No.	KVK	Land area (ha)	Admin Building	Farmers Hostel	Staff Quarters	Soil & Water Testing Lab	Mini Soil Testing Kit	Jeep	Tractor	Two wheeler	No. of Demo Units
1	Ariyalur	20.00	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	21
2	Coimbatore	20.50	Yes	Yes	Yes	yes	Yes	Yes	Yes	Yes	25
3	Cuddalore	20.00	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	8
4	Dharmapuri	16.16	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	0
5	Dindigul	20.00	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	14
6	Erode	22.00	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	31
7	Kancheepuram	20.00	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	5
8	Kanyakumari	18.67	Yes	No	No	Yes	Yes	Yes	Yes	Yes	8
9	Karur	21.51	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	9
10	Krishnagiri	12.08	Yes	Yes	No	No	Yes	Yes	Yes	Yes	6
11	Madurai	21.81	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	10
12	Nagapattinam	22.67	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	15
13	Namakkal	20.00	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	18
14	Perambalur	21.54	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	9
15	Pudukkottai	23.20	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	7
16	Ramanathapuram	6.12	Yes	Yes	No	Yes	Yes	Yes	No	Yes	3
17	Salem	9.95	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	17
18	Sivagangai	17.95	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	3
19	Theni	21.58	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	1
20	Thiruvarur	18.66	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	8
21	Tirunelveli	20.00	Yes	Yes	Yes	Yes	No	No	Yes	Yes	7
22	Thiruvallur	16.00	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	8
23	Thiruvannamalai	20.47	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	12
24	Tiruchirappalli	20.00	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	4
25	Thoothukudi	20.00	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	11
26	Vellore	24.15	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	11
27	Villupuram	16.80	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	9
28	Villupuram-II	20.00	No	No	No	No	No	No	No	No	0
29	Virudhunagar	16.00	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	2

Table2.3.2.Details of infrastructure available with KVKs in Andhra Pradesh

S.No.	KVK	Land with KVK (ha)	Admin Building	Farmers Hostel	Staff Quarters	Soil & Water Testing Lab	Mini Soil Testing Kit	Jeep	Tractor	Two wheeler	No. of Demo Units
1	Ananthapuram (Reddipalli)	21.25	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	13
2	Ananthapuram (Kalyandurg)	20.00	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	7
3	Chittoor (Kalikiri)	20.26	No	No	No	No	Yes	Yes	Yes	Yes	6
4	Chittoor (Vanasthali (RASS))	20.00	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	3
5	East Godavari (Kalavacharla)	14.37	Yes	Yes	Yes	Yes	Yes	No	Yes	No	7
6	East Godavari (Pandirimamidi)	19.40	Yes	Yes	No	No	Yes	Yes	Yes	No	0
7	Guntur (Lam)	59.02	Yes	No	No	Yes	Yes	Yes	Yes	Yes	10
8	Kadapa (Utukur)	10.00	Yes	Yes	Yes	No	Yes	Yes	No	Yes	6
9	Kadapa (Vonipenta)	42.36	No	Yes	No	No	No	Yes	No	Yes	1
10	Krishna (Garikapadu)	20.00	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	6
11	Krishna (Ghantasala)	15.40	No	No	No	No	Yes	Yes	Yes	Yes	2
12	Kurnool (Banavasi)	43.90	Yes	Yes	No	Yes	Yes	Yes	Yes	No	6
13	Kurnool (Yagantipalle)	20.00	Yes	Yes	Yes	Yes	No	Yes	Yes	Yes	2
14	Nellore (Nellore)	24.00	Yes	Yes	Yes	Yes	Yes	No	Yes	Yes	6
15	Nellore (Periyavaram)	22.80	Yes	No	No	Yes	Yes	No	No	Yes	11
16	Prakasam (Darsi)	20.00	No	Yes	No	Yes	Yes	No	Yes	Yes	6
17	Prakasam (Kandukur)	20.00	No	No	No	No	Yes	Yes	Yes	No	1
18	Srikakulam (Amadalavalasa)	19.15	Yes	Yes	No	Yes	Yes	Yes	Yes	No	11
19	Visakhapatnam (Haripuram)	40.00	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	18
20	Visakhapatnam (Kondempudi)	20.00	No	No	No	No	No	Yes	No	Yes	2
21	Vizianagaram (Rastakuntubai)	0.00	Yes	No	No	Yes	Yes	No	Yes	Yes	9
22	West Godavari (Undi)	20.00	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	6
23	West Godavari (Venkataramannagudem)	20.00	Yes	Yes	No	No	Yes	Yes	Yes	No	1

Table 2.3.3.Details of infrastructure available with KVKs in Telangana

S.No.	KVK	Land area (ha)	Admin Building	Farmers Hostel	Staff Quarters	Soil & Water Testing Lab	Mini Soil Testing Kit	Jeep	Tractor	Two wheeler	No. of Demo Units
1	Adilabad (Adilabad)	5.60	No	No	No	Yes	Yes	No	Yes	Yes	2
2	Karimnagar (Jammikunta)	25.40	yes	Yes	Yes	Yes	Yes	Yes	Yes	No	18
3	Karimnagar (Ramagirikhilla)	25.60	Yes	Yes	No	No	Yes	Yes	Yes	No	2
4	Kothagudam (Bahadradri)	20.83	0	0	0	0	0	0	0	0	0
5	Kammam (Wyra)	13.38	Yes	Yes	No	No	Yes	Yes	Yes	Yes	16
6	Nagarkurnool (Palem)	21.26	Yes	Yes	No	No	Yes	Yes	Yes	No	0
7	Mahaboobnagar (Madanapuram)	20.00	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	4
8	Mancherial (Bellampalli)	20.00	No	No	No	No	No	Yes	No	Yes	1
9	Sangareddy (Zaheerabad)	26.00	YES	YES	YES	YES	YES	YES	YES	NO	14
10	Medak (Tuniki)	13.20	No	No	No	No	No	Yes	No	No	3
11	Suryapet (Gaddipally)	20.00	Yes	Yes	Yes	Yes	Yes	No	No	No	17
12	Nalgonda (Kampasagar)	20.00	Yes	Yes	No	No	Yes	Yes	Yes	Yes	5
13	Nizamabad (Rudrur)	20.00	Yes	Yes	Yes	No	Yes	No	Yes	Yes	0
14	Ranga Reddy (Ranga Reddy)	25.00	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	10
15	Warangal (Malyal)	18.40	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	9
16	Warangal (Mamnoor)	20.00	Yes	Yes	0	0	Yes	Yes	Yes	0	3

Table 2.3.4.Details of infrastructure available with KVKs in Puducherry

S.No.	KVK	Land area (ha)	Admin Building	Farmers Hostel	Staff Quarters	Soil &Water Testing Lab	Mini Soil Testing Kit	Jeep	Tractor	Two wheeler	No. of Demo Units
1	Puducherry (Kurumbapet)	58.00	Yes	No	No	Yes	Yes	Yes	Yes	Yes	13
2	Karaikal (Madur)	24.38	Yes	No	No	No	Yes	No	Yes	Yes	4

2.4. Revolving Fund

The total revolving fund generated by KVKs in the Zone-X is Rs.912.29 lakhs of which Rs.214.10 lakhs is generated by KVKs in Tamil Nadu, Rs.418.51 lakhs by KVKs in Andhra Pradesh, Rs.261.24 lakhs by KVKs in Telangana and Rs.18.44 lakhs by KVKs in Puducherry (Table2.4.1.).KVKwise status is given in Tables 2.4.2 to 2.4.5.

Table 2.4.1.Status of revolving fund (Rs. in lakhs)

State	Balance on 31.03.2019
Tamil Nadu	214.10
Andhra Pradesh	418.51
Telangana	261.24
Puducherry	18.44
Total	**912.29**

Table 2.4.2.Status of revolving fund in KVKs of Tamil Nadu (Rs. In lakhs)

KVK	Balance on 31.03.2019	KVK	Balance on 31.03.2019
Ariyalur	4.46	Ramanathapuram	0.41
Coimbatore	16.79	Salem	1.82
Cuddalore	4.64	Sivagangai	7.30
Dharmapuri	18.29	Theni	3.35
Dindigul	7.28	Thiruvarur	1.12
Erode	6.35	Tirunelveli	1.72
Kancheepuram	5.60	Thiruvallur	3.67
Kanyakumari	7.81	Thiruvannamalai	7.14
Karur	7.83	Tiruchirappalli	1.54
Krishnagiri	8.05	Thoothukudi	5.95
Madurai	7.61	Vellore	16.74
Nagapattinam	1.88	Villupuram	4.22
Namakkal	34.97	Villupuram-II	0.00
Perambalur	18.40	Virudhunagar	3.91
Pudukkottai	5.26	**Total**	**214.10**

Table 2.4.3.Status of revolving fund in KVKs of Andhra Pradesh (Rs. In lakhs)

KVK	Balance on 31.03.2019	KVK	Balance on 31.03.2019
Ananthapuram(Reddipalli)	13.24	Kurnool (Yagantipalle)	8.46
Ananthapuram(Kalyandurg)	2.60	Nellore (Nellore)	2.53
Chittoor (Kalikiri)	4.07	Nellore (Periyavaram)	10.05
Chittoor (Vanasthali (RASS))	53.06	Prakasam(Darsi)	8.12
East Godavari (Kalavacharla)	14.29	Prakasam(Kandukur)	2.14
East Godavari (Pandirimamidi)	49.57	Srikakulam (Amadalavalasa)	14.41
Guntur (Lam)	9.77	Visakhapatnam (Haripuram)	49.74
Kadapa (Utukur)	16.53	Visakhapatnam (Kondempudi)	0.12
Kadapa (Vonipenta)	1.56	Vizianagaram(Rastakuntubai)	7.44
Krishna (Garikapadu)	11.04	West Godavari (Undi)	6.10
Krishna (Ghantasala)	16.83	West Godavari (Venkataramannagudem)	109.83
Kurnool (Banavasi)	7.01	**Total**	418.51

Table2.4.4. Status of revolving fund in KVKs of Telangana (Rs. In lakhs)

KVK	Balance on 31.03.2019	KVK	Balance on 31.03.2019
Adilabad (Adilabad)	18.73	Sangareddy (Zaheerabad)	
Karimnagar (Jammikunta)	28.33	Medak (Tuniki)	4.07
Karimnagar (Ramagirikhilla)	1.01	Suryapet (Gaddipally)	70.16
Kothagudam (Bahadradri)	3.79	Nalgonda (Kampasagar)	20.60
Kammam (Wyra)	74.95	Nizamabad (Rudrur)	22.28
Nagarkurnool (Palem)	13.83	Ranga Reddy (Ranga Reddy)	4.21
Mahaboobnagar (Madanapuram)	11.77	Warangal (Malyal)	28.31
Mancherial (Bellampalli)	3.10	Warangal (Mamnoor)	
		Total	**261.24**

Table 2.4.5. Status of revolving fund in KVKs of Puducherry (Rs. In lakhs)

KVK	Balance on 31.3.2018
Karaikal	4.71
Puducherry	13.73
Total	**18.44**

2.5 Scientific Advisory Committee (SAC) Meetings

A total of 69 Scientific Advisory Committee meetings were conducted by KVKs (Table 2.5.1).

2.5.1. Details of SAC meetings conducted in Zone-X

State	No. of operational KVKs	No. of SAC Meetings Conducted
Tamil Nadu*	29	28
Andhra Pradesh	23	23
Telangana	16	16
Puducherry	2	2
Total	**70**	**69**

***Villupuram II-New KVK**

3. ACHIEVEMENTS

3.1 Technology Assessment

During the year, KVKs in Zone-X assessed 810 technologies in 3939 trials conducted at different locations on farmers fields (Table 3.1.1). The technologies included 625 on crops, 109 on animals 45 on women empowerment, 20 technologies on Enterprises and 4 on ICT.

The major crop technologies were in the thematic areas of varietal evaluation (206), integrated pest management (101), integrated nutrient management (71), integrated crop management (53) and integrated disease management (46) (Table 3.1.2). In the animals category, major technologies assessed were in the thematic areas of evaluation of breeds (26), disease management (15), feed and fodder management (19) and nutrition management (15). Drudgery reduction (16) and health and nutrition (6) were the major thematic areas assessed under women empowerment.

Table3.1.1.Details of technologies assessed by KVKs in Zone-X

Category	No. of Technologies	No. of Trials	No. of KVKs
Tamil Nadu			
Crops	164	806	27
Animals	40	184	17
Women Empowerment	8	23	2
Enterprises	5	30	4
ICT	4	16	3
Total (Tamil Nadu)	**221**	**1059**	**-**
Andhra Pradesh			
Crops	308	1429	22
Animals	48	379	15
Women Empowerment	22	102	9
Enterprises	7	48	6
Total (Andhra Pradesh)	**385**	**1958**	**-**
Telangana			
Crops	149	683	15
Animals	20	91	7
Women Empowerment	13	85	5
Enterprises	8	22	5
Extension	7	7	1
Total (Telangana)	**197**	**888**	**-**
Puducherry			
Crops	4	18	1
Animals	1	3	1
Women Empowerment	2	13	1
Total (Puducherry)	**7**	**34**	**-**
Grand Total	**810**	**3939**	

Table3.1.2. Details of thematic area wise technologies assessed by KVKs in Zone-X

Thematic Areas	No. of Technologies	No. of Trials	No. of KVKs
Crops			
Varietal Evaluation	206	1002	59
Integrated Nutrient Management	71	458	33
Integrated Crop Management	53	247	24
Integrated Pest Management	101	404	48
Integrated Disease Management	46	245	27
Weed Management	16	81	9
Cropping Systems	8	34	7
Farm Management	2	25	1
Integrated Farming System	5	21	4
Seed / Plant production	2	8	2
Resource Conservation Technology	24	138	18
Post Harvest Technology/Value addition	23	83	14
Storage Technique	16	61	12
Farm Mechanization	24	65	12
Drudgery reduction (General)	23	47	13
Small Scale Income Generation Enterprise	5	17	3
Total (Crops)	**625**	**2936**	**-**
Animals			
Disease Management	15	116	13
Evaluation of Breeds	26	154	25
Feed and Fodder management	19	91	14
Nutrition Management	15	123	13
Production and Management	33	168	21
Processing and value addition	1	5	1
Total (Animals)	**109**	**657**	**-**
Women empowerment			
Drudgery Reduction (Women specific)	16	84	10
Entrepreneurship Development	8	39	5
Health and Nutrition	6	51	4
Value Addition	15	49	8
Total (Women empowerment)	**45**	**223**	**-**
Enterprises			
Entrepreneurship Development	1	1	1
Health and Nutrition	2	8	2
Small scale income generation	5	23	3
Storage techniques	3	30	3
House hold food security	1	1	1
Organic farming	4	16	2
Mechanization	1	5	1
Value Addition	3	16	3
Total (Enterprises)	**20**	**100**	**-**

Thematic Areas	No. of Technologies	No. of Trials	No. of KVKs
ICT	**4**	**16**	**3**
Extension Studies	**7**	**7**	**1**
Grand Total	**810**	**3939**	**-**

In Tamil Nadu, 164 crop based technologies were assessed for their suitability in 806 locations, 40 technologies on animals in 184 locations, 8 technologies on empowerment of women in 23 locations, 5 technologies on Enterprises in 30 locations and 4 technologies on ICT in 16 locations. The KVKs of Andhra Pradesh assessed the suitability of 308 crop based technologies in 1429 locations, 48 animal based technologies in 379 locations, 22 technologies for women empowerment in 102 locations and 7 technologies on enterprises in 48 locations. In Telangana, 149 crop based technologies were assessed for their suitability in 683 locations, 20 animal based technologies in 91 locations, 13 technologies for the empowerment of women in 85 locations, 8 technologies for Enterprises in 22 locations and 7 Extension technologies in 7 locations. In Puducherry, 4 crop based technologies were assessed for their suitability in 18 locations, in animals 1 technology with 3 locations and 2 women empowerment technologies in 13 locations.

Table3.1.3. Details of thematic area wise assessment of technologies in Tamil Nadu

Thematic Areas	No. of Technologies	No. of Trials	No. of KVKs
Crops			
Varietal Evaluation	92	461	27
Integrated Nutrient Management	11	55	8
Integrated Crop Management	7	30	5
Integrated Pest Management	20	77	15
Integrated Disease Management	12	68	10
Farm Management	2	25	1
Resource Conservation Technology	8	44	7
Post Harvest Technology/Value addition	9	31	7
Small Scale Income Generation Enterprise	3	15	2
Total (Crops)	**164**	**806**	**27**
Animals			
Disease Management	5	41	4
Evaluation of Breeds	13	69	13
Production and Management	21	69	10
Processing and value addition	1	5	1
Total (Animals)	**40**	**184**	**17**
Women empowerment			
Value Addition	8	23	2
Total (Women Empowerment)	**8**	**23**	**2**
Enterprises			
Health and Nutrition	1	5	1
Small scale income generation	1	5	1
Mechanization	1	5	1
Value Addition	2	15	2
Total (Enterprises)	**5**	**30**	**4**
ICT	4	16	**3**
Grand (Total)	**221**	**1059**	**-**

Table 3.1.4.Details of thematic area wise assessment of technologies in Andhra Pradesh

Thematic Areas	No. of Technologies	No. of Trials	No. of KVKs
Crops			
Varietal Evaluation	93	457	22
Integrated Nutrient Management	38	214	15
Integrated Crop Management	31	175	12
Integrated Pest Management	44	168	17
Integrated Disease Management	21	111	9
Weed Management	14	69	8
Cropping Systems	4	16	4
Integrated Farming System	4	16	3
Seed / Plant production	2	8	2
Resource Conservation Technology	6	52	5
Post Harvest Technology/Value addition	2	11	2
Storage Technique	16	61	12
Farm Mechanization	12	26	6
Drudgery reduction (General)	19	43	10
Small Scale Income Generation Enterprise	2	2	1
Total (Crops)	**308**	**1429**	**22**
Animals			
Disease Management	6	60	6
Evaluation of Breeds	10	77	8
Feed and Fodder management	13	72	10
Nutrition Management	12	90	10
Production and Management	7	80	7
Total (Animals)	**48**	**379**	**15**
Women empowerment			
Drudgery Reduction (Women specific)	14	77	8
Entrepreneurship Development	4	8	3
Health and Nutrition	2	16	2
Value Addition	2	1	2
Total (Women Empowerment)	**22**	**102**	9
Enterprises			
Small scale income generation	2	16	1
Storage techniques	3	30	3
House hold food security	1	1	1
Organic farming	1	1	1
Total (Enterprises)	**7**	**48**	**6**
Grand Total	**385**	**1958**	-

Table 3.1.5.Details of thematic area wise assessment of technologies in Telangana

Thematic Areas	No. of Technologies	No. of Trials	No. of KVKs
Crops			
Varietal Evaluation	21	84	10
Integrated Nutrient Management	22	189	10
Integrated Crop Management	15	42	7
Integrated Pest Management	35	149	15
Integrated Disease Management	13	66	8
Weed Management	2	12	1

Cropping Systems	4	18	3
Integrated Farming System	1	5	1
Resource Conservation Technology	10	42	6
Post Harvest Technology/Value addition	10	33	4
Farm Mechanization	12	39	6
Drudgery reduction (General)	4	4	3
Total (Crops)	**149**	**683**	**15**
Animals			
Disease Management	4	15	3
Evaluation of Breeds	2	5	3
Feed and Fodder management	6	19	4
Nutrition Management	3	33	3
Production and Management	5	19	4
Total (Animals)	**20**	**91**	7
Women empowerment			
Drudgery Reduction (Women specific)	2	7	2
Entrepreneurship Development	4	31	2
Health and Nutrition	3	25	1
Value Addition	4	22	3
Total (Women Empowerment)	**13**	**85**	5
Enterprises			
Entrepreneurship Development	1	1	1
Health and Nutrition	1	3	1
Small scale income generation	2	2	1
Organic farming	3	15	1
Value Addition	1	1	1
Total (Enterprises)	**8**	**22**	**5**
Extension Studies	**7**	**7**	**1**
Grand Total	**197**	**888**	-

Table 3.1.6 Details of thematic area wise technologies assessed by KVKs in Puducherry

Thematic Areas	No. of Technologies	No. of Trials	No. of KVKs
Crops			
Integrated Pest Management	2	10	**1**
Postharvest Technology/Value addition	2	8	**1**
Total (Crops)	**4**	**18**	**1**
Animals			
Evaluation of Breeds	1	3	1
Total (Animals)	**1**	**3**	**1**
Women empowerment			
Health and Nutrition	1	10	1
Value Addition	1	3	1
Total (Women Empowerment)	**2**	**13**	**1**
Grand Total	**7**	**34**	**-**

3.2 Frontline Demonstrations (FLDs)

Frontline Demonstrationswere organized by the KVKs to demonstrate the production potential of crop varieties, crop and animal husbandry technologies and agricultural implements atseveral location-specificfarming/agro-ecologicalsituations. Training programmes and field days wereorganized for extension workers and farmers for rapiddissemination of improved technologies.

3.2.1 Field crops

A total of 10310 demonstrations covering 4131 ha were organized by KVKs in Zone-X covering cereals, millets, pulses, oilseeds, commercial crops, fodder crops, vegetables, fruits, flowers, spices, plantation crops and medicinal plants (Table 3.2.1). Among the crops, maximum demonstrations were conducted in rice (1229). In pulses, out of 3379 demonstrations, 1049 were in redgram. Out of 1398 demonstrations in oilseeds, 875 were in groundnut. Among the commercial crops, out of 496 demonstrations, 385 were in cotton. In Tamil Nadu, out of 2525 demonstrations, 457 were in vegetables and 491 in cereals. In Andhra Pradesh, out of 5213 demonstrations, 837 were in oil seeds, 1894 in pulses, 433 in fruits and 575 in vegetables. Out of the 2494 demonstrations in Telangana, 1095 were in pulses, 487 in cereals and 315 in vegetables. In Puducherry, out of 75 demonstrations, 10 were in pulses, 25 in rice, 5 in vegetables and 20 in millets.

Table 3.2.1.Details of category wise number of FLDs on crops and area in Zone-X

Category and crop	Tamil Nadu		Andhra Pradesh		Telangana		Puducherry		Total	
	No. of Demos	Area (ha)	No. of Demos	Area (ha)	No. of Demos	Area (ha)	No. of Demos	Area (ha)	No. of Demos	Area (ha)
Cereals										
Rice	386	146.0	491	361.0	327	128.0	25	10.0	**1229**	**645.0**
Maize	105	40.0	20	9.0	160	64.0			**285**	**113.0**
Total (Cereals)	**491**	**186.0**	**511**	**370.0**	**487**	**192.0**	**25**	**10.0**	**1514**	**758.0**
Millets										
Barnyard millet	135	52.0					10	4.0	**145**	**56.0**
Finger millet	80	28.0	25	10.0			10	4.0	**115**	**42.0**
Foxtail millet			15	6.0					**15**	**6.0**
Kodomillet	10	4.0							**10**	**4.0**
Little millet	20	8.0							**20**	**8.0**
Pearl millet	60	24.0							**60**	**24.0**
Sorghum	40	16.0	510	204.0					**550**	**220.0**
Total (Millets)	**345**	**132.0**	**550**	**220.0**	**0**	**0.0**	**20**	**8.0**	**915**	**360.0**
Pulses										
Blackgram	140	56.0	840	338.4	100	40.0	10	4.0	**1090**	**438.4**
Chickpea	50	20.0	198	105.0	274	131.2			**522**	**256.2**
Cowpea	80	30.0							**80**	**30.0**
Greengram	45	18.0	320	128.0	228	93.0			**593**	**239.0**
Horsegram	15	6.0							**15**	**6.0**
Moth bean	10	4.0	20	8.0					**30**	**12.0**
Redgram	40	14.0	516	201.0	493	208.0			**1049**	**423.0**
Total (Pulses)	**380**	**148.0**	**1894**	**780.4**	**1095**	**472.2**	**10**	**4.0**	**3379**	**1404.6**
Oil seeds										
Castor	20	8.0			10	4.0			**30**	**12.0**
Groundnut	151	49.9	539	216.0	170	46.0	15	5.0	**875**	**316.9**
Niger			25	10.0					**25**	**10.0**
Safflower					25	10.0			**25**	**10.0**
Sesamum	55	20.0	223	90.0					**278**	**110.0**
Soybean					105	42.0			**105**	**42.0**
Sunflower	10	4.0	50	20.0					**60**	**24.0**
Total Oil Seeds)	**236**	**81.9**	**837**	**336.0**	**310**	**102.0**	**15**	**5.0**	**1398**	**524.9**
Commercial crops										
Cotton	110	51.0	155	61.0	120	48.0			**385**	**160.0**
Mulbery	5	1.0			10	2.0			**15**	**3.0**
Sugarcane	10	6.0	41	18.0					**51**	**24.0**
Sweet corn			10	2.0					**10**	**2.0**
Tobacco	30	11.0	5	2.0					**35**	**13.0**
Total (Commercial Crops)	**155**	**69.0**	**211**	**83.0**	**130**	**50.0**	**0**	**0.0**	**496**	**202.0**
Fodder										
Fodder crops	60	13.0	51	14.0	2	2.0	5	1.0	**118**	**30.0**
Mixed fodder	80	11.2							**80**	**11.2**
Sorghum (fodder)									**0**	**0.0**
Total (Fodder)	**140**	**24.2**	**51**	**14.0**	**2**	**2.0**	**5**	**1.0**	**198**	**41.2**
Vegetables										
Amaranthus	20	5.0							**20**	**5.0**
Bhendi	30	6.0	36	5.4	10	4.0			**76**	**15.4**
Bitter Gourd	20	3.0	15	6.0	20	8.0			**55**	**17.0**
Brinjal	85	25.0	80	24.4	40	16.0	5	2.0	**210**	**67.4**
Cabbage			20	4.0					**20**	**4.0**
Capsicum			1	0.2					**1**	**0.2**
Carrot	10	4.0							**10**	**4.0**
Chilli	75	20.0	225	87.0	95	36.0			**395**	**143.0**
Cucurbits					24	9.6			**24**	**9.6**

Category and crop	Tamil Nadu		Andhra Pradesh		Telangana		Puducherry		Total	
	No. of Demos	Area (ha)	No. of Demos	Area (ha)	No. of Demos	Area (ha)	No. of Demos	Area (ha)	No. of Demos	Area (ha)
Curry leaf					10	4.0			**10**	**4.0**
Drumstick	20	6.0			10	4.0			**30**	**10.0**
Elephant Foot Yam	10	2.0	10	4.0					**20**	**6.0**
French bean	30	4.4	10	5.0					**40**	**9.4**
Lab Lab	24	8.0	30	13.0					**54**	**21.0**
Onion (Aggregatum)	40	10.0							**40**	**10.0**
Onion (Bellary)	30	2.0	15	6.5	20	6.0			**65**	**14.5**
Other Vegetables	20	6.0							**20**	**6.0**
Ridge Gourd	10	1.0	10	4.0	10	4.0			**30**	**9.0**
Snake Gourd	10	2.0	10	2.0					**20**	**4.0**
Taro	3	0.3							**3**	**0.3**
Tomato	20	8.0	113	43.5	76	27.0			**209**	**78.5**
Total (Vegetables)	**457**	**112.7**	**575**	**205.0**	**315**	**118.6**	**5**	**2.0**	**1352**	**438.3**
Fruits										
Acid lime			32	8.0					**32**	**8.0**
Banana	107	30.2	76	29.0	6	4.8			**189**	**64.0**
Citrus			30	9.4	30	12.0			**60**	**21.4**
Grapes	10	4.0							**10**	**4.0**
Guava	10	4.0	35	13.0	10	4.0			**55**	**21.0**
Mango	5	2.0	179	71.4	84	33.2			**268**	**106.6**
Musk melon			15	5.0					**15**	**5.0**
Papaya	10	2.0	10	4.0					**20**	**6.0**
Peach	10	0.6							**10**	**0.6**
Plum	10	0.6							**10**	**0.6**
Pomegranate			22	10.0					**22**	**10.0**
Sweet Orange			10	10.0	10	2.0			**20**	**12.0**
Water melon	20	2.0	24	9.6	10	4.0			**54**	**15.6**
Total (Fruits)	**182**	**45.4**	**433**	**169.4**	**150**	**60.0**	**0**	**0.0**	**765**	**274.8**
Flowers										
Button rose	10	4.0							**10**	**4.0**
Chrysanthemum	10	0.4							**10**	**0.4**
Crossandra	5	0.2							**5**	**0.2**
Ixora	20	2.0							**20**	**2.0**
Jasmine	70	19.0							**70**	**19.0**
Marigold	10	4.0							**10**	**4.0**
Tuberose	20	6.0							**20**	**6.0**
Total (Flowers)	**145**	**35.6**	**0**	**0.0**	**0**	**0.0**	**0**	**0.0**	**145**	**35.6**
Spices										
Ajwain			10	4.0					**10**	**4.0**
Coriander	10	1.0	10	0.2					**20**	**1.2**
Ginger			16	6.0					**16**	**6.0**
Pepper	10	4.0	3	2.0					**13**	**6.0**
Turmeric	25	8.0	33	13.0	10	4.0			**68**	**25.0**
Total (Spices)	**45**	**13.0**	**72**	**25.2**	**10**	**4.0**	**0**	**0.0**	**127**	**42.2**
Medicinal plants										
Coleus	10	2.0							**10**	**2.0**
Total (Medicinal Plants)	10	2.0	0	0.0	0	0.0	0	0.0	**10**	**2.0**
Plantation crops									**0**	**0.0**
Cashew	27	10.8	100	38.0					**127**	**48.8**
Coconut	42	30.0	30	8.0					**72**	**38.0**
Melia dubia	10	2.0							**10**	**2.0**
Total (Plantation Crops)	**79**	**42.8**	**130**	**46.0**	**0**	**0.0**	**0**	**0.0**	**209**	**88.8**
Grand Total	**2525**	**868.4**	**5213**	**2235.0**	**2497**	**998.8**	**75**	**29.0**	**10310**	**4131.2**

Cereals

A total number of 1514 FLDs on varieties, IPM and IDM technologies were conducted in cereal crops in Zone-X. In rice, the average yield increase in the technologies demonstrated ranged from 4% in Andhra Pradesh to 9% in Puducherry while in maize it ranged from 24% in Andhra Pradesh to 8% in Tamil Nadu over the checks (Table 3.2.2).

In Tamil Nadu, 345 FLDs were conducted on six millets and the average yield increase in demonstration plots ranged from 16.0% in Kodo millet to 28.0% in Finger millet and Pearl millet (Table 3.2.6). In Andhra Pradesh 510 FLDs on sorghum revealed an average yield increase of 21.0% over check while in 25 FLDs on finger millet, the average yield increase was 217.0%, 15 FLDs on foxtail millet, the average yield increase was 18.0%.

Millets

In Tamil Nadu, 265 FLDs were conducted on six millets and the average yield increase in demonstration plots ranged from 19.64% in sorghum to 40.80% in foxtail millet (Table 3.2.6).The finger millet variety ML 365 was demonstrated in 45 locations with ICM technologies and recorded an average of 18.38% higher grain yield than the check (Table 3.2.7). The TNAU pearl millet variety CO(Cu) 10 with ICM technologies was demonstrated at 50 locations and it recorded and average yield of 23.71 q/ha which was 22.8% higher than the check. The foxtail millet variety CO 7, barnyard millet variety MDU1 and kodo millet variety CO 3 were demonstrated in 30, 50 and 10 locations respectively along with ICM technologies. The foxtail millet CO 7 recorded an average yield of 15.25q/ha which was 37.37% more than the check.In Andhra Pradesh three FLDs on sorghum revealed an average yield increase of 56.62% over check while in 25 FLDs on finger millet, the average yield increase was 6.90%.

Pulses

Oilseeds

In Tamil Nadu the average yield increase in the 151 demonstrations conducted in 49.9 ha area on groundnut was 25% (Table 3.2.11). In Andhra Pradesh, an average yield increase of 16% was recorded in groundnut through 539 FLDs in 216 ha area. The average yield increase in sesamum was 16% in the demonstrations over checks. The average yield in niger was 16% over the check in 25 demonstrations

conducted in a total area of 10 ha. In Telangana, an average yield increase of 18% was recorded in 170 demonstrations on groundnut while in soybean it was 16% in 105 demonstrations. In Puducherry, 15 demonstrations were conducted on groundnut with an average yield increase of 21%.

Commercial Crops

A total of 456 demonstrations were conducted on cotton, sugarcane, mulberry and tapioca (Table 3.2.13). In cotton, 385 demonstrations were conducted in 160 ha area with an average yield advantage of 20%, 14% and 16% in Tamil Nadu, Andhra Pradesh and Telangana, respectively in the demonstration plots over checks. Sugarcane gave an average yield increase of 30% in the demonstration plots over the checks in Tamil Nadu. 25 demonstrations were held on tapioca in Tamil Nadu with an average yield increase of 28% over the check.

Fodder crops

Horticultural crops

A total of 2615 FLDs were conducted by KVKs in Zone-X covering vegetables, fruits, flowers, spices and condiments and plantation crops (Table 3.2.16). Out of the 1279 demonstrations held in 26 vegetable crops 637 were in Tamil Nadu, 330 in Andhra Pradesh and 282 in Telangana. Among the vegetables, maximum FLDs (339) were conducted in chilli in which 149 were in Andhra Pradesh and 115 in Telangana. The other major vegetables were brinjal (210) and tomato (190). In fruits, out of the 730 FLDs in 10 crops, maximum (275) were in mango in which 195 FLDs were by the KVKs of Andhra Pradesh. In Tamil Nadu, 130 FLDs were conducted in banana where in the total FLDs on banana in the zone was 162. Among the 115 FLDs conducted in 6 flower crops, jasmine was demonstrated in 50 FLDs followed by marigold in 35 FLDs. A total of 150 FLDs were conducted in spices and condiments in which 105 were in turmeric. There were 30 demonstrations on coriander in Tamil Nadu. Out of the 316 demonstrations on 5 plantation crops in Zone-X,

195 were on cashew and among them, 170 FLDs were conducted by KVKs of Andhra Pradesh. There were 71 FLDs in coconut among which 50 were conducted by the KVKs in Tamil Nadu. Fifteen demonstrations were conducted by the KVKs of Tamil Nadu on *Melia dubia*, which is used by the plywood industries.

Vegetables

The average yield increase in chilli demonstrations was 24% in Tamil Nadu(Table 3.2.17). In Tamil Nadu, out of 389 FLDs, brinjal was demonstrated at 85 locations with 17% yield increase over the checks.In Andhra Pradesh, the highest average yield increase of 53% was in bhendi over the check. In Telangana, bitter gourd and brinjal showed an average yield increase of 23% over their respective checks.

Fruits

In Tamil Nadu, among the fruits, maximum of 70 FLDs were conducted on banana with an average yield increase of 24% over the checks (Table 3.2.20). In Andhra Pradesh,179 demonstrations were held in mango with an average yield increase of 36% over the checks. Muskmelon was demonstrated at 15 locations in Andhra Pradesh with the highest mean yield increase of 25% over the checks. In Telangana, the technologies on mango at 84 demonstrations yielded 37% higher fruits than the checks.

Flowers

The technologies demonstrated on jasmine resulted in a maximum average yield increase of 45% over the checks in Tamil Nadu while followed bycrossandra28% (Table 3.2.21). In Tamil Nadu, technologies on jasmine was demonstrated at 17 locations with an average yield increase of 45% over the checks.

Spices and condiments

Out of the 68 FLDs conducted on the varieties and technologies for turmeric in the region, the average yield increase were17%, 20% and 42% in Tamil Nadu, Andhra Pradesh andTelangana, respectively (Table 3.2.22). Ginger gave an average yield increase of 52% in the demonstration plots over their checks in Andhra Pradesh while pepper gave 43% higher average yield over the checks in the 10 demonstrations conducted in Tamil Nadu.

Medicinal Plants

In Tamil Nadu the technologies demonstrated on coleus gave 36% higher yield than the checks.

Plantation crops

In Andhra Pradesh, technologies demonstrated at 38 locations on cashew gave on an average of 27% higher yield than the checks while in cacao. In Tamil Nadu, the technologies demonstrated at 30 locations on coconut gave 16% higher average nut yield than the check.

Table 3.2.2.Performance of cereal crops in the FLDs of Zone-X

State	Crop	No. of Demos	Area (ha)	Yield (q/ha)			Demonstration			Check		
				Demo	Check	Increase (%)	Gross Cost (Rs/ha)	Net Returns (Rs./ha)	BC Ratio	Gross Cost (Rs/ha)	Net Returns (Rs./ha)	BC Ratio
Tamil Nadu	Maize	105	40.0	41	38	8.0	41495	38536	1:1.93	43297	29394	1:1.68
	Rice	386	146.0	158	121	30.0	40273	49974	1:2.24	42317	32625	1:1.77
	Total	**491**	**186.0**									
Andhra Pradesh	Maize	20	9.0	56	45	24.0	32188	49949	1:2.55	32563	34639	1:2.06
	Rice	491	361.0	704	680	4.0	46378	51865	1:2.12	48787	43057	1:1.88
	Total	**511**	**370.0**									
Telangana	Maize	160	64	388	58	565.0	42115	59231	1:2.41	43153	50163	1:2.16
	Rice	327	128	788	726	9.0	40819	59419	1:2.46	40633	41738	1:2.03
	Total	**487**	**192.0**									
Puducherry	Maize											
	Rice	25	10.0	39	36	9.0	44124	37265	1:1.84	48649	15007	1:1.31
	Total	**25**	**10.0**									
Grand Total		**1514**	**758**									

Table 3.2.3.Performance of millet varieties and agro-technologies in FLDs of Zone-X

State	Crop	No. of Demos	Area (ha)	Yield (q/ha)			Demonstration			Check		
				Demo	Check	Increase (%)	Gross Cost (Rs/ha)	Net Returns (Rs./ha)	BC Ratio	Gross Cost (Rs/ha)	Net Returns (Rs./ha)	BC Ratio
Tamil Nadu	Barnyard millet	135	52.0	14.2	11.7	22.0	15452	17866	1:2.16	14619	12878	1:1.88
	Finger millet	80	28.0	20.9	16.4	28.0	20638	31826	1:2.54	20313	17717	1:1.87
	Kodomillet	10	4.0	125.0	108.0	16.0	15250	9750	1:1.64	14200	7400	1:1.52
	Little millet	20	8.0	7.5	6.2	22.0	9164	9674	1:2.06	8258	5374	1:1.65
	Pearl millet	60	24.0	23.6	18.4	28.0	18193	22876	1:2.26	17612	12129	1:1.69
	Sorghum	40	16.0	25.9	20.5	26.0	26171	42723	1:2.63	24951	24758	1:1.99
	Total	**345**	**132.0**									
Andhra Pradesh	Finger millet	25	10.0	16.3	5.1	217.0	13750	18750	1:2.36	16250	4270	1:1.26
	Foxtail millet	15	6.0	8.7	7.4	18.0	7500	13380	1:2.78	8900	8860	1:2
	Sorghum	510	204.0	25.2	20.8	21.0	16502	36545	1:3.21	15918	26043	1:2.64
	Total	**550**	**220.0**									

Table 3.2.4. Performance of pulses in the FLDs of Zone-X

State	Crop	No. of Demos	Area (ha)	Yield (q/ha)			Demonstration			Check		
				Demo	Check	Increase (%)	Gross Cost (Rs/ha)	Net Returns (Rs./ha)	BC Ratio	Gross Cost (Rs/ha)	Net Returns (Rs./ha)	BC Ratio
Tamil Nadu												
	Blackgram	120	48.0	8.3	6.4	30.0	22050	30309	1:2.37	21048	19394	1:1.92
	Chick pea	50	20.0	11.4	10.3	11.0	54680	39525	1:1.72	58425	26650	1:1.46
	Cowpea	80	30.0	115.2	94.5	22.0	23879	37069	1:2.55	24559	29283	1:2.19
	Greengram	45	18.0	7.2	6.0	18.0	15450	18249	1:2.18	14882	12591	1:1.85
	Horsegram	15	6.0	8.1	6.7	21.0	10069	10163	1:2.01	9271	6077	1:1.66
	Redgram	40	14.0	11.0	9.3	18.0	26556	30568	1:2.15	27092	17940	1:1.66
	Total	**350**	**136**									
Andhra Pradesh												
	Blackgram	840	338.4	197.1	165.5	19.0	24928	40474	1:2.62	27092	29013	1:2.07
	Chickpea	198	105.0	187.6	120.6	56.0	33827	20317	1:1.6	33334	15335	1:1.46
	Greengram	320	128.0	127.3	99.7	28.0	20746	25662	1:2.24	20215	17981	1:1.89
	Redgram	516	201.0	133.6	113.3	18.0	18467	19685	1:2.07	17932	13500	1:1.75
	Total	**1874**	**772.4**									
Telangana												
	Blackgram	50	20.0	13.2	11.1	19.0	74043	58727	1:1.79	62283	45007	1:1.72
	Chickpea	324	151.2	18.5	15.6	18.0	35891	61861	1:2.72	33943	47638	1:2.4
	Greengram	228	93.0	9.0	7.3	24.0	27053	28574	1:2.06	25059	20495	1:1.82
	Redgram	493	208.0	12.5	10.7	17.0	34880	41520	1:2.19	34333	29918	1:1.87
	Total	**1095**	**472.2**									
Puducherry												
	Blackgram	10	4.0	10.3	8.8	18.0	18141	33534	1:2.85	18952	24983	1:2.32
	Total	**10**	**4.0**									
Grand Total		**3329**	**1384**									

Table 3.2.5.Performance of oil seeds in the FLDs of Zone-X

State	Crop	No. of Demos	Area (ha)	Yield (q/ha)			Demonstration			Check		
				Demo	Check	Increase (%)	Gross Cost (Rs/ha)	Net Returns (Rs./ha)	BC Ratio	Gross Cost (Rs/ha)	Net Returns (Rs./ha)	BC Ratio
Tamil Nadu												
	Castor	20	8.0	17.1	13.2	30.0	23771	47742	1:3.01	20376	37042	1:2.82
	Groundnut	151	49.9	19.1	15.3	25.0	44623	45175	1:2.01	44822	27557	1:1.61
	Sesamum	55	20.0	5.5	4.7	17.0	17537	21813	1:2.24	17358	15392	1:1.89
	Sunflower	10	4.0	1100.0	980.0	12.0	22500	27000	1:2.2	22400	21700	1:1.97
	Total	**236**	**81.9**									
Andhra Pradesh												
	Groundnut	539	216.0	342.3	296.0	16.0	40444	42426	1:2.05	40929	33472	1:1.82
	Niger	25	10.0	3.6	3.1	16.0	10500	2002	1:1.19	9500	1245	1:1.13
	Sesamum	223	90.0	148.9	113.4	31.0	12611	30753	1:3.44	12215	18807	1:2.54
	Sunflower	50	20.0	1970.0	1250.0	58.0	26410	20340	1:1.77	44710	24660	1:1.55
	Total	**837**	**336.0**									
Telangana												
	Castor	10	4.0	1930.0	1808.0	7.0	42500	15700	1:1.37	42660	11840	1:1.28
	Groundnut	170	46.0	22.6	19.2	18.0	77155	52884	1:1.69	73175	29422	1:1.4
	Safflower	25	10.0	8.8	6.0	46.0	12000	15000	1:2.25	10000	11500	1:2.15
	Soybean	105	42.0	21.9	18.9	16.0	26326	48969	1:2.86	28030	36388	1:2.3
	Total	**310**	**102.0**									
Puducherry												
	Groundnut	15	5.0	38.1	31.5	21.0	73056	114494	1:2.57	72641	92940	1:2.28
	Total	**15**	**5.0**									
Grand Total		**1398**	**525**									

Table 3.2.6.Performance of commercial crops in the FLDs of Zone-X

State	Crop	No. of Demos	Area (ha)	Yield (q/ha)			Demonstration			Check		
				Demo	Check	Increase (%)	Gross Cost (Rs/ha)	Net Returns (Rs./ha)	BC Ratio	Gross Cost (Rs/ha)	Net Returns (Rs./ha)	BC Ratio
Tamil Nadu												
	Cotton	110	51.0	15.6	12.9	20.0	38322	44541	1:2.16	38066	29131	1:1.77
	Mulbery	5	1.0	315.5	243.3	30.0	36970	56560	1:2.53	43370	29460	1:1.68
	Sugarcane	10	6.0	673.5	595.9	13.0	134150	163459	1:2.22	131925	128646	1:1.98
	Tapioca	25	10.0	241.0	189.0	28.0	71919	112481	1:2.56	75490	66110	1:1.88
	Total	**150**	**68**									
Andhra Pradesh												
	Cotton	155	61.0	369.2	323.4	14.0	58407	64966	1:2.11	55472	52384	1:1.94
	Sugarcane	31	14.0	99.7	82.3	21.0	146092	97979	1:1.67	138823	58830	1:1.42
Total		**186**	**75**									
Telangana												
	Cotton	120	48.0	21.0	18.0	16.0	59767	58146	1:1.97	62174	37755	1:1.61
Total		**120**	**48**									

Table 3.2.7. Performance of fodder crops in the FLDs of Zone-X

State	Crop	No. of Demos	Area (ha)	Yield (q/ha)			Demonstration			Check		
				Demo	Check	Increase (%)	Gross Cost (Rs/ha)	Net Returns (Rs./ha)	BC Ratio	Gross Cost (Rs/ha)	Net Returns (Rs./ha)	BC Ratio
Tamil Nadu	Fodder crops	50	11.0	521.0	449.0	16.0	126741	134734	1:2.06	115485	82890	1:1.72
	Mixed fodder	80	11.2	946.0	748.2	26.0	104392	268261	1:3.57	104088	211260	1:3.03
	Total	**130**	**22.2**									
Andhra Pradesh	Fodder crops	51	14.0	783.5	476.0	65.0						
	Total	**51**	**14**									
Telangana	Fodder crops	2	2.0	480.0	360.0	33.0	45000	79000	1:2.76	25000	38000	1:2.52
	Total	**2**	**2**									
Puducherry	Fodder crops	5	1.0	644.0	0.0		106490	127350	1:2.2	0	0	
	Total	**5**	**1**									

Table 3.2.9.Performance of vegetable varieties and agro-technologies in the FLDs of Zone-X

Crop	No. of Demos	Area (ha)	Yield (q/ha)			Demonstration			Check		
			Demo	Check	Increase (%)	Gross Cost (Rs/ha)	Net Returns (Rs./ha)	BC Ratio	Gross Cost (Rs/ha)	Net Returns (Rs./ha)	BC Ratio
Tamil Nadu											
Amaranthus	20	5.0	168.3	134.5	25.0	46490	150572	1:4.24	44563	114064	1:3.56
Bhendi	30	6.0	209.3	160.7	30.0	58930	105503	1:2.79	55797	67837	1:2.22
Bitter Gourd	20	3.0	154.0	131.6	17.0	71504	290872	1:5.07	74463	235537	1:4.16
Brinjal	85	25.0	303.3	259.8	17.0	107849	246436	1:3.29	110985	198208	1:2.79
Carrot	10	4.0	188.5	154.3	22.0	61450	125050	1:3.03	70540	83760	1:2.19
Chilli	20	6.0	150.9	121.4	24.0	65524	136224	1:3.08	66977	87636	1:2.31
Drumstick	20	6.0	133.4	116.9	14.0	85410	155864	1:2.82	87395	124306	1:2.42
French bean	30	4.4	98.5	81.1	22.0	100059	316573	1:4.16	101569	233139	1:3.3
Lab Lab	24	8.0	86.8	74.4	17.0	49492	79898	1:2.61	49825	46202	1:1.93
Onion (Aggregatum)	40	10.0	126.2	102.9	23.0	130964	110253	1:1.84	126221	57022	1:1.45
Onion (Bellary)	30	2.0	146.1	126.6	15.0	112105	212395	1:2.89	211785	106215	1:1.5
Other Vegetables	20	6.0	154.6	137.6	12.0	54194	94206	1:2.74	55138	76946	1:2.4
Ridge Gourd	10	1.0	328.0	225.0	46.0	58000	206400	1:4.56	0	0	
Snake Gourd	10	2.0	625.0	510.0	23.0	65000	175500	1:3.7	72000	130000	1:2.81
Tomato	20	8.0	819.0	723.4	13.0	69141	125752	1:2.82	112555	91721	1:1.81
Total	**389**	**96.4**									
Andhra Pradesh											
Amaranthus											
Bhendi	36	5.4	59.0	38.5	53.0	70250	159750	1:3.27	82600	67400	1:1.82
Bitter Gourd	15	6.0	17.0	16.0	6.0	75440	92560	1:2.23	77540	34460	1:1.44
Brinjal	80	24.4	231.0	200.9	15.0	77800	127628	1:2.64	87428	97694	1:2.12
Cabbage	20	4.0	624.0	486.0	28.0	87500	93800	1:2.07	95600	98800	1:2.03
Capsicum	1	0.2	1200.0			540000	184650	1:1.34			
Elephant Foot Yam	10	4.0	450.3	428.1	5.0	380863	20613	1:1.05	381250	38750	1:1.1
Lab Lab	30	13.0	10166.3	11680.0	-13.0	41350	206775	1:6	68175	155205	1:3.28
Onion (Bellary)	15	6.5	251.3	246.8	2.0	326625	212175	1:1.65	309525	183400	1:1.59
Ridge Gourd	10	4.0	243.0	224.4	8.0	257540	131180	1:1.51	281500	77500	1:1.28
Snake Gourd	10	2.0	562.2	506.0	11.0	183750	269210	1:2.47	191250	213550	1:2.12
Tomato	113	43.5	5647.8	5139.5	10.0	96331	221978	1:3.3	90037	161710	1:2.8
Total	**340**	**113**									
Telangana											
Bhendi	10	4.0	225.0	185.0	22.0	198770	331230	1:2.67	186000	255000	1:2.37

Crop	No. of Demos	Area (ha)	Yield (q/ha)			Demonstration			Check		
			Demo	Check	Increase (%)	Gross Cost (Rs/ha)	Net Returns (Rs./ha)	BC Ratio	Gross Cost (Rs/ha)	Net Returns (Rs./ha)	BC Ratio
Bitter Gourd	20	8.0	330.5	268.8	23.0	146450	289890	1:2.98	136200	220150	1:2.62
Brinjal	40	16.0	383.1	311.8	23.0	185515	231481	1:2.25	202125	170825	1:1.85
Total	70	28									
Puducherry											
Brinjal	5	2.0	300.0	280.0	7.0	62500	1062500	1:18	87500	612500	1:8
Total	**5**	**2.0**									

Table 3.2.10.Performance of fruit varieties and agro-technologies in the FLDs of Zone-X

Crop	No. of Demos	Area (ha)	Yield (q/ha)			Demonstration			Check		
			Demo	Check	Increase (%)	Gross Cost (Rs/ha)	Net Returns (Rs./ha)	BC Ratio	Gross Cost (Rs/ha)	Net Returns (Rs./ha)	BC Ratio
Tamil Nadu											
Banana	70	22.0	426.3	344.2	24.0	206689	508110	1:3.46	203537	368832	1:2.81
Grapes	10	4.0	198.0	180.0	10.0	218750	495250	1:3.26	213000	417000	1:2.96
Guava	10	4.0	209.0	151.0	38.0	70000	150000	1:3.14	75000	76000	1:2.01
Water melon	10	1.0	662.4	655.2	1.0	96450	301036	1:4.12	93302	234334	1:3.51
Total	**100**	**31**									
Andhra Pradesh											
Acid lime	32	8.0	200.0	182.5	10.0	32500	81125	1:3.5	36875	64375	1:2.75
Banana	76	29.0	480.5	452.2	6.0	155900	295800	1:2.9	167300	242644	1:2.45
Citrus	30	9.4	200.0	155.0	29.0	100250	95590	1:1.95	84000	78640	1:1.94
Guava	35	13.0	151.4	128.1	18.0	192375	403125	1:3.1	209750	302954	1:2.44
Mango	179	71.4	114.4	84.3	36.0	49862	152933	1:4.07	47320	107277	1:3.27
Musk melon	15	5.0	300.0	240.0	25.0	150000	120000	1:1.8	120000	70000	1:1.58
Papaya	10	4.0	1000.0	890.0	12.0	491250	408750	1:1.83	480500	322750	1:1.67
Pomegranate	22	10.0	82.8	71.3	16.0	330802	346849	1:2.05	304515	225985	1:1.74
Sweet Orange	10	10.0	7.9	7.5	5.0	74244	84546	1:2.14	82910	77840	1:1.94
Water melon	24	9.6	414.1	186.2	122.0	168511	178599	1:2.06	130156	72776	1:1.56
Total	**433**	**169.4**									
Telangana											
Banana	6	4.8	359.5	312.0	15.0	108000	432000	1:5	120000	468000	1:4.9
Citrus	30	12.0	300.0	250.0	20.0	360000	180000	1:1.5	250000	200000	1:1.8
Guava	10	4.0	148.0	121.0	22.0	124000	467000	1:4.77	125000	359000	1:3.87
Mango	84	33.2	143.7	105.1	37.0	128421	306824	1:3.39	76684	191250	1:3.49
Water melon	10	4.0	450.0	315.0	43.0	155000	205000	1:2.32	130000	106250	1:1.82
Total	**140**	**58**									

Table 3.2.11. Performance of flower varieties and agro-technologies in the FLDs of Zone-X

Crop	No. of Demos	Area (ha)	Yield (q/ha)			Demonstration			Check		
			Demo	Check	Increase (%)	Gross Cost (Rs/ha)	Net Returns (Rs./ha)	BC Ratio	Gross Cost (Rs/ha)	Net Returns (Rs./ha)	BC Ratio
Tamil Nadu											
Button rose	10	4.0	53.8	50.1	7.0	77450	191550	1:3.47	79660	170900	1:3.15
Chrysanthemum	10	0.4	93.0	87.0	7.0	100600	364400	1:4.62	42800	87700	1:3.05
Crossandra	5	0.2	51.8	40.6	28.0	381074	346239	1:1.91	293996	234090	1:1.8
Ixora	20	2.0	33.0	29.8	11.0	78470	155430	1:2.98	81693	129893	1:2.59
Jasmine	60	17.0	65.8	45.5	45.0	97370	223911	1:3.3	95210	168099	1:2.77
Marigold	10	4.0	214.3	186.1	15.0	165475	241934	1:2.46	161360	177297	1:2.1
Tuberose	20	6.0	115.1	90.9	27.0	252400	255563	1:2.01	225190	138130	1:1.61
Total	**135**	**33.6**									

Table 3.2.12. Performance of spices varieties and technologies in the FLDs of Zone-X

State	Crop	No. of Demos	Area (ha)	Yield (q/ha)			Demonstration			Check		
				Demo	Check	Increase (%)	Gross Cost (Rs/ha)	Net Returns (Rs./ha)	BC Ratio	Gross Cost (Rs/ha)	Net Returns (Rs./ha)	BC Ratio
Tamil Nadu												
	Chilli (Dry)	45	12.0	17.0	14.8	15.0	96709	158737	1:2.64	105730	110013	1:2.04
	Pepper	10	4.0	4.6	3.2	43.0	51659	86550	1:2.68	48549	48201	1:1.99
	Turmeric	25	8.0	210.6	180.5	17.0	123446	269049	1:3.18	119711	206743	1:2.73
Total		**80**	**24**									
Andhra Pradesh												
	Ajwain	10	4.0	2.5	1.9	32.0	14875	23039	1:2.55	15250	13379	1:1.88
	Chilli (Dry)	225	87.0	56.2	52.0	8.0	224335	230883	1:2.03	230232	185827	1:1.81
	Ginger	16	6.0	119.5	78.5	52.0	135450	330847	1:3.44	137583	191318	1:2.39
	Pepper	3	2.0	485.3	354.0	37.0	34415	208252	1:7.05	32800	91100	1:3.78
	Turmeric	33	13.0	394.8	329.8	20.0	182925	316315	1:2.73	188775	251241	1:2.33
	Total	**287**	**112**									
Telangana												
	Chilli (Dry)	95	36.0	47.4	41.2	15.0	181832	216022	1:2.19	179877	141618	1:1.79
	Turmeric	10	4.0	78.5	55.2	42.0	120500	287700	1:3.39	108800	178500	1:2.64
	Total	**105**	**40**									

Table 3.2.13. Performance of medicinal crops and technologies in the FLDs of Zone-X

State	Crop	No. of Demos	Area (ha)	Yield (q/ha)			Demonstration			Check		
				Demo	Check	Increase (%)	Gross Cost (Rs/ha)	Net Returns (Rs./ha)	BC Ratio	Gross Cost (Rs/ha)	Net Returns (Rs./ha)	BC Ratio
Tamil Nadu												
	Coleus	10	2.0	174.8	128.5	36.0	68525	368350	1:6.38	65975	321250	1:5.87
	Total	**10**	**2.0**									

Table 3.2.14.Performance of plantation crop varieties and technologies in the FLDs of Zone-X

State	Crop	No. of Demos	Area (ha)	Yield (q/ha)			Demonstration			Check		
				Demo	Check	Increase (%)	Gross Cost (Rs/ha)	Net Returns (Rs./ha)	BC Ratio	Gross Cost (Rs/ha)	Net Returns (Rs./ha)	BC Ratio
Tamil Nadu												
	Cashew	27	10.8	68.9	59.3	16.0	40643	69323	1:2.71	38293	47207	1:2.23
	Coconut	42	30.0	22248.6	19226.7	16.0	61040	114110	1:2.87	59332	92481	1:2.56
Total		**69**	**40.8**									
Andhra Pradesh												
	Cashew	100	38.0	5.2	4.1	27.0	16400	61600	1:4.76	13200	42150	1:4.19
	Coconut	30	8.0	8450.0	7350.0	15.0	10000	57600	1:6.76	9450	18200	1:2.93
Total		**130**	**46**									

3.2.3 Tools and implements

In Zone-X, 33 technologies on the use of tools and implements in various crops were demonstrated through 332 FLDs among which 152 were in Tamil Nadu, 94 in Andhra Pradesh and 86 in Telangana (Table 3.2.24). The demonstrations included land preparation, weeding, intercultural operations, plant protection equipment, harvesting, threshing and post-harvest technologies (Table 3.2.25). Operation wise tools, implements and equipment demonstrated are furnished in Table 3.2.26.

Demonstrations on protective clothing (knitted gloves) was done at 65 locations by four KVKs covering 16.0ha in Telangana to promote comfort while performing the agricultural activities such as cotton picking, vegetable harvest, weeding *etc.* (Table 3.2.27).It was observed that the gloves were easy to wear, time saving, non-sticky to fingers, no itching problem, no drudgery and improved work efficiency.

Table 3.2.15.Crop wise technologies on tools and implements demonstrated in Zone-X

Crop	Tamil Nadu		Andhra Pradesh		Telangana		Total	
	Technologies	Demos	Technologies	Demos	Technologies	Demos	Technologies	Demos
Arecanut	1	10					1	10
Bengalgram	1	10					1	10
Blackgram		10					0	10
Chillies			1	4			1	4
Cotton			1	5	1	5	2	10
Drumstick	1	1					1	1
Groundnut	5	50			1	10	6	60
Maize					3	40	3	40
Marigold			1	5			1	5
Moringa	2	10					2	10
Other	2	20					2	20
Pulses	3	11					3	11
Redgram					1	25	1	25
Rice					1	6	1	6
Tamarind	2	20					2	20
Tapioca	1	10					1	10
Vegetable crops			1	55			1	55
Vegetables			2	10			2	10
Wheat			1	10			1	10
Others			1	5				
Total	**18**	**152**	**8**	**94**	**7**	**86**	**33**	**332**

Table 3.2.16. Field operation wise technologies on tools and implements demonstrated in Zone-X

Name of operation	Tamil Nadu	Andhra Pradesh	Telangana	Total
Land and seed bed preparation	20	15	66	101
Weeding and intercultural operations	20	64		84
Plant protection equipment	20	5	5	30
Harvesting	21	10		31
Threshing	20			20
Postharvest technology	51		15	66
Total	**152**	**94**	**86**	**332**

Table 3.2.17. List of tools and implements demonstrated in the FLDs of Zone-X

Name of the Tool/Implement	No. of Demos	Area (ha)
Bicycle weeder	10	2.5
Chaff Cutter	6	10
Coconut waste Shredder (Tractor Operated)	10	4
Cotton Knitted hand gloves	65	17.4
CRIDA wheel hoe	5	0.4
Double chamber centrifugal de-huller	5	0
Drum Seeder	10	4
Dry land weeder	6	0
Easy transplanter	20	5
Entrepreneur development	15	5
Ferti cum seed drill	6	0.6
Ferti cum seed drill for redgram	14	4
Groundnut Decorticator	20	8
Groundnut Harvester	10	4
Groundnut seed drill	20	8
Groundnut stripper	20	8
House hold Paddy Parboiling drum	0	0
Improved Direct Paddy seeder	10	4
Improved sickles	10	0
Machine Transplanter	20	8
Maize De-husker cum Sheller	10	4
Mango harvester	5	0
Mechanical Weeder	20	9
Millet de-huller	10	0
Mini weeder	20	8
Multi crop thresher	10	1
Onion de-topper	4	1
Power Weeder	6	1
Power weeder for chilli	5	1
Pronged three wheel hoes	11	2.5
Protective Clothing for Pesticide Application	10	2
Pruner for Cashew	5	0
Pulse Seeder	4	1
Rotavator	8	15
Sapling transplanter	10	0.2
Seed drill	10	4
Seed Drill for maize	10	4
Seed Drill for Black gram	10	4
Seed to seed mechanization	40	16
Solar Sprayer in Vegetable Crops	10	4
Sorghum Harvester	10	4
Spiral separator for Pulses	0	0
Sugarcane bud chipper	4	1
Sugarcane Stripper	5	0
Tractor Drawn CRIDA 9 Row Planter	25	10
Transplanter	10	4
Twin wheel hoe for tapioca	5	0.1
Weeder for groundnut	10	4
Weeder for tomato	16	8

3.2.18 Performance of Tools and Implements in the FLDs of Tamil Nadu

Crop	Name of the tool/machinery	No. of Demos	Area (ha)	Parameter compared and unit	Value in Demo	Value in check	% improvement	Gross cost in Demo (Rs.)	Net Income in Demo (Rs.)	BC Ratio in Demo	Gross cost in Check (Rs.)	Net Income in Check (Rs.)	BC Ratio in Check
Black gram	Precision Pulse Seeder	4	1	Capacity (Kg/hr)	0.4			24520	23090	1:1.94	24200	13616	1:1.56
Black gram	Precision seed drill for Black gram	10	4	Reduction in Labour & No.	2000	1000	100	36100	34404	1:1.95	33200	5748	1:1.17
Brinjal	Power weeder	6	1	Weeding time ha/man hour	0.030	0.005	500	127000	368000	1:3.9	133600	368000	1:3.75
Coconut	Tractor operated coconut waste shredder	10	4	Operational cost (Rs)	2033	4120	103						
Groundnut	Groundnut decorticator	10	4	Time consumed in hrs	1.0	4.0	321	39484	23521	1:1.6	38325	13223	1:1.35
Groundnut	Groundnut decorticator	10	4	Labour charge (Rs)	29.7	125.0	321						
Groundnut	Groundnut seed drill	10	4	Time consumed in hrs	1.00	8.00	700						
Groundnut	Groundnut seed drill	10	4	Labour charge (Rs)	1450	2000	38						
Groundnut	Groundnut stripper	10	4	Time consumed in hrs	18.2	96.0	429						
Groundnut	Groundnut stripper	10	4	Labour charge (Rs)	568	3000	429						
Groundnut	TD Groundnut harvester	10	4	Operational cost (Rs)	4540	12054	166	59815	64108	1:2.07	69495	16845	1:1.24
Groundnut	Weeder for Groundnut	10	4	Reduction in Labour & No.	1200	6000	400	29543	59560	1:3.02	39510	52280	1:2.32
Maize	Seed drill for Maize	10	4	Reduction in Labour & No.	2000	7000	250	20450	36550	1:2.79	22125	28550	1:2.29
Millet	Double chamber centrifugal de-huller	5	0	Hulling capacity (kg / hr)	250	1.5	16567						
Onion	Others (Onion De-topper)	4	1	Capacity (Kg/hr)	200	10.6	1783	183875	164875	1:1.9	225375	123375	1:1.55
Paddy	Improved direct paddy seeder	5	2	Efficiency (%)	80	45	78	8300	9700	1:2.17	9700	4300	1:1.44
Paddy	Improved direct paddy seeder	5	2	Efficiency (%)	80	45	78	8300	9700	1:2.17	0	0	
Sorghum	TD Sorghum Harvester	10	4	Operational cost (Rs)	5603	11070	98	32103	55719	1:2.74	32103	45387	1:2.41
Sugar cane	Sugar cane Bud chipping machine	4	1	Bud chipping time (No.)/hr	550	120	358						
Tapioca	Twin wheel hoe	5	0.1	Output per man day	0.2	0.1	138						
Vegetables	Mini weeder	10	4	Time consumed in hrs	1.0	8.0	700						
Vegetables	Mini weeder	10	4	Labour charge	247	2000	711						

Table 3.2.19.FLDs on farm implements conducted by KVKs of Telangana.

Crop	Name of the tool/machinery	No. of Demos	Area (ha)	Parameter compared and unit	Value in Demo	Value in check	% improvement	Gross cost in Demo (Rs.)	Net Income in Demo (Rs.)	BC Ratio in Demo	Gross cost in Check (Rs.)	Net Income in Check (Rs.)	BC Ratio in Check
Chilli	Knitted gloves	10	10	stress factor	25	0		90	1250	1:14.89			
Cotton	Mechanical Weeder	10	4	Field Capacity of the machine	18.8	17.5	7	101250	35375	1:1.35	94500	16125	1:1.17
Groundnut	Rotavator and Seed drill	10	4	Field capacity (ha/hr)	0.44	0.31	42	58625	52280	1:1.89	64730	25389	1:1.39
Groundnut	Ferti cum seed drill	6	0.6	Cost of cultivation	25	22	14	62538	64658	1:2.03	64658	46834	1:1.72
Maize	Maize De-husker cum Sheller	10	4	Cost of operation per day	54	50	9	92267.5	57917.5	1:1.63	85000	39500	1:1.46
Red gram	Rotavator, Seed drill and Mechanical Harvester	10	4	Field capacity (ha/hr)	0.52	0.36	44	33885	30115	1:1.89	37403	17886	1:1.48
Rice	Drum Seeder	10	4	No. of tillers/sq.mt	56.3	52.8	7	99562.5	64904	1:1.65	93368	37062	1:1.4
Rice	Machine transplanter	10	4	Grain yield	6381	6243	2	42096	52071	1:2.24	49596	42156	1:1.85

3.2.4 Livestock and other enterprises

A total of **1359** demonstrations were organized by KVKs in Zone-X to popularize the technologies funder different aspects of livestock and other enterprises (Table 3.2.29). The enterprise wise technologies demonstrated in Tamil Nadu,Andhra Pradesh, Telangana, and Puducherry are presented in Table 3.2.30.

Table 3.2.20.Details of number of technologies and FLDs conducted on livestock and other enterprises in Zone-X

Category/activity	Tamil Nadu			Andhra Pradesh			Telangana			Puducherry			Total		
	No. of Technologies	No. of Demos	No. of animals	No. of Technologies	No. of Demos	No. of animals	No. of Technologies	No. of Demos	No. of animals	No. of Technologies	No. of Demos	No. of animals	No. of Technologies	No. of Demos	No. of animals
Buffalo				11	100	180	1	25	426				12	125	606
Cow	15	310	390	2	40	40	4	73	313				21	423	743
Fish	11	96	208	9	100	30	11	22	36	4	17	17	35	235	291
Goat	2	20	60	1	5	3	1	4	190				4	29	253
Poultry	8	93	1175	7	317	815	1	10	20	1	20	10	17	440	2020
Sheep	1	20	1100	7	70	258	2	17	317				10	107	1675

Table 3.2.21.Details of state wise livestock enterprise and technologies demonstrated in Zone-X

Enterprise	Technology	No. of Farmers
Tamil Nadu		
Cattle	Disease Management	185
	Feed and Fodder management	40
	Nutrition Management	35
	Production and management	60
Fish	Disease Management	2
	Feed and Fodder management	11
	Nutrition Management	2
	Processing and value addition	60
	Production and management	21
Goat	Nutrition Management	10
	Production and management	10
Poultry	Disease Management	40
	Evaluation of Breeds	20
	Nutrition Management	10
	Production and management	23
Sheep	Disease Management	20
	Total	**549**
Andhra Pradesh		
Buffalo	Disease Management	10
	Evaluation of Breeds	4
	Feed and Fodder management	38
	Nutrition Management	40
	Production and management	25
Cattle	Disease Management	5
	Evaluation of Breeds	5
Fish	Disease Management	25
	Nutrition Management	10
	Production and management	83
Goat	Evaluation of Breeds	5
Poultry	Disease Management	20
	Evaluation of Breeds	270
	Nutrition Management	30
	Production and management	15
Sheep	Feed and Fodder management	25
	Nutrition Management	25
	Production and management	20
	Total	**655**
Telangana		
Buffalo	Feed and Fodder management	25
Cattle	Disease Management	13
	Feed and Fodder management	48
Fish	Disease Management	8
	Feed and Fodder management	3
	Housing Management	2
	Processing and value addition	2
	Production and management	29
Goat	Nutrition Management	4
Poultry	Evaluation of Breeds	10
Sheep	Nutrition Management	17
	Total	**161**
Puducherry		
Fish	Evaluation of Breeds	10
	Production and management	7
Poultry	Disease Management	20
	Total	**37**
Grand Total		**1402**

3.3 Trainings

Training is one of the important mandates of KrishiVigyanKendraswhich play a pivotal role in capacity development of farmers and extension personnel to update their knowledge and skills on improved agricultural technologies. Accordingly, KVKs assess the training needs, prioritize and conduct various training programmes for farmers and farmwomen primarily focused on knowledge and skills, while it is entrepreneurship development for rural youth and knowledge on frontier areas of science and technology for extension personnel. During 2018-19, KVKs in Zone-X conducted 5640 training programmes on agricultural and allied technologies to increase the production and productivity of crops, dairy and others for 194085 participants including 156963 farmers and farm women, 20779 rural youth and 16343 extension functionaries (Table 3.3.1).

Table 3.3.1. Details of client wise training programmes organized by KVKs in Zone-X

Clientele	No.of Courses	Other Beneficiaries			SC/ST Beneficiaries			Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Tamil Nadu										
EF	196	4627	1665	6292	527	308	835	5154	1973	7127
FFW	2767	45529	26480	72009	9486	10152	19638	55015	36632	91647
RY	404	4667	3464	8131	875	1110	1985	5542	4574	10116
Total	**3367**	**54823**	**31609**	**86432**	**10888**	**11570**	**22458**	**65711**	**43179**	**108890**
Andhra Pradesh										
EF	216	3304	2237	5541	1001	1017	2018	4305	3254	7559
FFW	1824	23414	20773	44187	14067	10583	24650	37481	31356	68837
RY	199	1821	1701	3522	944	1146	2090	2765	2847	5612
Total	**2239**	**28539**	**24711**	**53250**	**16012**	**12746**	**28758**	**44551**	**37457**	**82008**
Telangana										
EF	78	1089	1394	2483	300	223	523	1389	1617	3006
FFW	831	16220	6025	22245	9862	4951	14813	26082	10976	37058
RY	92	1377	676	2053	554	250	804	1931	926	2857
Total	**1001**	**18686**	**8095**	**26781**	**10716**	**5424**	**16140**	**29402**	**13519**	**42921**
Puducherry										
EF	1	0	16	16	0	9	9	0	25	25
FFW	62	565	606	1171	87	176	263	652	782	1434
RY	12	135	96	231	35	17	52	170	113	283
Total	**75**	**700**	**718**	**1418**	**122**	**202**	**324**	**822**	**920**	**1742**
Zone -X										
EF	491	9020	5312	14332	1828	1557	3385	10848	6869	17717
FFW	5484	85728	53884	139612	33502	25862	59364	119230	79746	198976
RY	707	8000	5937	13937	2408	2523	4931	10408	8460	18868
Total	**6682**	**102748**	**65133**	**167881**	**37738**	**29942**	**67680**	**140486**	**95075**	**235561**

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

The subject area wise details of trainings offered by the KVKs of Zone-X is furnished in Table 3.3.2. A total of 4311 training courses were organized by 69 KVKs for farmers and farm women in which 1,55,339 were participated in Tamil Nadu, Andhra Pradesh, Telangana and Puducherry. Among the various thematic areas, 922 courses on crop production, 722 on women empowerment, 651 on horticulture, 526 on plant protection and 423 courses on live stock production and management were conducted to the farmers and farm women.

Table 3.3.2. Details of subject area wise training programmes conducted for farmers in Zone-X

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Weed Management	47	838	261	1099	169	95	264	1007	356	1363
Resource Conservation Technologies	50	1042	417	1459	353	209	562	1395	626	2021
Cropping Systems	38	907	416	1323	349	199	548	1256	615	1871
Crop Diversification	28	597	131	728	149	50	199	746	181	927
Integrated Farming	65	1024	483	1507	371	195	566	1395	678	2073
Micro Irrigation/irrigation	28	715	112	827	116	35	151	831	147	978
Seed production	57	1151	517	1668	321	161	482	1472	678	2150
Nursery management	15	295	42	337	82	30	112	377	72	449
Integrated Crop Management	284	5561	1721	7282	1573	761	2334	7134	2482	9616
Soil & water conservation	47	1411	244	1655	414	175	589	1825	419	2244
Integrated nutrient management	110	2126	625	2751	629	268	897	2755	893	3648
Production of organic inputs	39	798	222	1020	225	96	321	1023	318	1341
Others	114	4327	1333	5660	987	390	1377	5314	1723	7037
Total of Crop Production	**922**	**20792**	**6524**	**27316**	**5738**	**2664**	**8402**	**26530**	**9188**	**35718**
II Horticulture										
a) Vegetable Crops										
Production of low value and high value crops	107	2390	755	3145	586	282	868	2976	1037	4013
Off-season vegetables	26	518	149	667	207	88	295	725	237	962
Nursery raising	55	753	567	1320	274	178	452	1027	745	1772
Exotic vegetables	2	10	14	24	0	35	35	10	49	59
Export potential vegetables	6	127	51	178	34	24	58	161	75	236
Grading and standardization	5	91	30	121	43	25	68	134	55	189
Protective cultivation	41	886	273	1159	184	47	231	1070	320	1390
Others in vegetable crop	60	1008	371	1379	217	103	320	1225	474	1699
Others	23	467	92	559	383	104	487	850	196	1046
Total of vegetable crops	**325**	**6250**	**2302**	**8552**	**1928**	**886**	**2814**	**8178**	**3188**	**11366**
b) Fruits										
Training and Pruning	30	733	85	818	141	31	172	874	116	990
Layout and Management of Orchards	10	196	31	227	145	28	173	341	59	400
Cultivation of Fruit	58	1451	247	1698	459	131	590	1910	378	2288
Management of young plants/orchards	14	253	26	279	142	83	225	395	109	504
Rejuvenation of old orchards	9	152	37	189	342	216	558	494	253	747
Export potential fruits	4	133	27	160	45	2	47	178	29	207
Micro irrigation systems of orchards	10	243	20	263	37	12	49	280	32	312
Plant propagation techniques	5	48	12	60	35	23	58	83	35	118
Others	23	249	80	329	186	99	285	435	179	614
Total of fruits	**163**	**3458**	**565**	**4023**	**1532**	**625**	**2157**	**4990**	**1190**	**6180**
c) Ornamental Plants										
Nursery Management	11	139	90	229	32	35	67	171	125	296
Management of potted plants	1	34	10	44	1	0	1	35	10	45
Export potential of ornamental plants	5	51	14	65	13	22	35	64	36	100
Propagation techniques of Ornamental Plants	6	104	21	125	41	8	49	145	29	174
Others in Ornamental Plants	4	113	27	140	12	9	21	125	36	161
Others	10	139	37	176	14	12	26	153	49	202
Total in Ornamental Plants	**37**	**580**	**199**	**779**	**113**	**86**	**199**	**693**	**285**	**978**
d) Plantation crops										
Production and Management technology	39	536	149	685	584	286	870	1120	435	1555
Processing and value addition	6	56	24	80	45	25	70	101	49	150
Others	15	135	21	156	37	2	39	172	23	195
Total of Plantation crops	**60**	**727**	**194**	**921**	**666**	**313**	**979**	**1393**	**507**	**1900**
e) Tuber crops										
Production and Management technology	12	150	96	246	23	13	36	173	109	282
Total of tuber crops	**12**	**150**	**96**	**246**	**23**	**13**	**36**	**173**	**109**	**282**
f) Spices										
Production and Management technology	29	548	102	650	290	136	426	838	238	1076
Processing and value addition	11	58	40	98	160	61	221	218	101	319
Total of spices	**40**	**606**	**142**	**748**	**450**	**197**	**647**	**1056**	**339**	**1395**
g) Medicinal and Aromatic Plants										

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery management	2	38	26	64	29	20	49	67	46	113
Production and management technology	8	221	53	274	29	18	47	250	71	321
Postharvest technology and value addition	2	0	25	25	0	16	16	0	41	41
Others	2	48	26	74	14	0	14	62	26	88
Total of medicinal plants	**14**	**307**	**130**	**437**	**72**	**54**	**126**	**379**	**184**	**563**
Grand Total of Horticulture	**651**	**12078**	**3628**	**15706**	**4784**	**2174**	**6958**	**16862**	**5802**	**22664**
III Soil Health and Fertility Management										
Soil fertility management	68	1840	595	2435	509	261	770	2349	856	3205
Integrated water management	11	213	166	379	121	57	178	334	223	557
Integrated Nutrient Management	70	1215	292	1507	330	108	438	1545	400	1945
Production and use of organic inputs	15	236	64	300	73	27	100	309	91	400
Management of Problematic soils	21	313	130	443	77	32	109	390	162	552
Micro nutrient deficiency in crops	17	314	69	383	85	29	114	399	98	497
Nutrient Use Efficiency	5	53	4	57	31	4	35	84	8	92
Balance use of fertilizers	13	170	22	192	70	24	94	240	46	286
Soil and Water Testing	43	881	254	1135	260	88	348	1141	342	1483
Others	4	89	21	110	1	0	1	90	21	111
Total of Soil Health	**267**	**5324**	**1617**	**6941**	**1557**	**630**	**2187**	**6881**	**2247**	**9128**
IV Livestock Production and Management										
Dairy Management	109	1213	743	1956	703	879	1582	1916	1622	3538
Poultry Management	108	1861	1018	2879	511	902	1413	2372	1920	4292
Piggery Management	5	45	27	72	15	3	18	60	30	90
Rabbit Management	2	34	8	42	60	0	60	94	8	102
Animal Nutrition Management	27	338	128	466	91	78	169	429	206	635
Disease Management	37	465	173	638	165	52	217	630	225	855
Feed & fodder technology	50	777	346	1123	116	88	204	893	434	1327
Production of quality animal products	5	199	42	241	20	23	43	219	65	284
Others	80	1101	1050	2151	190	884	1074	1291	1934	3225
Total of livestock	**423**	**6033**	**3535**	**9568**	**1871**	**2909**	**4780**	**7904**	**6444**	**14348**
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	101	1407	1618	3025	421	893	1314	1828	2511	4339
Design and development of low/minimum cost diet	41	41	608	649	119	218	337	160	826	986
Designing and development for high nutrient efficiency diet	46	109	585	694	43	310	353	152	895	1047
Minimization of nutrient loss in processing	23	89	290	379	48	48	96	137	338	475
Processing and cooking	26	67	306	373	57	142	199	124	448	572
Gender mainstreaming through SHGs	10	15	140	155	2	76	78	17	216	233
Storage loss minimization techniques	19	44	283	327	27	55	82	71	338	409
Value addition	199	969	3258	4227	385	938	1323	1354	4196	5550
Women empowerment	44	129	1243	1372	56	443	499	185	1686	1871
Location specific drudgery reduction technologies	23	97	369	466	77	100	177	174	469	643
Rural Crafts	34	30	177	207	25	78	103	55	255	310
Women and child care	22	52	561	613	20	215	235	72	776	848
Others	134	2355	1164	3519	677	543	1220	3032	1707	4739
Total of home science	**722**	**5404**	**10602**	**16006**	**1957**	**4059**	**6016**	**7361**	**14661**	**22022**
VI Agricultural Engineering										
Farm Machinery and its maintenance	63	780	286	1066	276	126	402	1056	412	1468
Installation and maintenance of micro irrigation systems	24	374	91	465	65	89	154	439	180	619
Use of Plastics in farming practices	0	0	0	0	0	0	0	0	0	0
Production of small tools and implements	3	43	15	58	3	0	3	46	15	61
Repair and maintenance of farm machinery and implements	3	46	24	70	15	15	30	61	39	100
Small scale processing and value addition	5	55	52	107	33	28	61	88	80	168
Postharvest Technology	5	95	29	124	0	1	1	95	30	125
Others	7	120	58	178	66	40	106	186	98	284
Total of Agricultural engineering	**110**	**1513**	**555**	**2068**	**458**	**299**	**757**	**1971**	**854**	**2825**
VII Plant Protection										
Integrated Pest Management	329	7445	1929	9374	2246	777	3023	9691	2706	12397

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Integrated Disease Management	82	1401	451	1852	463	201	664	1864	652	2516
Bio-control of pests and diseases	49	773	286	1059	241	96	337	1014	382	1396
Production of bio control agents and bio pesticides	22	340	54	394	181	47	228	521	101	622
Others	44	570	186	756	1036	978	2014	1606	1164	2770
Total of plant protection	**526**	**10529**	**2906**	**13435**	**4167**	**2099**	**6266**	**14696**	**5005**	**19701**
VIII Fisheries										
Integrated fish farming	32	622	343	965	118	119	237	740	462	1202
Carp breeding and hatchery management	9	139	25	164	59	11	70	198	36	234
Carp fry and fingerling rearing	7	103	51	154	54	1	55	157	52	209
Composite fish culture	22	405	205	610	96	83	179	501	288	789
Hatchery management and culture of freshwater prawn	4	65	7	72	30	2	32	95	9	104
Breeding and culture of ornamental fishes	7	92	29	121	50	41	91	142	70	212
Portable plastic carp hatchery	3	44	9	53	9	4	13	53	13	66
Pen culture of fish and prawn	3	74	12	86	2	0	2	76	12	88
Shrimp farming	10	201	27	228	14	1	15	215	28	243
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	10	158	114	272	12	13	25	170	127	297
Others	39	525	158	683	118	33	151	643	191	834
Total of Fisheries	**146**	**2428**	**980**	**3408**	**562**	**308**	**870**	**2990**	**1288**	**4278**
IX Production of Inputs at site										
Seed Production	11	308	76	384	60	19	79	368	95	463
Planting material production	4	95	49	144	20	22	42	115	71	186
Bio-agents production	3	41	2	43	18	16	34	59	18	77
Bio-pesticides production	5	85	55	140	22	14	36	107	69	176
Bio-fertilizer production	11	281	120	401	32	26	58	313	146	459
Vermicompost production	60	949	482	1431	345	272	617	1294	754	2048
Organic manures production	59	423	4938	5361	53	779	832	476	5717	6193
Production of fry and fingerlings	6	91	10	101	24	5	29	115	15	130
Production of Bee-colonies and wax sheets	4	77	19	96	28	3	31	105	22	127
Small tools and implements	1	11	4	15	6	4	10	17	8	25
Production of livestock feed and fodder	2	28	9	37	6	17	23	34	26	60
Production of Fish feed	3	41	11	52	10	9	19	51	20	71
Mushroom Production	39	323	426	749	101	123	224	424	549	973
Apiculture	47	714	500	1214	288	247	535	1002	747	1749
Others	2	29	16	45	13	7	20	42	23	65
Total of inputs	**257**	**3496**	**6717**	**10213**	**1026**	**1563**	**2589**	**4522**	**8280**	**12802**
X Capacity Building and Group Dynamics										
Leadership development	5	94	47	141	17	16	33	111	63	174
Group dynamics	25	711	141	852	208	58	266	919	199	1118
Formation and Management of SHGs	25	135	299	434	75	144	219	210	443	653
Mobilization of social capital	6	252	65	317	140	44	184	392	109	501
Entrepreneurial development of farmers/youths	44	763	343	1106	296	187	483	1059	530	1589
Others	115	2668	1460	4128	929	639	1568	3597	2099	5696
Total of capacity building	**220**	**4623**	**2355**	**6978**	**1665**	**1088**	**2753**	**6288**	**3443**	**9731**
XI Agro-forestry										
Production technologies	21	176	58	234	52	48	100	228	106	334
Nursery management	1	0	0	0	22	13	35	22	13	35
Integrated Farming Systems	8	257	123	380	46	26	72	303	149	452
Others in agroforestry	1	0	18	18	0	12	12	0	30	30
Others	36	910	181	1091	158	22	180	1068	203	1271
Total of agroforestry	**67**	**1343**	**380**	**1723**	**278**	**121**	**399**	**1621**	**501**	**2122**
GRAND TOTAL	**4311**	**73563**	**39799**	**113362**	**24063**	**17914**	**41977**	**97626**	**57713**	**155339**

The KVKs of Tamil Nadu organized **2194** training courses on crop production, horticulture, soil health and fertility management, livestock production and management, women empowerment, agricultural engineering, plant protection, fisheries, production of inputs, agro-forestry, group dynamics, *etc*., during 2018-19, in which **44789** farmers and **29479** farm women were participated (Table 3.3.3).

In crop production 491 training courses were conducted by the KVKs of Tamil Nadu in which maximum number were on integrated crop management (184). Under horticulture 303 training courses were conducted and maximum trainings were on vegetable crops (161) followed by fruits (44) and plantation crops (35). In total 198 training courses were organized under plant protection in the areas of integrated pest and disease management, bio-control of pests and diseases, production of bio-control agents and bio-pesticides and others.

Table 3.3.3. Details of training programmes for farmers in Tamil Nadu

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Weed Management	22	340	157	497	48	52	100	388	209	597
Resource Conservation Technologies	20	262	250	512	71	106	177	333	356	689
Cropping Systems	23	632	319	951	90	90	180	722	409	1131
Crop Diversification	16	267	91	358	58	28	86	325	119	444
Integrated Farming	39	615	397	1012	117	81	198	732	478	1210
Micro Irrigation/irrigation	14	294	57	351	30	4	34	324	61	385
Seed production	42	854	463	1317	163	112	275	1017	575	1592
Nursery management	3	59	24	83	18	5	23	77	29	106
Integrated Crop Management	184	3452	1424	4876	778	492	1270	4230	1916	6146
Soil & water conservation	20	443	96	539	114	85	199	557	181	738
Integrated nutrient management	48	666	333	999	155	62	217	821	395	1216
Production of organic inputs	21	481	193	674	75	72	147	556	265	821
Others	39	2812	1110	3922	183	235	418	2995	1345	4340
Total of Crop Production	**491**	**11177**	**4914**	**16091**	**1900**	**1424**	**3324**	**13077**	**6338**	**19415**
II Horticulture										
a) Vegetable Crops										
Production of low value and high value crops	71	1480	597	2077	236	159	395	1716	756	2472
Off-season vegetables	3	63	34	97	7	0	7	70	34	104
Nursery raising	22	290	225	515	28	26	54	318	251	569
Exotic vegetables	1	10	14	24	0	7	7	10	21	31
Export potential vegetables	2	42	39	81	7	5	12	49	44	93
Grading and standardization	2	27	8	35	15	10	25	42	18	60
Protective cultivation	30	612	251	863	91	29	120	703	280	983
Others in vegetable crop	26	346	188	534	19	4	23	365	192	557
Others	4	88	9	97	17	3	20	105	12	117
Total of vegetable crops	161	2958	1365	4323	420	243	663	3378	1608	4986
b) Fruits										
Training and Pruning	12	236	53	289	32	5	37	268	58	326
Layout and Management of Orchards	0	0	0	0	0	0	0	0	0	0
Cultivation of Fruit	22	519	134	653	47	28	75	566	162	728
Management of young plants/orchards	2	66	8	74	6	0	6	72	8	80
Rejuvenation of old orchards	0	0	0	0	0	0	0	0	0	0
Export potential fruits	0	0	0	0	0	0	0	0	0	0
Micro irrigation systems of orchards	2	23	10	33	4	8	12	27	18	45
Plant propagation techniques	1	11	0	11	0	0	0	11	0	11
Others	5	76	42	118	4	0	4	80	42	122
Total of fruits	44	931	247	1178	93	41	134	1024	288	1312
c) Ornamental Plants										
Nursery Management	8	116	75	191	4	12	16	120	87	207
Management of potted plants	1	34	10	44	1	0	1	35	10	45
Export potential of ornamental plants	2	14	6	20	7	8	15	21	14	35
Propagation techniques of Ornamental Plants	3	64	13	77	11	7	18	75	20	95
Others in Ornamental Plants	1	41	2	43	2	5	7	43	7	50

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Others	10	139	37	176	14	12	26	153	49	202
Total in Ornamental Plants	25	408	143	551	39	44	83	447	187	634
d) Plantation crops										
Production and Management technology	19	348	87	435	35	10	45	383	97	480
Processing and value addition	2	17	23	40	0	3	3	17	26	43
Others	14	117	21	138	27	0	27	144	21	165
Total of Plantation crops	35	482	131	613	62	13	75	544	144	688
e) Tuber crops										
Production and Management technology	11	130	96	226	23	13	36	153	109	262
Total of tuber crops	11	130	96	226	23	13	36	153	109	262
f) Spices										
Production and Management technology	13	328	70	398	43	21	64	371	91	462
Processing and value addition	1	17	31	48	3	16	19	20	47	67
Total of spices	14	345	101	446	46	37	83	391	138	529
g) Medicinal and Aromatic Plants										
Nursery management	1	30	20	50	6	8	14	36	28	64
Production and management technology	8	221	53	274	29	18	47	250	71	321
Postharvest technology and value addition	2	0	25	25	0	16	16	0	41	41
Others	2	48	26	74	14	0	14	62	26	88
Total of medicinal plants	13	299	124	423	49	42	91	348	166	514
Grand Total of Horticulture	303	5553	2207	7760	732	433	1165	6285	2640	8925
III Soil Health and Fertility Management										
Soil fertility management	45	1326	481	1807	270	164	434	1596	645	2241
Integrated water management	2	0	65	65	0	8	8	0	73	73
Integrated Nutrient Management	45	713	228	941	121	50	171	834	278	1112
Production and use of organic inputs	7	122	42	164	6	5	11	128	47	175
Management of Problematic soils	11	146	96	242	19	9	28	165	105	270
Micro nutrient deficiency in crops	9	127	39	166	22	6	28	149	45	194
Nutrient Use Efficiency	3	23	4	27	8	2	10	31	6	37
Balance use of fertilizers	7	66	14	80	18	4	22	84	18	102
Soil and Water Testing	17	374	163	537	47	25	72	421	188	609
Others	3	59	16	75	1	0	1	60	16	76
Total of Soil Health	149	2956	1148	4104	512	273	785	3468	1421	4889
IV Livestock Production and Management										
Dairy Management	82	889	636	1525	558	769	1327	1447	1405	2852
Poultry Management	85	1526	881	2407	351	763	1114	1877	1644	3521
Piggery Management	4	37	23	60	7	3	10	44	26	70
Rabbit Management	2	34	8	42	60	0	60	94	8	102
Animal Nutrition Management	11	168	53	221	15	17	32	183	70	253
Disease Management	19	244	108	352	43	22	65	287	130	417
Feed & fodder technology	28	323	223	546	66	34	100	389	257	646
Production of quality animal products	5	199	42	241	20	23	43	219	65	284
Others	66	853	985	1838	143	860	1003	996	1845	2841
Total of livestock	302	4273	2959	7232	1263	2491	3754	5536	5450	10986
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	38	894	723	1617	92	404	496	986	1127	2113
Design and development of low/minimum cost diet	11	38	254	292	84	96	180	122	350	472
Designing and development for high nutrient efficiency diet	6	7	65	72	0	62	62	7	127	134
Minimization of nutrient loss in processing	11	65	135	200	29	11	40	94	146	240
Processing and cooking	13	58	102	160	34	47	81	92	149	241
Gender mainstreaming through SHGs	3	15	43	58	0	9	9	15	52	67
Storage loss minimization techniques	4	24	41	65	6	14	20	30	55	85
Value addition	131	697	1947	2644	279	461	740	976	2408	3384
Women empowerment	19	32	590	622	7	240	247	39	830	869
Location specific drudgery reduction technologies	8	70	74	144	33	15	48	103	89	192
Rural Crafts	5	0	60	60	0	26	26	0	86	86
Women and child care	1	22	20	42	2	2	4	24	22	46
Others	23	119	97	216	103	88	191	222	185	407

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Total of home science	273	2041	4151	6192	669	1475	2144	2710	5626	8336
VI Agricultural Engineering										
Farm Machinery and its maintenance	44	516	162	678	112	63	175	628	225	853
Installation and maintenance of micro irrigation systems	18	266	84	350	29	84	113	295	168	463
Use of Plastics in farming practices	0	0	0	0	0	0	0	0	0	0
Production of small tools and implements	3	43	15	58	3	0	3	46	15	61
Repair and maintenance of farm machinery and implements	2	31	24	55	7	15	22	38	39	77
Small scale processing and value addition	3	21	28	49	13	14	27	34	42	76
Post Harvest Technology	2	33	23	56	0	1	1	33	24	57
Others	3	44	34	78	18	22	40	62	56	118
Total of Agricultural engineering	75	954	370	1324	182	199	381	1136	569	1705
VII Plant Protection										
Integrated Pest Management	116	2466	894	3360	347	231	578	2813	1125	3938
Integrated Disease Management	43	720	271	991	150	69	219	870	340	1210
Bio-control of pests and diseases	26	417	191	608	62	28	90	479	219	698
Production of bio control agents and bio pesticides	7	87	17	104	20	6	26	107	23	130
Others	6	58	76	134	17	2	19	75	78	153
Total of plant protection	198	3748	1449	5197	596	336	932	4344	1785	6129
VIII Fisheries										
Integrated fish farming	16	278	284	562	71	60	131	349	344	693
Carp breeding and hatchery management	5	83	9	92	31	3	34	114	12	126
Carp fry and fingerling rearing	3	17	47	64	20	1	21	37	48	85
Composite fish culture	10	113	180	293	15	79	94	128	259	387
Hatchery management and culture of freshwater prawn	3	55	7	62	10	2	12	65	9	74
Breeding and culture of ornamental fishes	5	58	8	66	39	31	70	97	39	136
Portable plastic carp hatchery	3	44	9	53	9	4	13	53	13	66
Pen culture of fish and prawn	2	19	12	31	2	0	2	21	12	33
Shrimp farming	6	66	27	93	8	1	9	74	28	102
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	5	38	59	97	2	0	2	40	59	99
Others	29	375	141	516	57	27	84	432	168	600
Total of Fisheries	87	1146	783	1929	264	208	472	1410	991	2401
IX Production of Inputs at site										
Seed Production	11	308	76	384	60	19	79	368	95	463
Planting material production	1	23	0	23	2	0	2	25	0	25
Bio-agents production	2	41	2	43	2	0	2	43	2	45
Bio-pesticides production	1	2	13	15	0	2	2	2	15	17
Bio-fertilizer production	4	118	49	167	9	4	13	127	53	180
Vermicompost production	31	525	291	816	103	62	165	628	353	981
Organic manures production	14	323	118	441	25	17	42	348	135	483
Production of fry and fingerlings	6	91	10	101	24	5	29	115	15	130
Production of Bee-colonies and wax sheets	3	57	19	76	1	3	4	58	22	80
Small tools and implements	0	0	0	0	0	0	0	0	0	0
Production of livestock feed and fodder	2	28	9	37	6	17	23	34	26	60
Production of Fish feed	3	41	11	52	10	9	19	51	20	71
Mushroom Production	33	256	407	663	60	84	144	316	491	807
Apiculture	37	483	402	885	116	151	267	599	553	1152
Others	2	29	16	45	13	7	20	42	23	65
Total of inputs	150	2325	1423	3748	431	380	811	2756	1803	4559
X Capacity Building and Group Dynamics										
Leadership development	2	34	15	49	1	0	1	35	15	50
Group dynamics	10	420	60	480	39	30	69	459	90	549
Formation and Management of SHGs	18	91	181	272	14	34	48	105	215	320
Mobilization of social capital	0	0	0	0	0	0	0	0	0	0
Entrepreneurial development of farmers/youths	33	622	285	907	149	116	265	771	401	1172
Others	71	1773	1318	3091	327	520	847	2100	1838	3938
Total of capacity building	134	2940	1859	4799	530	700	1230	3470	2559	6029
XI Agro-forestry										

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Production technologies	21	176	58	234	52	48	100	228	106	334
Nursery management	0	0	0	0	0	0	0	0	0	0
Integrated Farming Systems	7	257	123	380	26	14	40	283	137	420
Others in agroforestry	1	0	18	18	0	12	12	0	30	30
Others	3	86	24	110	0	0	0	86	24	110
Total of agroforestry	**32**	**519**	**223**	**742**	**78**	**74**	**152**	**597**	**297**	**894**
GRAND TOTAL of Farmers and Farm Women	**2194**	**37632**	**21486**	**59118**	**7157**	**7993**	**15150**	**44789**	**29479**	**74268**

In Andhra Pradesh 1321 trainings were conducted to 29859 farmers and 18262 farm women. Under crop production, maximum number of trainings was organized on integrated crop management practices (66) followed by seed production (13) and Integrated nutrient management (38) (Table 3.3.4).

In horticulture 235 trainings were conducted including vegetables (104), fruits (82), ornamental plants (10), plantation crops (24) *etc*. In fruits, the highest number of trainings was on cultivation of fruits (26) for 1229 farmers followed by training and pruning (11).Under soil health management 86 trainings were conducted for 3059 farmers and farm women, in which the highest was on soil and water testing (16) followed by soil fertility management (17) and integrated nutrient management (17). In livestock production and management, 25 trainings were conducted on dairy management for 626 farmers, followed by poultry management (18) in which 527 farmers were participated.

Under home science 277 training programmes were conducted for 7694 farmers and rural women. The highest number of trainings was on value addition to agricultural, dairy and other products in which 1153 women were participated. On plant protection 164trainings were conducted to 5397 farmers. In fisheries, the trainings included composite fish culture (4) for 122 farmers followed by shrimp farming (3).Under capacity building and group dynamics, 10 training programmes on the development of entrepreneurial skills in farmers and rural youth were conducted for 388 farmers and women.

Table 3.3.4. Details of training programmes for farmers in Andhra Pradesh

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Weed Management	18	352	64	416	76	37	113	428	101	529
Resource Conservation Technologies	18	462	133	595	173	91	264	635	224	859
Cropping Systems	12	189	88	277	234	107	341	423	195	618
Crop Diversification	8	232	40	272	68	12	80	300	52	352
Integrated Farming	16	270	76	346	111	38	149	381	114	495
Micro Irrigation/irrigation	12	368	55	423	76	31	107	444	86	530
Seed production	13	259	51	310	154	47	201	413	98	511
Nursery management	11	203	18	221	61	25	86	264	43	307
Integrated Crop Management	66	1512	231	1743	426	196	622	1938	427	2365
Soil & water conservation	13	358	66	424	104	47	151	462	113	575
Integrated nutrient management	38	824	158	982	310	115	425	1134	273	1407
Production of organic inputs	12	185	24	209	99	22	121	284	46	330
Others	58	1183	178	1361	298	88	386	1481	266	1747
Total of Crop Production	**295**	**6397**	**1182**	**7579**	**2190**	**856**	**3046**	**8587**	**2038**	**10625**
II Horticulture										
a) Vegetable Crops										
Production of low value and high value crops	30	696	118	814	330	109	439	1026	227	1253
Off-season vegetables	11	133	26	159	147	59	206	280	85	365
Nursery raising	19	296	45	341	142	52	194	438	97	535
Exotic vegetables	1	0	0	0	0	28	28	0	28	28
Export potential vegetables	3	42	12	54	27	19	46	69	31	100

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Grading and standardization	1	8	5	13	26	12	38	34	17	51
Protective cultivation	5	96	5	101	24	10	34	120	15	135
Others	34	627	182	809	225	141	366	852	323	1175
Total of vegetable crops	**104**	**1898**	**393**	**2291**	**921**	**430**	**1351**	**2819**	**823**	**3642**
b) Fruits										
Training and Pruning	11	247	23	270	75	24	99	322	47	369
Layout and Management of Orchards	6	92	23	115	69	26	95	161	49	210
Cultivation of Fruit	26	711	89	800	339	90	429	1050	179	1229
Management of young plants/orchards	7	61	9	70	90	78	168	151	87	238
Rejuvenation of old orchards	8	138	29	167	336	211	547	474	240	714
Export potential fruits	1	36	2	38	2	0	2	38	2	40
Micro irrigation systems of orchards	3	83	3	86	8	1	9	91	4	95
Plant propagation techniques	3	10	12	22	32	23	55	42	35	77
Others	17	153	38	191	182	99	281	335	137	472
Total of fruits	**82**	**1531**	**228**	**1759**	**1133**	**552**	**1685**	**2664**	**780**	**3444**
c) Ornamental Plants										
Nursery Management	2	5	15	20	26	23	49	31	38	69
Management of potted plants	0	0	0	0	0	0	0	0	0	0
Export potential of ornamental plants	3	37	8	45	6	14	20	43	22	65
Propagation techniques of Ornamental Plants	3	40	8	48	30	1	31	70	9	79
Others in Ornamental Plants	2	46	5	51	10	4	14	56	9	65
Total in Ornamental Plants	**10**	**128**	**36**	**164**	**72**	**42**	**114**	**200**	**78**	**278**
d) Plantation crops										
Production and Management technology	19	188	62	250	521	267	788	709	329	1038
Processing and value addition	4	39	1	40	45	22	67	84	23	107
Others	1	18	0	18	10	2	12	28	2	30
Total of Plantation crops	**24**	**245**	**63**	**308**	**576**	**291**	**867**	**821**	**354**	**1175**
e) Tuber crops										
Production and Management technology	1	20	0	20	0	0	0	20	0	20
Total of tuber crops	**1**	**20**	**0**	**20**	**0**	**0**	**0**	**20**	**0**	**20**
f) Spices										
Production and Management technology	7	45	11	56	160	98	258	205	109	314
Processing and value addition	6	0	0	0	93	37	130	93	37	130
Total of spices	**13**	**45**	**11**	**56**	**253**	**135**	**388**	**298**	**146**	**444**
g) Medicinal and Aromatic Plants										
Nursery management	1	8	6	14	23	12	35	31	18	49
Total of medicinal plants	**1**	**8**	**6**	**14**	**23**	**12**	**35**	**31**	**18**	**49**
Grand Total of Horticulture	**235**	**3875**	**737**	**4612**	**2978**	**1462**	**4440**	**6853**	**2199**	**9052**
III Soil Health and Fertility Management										
Soil fertility management	17	293	81	374	175	83	258	468	164	632
Integrated water management	8	213	101	314	75	47	122	288	148	436
Integrated Nutrient Management	17	337	44	381	141	47	188	478	91	569
Production and use of organic inputs	8	114	22	136	67	22	89	181	44	225
Management of Problematic soils	5	90	22	112	26	14	40	116	36	152
Micro nutrient deficiency in crops	8	187	30	217	63	23	86	250	53	303
Nutrient Use Efficiency	1	20	0	20	5	0	5	25	0	25
Balance use of fertilizers	5	69	8	77	47	18	65	116	26	142
Soil and Water Testing	16	338	61	399	110	31	141	448	92	540
Others	1	30	5	35	0	0	0	30	5	35
Total of Soil Health	**86**	**1691**	**374**	**2065**	**709**	**285**	**994**	**2400**	**659**	**3059**
IV Livestock Production and Management										
Dairy Management	25	303	90	393	139	94	233	442	184	626
Poultry Management	18	183	105	288	124	115	239	307	220	527
Piggery Management	0	0	0	0	0	0	0	0	0	0
Rabbit Management	0	0	0	0	0	0	0	0	0	0
Animal Nutrition Management	13	132	54	186	49	49	98	181	103	284
Disease Management	10	118	41	159	40	10	50	158	51	209
Feed & fodder technology	15	277	115	392	23	37	60	300	152	452
Production of quality animal products	0	0	0	0	0	0	0	0	0	0

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Others	12	213	61	274	43	22	65	256	83	339
Total of livestock	**93**	**1226**	**466**	**1692**	**418**	**327**	**745**	**1644**	**793**	**2437**
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	41	38	643	681	167	265	432	205	908	1113
Design and development of low/minimum cost diet	20	0	168	168	34	79	113	34	247	281
Designing and development for high nutrient efficiency diet	22	9	231	240	25	102	127	34	333	367
Minimization of nutrient loss in processing	5	12	82	94	18	21	39	30	103	133
Processing and cooking	5	5	95	100	23	52	75	28	147	175
Gender mainstreaming through SHGs	3	0	32	32	2	48	50	2	80	82
Storage loss minimization techniques	4	4	53	57	20	24	44	24	77	101
Value addition	43	17	785	802	29	322	351	46	1107	1153
Women empowerment	13	6	247	253	27	84	111	33	331	364
Location specific drudgery reduction technologies	10	19	181	200	38	45	83	57	226	283
Rural Crafts	29	30	117	147	25	52	77	55	169	224
Women and child care	9	0	163	163	18	75	93	18	238	256
Others	73	1841	697	2538	382	242	624	2223	939	3162
Total of home science	**277**	**1981**	**3494**	**5475**	**808**	**1411**	**2219**	**2789**	**4905**	**7694**
VI Agricultural Engineering										
Farm Machinery and its maintenance	9	134	75	209	37	21	58	171	96	267
Installation and maintenance of micro irrigation systems	2	28	4	32	8	2	10	36	6	42
Use of Plastics in farming practices	0	0	0	0	0	0	0	0	0	0
Production of small tools and implements	0	0	0	0	0	0	0	0	0	0
Repair and maintenance of farm machinery and implements	0	0	0	0	0	0	0	0	0	0
Small scale processing and value addition	1	20	10	30	10	5	15	30	15	45
Postharvest Technology	3	62	6	68	0	0	0	62	6	68
Others	4	76	24	100	48	18	66	124	42	166
Total of Agricultural engineering	**19**	**320**	**119**	**439**	**103**	**46**	**149**	**423**	**165**	**588**
VII Plant Protection										
Integrated Pest Management	93	1866	293	2159	791	204	995	2657	497	3154
Integrated Disease Management	26	380	94	474	195	81	276	575	175	750
Bio-control of pests and diseases	17	253	65	318	113	38	151	366	103	469
Production of bio control agents and bio pesticides	9	134	15	149	110	18	128	244	33	277
Others	19	269	55	324	267	156	423	536	211	747
Total of plant protection	**164**	**2902**	**522**	**3424**	**1476**	**497**	**1973**	**4378**	**1019**	**5397**
VIII Fisheries										
Integrated fish farming	7	107	20	127	15	40	55	122	60	182
Carp breeding and hatchery management	1	18	0	18	10	0	10	28	0	28
Carp fry and fingerling rearing	2	38	0	38	22	0	22	60	0	60
Composite fish culture	4	60	0	60	62	0	62	122	0	122
Hatchery management and culture of freshwater prawn	1	10	0	10	20	0	20	30	0	30
Breeding and culture of ornamental fishes	1	25	0	25	5	0	5	30	0	30
Portable plastic carp hatchery	0	0	0	0	0	0	0	0	0	0
Pen culture of fish and prawn	0	0	0	0	0	0	0	0	0	0
Shrimp farming	3	110	0	110	0	0	0	110	0	110
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	15	55	70	2	13	15	17	68	85
Others	4	78	0	78	12	0	12	90	0	90
Total of Fisheries	**26**	**461**	**75**	**536**	**148**	**53**	**201**	**609**	**128**	**737**
IX Production of Inputs at site										
Seed Production	0	0	0	0	0	0	0	0	0	0
Planting material production	0	0	0	0	0	0	0	0	0	0
Bio-agents production	1	0	0	0	16	16	32	16	16	32
Bio-pesticides production	0	0	0	0	0	0	0	0	0	0
Bio-fertilizer production	0	0	0	0	0	0	0	0	0	0
Vermi-compost production	8	60	0	60	64	85	149	124	85	209
Organic manures production	34	0	4738	4738	0	671	671	0	5409	5409
Production of fry and fingerlings	0	0	0	0	0	0	0	0	0	0

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Production of Bee-colonies and wax sheets	0	0	0	0	0	0	0	0	0	0
Small tools and implements	0	0	0	0	0	0	0	0	0	0
Production of livestock feed and fodder	0	0	0	0	0	0	0	0	0	0
Production of Fish feed	0	0	0	0	0	0	0	0	0	0
Mushroom Production	6	67	19	86	41	39	80	108	58	166
Apiculture	4	79	8	87	118	43	161	197	51	248
Total of inputs	53	206	4765	4971	239	854	1093	445	5619	6064
X Capacity Building and Group Dynamics										
Leadership development	3	60	32	92	16	16	32	76	48	124
Group dynamics	8	161	58	219	72	10	82	233	68	301
Formation and Management of SHGs	7	44	118	162	61	110	171	105	228	333
Mobilization of social capital	3	52	10	62	40	9	49	92	19	111
Entrepreneurial development of farmers/youths	10	128	58	186	131	71	202	259	129	388
Others	17	334	64	398	88	23	111	422	87	509
Total of capacity building	**48**	**779**	**340**	**1119**	**408**	**239**	**647**	**1187**	**579**	**1766**
XI Agro-forestry										
Nursery management	1	0	0	0	22	13	35	22	13	35
Integrated Farming Systems	1	0	0	0	20	12	32	20	12	32
Others	23	364	116	480	138	17	155	502	133	635
Total of agroforestry	**25**	**364**	**116**	**480**	**180**	**42**	**222**	**544**	**158**	**702**
GRAND TOTAL of Farmers and Farm Women	**1321**	**20202**	**12190**	**32392**	**9657**	**6072**	**15729**	**29859**	**18262**	**48121**

In Telangana, 744 training courses were organized for 31684 farmers. The highest number of trainings was conducted on women empowerment including value addition(151), income generation, women and child care, *etc*., in which 5515 women were participated (Table 3.3.5).

Under horticulture 116 training programmes on vegetable crops, fruits, ornamental crops, spices, plantation crops and medicinal crops were organized for 4762 farmers. In crop production 108trainings and under soil health and fertility management 83 courses were conducted.In plant protection training courses were organized on integrated pest and disease management(65) and bio-control of pests and diseases (8) and production of bio-control agents, bio-pesticides (11)and others (13).

Table 3.3.5. Details of training programmes for farmers in Telangana

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Weed Management	7	146	40	186	45	6	51	191	46	237
Resource Conservation Technologies	12	318	34	352	109	12	121	427	46	473
Cropping Systems	3	86	9	95	25	2	27	111	11	122
Crop Diversification	4	98	0	98	23	10	33	121	10	131
Integrated Farming	10	139	10	149	143	76	219	282	86	368
Micro Irrigation/irrigation	2	53	0	53	10	0	10	63	0	63
Seed production	2	38	3	41	4	2	6	42	5	47
Nursery management	1	33	0	33	3	0	3	36	0	36
Integrated Crop Management	31	534	53	587	368	69	437	902	122	1024
Soil & water conservation	14	610	82	692	196	43	239	806	125	931
Integrated nutrient management	24	636	134	770	164	91	255	800	225	1025
Production of organic inputs	6	132	5	137	51	2	53	183	7	190
Others	17	332	45	377	506	67	573	838	112	950
Total of Crop Production	**133**	**3155**	**415**	**3570**	**1647**	**380**	**2027**	**4802**	**795**	**5597**
II Horticulture										
a) Vegetable Crops										
Production of low value and	6	214	40	254	20	14	34	234	54	288

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
high value crops										
Off-season vegetables	12	322	89	411	53	29	82	375	118	493
Nursery raising	14	167	297	464	104	100	204	271	397	668
Export potential vegetables	1	43	0	43	0	0	0	43	0	43
Grading and standardization	2	56	17	73	2	3	5	58	20	78
Protective cultivation	6	178	17	195	69	8	77	247	25	272
Others in vegetable crop	10	237	56	293	63	27	90	300	83	383
Others	9	177	28	205	276	32	308	453	60	513
Total of vegetable crops	**60**	**1394**	**544**	**1938**	**587**	**213**	**800**	**1981**	**757**	**2738**
b) Fruits										
Training and Pruning	7	250	9	259	34	2	36	284	11	295
Layout and Management of Orchards	4	104	8	112	76	2	78	180	10	190
Cultivation of Fruit	10	221	24	245	73	13	86	294	37	331
Management of young plants/orchards	5	126	9	135	46	5	51	172	14	186
Rejuvenation of old orchards	1	14	8	22	6	5	11	20	13	33
Export potential fruits	3	97	25	122	43	2	45	140	27	167
Micro irrigation systems of orchards	5	137	7	144	25	3	28	162	10	172
Plant propagation techniques	1	27	0	27	3	0	3	30	0	30
Others	1	20	0	20	0	0	0	20	0	20
Total of fruits	**37**	**996**	**90**	**1086**	**306**	**32**	**338**	**1302**	**122**	**1424**
c) Ornamental Plants										
Nursery Management	1	18	0	18	2	0	2	20	0	20
Others	1	26	20	46	0	0	0	26	20	46
Total in Ornamental Plants	**2**	**44**	**20**	**64**	**2**	**0**	**2**	**46**	**20**	**66**
d) Plantation crops										
Production and Management technology	1	0	0	0	28	9	37	28	9	37
Total of Plantation crops	**1**	**0**	**0**	**0**	**28**	**9**	**37**	**28**	**9**	**37**
e) Spices										
Production and Management technology	9	175	21	196	87	17	104	262	38	300
Processing and value addition	4	41	9	50	64	8	72	105	17	122
Total of spices	**13**	**216**	**30**	**246**	**151**	**25**	**176**	**367**	**55**	**422**
Grand Total of Horticulture	**113**	**2650**	**684**	**3334**	**1074**	**279**	**1353**	**3724**	**963**	**4687**
III Soil Health and Fertility Management										
Soil fertility management	5	153	23	176	58	13	71	211	36	247
Integrated water management	1	0	0	0	46	2	48	46	2	48
Integrated Nutrient Management	7	144	15	159	68	11	79	212	26	238
Management of Problematic soils	4	59	3	62	30	8	38	89	11	100
Nutrient Use Efficiency	1	10	0	10	18	2	20	28	2	30
Balance use of fertilizers	1	35	0	35	5	2	7	40	2	42
Soil and Water Testing	9	158	21	179	101	31	132	259	52	311
Total of Soil Health	**28**	**559**	**62**	**621**	**326**	**69**	**395**	**885**	**131**	**1016**
IV Livestock Production and Management										
Dairy Management	1	18	0	18	2	0	2	20	0	20
Poultry Management	4	142	30	172	32	12	44	174	42	216
Piggery Management	1	8	4	12	8	0	8	16	4	20
Animal Nutrition Management	2	25	11	36	23	5	28	48	16	64
Disease Management	8	103	24	127	82	20	102	185	44	229
Feed & fodder technology	6	171	7	178	20	10	30	191	17	208
Others	1	21	4	25	0	2	2	21	6	27
Total of livestock	**23**	**488**	**80**	**568**	**167**	**49**	**216**	**655**	**129**	**784**
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	22	475	252	727	162	224	386	637	476	1113
Design and development of low/minimum cost diet	6	3	103	106	1	33	34	4	136	140
Designing and development	16	93	248	341	18	136	154	111	384	495

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
for high nutrient efficiency diet										
Minimization of nutrient loss in processing	6	12	48	60	1	16	17	13	64	77
Processing and cooking	7	4	97	101	0	38	38	4	135	139
Gender mainstreaming through SHGs	4	0	65	65	0	19	19	0	84	84
Storage loss minimization techniques	9	0	168	168	0	8	8	0	176	176
Value addition	25	255	526	781	77	155	232	332	681	1013
Women empowerment	12	91	406	497	22	119	141	113	525	638
Location specific drudgery reduction technologies	5	8	114	122	6	40	46	14	154	168
Women and child care	12	30	378	408	0	138	138	30	516	546
Others	27	395	187	582	192	152	344	587	339	926
Total of home science	**151**	**1366**	**2592**	**3958**	**479**	**1078**	**1557**	**1845**	**3670**	**5515**
VI Agricultural Engineering										
Farm Machinery and its maintenance	9	119	44	163	125	40	165	244	84	328
Installation and maintenance of micro irrigation systems	4	80	3	83	28	3	31	108	6	114
Repair and maintenance of farm machinery and implements	1	15	0	15	8	0	8	23	0	23
Small scale processing and value addition	1	14	14	28	10	9	19	24	23	47
Total of Agricultural engineering	**15**	**228**	**61**	**289**	**171**	**52**	**223**	**399**	**113**	**512**
VII Plant Protection										
Integrated Pest Management	112	2939	730	3669	1099	342	1441	4038	1072	5110
Integrated Disease Management	13	301	86	387	118	51	169	419	137	556
Bio-control of pests and diseases	6	103	30	133	66	30	96	169	60	229
Production of bio control agents and bio pesticides	6	119	22	141	51	23	74	170	45	215
Others	19	243	55	298	752	820	1572	995	875	1870
Total of plant protection	**156**	**3705**	**923**	**4628**	**2086**	**1266**	**3352**	**5791**	**2189**	**7980**
VIII Fisheries										
Integrated fish farming	7	216	19	235	32	15	47	248	34	282
Carp breeding and hatchery management	2	27	10	37	18	5	23	45	15	60
Carp fry and fingerling rearing	2	48	4	52	12	0	12	60	4	64
Composite fish culture	5	221	5	226	11	0	11	232	5	237
Breeding and culture of ornamental fishes	1	9	21	30	6	10	16	15	31	46
Pen culture of fish and prawn	1	55	0	55	0	0	0	55	0	55
Shrimp farming	1	25	0	25	6	0	6	31	0	31
Fish processing and value addition	2	105	0	105	8	0	8	113	0	113
Others	2	46	0	46	18	0	18	64	0	64
Total of Fisheries	**23**	**752**	**59**	**811**	**111**	**30**	**141**	**863**	**89**	**952**
IX Production of Inputs at site										
Planting material production	3	72	49	121	18	22	40	90	71	161
Bio-pesticides production	4	83	42	125	22	12	34	105	54	159
Bio-fertilizer production	7	163	71	234	23	22	45	186	93	279
Vermicompost production	21	364	191	555	178	125	303	542	316	858
Organic manures production	11	100	82	182	28	91	119	128	173	301
Production of Bee-colonies and wax sheets	1	20	0	20	27	0	27	47	0	47
Small tools and implements	1	11	4	15	6	4	10	17	8	25
Apiculture	6	152	90	242	54	53	107	206	143	349
Total of inputs	**54**	**965**	**529**	**1494**	**356**	**329**	**685**	**1321**	**858**	**2179**
X Capacity Building and Group Dynamics										
Group dynamics	7	130	23	153	97	18	115	227	41	268

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Mobilization of social capital	3	200	55	255	100	35	135	300	90	390
Entrepreneurial development of farmers/youths	1	13	0	13	16	0	16	29	0	29
Others	27	561	78	639	514	96	610	1075	174	1249
Total of capacity building	**38**	**904**	**156**	**1060**	**727**	**149**	**876**	**1631**	**305**	**1936**
XI Agro-forestry										
Agroforestry	10	460	41	501	20	5	25	480	46	526
Total of agroforestry	10	460	41	501	20	5	25	480	46	526
GRAND TOTAL of Farmers and Farm Women	**744**	**15232**	**5602**	**20834**	**7164**	**3686**	**10850**	**22396**	**9288**	**31684**

In Puducherry, a total of 52 trainings were organized for 582 farmers and 684 farn women (Table 3.3.6). The highest number of trainings (21) was conducted on women empowerment in which 477 farmers have participated followed by livestock production and management (5) and soil health and fertility management (4) trainings were conducted.

Table 3.3.6. Details of training programmes for Farmers in Puducherry

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Integrated Crop Management	3	63	13	76	1	4	5	64	17	81
Total of Crop Production	**3**	**63**	**13**	**76**	**1**	**4**	**5**	**64**	**17**	**81**
Soil Health and Fertility Management										
Soil fertility management	1	68	10	78	6	1	7	74	11	85
Integrated Nutrient Management	1	21	5	26	0	0	0	21	5	26
Management of Problematic soils	1	18	9	27	2	1	3	20	10	30
Soil and Water Testing	1	11	9	20	2	1	3	13	10	23
Total of Soil Health	**4**	**118**	**33**	**151**	**10**	**3**	**13**	**128**	**36**	**164**
IV Livestock Production and Management										
Dairy Management	1	3	17	20	4	16	20	7	33	40
Poultry Management	1	10	2	12	4	12	16	14	14	28
Animal Nutrition Management	1	13	10	23	4	7	11	17	17	34
Feed & fodder technology	1	6	1	7	7	7	14	13	8	21
Others	1	14	0	14	4	0	4	18	0	18
Total of livestock	**5**	**46**	**30**	**76**	**23**	**42**	**65**	**69**	**72**	**141**
V Home Science/Women empowerment										
Design and development of low/minimum cost diet	4	0	83	83	0	10	10	0	93	93
Designing and development for high nutrient efficiency diet	2	0	41	41	0	10	10	0	51	51
Minimization of nutrient loss in processing	1	0	25	25	0	0	0	0	25	25
Processing and cooking	1	0	12	12	0	5	5	0	17	17
Storage loss minimization techniques	2	16	21	37	1	9	10	17	30	47
Others	11	0	183	183	0	61	61	0	244	244
Total of home science	**21**	**16**	**365**	**381**	**1**	**95**	**96**	**17**	**460**	**477**
VI Agril. Engineering										
Farm Machinary and its maintenance	1	11	5	16	2	2	4	13	7	20
Total of Agrl engineering	**1**	**11**	**5**	**16**	**2**	**2**	**4**	**13**	**7**	**20**
VII Plant Protection										
Integrated Pest Management	8	174	12	186	9	0	9	183	12	195
Total of plant protection	**8**	**174**	**12**	**186**	**9**	**0**	**9**	**183**	**12**	**195**
VIII Fisheries										

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Integrated fish farming	2	21	20	41	0	4	4	21	24	45
Carp breeding and hatchery management	1	11	6	17	0	3	3	11	9	20
Composite fish culture	3	11	20	31	8	4	12	19	24	43
Others	4	26	17	43	31	6	37	57	23	80
Total of Fisheries	**10**	**69**	**63**	**132**	**39**	**17**	**56**	**108**	**80**	**188**
GRAND TOTAL of Farmers and Farm Women	**52**	**497**	**521**	**1018**	**85**	**163**	**248**	**582**	**684**	**1266**

RuralYouth

For entrepreneurship development, employment creation and income generation in agriculture and allied areas among rural youth,various training courses were conducted by the KVKs in Zone-X. A total of 707 courses were organized for 18868 rural youth in Tamil Nadu, Andhra Pradesh, Telangana and Puducherry. The training areas included value addition of agriculture, dairy, fisheries, animal husbandry products (94), mushroom production (58), bee keeping (70), Nursery management (29), dairying (24), integrated farming (25), poultry production (35), *etc*(Table 3.3.7).

Table 3.3.7. Details of training programmes for rural youth in Zone-X

Area of training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery Management of Horticulture crops	29	446	176	622	149	67	216	595	243	838
Training and pruning of orchards	6	54	20	74	33	13	46	87	33	120
Protected cultivation of vegetable crops	16	288	96	384	45	13	58	333	109	442
Commercial fruit production	5	54	24	78	11	5	16	65	29	94
Integrated farming	25	319	200	519	100	66	166	419	266	685
Seed production	19	282	128	410	107	26	133	389	154	543
Production of organic inputs	38	600	184	784	167	57	224	767	241	1008
Planting material production	7	87	37	124	20	11	31	107	48	155
Vermi-culture	35	471	210	681	154	178	332	625	388	1013
Mushroom Production	58	622	494	1116	256	84	340	878	578	1456
Bee-keeping	70	717	241	958	324	155	479	1041	396	1437
Sericulture	10	106	60	166	51	14	65	157	74	231
Repair and maintenance of farm machinery and implements	13	215	46	261	44	27	71	259	73	332
Value addition	94	302	1546	1848	67	579	646	369	2125	2494
Small scale processing	10	52	115	167	29	58	87	81	173	254
Postharvest Technology	13	205	93	298	34	24	58	239	117	356
Tailoring and Stitching	10	0	264	264	0	54	54	0	318	318
Rural Crafts	5	22	62	84	0	15	15	22	77	99
Production of quality animal products	3	22	65	87	3	0	3	25	65	90
Dairying	24	422	246	668	90	15	105	512	261	773
Sheep and goat rearing	21	496	279	775	65	317	382	561	596	1157
Quail farming	1	21	5	26	1	0	1	22	5	27
Piggery	2	31	5	36	6	0	6	37	5	42
Rabbit farming	2	35	5	40	10	2	12	45	7	52
Poultry production	35	711	403	1114	92	175	267	803	578	1381

Ornamental fisheries	2	21	0	21	0	0	0	21	0	21
Composite fish culture	5	196	17	213	13	3	16	209	20	229
Freshwater prawn culture	4	47	1	48	8	0	8	55	1	56
Fish harvest and processing technology	4	26	66	92	2	8	10	28	74	102
Fry and fingerling rearing	5	38	50	88	7	40	47	45	90	135
Others	136	1092	799	1891	520	517	1037	1612	1316	2928
TOTAL Youth Trainings	**707**	**8000**	**5937**	**13937**	**2408**	**2523**	**4931**	**10408**	**8460**	**18868**

The details of state wise training programmes organized for rural youth are presented in Tables 3.3.8 to 3.3.11.

Table 3.3.8. Details of training programmes for rural youth in Tamil Nadu

Area of training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery Management of Horticulture crops	10	161	100	261	31	11	42	192	111	303
Training and pruning of orchards	2	28	9	37	5	0	5	33	9	42
Protected cultivation of vegetable crops	9	166	80	246	18	8	26	184	88	272
Commercial fruit production	3	38	13	51	3	0	3	41	13	54
Integrated farming	17	188	162	350	38	36	74	226	198	424
Seed production	11	130	89	219	60	14	74	190	103	293
Production of organic inputs	21	219	117	336	41	29	70	260	146	406
Planting material production	6	67	33	100	16	9	25	83	42	125
Vermi-culture	15	168	118	286	28	109	137	196	227	423
Mushroom Production	26	293	260	553	42	11	53	335	271	606
Bee-keeping	54	477	188	665	111	93	204	588	281	869
Sericulture	1	20	23	43	10	2	12	30	25	55
Repair and maintenance of farm machinery and implements	9	138	34	172	19	23	42	157	57	214
Value addition	42	250	698	948	49	99	148	299	797	1096
Small scale processing	10	52	115	167	29	58	87	81	173	254
Postharvest Technology	9	145	68	213	17	11	28	162	79	241
Tailoring and Stitching	2	0	46	46	0	6	6	0	52	52
Rural Crafts	1	2	30	32	0	2	2	2	32	34
Production of quality animal products	1	22	3	25	3	0	3	25	3	28
Dairying	20	349	192	541	83	15	98	432	207	639
Sheep and goat rearing	16	366	275	641	55	316	371	421	591	1012
Quail farming	1	21	5	26	1	0	1	22	5	27
Piggery	2	31	5	36	6	0	6	37	5	42
Rabbit farming	1	21	5	26	0	0	0	21	5	26
Poultry production	28	616	395	1011	70	142	212	686	537	1223
Ornamental fisheries	2	21	0	21	0	0	0	21	0	21
Composite fish culture	2	44	12	56	5	1	6	49	13	62
Freshwater prawn culture	4	47	1	48	8	0	8	55	1	56
Fish harvest and processing technology	2	21	9	30	0	0	0	21	9	30
Others	77	566	379	945	127	115	242	693	494	1187
TOTAL Youth Trainings	**404**	**4667**	**3464**	**8131**	**875**	**1110**	**1985**	**5542**	**4574**	**10116**

Table 3.3.9. Details of training programmes for rural youth in Andhra Pradesh

Area of training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery Management of Horticulture crops	13	175	35	210	102	47	149	277	82	359
Training and pruning of orchards	3	12	5	17	21	11	32	33	16	49
Protected cultivation of vegetable crops	5	74	2	76	19	2	21	93	4	97
Commercial fruit production	1	5	10	15	0	5	5	5	15	20
Integrated farming	5	89	25	114	50	26	76	139	51	190
Seed production	7	128	39	167	47	12	59	175	51	226
Production of organic inputs	14	297	60	357	110	27	137	407	87	494
Planting material production	0	0	0	0	0	0	0	0	0	0
Vermi-culture	8	107	37	144	53	17	70	160	54	214
Mushroom Production	20	242	144	386	108	63	171	350	207	557
Bee-keeping	10	171	10	181	133	22	155	304	32	336
Sericulture	7	52	32	84	22	6	28	74	38	112
Repair and maintenance of farm machinery and implements	1	20	0	20	7	0	7	27	0	27
Value addition	43	27	684	711	13	422	435	40	1106	1146
Postharvest Technology	3	60	15	75	17	8	25	77	23	100
Tailoring and Stitching	1	0	20	20	0	0	0	0	20	20
Rural Crafts	4	20	32	52	0	13	13	20	45	65
Production of quality animal products	2	0	62	62	0	0	0	0	62	62
Dairying	3	55	54	109	5	0	5	60	54	114
Sheep and goat rearing	3	75	0	75	3	0	3	78	0	78
Poultry production	7	95	8	103	22	33	55	117	41	158
Fry and fingerling rearing	4	20	50	70	5	40	45	25	90	115
Other	35	97	377	474	207	392	599	304	769	1073
TOTAL Youth Trainings	**199**	**1821**	**1701**	**3522**	**944**	**1146**	**2090**	**2765**	**2847**	**5612**

Table 3.3.10. Details of training programmes for rural youth in Telangana

Area of training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery Management of Horticulture crops	6	110	41	151	16	9	25	126	50	176
Training and pruning of orchards	1	14	6	20	7	2	9	21	8	29
Protected cultivation of vegetable crops	2	48	14	62	8	3	11	56	17	73
Commercial fruit production	1	11	1	12	8	0	8	19	1	20
Integrated farming	3	42	13	55	12	4	16	54	17	71
Seed production	1	24	0	24	0	0	0	24	0	24
Production of organic inputs	3	84	7	91	16	1	17	100	8	108
Planting material production	1	20	4	24	4	2	6	24	6	30
Vermi-culture	12	196	55	251	73	52	125	269	107	376
Mushroom Production	7	46	32	78	93	5	98	139	37	176

Bee-keeping	5	49	37	86	73	38	111	122	75	197
Sericulture	2	34	5	39	19	6	25	53	11	64
Repair and maintenance of farm machinery and implements	2	40	6	46	16	4	20	56	10	66
Value addition	8	25	147	172	5	50	55	30	197	227
Postharvest Technology	1	0	10	10	0	5	5	0	15	15
Tailoring and Stitching	7	0	198	198	0	48	48	0	246	246
Dairying	1	18	0	18	2	0	2	20	0	20
Sheep and goat rearing	1	44	2	46	5	1	6	49	3	52
Composite fish culture	3	152	5	157	8	2	10	160	7	167
Fish harvest and processing technology	2	5	57	62	2	8	10	7	65	72
Fry and fingerling rearing	1	18	0	18	2	0	2	20	0	20
Others	22	397	36	433	185	10	195	582	46	628
TOTAL Youth Trainings	**92**	**1377**	**676**	**2053**	**554**	**250**	**804**	**1931**	**926**	**2857**

Table 3.3.11. Details of training programmes for rural youth in Puducherry

Area of training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Mushroom Production	5	41	58	99	13	5	18	54	63	117
Bee-keeping	1	20	6	26	7	2	9	27	8	35
Repair and maintenance of farm machinery and implements	1	17	6	23	2	0	2	19	6	25
Value addition	1	0	17	17	0	8	8	0	25	25
Sheep and goat rearing	1	11	2	13	2	0	2	13	2	15
Rabbit farming	1	14	0	14	10	2	12	24	2	26
Others (Specify)	1	12	7	19	1	0	1	13	7	20
Others (Specify)	1	20	0	20	0	0	0	20	0	20
TOTAL Youth Trainings	**12**	**135**	**96**	**231**	**35**	**17**	**52**	**170**	**113**	**283**

As per the mandate of KrishiVigyanKendras, Capacity Development Programmes for district level extension functionaries were organized by KVKs in Tamil Nadu, Andhra Pradesh, Telangana states and Puducherry. A total of 491 trainings were conducted in which 17717 extension functionaries were participated. In Integrated pest and disease management 124 courses were taken up with the participation of 4354 personnel (Table 3.3.12). On productivity enhancement in field crops 84 courses were conducted followed by integrated nutrient management(45), protected cultivation technology (25), livestock feed and fodder management(12), Capacity building for ICT application (19), low cost and nutrient effective diet designing (10), etc. Out of 17717 participants, 6869 were women extension functionaries.

Table 3.3.12. Details of trainings for extension functionaries in Zone-X

Area of training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops	84	1747	754	2501	311	201	512	2058	955	3013
Integrated Pest Management	124	2612	954	3566	448	340	788	3060	1294	4354
Integrated Nutrient management	45	1007	409	1416	227	109	336	1234	518	1752
Rejuvenation of old orchards	5	76	43	119	51	24	75	127	67	194
Protected cultivation technology	25	639	158	797	30	17	47	669	175	844
Production and use of organic inputs	22	491	184	675	122	59	181	613	243	856
Care & maintenance of farm machinery & implements	7	153	29	182	36	14	50	189	43	232
Gender mainstreaming through SHGs	3	0	32	32	0	0	0	0	32	32
Formation and Management of SHGs	2	15	5	20	5	0	5	20	5	25
Women and Child care	25	17	1301	1318	18	232	250	35	1533	1568
Low cost and nutrient efficient diet designing	10	47	216	263	3	54	57	50	270	320
Group Dynamics and farmers organization	4	75	53	128	33	21	54	108	74	182
Information networking among farmers	1	15	8	23	9	4	13	24	12	36
Capacity building for ICT application	19	378	164	542	95	62	157	473	226	699
Management in farm animals	8	192	97	289	38	13	51	230	110	340
Livestock feed and fodder production	12	296	111	407	49	20	69	345	131	476
Others	95	1260	794	2054	353	387	740	1613	1181	2794
TOTAL Extension Functionaries	**491**	**9020**	**5312**	**14332**	**1828**	**1557**	**3385**	**10848**	**6869**	**17717**

The state wise particulars of training programmes conducted for extension functionaries are present in tables 3.3.13 to 3.3.16.

Table 3.3.13. Details of trainings for extension functionaries in Tamil Nadu

Area of training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops	36	792	359	1151	147	82	229	939	441	1380
Integrated Pest Management	50	1216	362	1578	95	50	145	1311	412	1723
Integrated Nutrient management	24	588	261	849	82	38	120	670	299	969
Protected cultivation technology	20	560	104	664	19	9	28	579	113	692
Production and use of organic inputs	17	355	130	485	108	47	155	463	177	640
Care & maintenance of farm machinery & implements	5	136	20	156	18	7	25	154	27	181
Women and Child care	1	0	26	26	0	7	7	0	33	33
Low cost and nutrient efficient diet designing	3	28	66	94	2	2	4	30	68	98
Group Dynamics and farmers organization	1	18	0	18	3	0	3	21	0	21
Capacity building for ICT application	4	98	35	133	0	0	0	98	35	133
Management in farm animals	3	66	76	142	8	7	15	74	83	157
Livestock feed and fodder production	2	51	26	77	6	5	11	57	31	88
Others	30	719	200	919	39	54	93	758	254	1012
TOTAL Extension Functionaries	**196**	**4627**	**1665**	**6292**	**527**	**308**	**835**	**5154**	**1973**	**7127**

Table 3.3.14. Details of trainings for extension functionaries in Andhra Pradesh

Area of training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops	43	834	367	1201	147	112	259	981	479	1460
Integrated Pest Management	50	791	367	1158	201	197	398	992	564	1556
Integrated Nutrient management	18	340	133	473	133	66	199	473	199	672
Rejuvenation of old orchards	5	76	43	119	51	24	75	127	67	194
Protected cultivation technology	4	61	50	111	11	8	19	72	58	130
Production and use of organic inputs	5	136	54	190	14	12	26	150	66	216
Care & maintenance of farm machinery & implements	1	10	3	13	4	2	6	14	5	19
Formation and Management of SHGs	2	15	5	20	5	0	5	20	5	25
Women and Child care	11	12	532	544	13	170	183	25	702	727
Low cost and nutrient efficient diet designing	4	12	74	86	0	46	46	12	120	132
Group Dynamics and farmers organization	3	57	53	110	30	21	51	87	74	161
Information networking among farmers	1	15	8	23	9	4	13	24	12	36
Capacity building for ICT application	14	268	127	395	95	62	157	363	189	552
Management in farm animals	5	126	21	147	30	6	36	156	27	183
Livestock feed and fodder production	9	234	83	317	41	14	55	275	97	372
Others	41	317	317	634	217	273	490	534	590	1124
TOTAL Extension Functionaries	**216**	**3304**	**2237**	**5541**	**1001**	**1017**	**2018**	**4305**	**3254**	**7559**

Table 3.3.15. Details of trainings for extension functionaries in Telangana

Area of training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops	5	121	28	149	17	7	24	138	35	173
Integrated Pest Management	24	605	225	830	152	93	245	757	318	1075
Integrated Nutrient management	3	79	15	94	12	5	17	91	20	111
Protected cultivation technology	1	18	4	22	0	0	0	18	4	22
Care & maintenance of farm machinery & implements	1	7	6	13	14	5	19	21	11	32
Gender mainstreaming through SHGs	3	0	32	32	0	0	0	0	32	32
Women and Child care	12	5	727	732	5	46	51	10	773	783
Low cost and nutrient efficient diet designing	3	7	76	83	1	6	7	8	82	90
Capacity building for ICT application	1	12	2	14	0	0	0	12	2	14
Livestock feed and fodder production	1	11	2	13	2	1	3	13	3	16
Others	24	224	277	501	97	60	157	321	337	658
TOTAL Extension Functionaries	**78**	**1089**	**1394**	**2483**	**300**	**223**	**523**	**1389**	**1617**	**3006**

Table 3.3.16. Details of trainings for extension functionaries in Puducherry

Area of training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Women and Child care	1	0	16	16	0	9	9	0	25	25
TOTAL Extension Functionaries	1	0	16	16	0	9	9	0	25	25

3.3.1 Sponsored trainings

In addition to regular training programmes organized, KVKs conducted sponsored training programmes from ATMA, MANAGE and other agencies. On the whole, 881 sponsored training programmes were conducted for 37617 youth in Zone-X. The maximum number of courses were conducted on production and value addition (160), followed by crop production and management (163), livestock and fisheries (74), home science (194), agricultural extension (196), *etc*. (Table 3.3.17).

Table 3.3.17. Details of sponsored training programmes in Zone-X

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	73	1460	524	1984	884	313	1197	2344	837	3181
Commercial production of vegetables	22	423	199	622	380	205	585	803	404	1207
Others	68	1366	319	1685	1211	616	1827	2577	935	3512
Total crop production and management	**163**	**3249**	**1042**	**4291**	**2475**	**1134**	**3609**	**5724**	**2176**	**7900**
Production and value addition										
Fruit Plants	14	246	61	307	397	233	630	643	294	937
Ornamental plants	2	57	7	64	4	1	5	61	8	69
Spices crops	2	36	2	38	2	0	2	38	2	40
Soil health and fertility	26	433	184	617	384	195	579	817	379	1196

Area of training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
management										
Production of Inputs at site	18	332	101	433	71	57	128	403	158	561
Methods of protective cultivation	21	428	212	640	194	102	296	622	314	936
Others	77	882	370	1252	802	459	1261	1684	829	2513
Total Production and Value Addition	**160**	**2414**	**937**	**3351**	**1854**	**1047**	**2901**	**4268**	**1984**	**6252**
Postharvest technology and value addition										
Processing and value addition	45	266	540	806	183	236	419	449	776	1225
Others	21	114	23	137	509	194	703	623	217	840
Total Post harvest technology and value addition	**66**	**380**	**563**	**943**	**692**	**430**	**1122**	**1072**	**993**	**2065**
Farm machinery										
Farm machinery, tools and implements	20	262	32	294	307	121	428	569	153	722
Others	8	190	60	250	25	29	54	215	89	304
Total Farm machinery	**28**	**452**	**92**	**544**	**332**	**150**	**482**	**784**	**242**	**1026**
Livestock and fisheries										
Livestock production and management	23	331	349	680	328	427	755	659	776	1435
Animal Nutrition Management	8	153	286	439	323	325	648	476	611	1087
Animal Disease Management	2	20	0	20	178	70	248	198	70	268
Fisheries Nutrition	2	20	17	37	7	15	22	27	32	59
Fisheries Management	9	271	20	291	20	4	24	291	24	315
Others	39	734	143	877	176	111	287	910	254	1164
Total Livestock and fisheries	**74**	**1258**	**795**	**2053**	**1012**	**948**	**1960**	**2270**	**1743**	**4013**
Home Science										
Household nutritional security	46	15	990	1005	225	409	634	240	1399	1639
Economic empowerment of women	41	48	605	653	60	358	418	108	963	1071
Drudgery reduction of women	17	24	19	43	286	135	421	310	154	464
Others	90	50	905	955	755	1022	1777	805	1927	2732
Total Home Science	**194**	**137**	**2519**	**2656**	**1326**	**1924**	**3250**	**1463**	**4443**	**5906**
Agricultural Extension										
Capacity Building and Group Dynamics	6	98	62	160	71	30	101	169	92	261
Others	190	2200	5873	8073	917	1204	2121	3117	7077	10194
Total Agricultural Extension	**196**	**2298**	**5935**	**8233**	**988**	**1234**	**2222**	**3286**	**7169**	**10455**
GRAND TOTAL SPONSORED TRAININGS	**881**	**10188**	**11883**	**22071**	**8679**	**6867**	**15546**	**18867**	**18750**	**37617**

The details of state wise sponsored training courses conducted are presented in tables 3.3.18 to 3.3.21.

Table 3.3.18. Details of sponsored training programmes in Tamil Nadu

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	42	947	410	1357	285	142	427	1232	552	1784
Commercial production of vegetables	7	82	148	230	12	27	39	94	175	269
Others	15	396	160	556	56	12	68	452	172	624
Total crop production and management	**64**	**1425**	**718**	**2143**	**353**	**181**	**534**	**1778**	**899**	**2677**
Production and value addition										
Fruit Plants	3	187	44	231	34	17	51	221	61	282

Area of training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Ornamental plants	1	44	1	45	4	1	5	48	2	50
Spices crops	2	36	2	38	2	0	2	38	2	40
Soil health and fertility management	15	370	176	546	65	52	117	435	228	663
Production of Inputs at site	16	322	97	419	31	31	62	353	128	481
Methods of protective cultivation	19	428	191	619	16	20	36	444	211	655
Others	46	738	291	1029	75	28	103	813	319	1132
Total Production and Value Addition	**102**	**2125**	**802**	**2927**	**227**	**149**	**376**	**2352**	**951**	**3303**
Postharvest technology and value addition										
Processing and value addition	23	266	278	544	27	47	74	293	325	618
Others	1	3	13	16	1	3	4	4	16	20
Total Post harvest technology and value addition	**24**	**269**	**291**	**560**	**28**	**50**	**78**	**297**	**341**	**638**
Farm machinery										
Farm machinery, tools and implements	14	262	32	294	43	6	49	305	38	343
Others	4	95	29	124	5	25	30	100	54	154
Total Farm machinery	**18**	**357**	**61**	**418**	**48**	**31**	**79**	**405**	**92**	**497**
Livestock and fisheries										
Livestock production and management	16	296	309	605	270	370	640	566	679	1245
Animal Nutrition Management	6	133	286	419	145	255	400	278	541	819
Animal Disease Management										
Fisheries Nutrition	1	17	8	25	4	0	4	21	8	29
Fisheries Management	3	41	20	61	10	4	14	51	24	75
Others	18	260	104	364	27	35	62	287	139	426
Total Livestock and fisheries	**44**	**747**	**727**	**1474**	**456**	**664**	**1120**	**1203**	**1391**	**2594**
Home Science										
Household nutritional security	5	0	82	82	0	57	57	0	139	139
Economic empowerment of women	11	28	251	279	13	239	252	41	490	531
Drudgery reduction of women	3	24	9	33	32	27	59	56	36	92
Others	11	21	51	72	13	37	50	34	88	122
Total Home Science	**30**	**73**	**393**	**466**	**58**	**360**	**418**	**131**	**753**	**884**
Agricultural Extension										
Capacity Building and Group Dynamics	5	98	62	160	35	7	42	133	69	202
Others	143	1867	1064	2931	834	478	1312	2701	1542	4243
Total Agricultural Extension	**148**	**1965**	**1126**	**3091**	**869**	**485**	**1354**	**2834**	**1611**	**4445**
GRAND TOTAL SPONSORED TRAININGS	**430**	**6961**	**4118**	**11079**	**2039**	**1920**	**3959**	**9000**	**6038**	**15038**

Table 3.3.19. 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										
Increasing production and productivity of crops	28	513	114	627	421	101	522	934	215	1149
Commercial production of vegetables	12	322	29	351	189	91	280	511	120	631
Others	37	646	81	727	677	336	1013	1323	417	1740
Total crop production and management	**77**	**1481**	**224**	**1705**	**1287**	**528**	**1815**	**2768**	**752**	**3520**
Production and value addition										
Fruit Plants	8	43	12	55	174	143	317	217	155	372

Area of training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Ornamental plants	1	13	6	19	0	0	0	13	6	19
Spices crops	0	0	0	0	0	0	0	0	0	0
Soil health and fertility management	7	52	7	59	133	73	206	185	80	265
Production of Inputs at site	2	10	4	14	40	26	66	50	30	80
Methods of protective cultivation	1	0	21	21	0	12	12	0	33	33
Others	28	119	68	187	546	360	906	665	428	1093
Total Production and Value Addition	**47**	**237**	**118**	**355**	**893**	**614**	**1507**	**1130**	**732**	**1862**
Postharvest technology and value addition										
Processing and value addition	19	0	225	225	156	174	330	156	399	555
Others	20	111	10	121	508	191	699	619	201	820
Total Post harvest technology and value addition	**39**	**111**	**235**	**346**	**664**	**365**	**1029**	**775**	**600**	**1375**
Farm machinery										
Farm machinery, tools and implements	3	0	0	0	86	45	131	86	45	131
Others	2	66	31	97	12	4	16	78	35	113
Total Farm machinery	**5**	**66**	**31**	**97**	**98**	**49**	**147**	**164**	**80**	**244**
Livestock and fisheries										
Livestock production and management	6	17	40	57	56	57	113	73	97	170
Animal Nutrition Management	1	20	0	20	0	0	0	20	0	20
Animal Disease Management	1	20	0	20	0	0	0	20	0	20
Fisheries Nutrition	1	3	9	12	3	15	18	6	24	30
Fisheries Management	1	26	0	26	4	0	4	30	0	30
Others	5	20	12	32	96	70	166	116	82	198
Total Livestock and fisheries	**15**	**106**	**61**	**167**	**159**	**142**	**301**	**265**	**203**	**468**
Home Science										
Household nutritional security	40	15	908	923	47	282	329	62	1190	1252
Economic empowerment of women	26	20	256	276	47	99	146	67	355	422
Drudgery reduction of women	12	0	10	10	76	38	114	76	48	124
Others	78	28	845	873	740	982	1722	768	1827	2595
Total Home Science	**156**	**63**	**2019**	**2082**	**910**	**1401**	**2311**	**973**	**3420**	**4393**
Agricultural Extension										
Capacity Building and Group Dynamics	1	0	0	0	36	23	59	36	23	59
Others	47	333	4809	5142	83	726	809	416	5535	5951
Total Agricultural Extension	**48**	**333**	**4809**	**5142**	**119**	**749**	**868**	**452**	**5558**	**6010**
GRAND TOTAL SPONSORED TRAININGS	**387**	**2397**	**7497**	**9894**	**4130**	**3848**	**7978**	**6527**	**11345**	**17872**

Table 3.3.20. 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	3	0	0	0	178	70	248	178	70	248
Commercial production of vegetables	3	19	22	41	179	87	266	198	109	307
Others	16	324	78	402	478	268	746	802	346	1148
Total crop production and management	**22**	**343**	**100**	**443**	**835**	**425**	**1260**	**1178**	**525**	**1703**
Production and value addition										

Area of training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Fruit Plants	3	16	5	21	189	73	262	205	78	283
Soil health and fertility management	4	11	1	12	186	70	256	197	71	268
Methods of protective cultivation	1	0	0	0	178	70	248	178	70	248
Others	2	13	4	17	180	71	251	193	75	268
Total Production and Value Addition	**10**	**40**	**10**	**50**	**733**	**284**	**1017**	**773**	**294**	**1067**
Postharvest technology and value addition										
Processing and value addition	1	0	10	10	0	5	5	0	15	15
Others										
Total Post harvest technology and value addition	**1**	**0**	**10**	**10**	**0**	**5**	**5**	**0**	**15**	**15**
Farm machinery										
Farm machinery, tools and implements	3	0	0	0	178	70	248	178	70	248
Others	1	9	0	9	8	0	8	17	0	17
Total Farm machinery	**4**	**9**	**0**	**9**	**186**	**70**	**256**	**195**	**70**	**265**
Livestock and fisheries										
Livestock production and management	1	18	0	18	2	0	2	20	0	20
Animal Nutrition Management	1	0	0	0	178	70	248	178	70	248
Animal Disease Management	1	0	0	0	178	70	248	178	70	248
Fisheries Management	5	204	0	204	6	0	6	210	0	210
Others	7	183	7	190	33	2	35	216	9	225
Total Livestock and fisheries	**15**	**405**	**7**	**412**	**397**	**142**	**539**	**802**	**149**	**951**
Home Science										
Household nutritional security	1	0	0	0	178	70	248	178	70	248
Economic empowerment of women	3	0	78	78	0	20	20	0	98	98
Drudgery reduction of women	2	0	0	0	178	70	248	178	70	248
Others	1	1	9	10	2	3	5	3	12	15
Total Home Science	**7**	**1**	**87**	**88**	**358**	**163**	**521**	**359**	**250**	**609**
GRAND TOTAL SPONSORED TRAININGS	**59**	**798**	**214**	**1012**	**2509**	**1089**	**3598**	**3307**	**1303**	**4610**

Table 3.3.21. Details of sponsored training programmes in Puducherry

Area of training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Production and value addition										
Organic Farming	1	12	7	19	1	0	1	13	7	20
Total Production and Value Addition	**1**	**12**	**7**	**19**	**1**	**0**	**1**	**13**	**7**	**20**
Postharvest technology and value addition										
Processing and value addition	2	0	27	27	0	10	10	0	37	37
Total Post harvest technology and value addition	**2**	**0**	**27**	**27**	**0**	**10**	**10**	**0**	**37**	**37**
Farm machinery										
Micro irrigation Technician	1	20	0	20	0	0	0	20	0	20
Total Farm machinery	**1**	**20**	**0**	**20**	**0**	**0**	**0**	**20**	**0**	**20**
Home Science										
Economic empowerment of women	1	0	20	20	0	0	0	0	20	20
Total Home Science	**1**	**0**	**20**	**20**	**0**	**0**	**0**	**0**	**20**	**20**
GRAND TOTAL SPONSORED TRAININGS	**5**	**32**	**54**	**86**	**1**	**10**	**11**	**33**	**64**	**97**

3.3.2 Vocational Training

Krishi Vigyan Kendras in Tamil Nadu, Andhra Pradesh, Telangana and Puducherry conducted vocational training courses to farmers, rural youth, school dropouts and women to create self employment and income generation in the rural areas. During 2018-19, a total of 292 vocational training courses were conducted in which 6020 farmers, women, rural youth and extension functionaries were participated (Table 3.3.22). The maximum number of courses were conducted on income generation activities(153) followed by crop production and management (62), post harvest technology and value addition (51), livestock and fisheries (26),*etc*.

Table 3.3.22. Details of Vocational training programmes in Zone-X

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	14	0	14	1	0	1	15	0	15
Commercial fruit production	1	0	78	78	0	12	12	0	90	90
Commercial vegetable production	5	81	14	95	18	10	28	99	24	123
Integrated crop management	5	53	0	53	31	3	34	84	3	87
Organic farming	16	173	41	214	23	43	66	196	84	280
Others	34	271	35	306	108	9	117	379	44	423
Total crop production and management	**62**	**592**	**168**	**760**	**181**	**77**	**258**	**773**	**245**	**1018**
Postharvest technology and value addition										
Value addition	51	51	871	922	36	351	387	87	1222	1309
Total postharvest technology and value addition	**51**	**51**	**871**	**922**	**36**	**351**	**387**	**87**	**1222**	**1309**
Livestock and fisheries										
Dairy farming	7	131	94	225	76	42	118	207	136	343
Composite fish culture	5	5	90	95	1	54	55	6	144	150
Sheep and goat rearing	4	95	6	101	14	12	26	109	18	127
Piggery										
Poultry farming	6	34	48	82	27	10	37	61	58	119
Others	4	86	21	107	27	15	42	113	36	149
Total livestock and fisheries	**26**	**351**	**259**	**610**	**145**	**133**	**278**	**496**	**392**	**888**
Income generation activities										
Vermicomposting	10	94	95	189	69	77	146	163	172	335
Production of bio-agents, bio-pesticides,	5	105	28	133	24	2	26	129	30	159
Repair and maintenance of farm machinery and implements	3	43	29	72	15	2	17	58	31	89
Rural Crafts	8	30	100	130	0	40	40	30	140	170
Seed production	1	13	2	15	4	1	5	17	3	20
Sericulture	5	48	9	57	15	2	17	63	11	74
Mushroom cultivation	16	141	180	321	40	37	77	181	217	398
Nursery, grafting etc.	3	42	8	50	0	5	5	42	13	55
Tailoring, stitching, embroidery, dying etc.	9	0	131	131	0	135	135	0	266	266
Agricultural para-workers,	2	21	18	39	0	0	0	21	18	39

Area of training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
para-vet training										
Others	91	446	304	750	164	219	383	610	523	1133
Total Income Generating Activities	**153**	**983**	**904**	**1887**	**331**	**520**	**851**	**1314**	**1424**	**2738**
Agricultural Extension										
Capacity building and group dynamics	0	0	0	0	40	0	40	40	0	40
Others	0	0	0	0	27	0	27	27	0	27
Total Agricultural Extension	**0**	**0**	**0**	**0**	**67**	**0**	**67**	**67**	**0**	**67**
Grand Total	**292**	**1977**	**2202**	**4179**	**760**	**1081**	**1841**	**2737**	**3283**	**6020**

Table 3.3.23. Details of Vocational training programmes in Tamil Nadu

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 fruit production	1	0	78	78	0	12	12	0	90	90
Commercial vegetable production	3	45	4	49	6	3	9	51	7	58
Integrated crop management	5	53	0	53	31	3	34	84	3	87
Organic farming	9	95	29	124	5	25	30	100	54	154
Others	26	157	32	189	77	9	86	234	41	275
Total crop production and management	**44**	**350**	**143**	**493**	**119**	**52**	**171**	**469**	**195**	**664**
Postharvest technology and value addition										
Value addition	9	18	246	264	4	39	43	22	285	307
Total postharvest technology and value addition	**9**	**18**	**246**	**264**	**4**	**39**	**43**	**22**	**285**	**307**
Livestock and fisheries										
Dairy farming	3	99	86	185	51	10	61	150	96	246
Composite fish culture	1	0	20	20	0	10	10	0	30	30
Sheep and goat rearing	2	37	6	43	5	2	7	42	8	50
Poultry farming	3	18	39	57	8	1	9	26	40	66
Others	2	61	16	77	7	5	12	68	21	89
Total livestock and fisheries	**11**	**215**	**167**	**382**	**71**	**28**	**99**	**286**	**195**	**481**
Income generation activities										
Repair and maintenance of farm machinery and implements	3	43	29	72	15	2	17	58	31	89
Rural Crafts	2	10	40	50	0	0	0	10	40	50
Mushroom cultivation	7	84	100	184	6	10	16	90	110	200
Others	9	83	47	130	44	38	82	127	85	212
	26	18	19	37	0	0	0	18	19	37
	26	15	5	20	1	16	17	16	21	37
	4	80	50	130	30	40	70	110	90	200

Area of training	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
	2	20	30	50	0	14	14	20	44	64
Total Income Generating Activities	**79**	**353**	**320**	**673**	**96**	**120**	**216**	**449**	**440**	**889**
Grand Total	**143**	**936**	**876**	**1812**	**290**	**239**	**529**	**1226**	**1115**	**2341**

Table 3.3.24. 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										
Commercial floriculture	1	14	0	14	1	0	1	15	0	15
Organic farming	4	50	4	54	9	3	12	59	7	66
Others	7	103	3	106	27	0	27	130	3	133
Total crop production and management	**12**	**167**	**7**	**174**	**37**	**3**	**40**	**204**	**10**	**214**
Postharvest technology and value addition										
Value addition	39	33	557	590	32	294	326	65	851	916
Total postharvest technology and value addition	**39**	**33**	**557**	**590**	**32**	**294**	**326**	**65**	**851**	**916**
Livestock and fisheries										
Dairy farming	4	32	8	40	25	32	57	57	40	97
Composite fish culture	3	0	50	50	0	40	40	0	90	90
Sheep and goat rearing	2	58	0	58	9	10	19	67	10	77
Poultry farming	3	16	9	25	19	9	28	35	18	53
Total livestock and fisheries	**12**	**106**	**67**	**173**	**53**	**91**	**144**	**159**	**158**	**317**
Income generation activities										
Vermicomposting	5	42	84	126	2	67	69	44	151	195
Production of bio-agents, bio-pesticides, bio-fertilizers etc.	3	101	27	128	24	2	26	125	29	154
Rural Crafts	6	20	60	80	0	40	40	20	100	120
Seed production	1	13	2	15	4	1	5	17	3	20
Sericulture	4	36	8	44	10	0	10	46	8	54
Mushroom cultivation	8	57	68	125	34	24	58	91	92	183
Nursery, grafting etc.	2	30	0	30	0	5	5	30	5	35
Tailoring, stitching, embroidery, dying etc.	3	0	53	53	0	25	25	0	78	78
Others	21	210	153	363	44	111	155	254	264	518
Total Income Generating Activities	**53**	**509**	**455**	**964**	**118**	**275**	**393**	**627**	**730**	**1357**
Agricultural Extension										
Capacity building and group dynamics	0	0	0	0	40	0	40	40	0	40
Total Agricultural Extension	**0**	**0**	**0**	**0**	**40**	**0**	**40**	**40**	**0**	**40**
Grand Total	**116**	**815**	**1086**	**1901**	**280**	**663**	**943**	**1095**	**1749**	**2844**

Table 3.3.25. 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 vegetable production	2	36	10	46	12	7	19	48	17	65
Organic farming	2	16	1	17	8	15	23	24	16	40
Others	1	11	0	11	4	0	4	15	0	15
Total crop production and management	**5**	**63**	**11**	**74**	**24**	**22**	**46**	**87**	**33**	**120**
Postharvest technology and value addition										
Value addition	2	0	45	45	0	15	15	0	60	60
Total postharvest technology and value addition	**2**	**0**	**45**	**45**	**0**	**15**	**15**	**0**	**60**	**60**
Livestock and fisheries										
Composite fish culture	1	5	20	25	1	4	5	6	24	30
Others	2	25	5	30	20	10	30	45	15	60
Total livestock and fisheries	**3**	**30**	**25**	**55**	**21**	**14**	**35**	**51**	**39**	**90**
Income generation activities										
Vermicomposting	5	52	11	63	67	10	77	119	21	140
Sericulture	1	12	1	13	5	2	7	17	3	20
Mushroom cultivation	1	0	12	12	0	3	3	0	15	15
Nursery, grafting etc.	1	12	8	20	0	0	0	12	8	20
Tailoring, stitching, embroidery, dying etc.	6	0	78	78	0	110	110	0	188	188
Agricultural para-workers, para-vet training	2	21	18	39	0	0	0	21	18	39
Others	2	0	0	0	45	0	45	45	0	45
Total Income Generating Activities	**18**	**97**	**128**	**225**	**117**	**125**	**242**	**214**	**253**	**467**
Agricultural Extension										
Others	0	0	0	0	27	0	27	27	0	27
Total Agricultural Extension	**0**	**0**	**0**	**0**	**27**	**0**	**27**	**27**	**0**	**27**
Grand Total	**28**	**190**	**209**	**399**	**189**	**176**	**365**	**379**	**385**	**764**

Table 3.3.26. Details of Vocational training programmes in Puducherry

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	1	12	7	19	1	0	1	13	7	20
Total crop production and management	**1**	**12**	**7**	**19**	**1**	**0**	**1**	**13**	**7**	**20**
Postharvest technology and value addition										
Value addition	1	0	23	23	0	3	3	0	26	26
Total postharvest technology and value addition	**1**	**0**	**23**	**23**	**0**	**3**	**3**	**0**	**26**	**26**
Income generation activities										
Production of bio-agents, bio-pesticides, bio-fertilizers etc.	2	4	1	5	0	0	0	4	1	5
Others	1	20	0	20	0	0	0	20	0	20
Total Income Generating Activities	**3**	**24**	**1**	**25**	**0**	**0**	**0**	**24**	**1**	**25**
Grand Total	**5**	**36**	**31**	**67**	**1**	**3**	**4**	**37**	**34**	**71**

3.4. Extension Activities

A total of 43875 activities were organized by KVKs in Zone-X involving 13,30,139 participants for creating awareness among farmers about latest improved agricultural technologies (Table 3.4.1). The extension activities includes advisory services, exposure visits, animal health camps, technology week, group discussions, method demonstrations, soil health camps, *kisan mela*, *kisan gosthietc*.KVKs Tamil Nadu organized 24,274 extension activities with 3,94,307 participants.In Andhra Pradesh organized 10,674 extension activities in which 3,21,310 persons participated. In Telangana, 7590 activities were organized with the participation of 5,62,984 people. In Puducherry 1337 extension activities were organized with 51538 participants
.

Table 3.4.1. Details of extension activities organized by KVKs in Zone-X

Activities	No. of programmes	No. of farmers	No. of Extension Personnel	TOTAL
Advisory Services	21390	693666	3643	697309
Diagnostic visits	4211	23717	1610	25327
Field Day	509	18554	976	19530
Group discussions	817	18207	1917	20124
Kisan Ghosthi	92	9674	703	10377
Film Show	616	25224	1654	26878
Self -help groups	159	3575	142	3717
Kisan Mela	180	67991	3114	71105
Exhibition	355	163188	5315	168503
Scientists' visit to farmers field	6752	33021	1485	34506
Plant/animal health camps	185	9485	567	10052
Farm Science Club	47	1288	55	1343
Ex-trainees Sammelan	8	235	7	242
Farmers' seminar/workshop	137	17097	587	17684
Method Demonstrations	1336	28299	970	29269
Celebration of important days	450	35595	1684	37279
Special day celebration	236	24524	693	25217
Exposure visits	425	13526	630	14156
Others	5970	110560	6961	117521
	43875	**1297426**	**32713**	**1330139**

Table 3.4.2. Details of Extension Activities organized by KVKs in Tamil Nadu

Activities	No. of programmes	No. of farmers	No. of Extension Personnel	TOTAL
Advisory Services	12336	42818	1357	44175
Diagnostic visits	1755	7746	605	8351
Field Day	220	7925	302	8227
Group discussions	247	5277	1465	6742
Kisan Ghosthi	19	2918	68	2986
Film Show	491	17258	1405	18663
Self -help groups	74	1815	57	1872
Kisan Mela	99	29020	1444	30464
Exhibition	245	95101	3346	98447
Scientists' visit to farmers field	2569	13400	541	13941
Plant/animal health camps	64	6211	386	6597
Farm Science Club	36	808	28	836
Ex-trainees Sammelan	8	235	7	242
Farmers' seminar/workshop	98	13539	461	14000
Method Demonstrations	589	15998	508	16506
Celebration of important days	204	17978	808	18786
Special day celebration	109	13674	405	14079
Exposure visits	206	6567	441	7008
Others	4905	77451	4934	82385
	24274	**375739**	**18568**	**394307**

Table 3.4.3. Details of extension activities organized by KVKs in Andhra Pradesh

Activities	No. of programmes	No. of farmers	No. of Extension Personnel	TOTAL
Advisory Services	5318	173993	1876	175869
Diagnostic visits	1252	8604	490	9094
Field Day	201	5896	366	6262
Group discussions	362	7060	262	7322
Kisan Ghosthi	34	3647	219	3866
Film Show	52	4652	174	4826
Self -help groups	29	649	44	693
Kisan Mela	59	27329	1043	28372
Exhibition	79	22329	1384	23713
Scientists' visit to farmers field	2067	10714	577	11291
Plant/animal health camps	50	3049	98	3147
Farm Science Club	0	0	0	0
Ex-trainees Sammelan	0	0	0	0
Farmers' seminar/workshop	15	1304	71	1375
Method Demonstrations	540	8068	320	8388
Celebration of important days	141	12907	497	13404
Special day celebration	95	9180	160	9340
Exposure visits	154	5405	152	5557
Others	226	8632	159	8791
	10674	**313418**	**7892**	**321310**

Table 3.4.4. Details of extension activities organized by KVKs in Telangana

Activities	No. of programmes	No. of farmers	No. of Extension Personnel	TOTAL
Advisory Services	3226	476164	381	476545
Diagnostic visits	1163	7308	503	7811
Field Day	83	4517	308	4825
Group discussions	208	5870	190	6060
Kisan Ghosthi	37	2916	411	3327
Film Show	49	2893	75	2968
Self -help groups	26	799	41	840
Kisan Mela	21	6392	627	7019
Exhibition	24	5606	489	6095
Scientists' visit to farmers field	1930	8387	364	8751
Plant/animal health camps	71	225	83	308
Farm Science Club	11	480	27	507
Ex-trainees Sammelan	0	0	0	0
Farmers' seminar/workshop	22	1890	46	1936
Method Demonstrations	185	3838	127	3965
Celebration of important days	99	4528	365	4893
Special day celebration	31	1620	116	1736
Exposure visits	55	1514	35	1549
Others	349	22185	1664	23849
	7590	**557132**	**5852**	**562984**

Table 3.4.5. Details of extension activities organized by KVKs in Puducherry

Activities	No. of programmes	No. of farmers	No. of Extension Personnel	TOTAL
Advisory Services	510	691	29	720
Diagnostic visits	41	59	12	71
Field Day	5	216	0	216
Kisan Ghosthi	2	193	5	198
Film Show	24	421	0	421
Self -help groups	30	312	0	312
Kisan Mela	1	5250	0	5250
Exhibition	7	40152	96	40248
Scientists' visit to farmers field	186	520	3	523
Farmers' seminar/workshop	2	364	9	373
Method Demonstrations	22	395	15	410
Celebration of important days	6	182	14	196
Special day celebration	1	50	12	62
Exposure visits	10	40	2	42
Others	490	2292	204	2496
	1337	**51137**	**401**	**51538**

Table 3.4.6. Details of other extension programmes in Zone X

Particulars	Number
Electronic Media (CD./DVD)	309
Extension Literature	7199
News paper coverage	3653
Popular articles	710
Radio Talks	687
TV Talks	526
Animal health camps (Number of animals treated)	8134
Others	2152
Total	**23370**

Table 3.4.7. Details of other extension programmes in Tamilnadu

Particulars	Number
Electronic Media (CD./DVD)	167
Extension Literature	998
News paper coverage	1019
Popular articles	250
Radio Talks	379
TV Talks	304
Animal health camps (Number of animals treated)	5023
Others	497
Total	**8637**

Table 3.4.8. Details of other extension programmes in Andhra Pradesh

Particulars	Number
Electronic Media (CD./DVD)	39
Extension Literature	5147
News paper coverage	2462
Popular articles	327
Radio Talks	181
TV Talks	208
Animal health camps (Number of animals treated)	3105
Others	66
Total	**11535**

Table 3.4.9. Details of other extension programmes in Telangana

Particulars	Number
Electronic Media (CD./DVD)	103
Extension Literature	1036
News paper coverage	125
Popular articles	128
Radio Talks	118
TV Talks	2
Animal health camps (Number of animals treated)	6
Others	1589
Total	**3107**

Table 3.4.10. Details of other extension programmes in Puduchherry

Particulars	Number
Extension Literature	18
News paper coverage	47
Popular articles	5
Radio Talks	9
TV Talks	12
Total	**91**

Technology week and *kisan*mobile advisories

Table 3.4.7. Details of Kisan Mobile Advisories

Category	Type of message	Tamil Nadu		Andhra Pradesh		Telangana		Puducherry		Total	
		No. of messages	No of farmers	No. of messages	No of farmers	No. of messages	No of farmers	No. of messages	No of farmers	No. of messages	No of farmers
Crop	Text	626	614214	792	4237953	319	278711	0	0	**1737**	**5130878**
	Voice	78	30162	74	17500	260	3949	0	0	**412**	**51611**
	Voice & Text	38	56608	398	29465	34	11094	0	0	**470**	**97167**
	Total	**742**	**700984**	**1264**	**4284918**	**613**	**293754**	**0**	**0**	**2619**	**5279656**
Livestock	Text	156	118965	64	54831	14	246474	0	0	**234**	**420270**
	Voice	27	23860	93	20690	0	0	0	0	**120**	**44550**
	Voice & Text	57	43984	37	4130	5	3698	0	0	**99**	**51812**
	Total	**240**	**186809**	**194**	**79651**	**19**	**250172**	**0**	**0**	**453**	**516632**
Agro advisories	Text	31	12644	1	724	0	0	0	0	**32**	**13368**
	Voice	0	0	0	0	0	0	0	0	**0**	**0**
	Voice & Text	0	0	0	0	0	0	0	0	**0**	**0**
	Total	**31**	**12644**	**1**	**724**	**0**	**0**	**0**	**0**	**32**	**13368**
Critical Technology inputs	Text	23	18778	0	0	0	0	0	0	**23**	**18778**
	Voice	0	0	0	0	0	0	0	0	**0**	**0**
	Voice & Text	0	0	0	0	0	0	0	0	**0**	**0**
	Total	**23**	**18778**	**0**	**0**	**0**	**0**	**0**	**0**	**23**	**18778**
Farm implements	Text	7	2387	7	1141	0	0	0	0	**14**	**3528**
	Voice	0	0	0	0	0	0	0	0	**0**	**0**
	Voice & Text	0	0	16	436	0	0	0	0	**16**	**436**
	Total	**7**	**2387**	**23**	**1577**	**0**	**0**	**0**	**0**	**30**	**3964**
Awareness	Text	107	94421	5	0	10	4552	0	0	**122**	**98973**
	Voice	21	10814	0	0	0	0	0	0	**21**	**10814**
	Voice & Text	10	21799	0	0	0	0	0	0	**10**	**21799**
	Total	**138**	**127034**	**5**	**0**	**10**	**4552**	**0**	**0**	**153**	**131586**
KVK-Programmes	Text	68	220566	4	4114	9	25167	0	0	**81**	**249847**
	Voice	0	0	1	4114	0	0	0	0	**1**	**4114**
	Voice & Text	0	0	5	4544	0	0	0	0	**5**	**4544**
	Total	**68**	**220566**	**10**	**12772**	**9**	**25167**	**0**	**0**	**87**	**258505**
Weather	Text	33	71070	0	0	13	26459	0	0	**46**	**97529**
	Voice	13	18152	1	200	0	0	0	0	**14**	**18352**
	Voice & Text	28	42720	5	589	0	0	0	0	**33**	**43309**
	Total	**74**	**131942**	**6**	**789**	**13**	**26459**	**0**	**0**	**93**	**159190**
Market	Text	41	43478	0	0	3	268090	0	0	**44**	**311568**
	Voice	13	17257	0	0	0	0	0	0	**13**	**17257**
	Voice & Text	19	32689	0	0	0	0	0	0	**19**	**32689**
	Total	**73**	**93424**	**0**	**0**	**3**	**268090**	**0**	**0**	**76**	**361514**

Category	Type of message	Tamil Nadu		Andhra Pradesh		Telangana		Puducherry		Total	
		No. of messages	No of farmers	No. of messages	No of farmers	No. of messages	No of farmers	No. of messages	No of farmers	No. of messages	No of farmers
Women and Children	Text	1	623	8	3200	0	0	0	0	**9**	**3823**
	Voice	0	0	9	3200	0	0	0	0	**9**	**3200**
	Voice & Text	0	0	17	3200	0	0	0	0	**17**	**3200**
	Total	**1**	**623**	**34**	**9600**	**0**	**0**	**0**	**0**	**35**	**10223**
Others	Text	36	26411	484	2356304	19	18029	0	0	**539**	**2400744**
	Voice	3	7698	131	34504	0	0	0	0	**134**	**42202**
	Voice & Text	6	16265	295	28702	7	1849	0	0	**308**	**46816**
	Total	**45**	**50374**	**910**	**2419510**	**26**	**19878**	**0**	**0**	**981**	**2489762**
Grand Total	**Text**	**1129**	**1223557**	**1365**	**6658267**	**387**	**867482**	**0**	**0**	**2881**	**8749306**
	Voice	**155**	**107943**	**309**	**80208**	**260**	**3949**	**0**	**0**	**724**	**192100**
	Voice & Text	**158**	**214065**	**773**	**71066**	**46**	**16641**	**0**	**0**	**977**	**301772**
	Total	**1442**	**1545565**	**2447**	**6809541**	**693**	**888072**	**0**	**0**	**4582**	**9243178**

Table 3.4.8. Details of other Mobile Advisories

Category	Type of message	Tamil Nadu		Andhra Pradesh		Telangana		Puducherry		Total	
		No. of messages	No of farmers	No. of messages	No of farmers	No. of messages	No of farmers	No. of messages	No of farmers	No. of messages	No of farmers
Crop	Text	1517	68113	1948	1050695	1277	47920	0	0	**4742**	**1166728**
	Voice	1637	34910	2601	264592	1089	4364	250	301	**5577**	**304167**
	Voice & Text	95	58323	693	226685	19	5150	0	0	**807**	**290158**
	Total	**3249**	**161346**	**5242**	**1541972**	**2385**	**57434**	**250**	**301**	**11126**	**1761053**
Livestock	Text	81	25438	369	11276	138	2196	0	0	**588**	**38910**
	Voice	110	24384	572	4606	388	388	62	94	**1132**	**29472**
	Voice & Text	57	45580	171	84750	144	2202	0	0	**372**	**132532**
	Total	**248**	**95402**	**1112**	**100632**	**670**	**4786**	**62**	**94**	**2092**	**200914**
Agro advisories	Text	51	360	55	55	0	0	0	0	**106**	**415**
	Voice	110	110	10	0	34	34	0	0	**154**	**144**
	Voice & Text	0	0	0	0	0	0	0	0	**0**	**0**
	Total	**161**	**470**	**65**	**55**	**34**	**34**	**0**	**0**	**260**	**559**
Critical Technology inputs	Text	0	0	1	30	0	0	0	0	**1**	**30**
	Voice	250	250	0	0	55	55	29	29	**334**	**334**
	Voice & Text	0	0	0	0	0	0	0	0	**0**	**0**
	Total	**250**	**250**	**1**	**30**	**55**	**55**	**29**	**29**	**335**	**364**
Farm implements	Text	0	0	153	2811	50	50	0	0	**203**	**2861**
	Voice	0	0	47	165	174	174	0	0	**221**	**339**

Category	Type of message	Tamil Nadu		Andhra Pradesh		Telangana		Puducherry		Total	
		No. of messages	No of farmers	No. of messages	No of farmers	No. of messages	No of farmers	No. of messages	No of farmers	No. of messages	No of farmers
	Voice & Text	0	0	69	32801	0	0	0	0	**69**	**32801**
	Total	**0**	**0**	**269**	**35777**	**224**	**224**	**0**	**0**	**493**	**36001**
Awareness	Text	131	19551	134	235	319	3759	0	0	**584**	**23545**
	Voice	526	10801	5	0	203	203	11	20	**745**	**11024**
	Voice & Text	16	18577	65	65	1	1030	0	0	**82**	**19672**
	Total	**673**	**48929**	**204**	**300**	**523**	**4992**	**11**	**20**	**1411**	**54241**
KVK-Programmes	Text	35	4133	37	255	1	2460	0	0	**73**	**6848**
	Voice	2168	2364	11	150	138	138	30	39	**2347**	**2691**
	Voice & Text	5	495	29	24690	0	0	0	0	**34**	**25185**
	Total	**2208**	**6992**	**77**	**25095**	**139**	**2598**	**30**	**39**	**2454**	**34724**
Weather	Text	101	22522	35	35	234	11584	0	0	**370**	**34141**
	Voice	29	17338	10	50	39	39	0	0	**78**	**17427**
	Voice & Text	30	34409	29	414	0	0	0	0	**59**	**34823**
	Total	**160**	**74269**	**74**	**499**	**273**	**11623**	**0**	**0**	**507**	**86391**
Market	Text	19	13755	78	2400	234	6763	0	0	**331**	**22918**
	Voice	38	17880	0	0	41	41	6	14	**85**	**17935**
	Voice & Text	23	29964	0	0	0	0	0	0	**23**	**29964**
	Total	**80**	**61599**	**78**	**2400**	**275**	**6804**	**6**	**14**	**439**	**70817**
Women and Children	Text	0	0	3	1700	0	0	0	0	**3**	**1700**
	Voice	0	0	32	1860	147	147	50	63	**229**	**2070**
	Voice & Text	0	0	1	0	0	0	0	0	**1**	**0**
	Total	**0**	**0**	**36**	**3560**	**147**	**147**	**50**	**63**	**233**	**3770**
Others	Text	9	8767	1904	559513	2	1030	0	0	**1915**	**569310**
	Voice	3	7698	1901	143122	349	349	0	0	**2253**	**151169**
	Voice & Text	6	16265	702	286198	2	1030	0	0	**710**	**303493**
	Total	**18**	**32730**	**4507**	**988833**	**353**	**2409**	**0**	**0**	**4878**	**1023972**
Grand Total	**Text**	**1944**	**162639**	**4717**	**1629005**	**2255**	**75762**	**0**	**0**	**8916**	**1867406**
	Voice	**4871**	**115735**	**5189**	**414545**	**2657**	**5932**	**438**	**560**	**13155**	**536772**
	Voice & Text	**232**	**203613**	**1759**	**655603**	**166**	**9412**	**0**	**0**	**2157**	**868628**
	Total	**7047**	**481987**	**11665**	**2699153**	**5078**	**91106**	**438**	**560**	**24228**	**3272806**

Other Extension programmes

Programme	Tamil Nadu		Andhra Pradesh		Telangana		Puducherry		Zone X	
	No. of Activities	No. of KVKs	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 (No. of animals treated)	5451	21	2105	11	132	3	0	0	**7688**	**35**
Bimonthly Newsletters	18	6	40	3	76	2	0	0	**134**	**11**

Electronic Media (CD/DVD)	165	16	37	8	6	4	0	0	**208**	**28**
Extension Literature	403	25	5125	18	98	12	0	0	**5626**	**55**
Farmers visit to KVK	26697	21	43919	19	18179	12	469	1	**89264**	**53**
Lectures delivered as resource persons	1691	22	421	18	286	12	15	1	**2413**	**53**
Newspaper coverage	978	27	2248	21	1278	15	41	1	**4545**	**64**
Popular articles	256	23	301	20	136	13	4	1	**697**	**57**
Radio Talks	365	26	148	19	124	11	6	1	**643**	**57**
Registration of farmers through AKPS	740	1	15756	7	10070	6	0	0	**26566**	**14**
Research articles	111	19	55	11	24	8	1	1	**191**	**39**
Success stories	125	22	47	13	46	12	1	1	**219**	**48**
TV Talks	311	22	188	13	88	12	11	1	**598**	**48**
Others	35	3	7	3	4	2	0	0	**46**	**8**
Total	**37346**	**254**	**70397**	**184**	**30547**	**124**	**548**	**8**	**138838**	

3.5 Publications

The KVKs of Zone-X have brought out 3526 publications, which include 717 popular articles, 505 leaflets/folders/pamphlets, 420 technical reports, 197 Research Papers, 136 Books/ Brochures, viz. CD/VCD/DVDs etc. and provided to the farmers and other clientele. The details are given in Table 3.5.1

Table 3.5.1. Details of Publications by KVKs

Category	Tamil Nadu	Andhra Pradesh	Telangana	Puducherry	Total
Research Papers	98	24	4	0	126
Popular Articles	197	114	51	0	362
Books Chapters	28	4	0	0	32
Books	56	17	8	1	82
Conference Papers	70	18	4	0	92
Seminar Papers	43	13	0	1	57
Posters	19	35	26	2	82
Workshop presentations	53	51	11	0	115
Folders	150	59	17	0	226
Leaflets	131	25	24	4	184
Pamphlets	122	57	43	0	222
Brochures	7	10	14	0	31
Pocket Cards & Dairy	0	7	0	0	7
Success Stories	107	41	31	1	180
Technical Bulletins	94	22	13	0	129
Technical Reports	183	87	242	0	512
Training Manuals	76	14	30	1	121
Proceedings	30	37	13	0	80
Others	212	29	0	0	241
Total	1676	664	531	10	2881

Table 3.5.2 News letters published

KVK	Name/Type of news letter	Periodicity	No of publications
Tamil Nadu			
Ariyalur	Seithi Malar	Quarterly	500
Coimbatore	KovaiVelanmai	Quarterly	500
Cuddalore	Erkalam	Quarterly	
Dharmapuri	KVK Newsletter	Quarterly	100
Dharmapuri	KVK Newsletter	Quarterly	100
Dindigul	KVK Newsletter	Quarterly	
Erode	Farm News Letter - Uzhavar Malar	Quarterly	4000
Erode	KVK Reporter	Quarterly	4000
Kancheepuram	KVK Newsletter	Quarterly	300
Karur	Technical news	Quarterly	2000
Krishnagiri	UZHAVAR THUNAIVAN	Quarterly	200
Nagapattinam	TNJFU News Letter	Monthly	
Namakkal	KVK Newsletter	Half yearly	100
Namakkal	KVK Newsletter	Quarterly	200
Perambalur	KVK News Letter	Biannual	1200
Sivagangai	KVK Newsletter	Half yearly	100
Theni	Farm Science News Letter	Quarterly	
Thiruvallur	KVK,Tirur,News Letter	Quarterly	300
Thiruvannamalai	Pasumaikathir	Halfyearly	600
Thiruvarur	Nerkalanjiam/ KVK News letter	Quarterly	50
Tiruchirappalli	Pasumai	Quarterly	100
Tirunelveli	KVK, newsletter	Halfyearly	
Villupuram	VelaanKathir	Quarterly	1000
Andhra Pradesh			
Chittoor (Kalikiri)	Agrobios	monthly	
East Godavari (Kalavacharla)	CTRI News Letter	Half Yearly	500
Guntur (LAM)	SVVU - e news bulletin	Monthly	
Kadapa (Vonipenta)	Dr. YSR Horticulture University e-News letter	Bimonthly	
Prakasam (Darsi)	Newsletter on world honeybee day ,2018	Quarterly	
Prakasam (Kandukur)	AnnadathaMagzine	Monthly	
Visakhapatnam (Haripuram)	BCT News Letter	Monthly	
Telangana			
Adilabad (Adilabad)	KVK Newsletter	Half Yearly	
Nagarkurnool (Palem)	KVK Newsletter	Quarterly	
Nagarkurnool (Palem)	KVK Newsletter	Quarterly	
Nagarkurnool (Palem)	KVK Newsletter	Quarterly	
Ranga Reddy (Ranga Reddy)	KVK Newsletter	Half Yearly	Online
Sangareddy (Zaheerabad)	KRISHI MAGAZINE	Half Yearly	1000

3.6 Critical Technology Products

KVKs produce seed of improved varieties/hybrids of crops, planting materials of selected material of 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

Seeds

One of the responsibilities of KVKS are to act as Knowledge and resource center. Hence KVKs produced and supplied to the farmers 9839 quintals of seed of cereals, 399 quintals of oilseeds, about 2706 quintals of pulses and supplied to about 30360 farmers. (Table 3.6.1)

Planting material

A total of 1168480 slips of fodder crops, 380759 vegetable seedlings of tomato, brinjal, chillies etc, 2115611 saplings of forestry and plantation were supplied to 131356 farmers in the Zone. (Table 3.6.2)

3.6.2 Livestock Species

A total of 355451 live stock species, comprising of Fish spawn/seed of 687566 numbers, 53803 back yard poultry chicks, 3307 dairy animals and 589 sheep and goat have been produced and provided to the farmers (Table 3.6.4).

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 in the district. A total number of 19230 samples including soil (16258), water (2840), plant (115), manure (17) samples were analyzed by the KVKs benefitting 40498 farmers of 6015 villages (Table**3.6.5.**).

Bio-products and bio-agents

A total of 24881 kg of bio fertilizers, 37124 kg of bio pesticides and others were supplied to farmers details of which are as in (Table 3.6.3)

Table 3.6.1. Production and supply of seed

Category	Tamil Nadu			Andhra Pradesh			Telangana			Puducherry			Total		
	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	Quantity (q)	Value (Rs.)	No. of Farmers
Cereals and millets	1073	883274	811	2472	630821	1315	5705	3825361	2863	588.55	1732155	987	9839	7071611	5976
Oilseeds	101	790549	1270	272	795645	58	12	0	0	14.3	128830	20	399	1715024	1348
Pulses	645	1273864	3310	1493	2195253	1619	567	370515	266	1.41	7050	9	2706	3846682	5204
Vegetables	4	478250	2205	0	56940	15	0	750	0	0.0755	11497	12	5	547437	2232
Fruits	0	0	0	0	0	0	1	2800	0	0	0	0	1	2800	0
Flowers	0	0	0	590	93020	8	9	40720	0	0	.0	0	599	133740	8
Spices	20	30210	37	0	0	0	50	0	0	0	0	0	70	30210	37
Fodder	949	13901901	15469	0	0	0	1	39725	60	0	0	0	950	13941626	15529
Special planting Material	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Green manure	3	15000	26	0	0	0	0	0	0	0	0	0	3	15000	26
Commercial crops	0	6869	0	0	0	0	0	0	0	0	0	0	0	6869	0
Total	**2794**	**17379917**	**23128**	**4827**	**3771679**	**3015**	**6346**	**4279871**	**3189**	**604**	**1879532**	**1028**	**14572**	**27310999**	**30360**

Table3.6.2. Production and supply of planting material

Category	Tamil Nadu			Andhra Pradesh			Telangana			Puducherry			Total		
	No.	Value (Rs.)	No. of Farmers	No.	Value (Rs.)	No. of Farmers	No.	Value (Rs.)	No. of Farmers	No.	Value (Rs.)	No. of Farmers	No.	Value (Rs.)	No. of Farmers
Vegetables	116783	225968	1100	1885634	1532756	410	25300	41900	39	87894	44774	125	2115611	1845398	1674
Fruits	56144	1907502	4408	17487	488385	104931	41112	2307620	698	26434	739193	833	141177	5442700	110870
Flowers and ornamental plants	5741	80159	891	54262	264493	274	3000	12000	2	15659	252770	5319	78662	609422	6486
Medicinal and aromatic plants	2260	33625	157	21611	201720	1290	0	0	0	9164	183984	2565	33035	419329	4012
Forestry and plantation crops	14698	642770	1440	68953	92245	434	0	0	0	250	2500	23	83901	737515	1897
Fodder slips	717456	410004	3472	321604	252038	339	84350	47425	146	45070	35235	91	1168480	744702	4048
Spices	119	1640	19	0	0	0	0	0	0	0	0	0	119	1640	19
Special planting materials	589	32935	102	0	0	0	0	0	0	1078	107750	20	1667	140685	122
Others	8971	57851	27	31902	20660	603	0	0	0	4639	194355	1598	45512	272866	2228
Total	**922761**	**3392454**	**11616**	**2401453**	**2852297**	**108281**	**153762**	**2408945**	**885**	**190188**	**1560561**	**10574**	**3668164**	**10214257**	**131356**

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

Category	Tamil Nadu			Andhra Pradesh			Telangana			Puducherry			Total		
	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.)	No. of Farmers	Quantity (kg)	Value (Rs.)	No. of Farmers
Bio fertilizers	9693	621160	4128	5066	219435	1443	10045	466665	596	77.5	1510	28	24881	1308770	6195
Bio-inputs	192224	2609956	143316	29596	181460	102	342683	1961120	691	5158	49575	414	569661	4802111	144523
Bio pesticides	14326	1609480	3698	3258	637100	1080	5000	625000	296	14540	2809255	14801	37124	5680835	19875
Total	**216243**	**4840596**	**151142**	**37920**	**1037995**	**2625**	**357728**	**3052785**	**1583**	**19776**	**2860340**	**15243**	**631666**	**11791716**	**170593**

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

Category	Tamil Nadu			Andhra Pradesh			Telangana			Puducherry			Total		
	No.	Value (Rs.)	No. of Farmers	No.	Value (Rs.)	No. of Farmers	No.	Value (Rs.)	No. of Farmers	No.	Value (Rs.)	No. of Farmers	No.	Value (Rs.)	No. of Farmers
Dairy animals	3235	743208	41	55	57300	0	12	200000	7	5	40000	0	3307	1040508	48
Goat and sheep	235	1009610	75	305	1147501	63	21	137000	6	28	280000	9	589	2574111	153
Poultry	30765	1341253	2874	13966	1304790	851	8980	788000	378	92	21818	29	53803	3455861	4132
Pigery	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fishery	52749	230760	377	9161	4021.5	30	175500	251250	20	60342	201534	317	297752	687566	744
Total	**86984**	**3324831**	**3367**	**23487**	**2513612**	**944**	**184513**	**1376250**	**411**	**60467**	**543352**	**355**	**355451**	**7758045**	**5077**

Other Inputs

Category	Tamil Nadu			Andhra Pradesh			Telangana			Puducherry			Total		
	Quantity	Value (Rs.)	No. of Farmers	Quantity	Value (Rs.)	No. of Farmers	Quantity	Value (Rs.)	No. of Farmers	Quantity	Value (Rs.)	No. of Farmers	Quantity	Value (Rs.)	No. of Farmers
Crop inputs	16284	596724	3488	0	0	0	0	0	0	0	0	0	16284	596724	3488
Animal feed	6855	404115	1022	3380	65600	59	0	0	0	0	0	0	10235	469715	1081
Poultry feed	0	0	0	0	0	100	0	0	0	0	0	0	0	0	100
Fish feed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other inputs	338030	1060692	337003	5	0	0	1511	94640	1511	0	0	0	339546	1155332	338514
Total	**361169**	**2061531**	**341513**	**3385**	**65600**	**159**	**1511**	**94640**	**1511**	**0**	**0**	**0**	**366065**	**2221771**	**343183**

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

Details	Tamil Nadu			Andhra Pradesh			Telangana			Puducherry			Total		
	Number	No of Farmers	No of Villages	Number	No of Farmers	No of Villages	Number	No of Farmers	No of Villages	Number	No of Farmers	No of Villages	Number	No of Farmers	No of Villages
Soil Samples analyzed using Mini Soil Testing Kit	9605	9337	1805	5080	4975	717	3592	3656	266	0	0	0	**18277**	**17968**	**2788**
Soil Samples analyzed by traditional laboratory method	6653	5650	676	9473	8967	799	3272	3508	170	692	478	62	**20090**	**18603**	**1707**
Total Soil Samples analyzed	**16258**	**14987**	**2481**	**14553**	**13942**	**1516**	**6864**	**7164**	**436**	**692**	**478**	**62**	**38367**	**36571**	**4495**
Water samples analyzed	2840	2618	1015	885	796	208	358	351	216	63	45	40	**4146**	**3810**	**1479**
Plant Samples analyzed	115	99	29	0	0	0	0	0	0	54	5	5	**169**	**104**	**34**
Manure samples analyzed	17	13	7	0	0	0	0	0	0	0	0	0	**17**	**13**	**7**
Total Samples Analyzed	**19230**	**17717**	**3532**	**15438**	**14738**	**1724**	**7222**	**7515**	**652**	**809**	**528**	**107**	**42699**	**40498**	**6015**

Soil health card and management advisories issued

Details	Tamil Nadu			Andhra Pradesh			Telangana			Puducherry			Total		
	Number	No of Farmers	No of Villages	Number	No of Farmers	No of Villages	Number	No of Farmers	No of Villages	Number	No of Farmers	No of Villages	Number	No of Farmers	No of Villages
No of soil health cards issued using analysis done by KVK	15243	14483	1995	11530	10056	970	6366	6435	297	692	478	62	**33831**	**31452**	**3324**
No of soil health cards issued using analysis done by other laboratories	3009	2425	242	100	100	20	684	419	61	0	0	0	**3793**	**2944**	**323**
Total Soil Health Cards Issued	**18252**	**16908**	**2237**	**11630**	**10156**	**990**	**7050**	**6854**	**358**	**692**	**478**	**62**	**37624**	**34396**	**3647**
Soil Health and Fertility Management Advisories	12679	12087	1779	2240	7183	644	1376	1376	97	692	478	62	**16987**	**21124**	**2582**
Soil test based fertilizer recommendations issued	13365	12222	1689	3183	2918	586	1519	1559	64	692	478	62	**18759**	**17177**	**2401**

3.7 Rainwater Harvesting

Table 3.7.1.Details of training programmes conducted on rainwater harvesting

State	KVK	No. of Trainings	No. of Demos	Details of the activity	Visit by farmers (Nos)	Visit by officials (Nos)
Tamil Nadu	Coimbatore	14	10	Farm pond, formation of farm bunds earthern bunds	687	42
Tamil Nadu	Dharmapuri	2	10	Sustainable Sugarcane initiative, ICM in groundnut, ICM in greengram, fodder bank, HDP in moringa	322	42
Tamil Nadu	Dindigul	19	8	The farmers during the training programme were taken to the rainwater harvesting structures to have a firsthand information on theit utility and impact on cropping	927	13
Tamil Nadu	Nagapattinam	2	2	Fish culture and Poultry production	100	12
Tamil Nadu	Namakkal	1	8		265	48
Tamil Nadu	Perambalur	1	4	Training on Micro irrigation, Demonstration on canopy management in fruit crops, Mulching,	321	17
Tamil Nadu	Ramanathapuram	4	4	Training and demonstrations on rain water harvesting in farm ponds were given to the farmers	120	10
Tamil Nadu	Sivagangai	15	2	110000 pro tray seedlings	223	38
Tamil Nadu	Vellore	4	4	Demonstrated drip irrigation methods and explained the activities of rainwater harvesting	105	18
Andhra Pradesh	Kurnool (Banavasi)	0	0	Conducted Training Programme On Importance of Fam ponds	0	0
Andhra Pradesh	Kadapa (Utukur)	0	2	Demonstrated the Farm pond preparation with measurements to farmers	3	2
Andhra Pradesh	Kadapa (Utukur)	0	2	Demonstrated the Micro Irrigation process	5	4
Andhra Pradesh	Ananthapuram (Reddipalli)	3	5	Lilly, Jasmine, citrus, Groundnut, Banana, Redgram etc.,	264	35
Andhra Pradesh	Chittoor (Vanasthali (RASS))	29	8	recharge of borewells, trench cum bund, field bunding, renovation of tanks, sub soiler, desilting of feeder channel, farm pond	1284	59
Telangana	Medak (Tuniki)	2	4	Farm Pond, Borewell Recharge, Contour Trenches	550	100
Telangana	Ranga Reddy (Ranga Reddy)	23	52	Demonstration of KVK developed miniwatershed, farm pond technologies water saving technologies and micro irrigation technologies	580	33

3.8 Agricultural Technology Information Centre (ATIC)

Three are three Agricultural Technology Information Centres (ATICs) in the zone being operational under two agricultural universities , Professor Jayashankar Telangana State Agricultural University (PJTSAU) and Tamil Nadu Agricultural University (TNAU) and one veterinary university , TANUVAS (Tamil Nadu University of Veterinary and Animal Sciences. The ATICs have the responsibility of providing farmers with enhanced access to sources of information related to agriculture and allied sectors and also critical technology products like seed, planting material, livestock material and bio-products. The three ATICs provided technology information , technology products and agro-advisory to 3435, 1766 and 1323 farmers respectively during 2018-19. A total of 20 different books were sold to 6057 farmers and one CD on crop production technology was sold to 220 farmers by the ATICs during last year. Critical technology products like seed, planting material, livestock material , poultry and bio-products were provided to a total of 5597 beneficiaries. Technology services like soil and water testing, plant diagnostic visits and agro-veterinary advisory services were provided to 202, 1425 and 1145 farmers respectively by the ATICs during 2018-19.

Table 3.8.1 Details of visit of farmers to ATICs

Nature of visit	Number of farmers			
	PJTSAU	**TANUVAS**	**TNAU**	**Total**
Technology information	495	2057	883	3435
Technology products	143	1160	463	1766
Agro-advisory	135	836	352	1323

Table 3.8.2 Details of publications by ATICs

Nature of publication	Unit	PJTSAU	TANUVAS	Total
Books	**Number**	1	19	20
	No. of copies	4000	2057	6057
	Revenue	480000	11500	491500
	No. of farmers	4000	2057	6057
CD,DVD and video films	---	1	---	1
	---	220	---	220
	---	8800	---	8800
	---	220	---	220

Table 3.8.3 Technology Products provided by ATICs

Technology products provided	Quantity /Number	No. of farmers benefited
Seed (q)	2325.12	4964
Planting material (No.)	2724	189
Livestock species (No.)	210	65
Poultry birds (No.)	1000	25
Bio-products (q)	1012	354

Table 3.8.4 Technology Services Provided by ATICs

Service rendered	No. of farmers
Soil and water testing	202
Plant diagnostic visits	1425
Services rendered to line departments	0
Agro/Veterinary Advisory Services	1145

PROJECTS

3.10 National Innovations in Climate Resilient Agriculture (NICRA)

National Innovations in Climate Resilient Agriculture (NICRA) is a multi-institutional and multi-disciplinary network project launched by ICAR in 2011 which aims to build resilience in Indian agriculture to climate change and climate variability through strategic research and technology demonstrations. Technology Demonstration Component (TDC) of NICRA which is implemented in 121 climatically vulnerable districts of the country focuses on enhancing the adaptive capacity of farmer in these districts to climatic change and to ensure security of livelihood in times of climatic aberrations. The Technology Demonstration Component (TDC) of NICRA was implemented through Krishi Vigyan Kendras (KVKs) during 2018-19 in 11 climatically vulnerable districts located in the states of Andhra Pradesh, Telangana and Tamil Nadu under ICAR-ATARI, Hyderabad. These include KVKs of Anantapur, Chittoor, Kurnool, Srikakulam and West Godavari in Andhra Pradesh (5 KVKs). Khammam and Nalgonda in Telangana (2 KVKs) and Namakkal, Ramanathapuram, Villupuram and Tiruvarur in Tamil Nadu (4 KVKs).

Under the project, KVKs conducted demonstration of climate resilient technologies in four modules viz., NRM, crop production, livestock and fisheries and institutional interventions besides conducting capacity building and extension activities related to these technologies. Demonstrations were organized covering an area of 1074.4 ha benefiting 1903 farmers under NRM interventions viz., water harvesting and recycling, in-situ moisture conservation, ground water recharge, micro-irrigation, improved drainage and various resource conservation techniques. Under crop production module various interventions such as drought tolerant, flood tolerant and short duration varieties, location specific intercropping systems, crop diversification, pest and disease management, nutrient management etc., were taken up on 2792.6 ha area covering 3422 farmers. Under livestock and fisheries interventions, 1735 farmers were benefited on improved fodder production covering 197.6 ha, silage making, breed upgradation, improved breeds of backyard poultry, vaccination, animal health camps, management of fish ponds etc where 6285 animals were benefited. Under institutional interventions like custom hiring center, fodder bank and seed bank 439 farmers were benefited in terms of timely taking up of farm operations , enhanced access to quality seed and fodder .Through capacity building and extension activities, awareness on climate resilient technologies was brought about benefitting 3897 and 14510 farmers through 139 and 290 activities respectively. Some of the interventions under t four different modules which were successfully demonstrated to farmers have been presented in the following sections.

Renovation and desilting of check dams - KVK, Ananthapur

Three check dams situated near NICRA village at Ananthapur were desilted during 2018-19, increasing their dimensions from 26x11x0.5m, 55x04x0.5 and 92x11x0.5 to 78x12x2.0 m, 60x12x2.0 and 100x17x2.0 and storage capacity to 18,72,000, 14,40,000 and 34,00,000 liters of water, respectively. The water stored in the check dam was used for supplemental irrigation with drip and

sprinkler system for crops and as drinking water for livestock. Bore wells (15) and open wells (6) in the vicinity of the check dams were recharged and 14 beneficiary farmers could take up cultivation of crops like pomegranate, yellow jowar, tube rose, curry leaf, sweet orange and red gram in 96.5 acres of area.

Renovation of Check Dam (Ananthapur)

Check dam filled with water (Anantapur)

Green manure with *daincha* in paddy - KVK, Thiruvarur (Tamil Nadu)

Green manuring with *daincha* was demonstrated in an area of 12 ha covering 30 farmers in paddy to enhance soil health status and to reduce the salinity during summer and Kharif. The crop was trampled in the field itself at the time of flowering. The practice resulted in higher yield of 6092 kg/ha in the demonstration compared to farmer practice (4995 kg/ha).

Treatments	Seed yield (kg/ha)	Cost of cultivation (Rs./ha)	Gross income (Rs./ha)	Net income (Rs./ha)	B:C ratio
Farmers practice	4995	38111	81918	43807	2.15
Green manuring with *Daincha*	6092	39917	99908	59991	2.50

Soil Nutrient status of Green manured plot and control plot

Particulars	Before intervention	After intervention
Electrical conductivity (dS/m)	0.26	0.24
pH	8.33	8.05
Organic carbon (%)	0.53	0.54
Available Nitrogen (kg /ha)	215	238
Available Phosphorus (kg /ha)	14.2	14.6
Available Potassium (kg /ha)	206	210

Green manuring with *Daincha*

Performance of Salinity tolerant paddy variety, WGL-44 (Siddi)– KVK, Khammam

Salinity tolerant Paddy variety Siddi (WGL-44) was demonstrated in an area of 20 ha covering 50 farmers in the NICRA village of Khammam. The improved variety recorded 488 kg/ha of additional yield compared to traditional variety with BC ratio of 1.91.

Treatments	Seed yield (kg/ha)	Cost of cultivation (Rs./ha)	Gross income (Rs./ha)	Net income (Rs./ha)	B:C ratio
Farmers variety (BPT-5204)	5943	57560	94494	36934	1.64
Salinity tolerant variety (Siddi)	6431	53520	102253	48733	1.91

Siddi (WGL- 44) –salinity tolerant paddy variety

Intercropping of Mango and Field bean - KVK, Chittoor

To get assured income from diversified crops under drought conditions, demonstration was conducted on intercropping of mango with field bean (TFB-1) in an area of 8 ha covering 20 farmers. The field bean was sown when mango was at bud initiation stage. An additional income of Rs.52300/ha with BC ratio of 2.75 were obtained due to the intercropping system when compared to the sole crop of mango

Crop/Cropping System	Yield (kg/ha)	Cost of cultivation (Rs./ha)	Gross income (Rs./ha)	Net returns (Rs./ha)	B:C ratio
Sole crop1 (mango)	3750	50875	116800	65925	1.30
Sole crop 2 (field bean)	2300	16780	69000	52220	1.64
Mango + Field bean intercrop	6050	67575	185800	118225	2.75

Intercropping of field bean in mango

Crop diversification with drought resistant jowar variety, NJ-2446- KVK, Ananthapur

Groundnut (K-6) cultivation realized very low net returns due to delayed sowing because of delayed on set of monsoon. Crop diversification with the drought tolerant variety of jowar NJ-2446 resulted in higher net returns (Rs. 29750/ha) and BC ratio (3.90) compared to groundnut.

Drought resistant NJ-2446 (Jowar)

Evaluation of Probiotic (CIBA^{SP}) for water quality management in shrimp culture ponds- KVK, West Godavari

In order to maintain good quality water in shrimp ponds, demonstrations on use of probiotics were taken in an area of 10 ha covering 5 farmers to avoid stress, disease incidence and sudden mortality of shrimps. The treated pond recorded 55.55% improved yield with an additional net income of Rs. 408222/ha with favourable BC ratio of 2.18 over the farmers practice.

Treatments	Yield (Kg/ha)	Cost of cultivation (Rs./ha)	Gross income (Rs./ha)	Net income (Rs./ha)	B:C ratio
Farmer practice	4500	908222	1125000	216778	1.23
Treated pond	7000	800000	1750000	625000	2.18

Application of probiotic in shrimp pond

3.11. Attracting and Retaining Youth in Agriculture (ARYA)

Attracting and retaining youth in agriculture (ARYA), a project launched by agricultural extension division of ICAR during March 2015 aims to create interest and confidence among rural youth in agriculture by demonstrating the potential of enterprises based on agriculture and allied sectors to be profitable and reliable sources of livelihood in rural areas. This endeavour is expected to result in rural youth being retained in villages and prevention of migration of youth to urban areas in search of livelihood. The main objectives of the project are to attract rural youth to take up various agriculture, allied and service sector enterprises, to enable youth to establish net work groups to take up capital and resource intensive activities like processing, value addition and marketing and to demonstrate linkages with different stake holders for sustainable development of youth. This is envisioned to be achieved through imparting skill trying to youth with the right aptitude to be self reliant and facilitating establishment of enterprise units either singly or in groups by providing necessary critical inputs both general and capital. ARYA has been implemented by three KVKs in zone X viz., Nellore in Andhra Pradesh, Nalgonda (Kampasagar) in Telangana and Kanyakumari in Tamilnadu. Additional seven KVKs viz., West Godavari (V R Gudem), Kadapa, Warangal (Malyal), Dharmapuri, Shivagangai, Erode and Puducherry were sanctioned during 2018-19.

KVK, Nellore established 55 enterprise units related to mushroom production, vermicompost production and production of vegetable and fruit nurseries benefitting 115 rural youth in the district. “Sri Prakash youth nursery” established by a group of 5 rural youth in *Anantavaramu* village of the district under ARYA project has been run very successfully and producing seedlings of chilli, brinjal and tomato fetching a net profit of Rs.1,58,000 to the group within a span of thirty days. Madhavi, youth of Nellore district mooted by the success stories of mushroom growing community started mushroom production unit in Venkateswarapuram village that produced both milky oyster mushrooms and made profits averaging Rs.1, 26,400 annually. Forty Three enterprise units related to vermicomposting, bakery unit and vegetable nurseries were established in Nalgonda district under the project benefitting 91 rural youth during 2018-19. Two enterprises namely Banana and Coconut comprising of four value added products under each (Banana fibre extraction and value addition,

banana dehydration and flour making, value added products from pseudostem and flower and novel bakery products from banana) and (Tender coconut snow ball and coconut trimming, desiccated coconut. coconut jelly and confectionery products and Novel bakery products from coconut) a total of 10 units (Banana-6 Nos and Coconut- 4 Nos.) with 50 youth under each enterprise is identified and are being established and the registration process of the groups is underway. The members of the groups have been provided with complete knowledge and skill on processing, value addition and marketing of banana through capacity building programmes involving small scale farmers and aspiring entrepreneurs of Kanyakumari district. They were also taken on exposure visits to various existing enterprise units for motivating them and to learn the techniques of running the units successfully. Skill training cum demonstration on the Coconut dehydration was imparted to the members of the first group taking up production of desiccated coconut products. The machinery viz., pulveriser, cabinet tray dryer, tender coconut snow ball making machine, coconut trimming machine, fruit pulper, vaccum packing machine were installed

KVK, Nellore organized 3 different skill training programmes on vermicomposting, raising of fruit and vegetable nursery, construction of shade nets and portray nursery technology and mushroom production benefitting 361 rural youth. In Nalgonda, KVK, Kampasagar organized 4 skill training programmes related to bakery, IFS, vermicomposting and vegetable nursery production under shadenet involving 125 rural youth of the district. KVK, Kanyakuamri in Tamilnadu conducted 5 skill training programmes on value addition to banana fibre, banana fibre extraction and value addition to banana pseudostem, flower and value addition to cocnut benefitting 77 rural youth. Three exposure visits were also organized to banana fibre handicraft cottage level unit, Kolvel, Banana processing unit at Kaattupudur Nanjil Food Products on value addition to pseudostem and inflorescence and department of Catering Science and Technology, Confectionary processing unit, at Nesavalar involving 50 rural youth.

Establishment of enterprise units during 2018-19

S.No	State	Name of KVK	Name of enterprise established	No. of units established	No. of youth benefitted
1	Andhra Pradesh	Nellore	Vegetable and fruit nurseries	20	45
			Vermicompost	20	40
			Mushroom units	15	30
2	Telangana	Nalgonda (Kampasagar)	Vegetable nursery unit	7	35
			Vermicompost units	34	34
			Bakery units	2	22

Skill Training programmes organized to rural youth during 2017-18

S.No	State	Name of KVK	Training programme organized	No. of youth trained
1	Andhra Pradesh	Nellore	Vermicompost production (3 programmes)	96
			Raising of Fruits and Vegetable nursery under shade net (construction methodology of shade net, seed treatment methods in vegetables, method of sowing and cultural operations, nutrient management, plant protection measures)	116
			Mushroom production (4 programmes)	149
2	Telangana	Nalgonda (Kampasagar)	Commercial nursery raising of vegetables under shade net houses	35
			Bakery products	30
			Vermi compost production	30
			Integrated farming system	30
3	Tamilnadu	Kanyakumari	Novel bakery products-confectionary at Department of Catering Science and Hospitality Management, Immanuel Arasar College of Technology and Management, Nattalam	26
			Novel bakery products-confectionary at RSETI, IOB , Nagercoil	9
			Value added products from coconut	14
			Value added products from banana flour	11
			Value added products from banana Pseudostem and banana flower at Nanjil Food Products, Pilacode	17
			Exposure visit to Banana fibre handicraft cottage level unit, Kolvel	19
			Exposure visit to Banana processing unit, Kaattupudur, Poothapandi block and KIDDS, Kuzhithurai	20
			Exposure visit to Confectionary processing unit, Nesavalar Colony, Nagercoil	11

Figure 1 Vermicompost unit - KVK, Nalgonda

Figure 2 Vermicompost unit- KVK, Nellore

Figure 3 Pruning in acid lime- KVK, Nellore

Figure 4 Visit to mushroom unit at Allipuram- KVK,Nellore

Figure 5 Training on banana dehydration and flour processing- KVK, Kanyakumari

Figure 6 Millet based bakery products KVK, Nalgonda

Figure 7 Training programme on Novel bakery products from banana- KVK, Kanyakumari

Figure 8 Training on banana fibre based handicraft making KVK, Kanyakumari

3.12 Tribal Sub Plan (TSP)

The Tribal Sub Plan (TSP) was implemented by 10 KVKs in zone x during 2018-19, 6 from Andhra Pradesh (Vizianagaram, Visakhapatnam (BCT), Visakhapatnam (Kondempudi), West Godavari (V.R.Gudem), East Godavari (Pandirimamidi) and Prakasam (Darsi)) and 4 from the state of Telangana (Adilabad, Nalgonda (Kampasagar), Khammam (Wyra) and Kothagudem). The activities of the KVKs implementing TSP have been covered under four major thematic areas viz., Agri-service center, Micro-enterprises and Skill development training and aim at bridging the gap in socio-economic development between tribal farmers and others. The review workshop of KVKs implementing TSP was held at Hyderabad on 23rd October, 2018 to review the achievements of the centers and to give a direction for better implementation of the interventions of TSP. The KVKS were suggested to adopt tribal village(s) in their operational mandals as DFI villages and develop base line data of households as on 2015-16. More focus was emphasized on skill training programmes and establishment physical assets / micro-enterprises that would ensure income and livelihood security to tribal farmers, youth and women. The 10 KVKs implementing TSP conducted 30 skill training programmes benefitting 868 beneficiaries. A total of 1498 physical assets / micro-enterprises were created ensuring additional income to 2351 beneficiaries.

Achievements of activities undertaken by KVKs under TSP during 2018-19

S.No	Activity	Units	Achievement		
			Andhra Pradesh	Telangana	Zone
1	On- farm trials	Number	44	16	60
		No. farmers	768	82	850
2	Frontline demonstrations	Number	54	24	78
		No. farmers	1147	630	1777
3	Farmers training	Number	145	17	162
		Participants	5242	605	5847
4	Training of Rural Youth	Number	46	4	50
		Participants	1226	142	1368
5	Training of Extension Personnel	Number	24	0	24
		Participants	711	0	711
6	Skill Training	Number	25	5	30
			692	176	868
7	Extension activities	Number	24	18	42
		Participants	4784	2130	6914
8	Production of seed	Quantity (q)	95.45	296	391.45
		No. farmers	1044	1081	2125
9	Planting material supplied	Number	495550	2300	497850
		No. farmers	930	30	960
10	Live-stock strains and fish finger lings supplied	Number	166104	4512	170616
		No. farmers	759	281	1040
11	Soil samples tested	Number	2352	850	3202
		No. farmers	2352	850	3202
12	Mobile agro- advisory provided to farmers	Number	9572	237	9809
		No. farmers	12073	11696	23769
13	Micro-enterprises established	Number	273	1225	1498
		Participants	379	1972	2351

A total of 1498 physical assets/micro-enterprises were created by KVKs during 2018-19 providing income generating opportunities to 2351 tribal people in 10 districts. Besides creating assets , skills related to these enterprises were imparted to 868 needy tribal beneficiaries through 30 skill training programmes.

Skill training programmes conducted during 2018-19

S. No	Name of the KVK	Name of the training Programme	Duration of the training (Days)	No. of trainees
1	Adilabad, Telangana	Vermi composting	2	36
		Value addition to millets	2	25
		Red gram Dhal Milling	2	25
2	Khammam, Telangana	Skill development training programme on tailoring and embroidery	60	60
3	Kothagudem, Telangana	Glass Painting , fabric embellishment using block printing, stencil printing techniques, candle making and pot painting	7	30
4	Vizianagaram, A.P	Bee keeping & mushroom cultivation	3	50
		Organic farming	3	35
		Mushroom cultivation	3	30
		Value addition to fruits and vegetables	3	35
		Value addition to finger millets	3	35
		Vermicompost preparation	3	30
		Pruning and canopy management in mango and cashew	3	35
		Stem application in cotton	3	35
		Poison bait preparation	3	30
5	Visakhapatnam (BCT), A.P	Bee Keeping	6	50
		TYNP – Tribal Youth Network Programme - Girimithra	3	25
6	Visakhapatnam (Kondempudi	Apiary production	3	25
		Raising of single node seedlings of ginger through pro tray technology	3	25
		Raising of single node seedlings of turmeric through pro tray technology	3	25
		Value added products of Jaggery	2	20
		Value added products with millets (Ragi, Korra)	2	20
		Training on millet based value added products under ANGRAU-SERP project	4	40
7	East Godavari (Pandirimamidi), A.P	Skills in maintenance of beehives and extraction of honey	6	25
8	West Godavari (VR Gudem), A.P	ASCI training program on bee keeping	25	20
		Friends of coconut trees	6	10
		Induced carp breeding	3	30
		Small poultry farming	2	15
9	Prakasam (Darsi), A.P	Value addition of millets	12	20

S. No	Name of the KVK	Name of the training Programme	Duration of the training (Days)	No. of trainees
		Poultry rearing- A way to entrepreneurship	3	37

Physical assets / micro-enterprises established in tribal areas during 2018-19

S. No	Name of the KVK	Name of the physical asset / micro-enterprise	No. of units	No. of beneficiaries
1	Adilabad, Telangana	Tarpaulins	114	114
		Vermicompost units	96	96
		Value addition (Multipurpose flour mill)	10	10
		High Pressure Knapsack Sprayer	25	25
		Stitching machines	55	55
		Cotton pullers	206	206
		Automatic Digital Egg Incubator	1	1
		Micro irrigation (Sprinklers)	30	180
2	Khammam (Wyra), Telangana	Taiwan sprayers	10	50
		Tarpaulins	45	45
		Battery sprayers	50	50
		Mobile vermi beds	50	50
		Hand operated sprayers	10	10
		Storage bins	15	30
		Cotton stem applicators	200	200
		Sewing Machines (Tailoring)	10	30
		Bee box accessories	1	KVK, Wyra
		Embroidery Machines	2	30
		Bee keeping boxes	4	KVK, Wyra
3	Nalgonda (Kampasagar), Telangana	Kadaknath Poultry birds	100	100
		Rotavator	1	5
		Drum seeder	9	9
		Cotton mobile shedder	2	10
		Taiwan sprayer	18	90
		Chalf cutters	1	1
		Apiculture unit	1	KVK
		Tarpaulins	75	75
4	Kothagudem, Telangana	Vermibeds	10	50
		Stitching machines	15	75
		Storage bins	10	50
		Mini dal mill	1	30
		Apiary	29	100
		Mini Shade nets	5	25
		Battery operated sprayers	14	70
5	Vizianagaram, A.P	Vermicomposting	6	15

S. No	Name of the KVK	Name of the physical asset / micro-enterprise	No. of units	No. of beneficiaries
		Mushroom production		
			4	20
		Poultry	3	15
		Poultry	3	15
6	Visakhapatnam (BCT), A.P	Vermicomposting	80	80
		Mushroom production	8	25
		IFS units	5	5
		Value addition	5	50
		Poultry	10	10
		Bush pepper production units	10	50
		Shade net	25	25
		Azolla	10	10
		Bee Keeping	25	25
		Manual Weeders	10	20
7	Visakhapatnam (Kondempudi), A.P	Shadenet	1	20
8	West Godavari (VR gudem), A.P	Poultry shed	05	05
		Sheep enterprise	05	05
9	East Godavari (Pandirimamidi), A.P	Rubber Processing Unit	1	73
		Beekeeping units	8	8
		Bee hives	36	2
		Fruit pulper	1	1
		Fruit miller	1	5
		Cashew boiler	1	5
		Cashew automatic cutter	1	5
10	Prakasam (Darsi), A.P	Kadaknath	1	1
		Egg incubator	1	1

Demonstration of easy planter –Vizianagaram

Demonstration of IPM in cabbage- Visakhapatnam (BCT)

Backyard poultry with Rajasri – Kothagudem

Diagnostic field visit to Chillies – Prakasam (Darsi)

3.15 Cluster Frontline Demonstrations on Pulses under NFSM

During the year 2018-2019 the programme was conducted through 68 KVK's associated with ICAR-ATARI Zone-X during Kharif, Rabi and Summer seasons in Andhra Pradesh, Telangana, Tamil Nadu. A total of 2900 ha area was allotted to this zone in which 2880 ha programme was implemented by organizing 6923 demonstrations on Red gram, Bengal gram, Black gram and Green gram crops (Table-) in the above three states with an achievement of 99%. Latest improved varieties released and notified by central varietal release committee and that are not older than 15 years, crop production and protection technologies were demonstrated. The farmers were given to use the bio-fertilizers, bio-pesticides, micro irrigation. Financial assistance of Rs 9000/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 mainly with small and marginal farmers and weaker sections

Table: Crop-wise achievement of CFLD 2018-19

Crop	Telangana			Andhra Pradesh			Tamil Nadu			Puducherry			Zone		
	Area (ha) T	Area (ha) A	Demo (No)	Area (ha) T	Area (ha) A	Demo (No)	Area (ha) T	Area (ha) A	Demo (No)	Area (ha) T	Area (ha) A	Demo (No)	Area (ha) T	Area (ha) A	Demo (No)
Kharif															
Black gram	0	0	0	110	110	275	100	100	250	-	-	-	210	210	525
Green gram	130	125.6	295	100	86	215	110	110	252	-	-	-	340	322	762
Red gram	310	308.4	724	320	320	788	50	50	125	-	-	-	680	678	1637
Total A	**440**	**434**	**1019**	**530**	**516**	**1278**	**260**	**260**	**627**	**-**	**-**	**-**	**1230**	**1210**	**2924**
Rabi and summer															
Bengal gram	140	140	345	170	170	326	30	30	75	0	0	0	340	340	746
Black gram	50	50	125	410	410	981	420	420	1028	10	10	25	890	890	2159
Green gram	90	90	220	150	150	374	170	170	425	10	10	25	420	420	1044
Red gram	-	-	-	-	-	-	20	20	50	-	-	-	20	20	50
Total B	280	280	690	730	730	1681	640	640	1578	20	20	50	1670	1670	3999
GrandTotal (K+R+S) (total A+B)	**720**	**714**	**1709**	**1260**	**1246**	**2959**	**900**	**900**	**2205**	**20**	**20**	**50**	**2900**	**2880**	**6923**

Results

Andhra Pradesh

2959 Cluster frontline demonstrations on pulses was implemented in Andhra Pradesh by 20 KVKs in black gram, green gram, red gram and Bengal gram in an area of 1246 ha.

Black gram: 1256 number of cluster FLDs in black gram were conducted covering an area of 520 ha both in kharif ,rabi and Summer seasons respectively .The varieties demonstrated were TBG 104 and PU-31 The technology demonstrated included improved variety, seed management, integrated pest and disease management apart from integrated crop management. During the Kharif TBG 104 recorded average yield of 18.7 q/ha with an increase of 23%over check and the same variety recorded highest yield of 23.5 q/ha in the districts of West Godavari and 20q/ha in Guntur district with an increase of 34% over local check. During the rabi season, TBG-104, with an increase % of about 30.3% recorded an average yield of 13.3 q/ha over check.PU-31 recorded average yield of 16.5q/ha with an increase of 18.5% over check.

Field day of CFLD black gram LBG-787 at Kurnool

Table: **Cluster Frontline demonstrations on pulses in Andhra Pradesh during 2018-19**

Crop	Variety	Name of KVK	Average yield (q/ha)		% increase over check
			Demo	Check	
Kharif					
Green gram	WGG 42	Ananthapur(Reddipalli) Ananthapur(kalyandurg) Krishna(Garikapadu) Vishakapatnam(BCT) WestGodavari (Undi) WestGodavari(VenkataramannaGudem)	8.8	6.8	29.4
Red gram	PRG-176	Reddipalli,Banavasi yagantipally,Venkataramangudem	11.1	8.4	41.9
Red gram	LRG-52	Kalikiri,Utukur,Vonipenta,Pandirimamidi,Garikapadu, Darsi,Amadalavalasa,Buchayapeta,BCT,R.KBai,LAM	6.9	5.3	48
Black gram	TBG-104	Pandirimamidi Lam Undi ,V.RGudem	18.7	15.2	23
Black gram	PU-31	Ghantashala	16.5	13.5	18.5
Rabi					
Black gram	TBG-104	Kadapa,Vonipenta RASS,Utukur , Krishna, Prakasham, Chittoor, Kurnool,Banavasi, Yagantipally, Nellore, Amadalavalasa,West Godavari Vr Gudem and Nellore II	13.3	10.2	30.3
Black gram	LBG-752	Krishna	15	13.5	11.1
Black gram	LBG-787	Kurnool Banavasi	17.5	14	25
Green gram	WGG-42	BCT,Westgodavari(VRGudem)Chittoor(RASS)	7.8	5.7	36.8
Green gram	IPM-2-14	BCT,Amadalavalasa	5	4.3	16.2

Bengalgram	NBeG-47	LAM,Kalyandurg, Krishna Garikapadu,Kurnool Yagantipally	10.7	9.8	9.1
Bengalgram	NBeG-3	LAM,Yagantipally	18.7	17.5	6.8

Green gram:

236 ha area was covered in 589 cluster frontline demonstrations on pulses involving green gram both in kharif and rabi seasons. Improved variety WGG 42 was demonstrated during kharif season, recorded an highest yield of 17.5 q/ha, at west Godavari with an increase of about 40%,over check, During the rabi season, WGG-42 was demonstrated, which recorded an increase yield of about 37% over the local check in the districts of West Godavari and Chittoor.

Performance of CFLD Greengram WGG-42 at KVK WestGgodavari Undi

Red gram:

The improved varieties LRG-52 and PRG-176 were demonstrated along with bio-fertilizers rhizobium, PSB and bio-pesticides Trichoderma viridae, recommended fertilizers and plant protection measures during the kharif season in an area of 320 ha in 788 demonstrations. While LRG 52 recorded an average increase in yield of about 48% over local check with an average yield of about 6.9 q/ha, PRG 176 recorded an average yield of about 11.1 q/ha with an increase of 42 % over local check in Ananthapur ,Kurnool and West Godavari districts.

Performance of CFLD Red gram (LRG-52) at KVK RASS

Performance of CFLD Redgram (PRG-176) at KVK Yagantipalli

Bengal gram:

Total of 326 demonstrations covering an area of 170 ha were demonstrated with recently released varieties NBeG-47 & NBeG-3. NBeG 47 recorded an average yield of about 10.7q/ha with an increase of 9% over local check and with an highest yield in yagantipalli 17.5 q/ha. NBeG-3 Variety recorded an average yield of 18.7 q/ha in Kurnool and Guntur districts.

Performance of Bengal gram (NBeG-49) at KVK LAM guntur

Telangana

Total of 1709 cluster frontline demonstrations on pulses were organized in Telangana state covering an area of 714 ha during 2018-19. Improved varieties along with integrated crop production technology, seed treatment, integrated nutrient management and integrated pest management were the technologies demonstrated.

Green gram:

In Telangana, a total of 539 demonstrations laid out in 215.6 ha during 2018-19, three varieties Viz WGG-42, MGG-347, MGG-351 were demonstrated in kharif as well as rabi and summer seasons. During kharif season, WGG 42 recorded an average yield of about 6.5q/ha showing an improvement of about 41.3% over the local variety in the districts of Mahaboobnagar, Nalgonda, Warangal and Medak. During rabi season, average yield of 12.9 q/ha was recorded at Warangal and Karimnagar with WGG-42 against the check yield of 10.5 q/ha.

Performance of CFLD Green gram(WGG-42) at KVK Adilabad

Field Day of Green gram(MGG-347) at KVK Malyal

Table: Performance of improved cultivars under cluster frontline demonstrations 2018-19 in Telangana

Crop	Variety	Name of KVK	Average yield (q/ha)		% increase over check
			Demo	Check	
Kharif					
Greengram	WGG 42	Adilabad, Mahaboobnagar, YFA, DDS Nalgonda (Gaddipally), Warangal (Mamnoor)	6.5	4.6	41.3
Greengram	MGG-347	Khammam (Wyra) Warangal (Malyal)	5.9	3.4	73.52
Red gram	PRG 176	Adilabad, Karimnagar (Ramghirkhilla), Mahaboobnagar(YFA), Palem ,Medak DDS, Nalgonda,Kampasagar; Rangareddy CRIDA, Warangal Mamnoor	12.5	10.1	23.76
Red gram	LRG-52, PRG-158	Nalgonda (Gaddipally)	10.0	8.1	23.45
Redgram	WRG-65	Karimnagar(Jammikunta),Khammam,Warangal	13.4	11.1	20.72
Rabi					
Greengram	WGG 42	Karimnagar, Warangal	12.9	10.5	22.85
Greengram	MGG-351	Mahaboobnagar	11.5	9.8	17.3
Blackgram	PU-31	Mahaboobnagar Palem, Khammam (Kothagudem) , Khammam (Wyra)	11.5	9.8	17.3
Bengalgram	NBeG-3	Adilabad. Karimnagar(Ramghirkhilla), Nizambad, Warangal(Mamnoor)	22.1	17.2	28.4
Bengalgram	NBeG-49	Mahaboobnagar (Palem) Rangareddy, Medak	20.5	16.3	24.53

Red gram: Four varieties of pegion pea viz., PRG 176, LRG-52, PRG-158 WRG 65 were demonstrated under cluster frontline demonstrations during 2018-19 . WRG 65 recorded an average yield of 13.4/ha as compared to check whose yield was about 11.1 q/ha in Warangal and Khammam districts. PRG-176 recorded the average yield of 12.5 q/ha where as local check it yields 10.1 q/ha and highest yield of 14.2 q/ha with an increase of 49% over check with protective irrigation in Mahaboobnagar district of Telangana state.

Intercropping of Red gram (PRG-176) with Cotton at KVK Adilabad

Blackgram :A Total of 125 demonstrations were laid out in 50 ha during rabi season,Demonstrated variety PU-31 recorded an average yield of 11.5q/ha with an increase of 17.3% over local check.

Performance of CFLD Black gram PU-31 at KVK Mahaboobnagar (Palem)

Bengal gram: 345 Cluster frontline demonstrations were undertaken in 140 ha in the districts of Rangareddy, Karimnagar, Mahaboobnagar, Medak, Adilabad, Nizamabad, Warangal. Improved variety NBeG-3 along with recommended package of practices was demonstrated. The improved variety recorded an average yield of about showing an increase in yields by about 28.4 %.NBeG-49 recorded an average Yield of 20.5 q/ha where as local it is 16.3q/ha in mahaboobnagar Rangareddy and Medak districts.

Performance of CFLD Bengal gram NBeG-3 at KVK Warangal(mamnoor)

Tamil Nadu

In Tamilnadu state, 2205 cluster frontline demonstrations on pulses covering an area of about 900 ha were conducted with black gram, green gram and red gram during kharif season and black gram green gram,Redgram(Krishnagiri) and Bengal gram during rabi season. Recently released cultivars along with integrated pest and disease management, nutrient management and agronomical management practices formed the part of cluster demonstrations in the state.

Black gram: A total of 1278 demonstrations were laid out in 520 ha in Kharif rabi and summer seasons.VBN 6 and VBN 8, improved black gram cultivars notified for cultivation were demonstrated during kharif season. VBN 8 recorded an increase yield of about 25% over check in dharmapuri and Madurai and Namakkal districts, while VBN 6 recorded an increase of about 25% in Theni, Erode, Kancheepuram. During the rabi season, VBN 8 recorded an average yield of 7.5q/ha showing an increase of about 31% over the check which recorded an average yield of 5.7q/ha.

Performance of CFLD Black gram VBN-8 at KVK Dharmapuri

Performance of CFLD Black gram VBN-6 at KVK Myrada

Field day on CFLD Blackgram VBN-8 at KVK Permabalur

Table: Cluster frontline demonstrations on pulses in Tamil Nadu state 2018-19

Crop	Variety	Name of KVK	Average yield q/ha)		% increase over check
			Demo	Check	
Kharif					
Black gram	VBN 6	Erode,Kancheepuram,Namakkal,Theni,Villupuram	7.5	6.0	25
Black gram	VBN 8	Dharmapuri,Namakkal,Thiruvannamlai,Madurai	8.0	6.4	25
Green gram	Co-8	Dharmapuri,Dindigul, Erode, Nammakal, Salem,Theni,Madurai	8.1	5.9	37.2
Red Gram	CO Rg-7	Karur,Krishnagiri,Theni	5.5	4.4	25
Red gram	CO 8	Dharmapuri	9.8	8.5	15.2
Red Gram	VBN-3	Dindigul	7	6.4	9.3
Rabi					
Black gram	VBN-8	Cuddalore,Dindigul,Nagapattinam,Permbalur,Salem,Shivagangai,Thiruvannamlai,Tuticorin,Vellore,Virudhnagar	7.5	5.7	31.5
Black	VB	Ariyalur,Erode,Cuddalore,Namakkal,Pudukottai,Theni,Thiruvarur	7.8	5.2	50

gram	N-6	Villupuram			
Black gram	Co6	Kancheepuram	7.4	6.7	10.4
Green gram	CO-(gg) 8	Namakkal,Karur,Villipuram,Virudhanagar, Theni,Salem,Tuticorin,Thiruvallur,Thiruvarur	7.8	5.6	39.2
Green gram	VB N 3	Kancheepuram	8.5	7	21.4
Redgram	COR g-7	Krishnagiri	12.6	11.2	12.5
Bengal gram	JAKI 9218	Coimbatore,Dindigul	15.2	11.3	34.51

Green gram: Improved cultivars Co 8 and VBN-3 were demonstrated both during kharif and *rabi* seasons in 280ha with 677 demonstrations, During the kharif season this variety recorded an average yield of about 8.1q/ha showing an increase of 37.2% over the check in districts of Dharmapuri, Dindigul, Erode, Nammakal, Salem, Theni, Madurai while in the rabi reason, the yield recorded by Co 8 was about 7.8 q/ha as compared to about 5.6 q/ha recorded by check, showing an increase by about 39.2%.


Performance of Green gram CO-8 at KVK Namakkal

Red gram: Three varieties of red gram viz., Co-Rg -7 and Co 8 and VBN-3 were demonstrated under cluster frontline demonstrations during kharif season, coRg-7 in Rabi season in 70 ha with 175 demonstrations. The yield gap between improved cultivar and that of check was about 25 % in Karur, Krishnagiri, Theni districts where as Co 8, which recorded an yield gap of about 15.2 % over check. In Rabi season Co-Rg -7 recorded an average yield of 12.6q/ha and local check yield was 11.2 q/ha in Krishnagiri district.

Performance of Redgram CO-8 at KVK Dharmapuri

Bengal gram:

A total of 75 demonstrations has taken in 30 ha for Bengal gram the improved variety JAKI-9218 ,the average yields were recorded 15.2q/ha where as for check it is only 11.3q/ha

Performance of Bengal gram JAKI 9218 at KVK Dindigul

3.16 Cluster Frontline Demonstrations (CFLDs) on Oilseeds under NMOOP

KVKs of the zone conducted cluster front line demonstrations on oilseeds under National Mission on Oilseeds and Oil Palm (NFSM) in 2018-19 during kharif, rabi and summer seasons to demonstrate the production potential of newly released technologies on the farmer's fields at different locations. The crops covered are groundnut, sesame, sunflower, castor, safflower, soybean and niger. A total of 1920 hectares area was allotted to 52 KVKs in Andhra Pradesh, Tamil Nadu and Telangana states and the programme was implemented in 1524.6 ha by organizing 3735 demonstrations.

Table 1.1Cluster Frontline Demonstrations (CFLDs) on Oilseeds

Crop	State	Area (ha)		No. of Demonstrations	
		Target	Achievement	Target	Achievement
Kharif					
Groundnut	Andhra Pradesh	210	196.4	525	491
	Telangana	30	10	75	25
	Tamil Nadu	180	160	450	400
	Sub total	**420**	**366.4**	**1050**	**916**
Sesame	Andhra Pradesh	30	30	75	75
	Tamil Nadu	20	10	50	25
	Sub total	**50**	**40**	**125**	**100**
Sunflower	Andhra Pradesh	10	0	25	0
	Tamil Nadu	10	0	25	0
	Sub total	**20**	**0**	**50**	**0**
Castor	Andhra Pradesh	30	30	75	75
	Telangana	20	18	50	45
	Tamil Nadu	10	0	25	0
	Sub total	**60**	**48**	**150**	**120**
Soyabean	Telangana	**40**	**33**	**100**	**82**
Safflower	Andhra Pradesh	**20**	**0**	**50**	**0**
Niger	Andhra Pradesh	**10**	**10**	**25**	**25**
Total Kharif season		**620**	**497.4**	**1550**	**1243**
Rabi and Summer					
Groundnut	Andhra Pradesh	310	262.2	775	655
	Telangana	140	140	350	350
	Tamil Nadu	340	260	850	650
	Sub total	**790**	**662.2**	**1975**	**1655**
Sesame	Andhra Pradesh	220	130	550	300
	Telangana	40	30	100	75
	Tamil Nadu	40	20	100	25

Crop	State	Area (ha)		No. of Demonstrations	
		Target	Achievement	Target	Achievement
	Puducherry	10	0	25	0
	Sub total	**310**	**180**	**775**	**400**
Sunflower	Andhra Pradesh	40	40	100	75
	Tamil Nadu	80	60	200	150
	Sub total	**120**	**100**	**300**	**225**
Castor	Andhra Pradesh	20	10	50	25
	Tamil Nadu	20	30	50	75
	Sub total	**40**	**40**	**100**	**100**
Safflower	Andhra Pradesh	20	40	50	100
	Telangana	20	5	50	12
	Sub total	**40**	**45**	**100**	**112**
Total Rabi & Summer Season		**1300**	**1027.2**	**3250**	**2492**
Grand Total		**1920**	**1524.6**	**4800**	**3735**

Andhra Pradesh

Cluster frontline demonstrations on oilseeds programme was implemented by 17 KVKs in Andhra Pradesh during 2018-19 in groundnut, sesame, sunflower, castor, safflower and niger crops in an area of 748.6 ha.

Table 1.2 Performance of CFLDs on Oilseeds in Andhra Pradesh

Crop	Variety	Name of KVK/ District	Average yield(q/ha)		% increase over check
			Demo	Check	
Kharif					
Groundnut	Dharani	Chittoor, Kadapa, Prakasam	14.43	13.13	9.90
Groundnut	Kadiri Harithandhra	Kurnool, Krishna(Garikapadu), Anantapur	14.12	10.74	31.47
Sesame	YLM-66	Visakhapatnam	6.87	5.70	20.52
Castor	DCH-519	Kurnool, Anantapur	8.86	7.11	24.61
Niger	KGN-2	Visakhapatnam	3.57	3.07	16.28
Rabi and Summer					
Groundnut	Dharani	Chittoor , Krishna	27.63	22.63	22.09
Groundnut	Kadiri Harithandhra	Kurnool, West	34.81	28.58	21.79
Groundnut	K-9	Vizianagaram, Kadapa			
Sesame	YLM-66	Prakasam, Kadapa, Krishna, Kurnool, West Godavari	10.48	8.62	21.57
Sunflower	NDSH-1012	Kurnool	20.78	16.35	27.09
Sunflower	KBSH-44	Chittoor	18.98	12.5	34.14
Safflower	DSH-185	Kurnool	12.5	10.5	19.04
Safflower	PBNS-12	Kurnool	9.58	8.02	19.45

Groundnut: KVKs of Andhra Pradesh conducted 1146 Cluster FLDs on groundnut were covering an area of 458.6 ha in Kharif, rabi and summer seasons in Andhra Pradesh. Technology demonstrated included improved variety with integrated crop management practices. Improved variety Kadiri Harithandhra increased the yields by 31.47% compared to check yield in Krishna and Kurnool districts under rainfed situation. During rabi, demonstrations were conducted with improved variety Dharani and Khadiri Harithandhra, of which Khadiri Harithandhra recorded highest yield of 34.81q/ha in Kurnool and West Godavari districts under irrigated conditions.

Sesame: Cluster frontline demonstrations on sesame were taken up in both kharif and rabi seasons. In kharif, improved variety YLM-66 along with other technological interventions resulted in average demonstration yield of 6.87q/ha which is 20.52% higher than the check yield of 5.7q/ha in Vishakapatnam district. During rabi season varietal demonstration of YLM-66 with recommended package of practices resulted in 21.57% increase in yields compared to check yield in the KVKKs of Prakasam, Kadapa, Krishna, Kurnool and West Godavari districts.

Castor: KVKs in Kurnool and Anantapur districts conducted cluster frontline demonstrations on castor during Kharif season. Technology demonstrated included improved hybrid with integrated crop management practices. DCH-519 hybrid resulted in average demonstration yield of 8.86 q/ha with 24.61% increase against check yield of 7.11 q/ha.

Sunflower: Cluster frontline demonstrations on sunflower were conducted by KVKs in Kurnool and Chittoor districts during rabi season. The technology demonstrated was improved hybrid with integrated crop management practices. The hybrid NDSH-1012 resulted in average yield of 20.78 q/ha with 27.09% increase against check plot yield of 16.35 q/ha. The hybrid KBSH-44 resulted in average yield of 18.98q/ha against 12.5q/ha of check with 34.14% increase in yield over farmers practice in Chittoor district.

Safflower: Safflower CFLDs were organized in Kurnool district during rabi season under irrigated situation. Safflower hybrid DSH-185 in an average yield of 12.5 q/ha and 9.58 q/ha against farmers yield of 10.5 q/ha and 8.02 q/ha respectively with 19.04% increase and 19.45% increase in yield over check plots respectively.

Niger: Cluster frontline demonstrations on niger were conducted by KVK, Visakhapatnam district during Kharif season. The technology demonstrated was varietal demonstration with integrated crop management practices. The variety KGN-2 resulted in average yield of 3.57 q/ha against check yield of 3.07 q/ha with 16.28% increase in yield.

CFLD on Kharif Groundnut, KVK-Visakhapatnam (BCT)

CFLD on Groundnut var. K-9, KVK-Visakhapatnam (Kondempudi)

CFLD on Niger var. KGN-2, KVK-Visakhapatnam (BCT)

Tamil Nadu

CFLDs on oilseeds were implemented by 15 KVKs in Tamil Nadu during 2018-19 in groundnut, sesame, sunflower and castor crops in an area of 540 ha.

Table 1.3 Performance of CFLDs on Oilseeds in Tamil Nadu

Crop	Variety	Name of KVK/ District	Average Yield(q/ha)		% increase over check
			Demo	Check	
Kharif					
Groundnut	Dharani	Dindigul, Coimbatore	16.87	14.93	12.99
Groundnut	TMV-13	Villupuram	27.23	24.00	13.50
Groundnut	CO-7	Namakkal,Theni	15.39	13.19	16.67
Sesame	TMV-7	Theni	7.70	6.20	24.19
Rabi and Summer					
Groundnut	Dharani	Ariyalur, Tiruvannamalai, Krishnagiri	24.40	20.06	21.63
Groundnut	CO-7	Namakkal, Karur	20.21	15.44	30.89
Sesame	TMV-7	Karur	3.75	3.50	7.10
Castor	YRCH	Perambalore	21.51	16.06	33.93
Sunflower	DSRF-113	Dindigul	11.30	9.30	21.50

Groundnut: About 1050 Cluster FLDs on groundnut were conducted by the KVKs of Tamil Nadu covering an area of 420 ha in *Kharif, rabi* and summer seasons. In *kharif*, the technology demonstrated included improved variety with integrated crop management practices under rainfed situation. The varieties demonstrated were Dharani, TMV-13 and CO-7. Highest average demonstration yield of 27.23 q/ha was recorded with TMV-13variety with 13.50% increase in yield compared to check yield in Villupuram district. During *rabi*, groundnut demonstrations were conducted with improved variety Dharani and CO-7 following integrated crop management practices. Dharani variety recorded highest average demonstration

yield of 24.40q/ha, resulting in 21.63% increased yield compared to check yield of 20.06q/ha in Ariyalur, Tiruvannamalai and Krishnagiri districts.

Sesame: The cluster frontline demonstrations on sesame were taken up in both *kharif* and *rabi* seasons. In *kharif*, improved variety TMV-7 along with other technological interventions resulted in 24.19% increase in yields with an average demonstration yield of 7.70 q/ha over the check yield of 6.20 q/ha in Theni district. Varietal demonstration of TMV-7 with recommended package of practices under irrigated conditions resulted in 7.1% increase in yields compared to local check during *rabi* season in Karur district.

Castor: KVK, Perambalore conducted cluster frontline demonstrations on castor during *Rabi* season. The technology demonstrated was improved hybrid with integrated crop management practices. The hybrid YRCH resulted in average yield of 21.51q/ha against 16.06q/ha of check yield with 33.93% increase in yield.

Sunflower: Cluster frontline demonstrations on sunflower were conducted by KVK, Dindigul during *rabi* season. Technology demonstrated included improved hybrid with integrated crop management practices. The hybrid DSRF-113 recorded 21.50% increase in yields compared check plot.


Field day on Groundnut var. CO-7, KVK-Namakkal

CFLD on Groundnut, KVK-Tuticorin

Demonstration of pheromone trap installation in CFLD Sunflower, KVK-Tuticorin

Telangana

CFLDs on oilseeds programme was implemented by 11 KVKs in Telangana during kharif, rabi and summer seasons in groundnut, sesame, soybean and castor crops in an area of 236 ha.

Table 1.4 Performance of CFLDs on oilseeds in Telangana

Crop	Variety	Name of KVK/ District	Average Yield(q/ha)		% increase over check
			Demo	Check	
Kharif					
Groundnut	ICGV-91114	Nalgonda	20.00	16.40	21.95
Soybean	Basara(ASB-22)	Adilabad, Nizamabad	21.24	18.22	16.59
Castor	DCH-519	Mahabubnagar	6.87	4.41	55.78
Rabi and Summer					
Groundnut	Dharani	Warangal	23.40	19.15	22.19
Sesame	YLM-66	Karimnagar	7.57	5.77	31.10

Groundnut: 375Cluster FLDs on groundnut were conducted covering an area of 150 ha in *Kharif and rabi* seasons in Telangana. The varieties demonstrated were ICGV-91114 and Dharani. During kharif season, ICGV-91114 along with other technological interventions resulted in 21.95% increase in yields over check plot Nalgonda district.

Soybean: Cluster FLDs on soybean were conducted covering an area of 33 ha during *Kharif* season by the KVKs of Adilabad and Nizamabad districts in Telangana. Improved variety Basara (ASB-22) was demonstrated along with other technological interventions. Highest average demonstration yield of 21.24 q/ha was recorded with 16.59% increase over check plot yield of 18.22q/ha.

Sesame: The cluster frontline demonstrations on sesame with YLM-66 variety taken up in *rabi* season with other technological interventions resulted in 31.1% increase in yields with an average demonstration yield of 6.87 q/ha over the check yield of 4.41 q/ha in Karimnagar district.

Castor: Cluster frontline demonstrations on castor were conducted by KVK, Mahabubnagar during *Kharif* season. The technology demonstrated was improved hybrid with integrated crop management practices. The hybrid DCH-519 resulted in average yield of 6.87 q/ha against 4.41 q/ha of check with 55.78% increase in yields.

CFLD on Soybean var. ASB-22, KVK-Adilabad

Seed Hubs

Twelve KVK's of the zone, 6 KVK from Tamil Nadu, 2 KVKs from Telangana and 4 KVKs from Andhra Pradesh are involved in the production of quality seed of pulses to augument the demand of quality seed from farmers.

4164 q of foundation, certified seed of pulses have been produced under the seed hub programme in the zone. The state wise production and varietal details are presented in table. No…

In Tamil Nadu, total of 1506.4 q of quality seed of black gram (VBN 6, VBN 8 and CO-6) red gram (CoRg 7) Green gram (VBN-gg-3 and C0-8)varieties have been produced. The class of seed includes certified seed, truthfully labeled seed, foundation seed during the late kharif and rabi seasons. In Telangana a total of 1109 q certified/truthfully labeled of newly released varieties of pulses seed of green gram (variety WGG 42, Red gram PRG 176, Black gram PU 31 and Horse gram CrHg 4). In Andhra Pradesh under the seed hub programme 1548.5 quintals of certified and foundation seed of black gram (LBG 752, TBG 104), red gram (PRG 176) and green gram (WGG 42) released varieties have been produced by the KVKs.

Table : Details of quality seed production under seed hub programme

Name of KVK	District	Seed Production					
		Season	Crop	Variety	Target (q)	Actual Production (q)	Category of Seed
Andhra Pradesh							
Yagantipalli	Kurnool	Kharif	Redgram	PRG-176	400	95	F/S
Yagantipalli	Kurnool	Kharif	Redgram	LRG-52		320	F/S
Yagantipalli	Kurnool	*Rabi*	Bengalgram	NBeG-3	600	128	F/S
Yagantipalli	Kurnool	*Rabi*	Bengalgram	NBeG-49		490	F/S
Yagantipalli	Kurnool	*Rabi*	Bengalgram	NBeG-119		48	F/S
Reddipalli	Anantapur	*kharif & rabi*	Redgram	PRG-176	400	12	F/S
Reddipalli	Anantapur	*kharif & rabi*	Redgram	LRG-52		85	F/S
Reddipalli	Anantapur	*kharif & rabi*	Greengram	WGG-42	100	98.2	F/S
Reddipalli	Anantapur	*Rabi*	Bengalgram	NBeG-49	500	55	
Amadalavalasa	Srikakulam	*Kharif*	Black gram	TBG- 104	500	100	C/S
Amadalavalasa	Srikakulam	*Kharif*	Greengram	-	500	-	-
Ghantasala	Krishna	*Rabi*	Blackgram	LBG 752, 787	600	226	C/S & F/S
Ghantasala	Krishna	Rabi	Bengalgram	NBEG 47	400	31.3	C/S

Name of KVK	District	Seed Production					
		Season	Crop	Variety	Target (q)	Actual Production (q)	Category of Seed
Total A						**1548.5**	
Telangana							
CRIDA	Rangareddy	*Kharif*	Redgram	PRG-176	400	30	C/S
CRIDA	Rangareddy	Late kharif	Horsegram	CRHG-4	300	5	F/S
CRIDA	Rangareddy	Late kharif	Blackgram	-	300	-	-
Palem	Mahaboobnagar	Kharif	Redgram	PRG-176	350	372	F/S
Palem	Mahaboobnagar	Kharif	Blackgram	PU-31	250	374.4	F/S
Palem	Mahaboobnagar	Kharif	Blackgram	PU-31	100	156	C/S
Palem	Mahaboobnagar	*Rabi*	Greengram	WGG-42	200	171.6	F/S
Total B						**1109**	
Tamil Nadu							
Kancheepuram	Kancheepuram	*Rabi*	Green gram	VBN (Gg)3	500	30	F/S,C/S
Kancheepuram	Kancheepuram	*Rabi*	Black gram	VBN 6	500	125	F/S,C/S
Kancheepuram	Kancheepuram	*Rabi*	Black gram	CO 6		50	
Madurai	Madurai	Late Kharif, Rabi and summer	Black gram	VBN 6	500	38.43	C/S
Madurai	Madurai	Kharif, Rabi and summer	Green gram	CO 8	500	66.57	FII
Tiruchirappalli	Tiruchirappalli	Kharif	Blackgram	VBN 6	350	163	C/S
Tiruchirappalli	Tiruchirappalli	*Rabi*	Blackgram	VBN 6			
Tiruchirappalli	Tiruchirappalli	Summer	Blackgram	VBN 8			
Tiruchirappalli	Tiruchirappalli	*Rabi*	Green gram	CO8	350	0.23	C/S
Tiruchirappalli	Tiruchirappalli	*Kharif*	Redgram	CORg-7	350	4.8	C/S
Villupuram	Villupuram	*Rabi*	Blackgram	VBN 8	500	160	F/S
Villupuram	Villupuram	*Rabi*	Greengram	CO 8	500	4.5	C/S
Virudhunagar	Virudhunagar	*Rabi*	Greengram	CO 8	550	178.5	C/S
Virudhunagar	Virudhunagar	*Rabi*	Blackgram	VBN 8	500	82.5	FSII
Virudhunagar	Virudhunagar	*Rabi*	Blackgram	CO 6		12.5	
Virudhunagar	Virudhunagar	*Rabi*	Blackgram	CO 6		57.5	
Virudhunagar	Virudhunagar	*Rabi*	Blackgram	CS		152.5	
Virudhunagar	Virudhunagar	Late *Rabi*		VBN 8		30	FSI
Salem	Salem	*Rabi*	Blackgram	VBN 6	500	174.55	C/S
Salem	Salem	Summer	Greengram	CO 8	500	175.88	C/S
Total C						1506.46	
Grand Total (A+B+C)						**4164**	

Dr. YG Prasad Director, ICAR-ATARI, Zone-X, Hyderabad with Pulses Growers in front of Seed Storage Godown,Virudhnagar

KVK Villupuram Seed Hub godown and Infrastructure (Processing Unit, Machinery)

KVK Mahaboobnagar (Palem) Seed Hub godown and Infrastructure (Processing Unit, Machinery)

NFDB programme on demonstration of growth performance of improved fish varieties- Jayanthi Rohu /Amur carp

Five KVKs 2 from Telangana and 3 from AP have been involved in the demonstration of Implementation of Demonstration Activity of Improved Fish Varieties funded by NFDB. Twenty eight farmers have been identified for implementing the project in 33 fish ponds of 37.87 ha area. Performance of improved species Jayanthi rohu /Amur carp has been stocked along with Indian major carps at a stocking density of 7000/ha

KVK Warangal (Mamnoor): Stocking was done in an area of about 5.14 ha in a stocking density of 7000 in August 2018. Jayanthi Rohu was introduced in 11 fish ponds involving 6 farmers along with Rohu, Mrigal.

KVK Nalgonda (Kampasagar): New fish species Jayanthi rohu along with normal rohu was stocked 7.67 ha pond area in 4 fish ponds with a stocking density of 7000 per ha involving 4 farmers

West Godavari (Venkatramanagudam) : New fish species Jayanthi Rohu and Amur common carp have been stocked along with Indian major carps in 6 fish ponds in an area of 4.22 ha with a stocking density of 7000 /ha

Details of new fish species demonstrated to assess growth performance

KVK	No. of farmers involved	No of fish ponds	Area (Ha)	Name of new species	Stocking density	Month of stocking	Indian major carps
Warangal (Mamnoor)	6	11	5.14	Jayanthi rohu	7000/ha	August 2018	Rohu, Mrigal
Nalgonda (Kampasagar)	4	4	10.19	Jayanthi rohu	7000/ha	September	Rohu
West Godavari (Venkatramanagudam)	6	6	4.22	Jayanthi rohu, Amur carp	7000/ha	August 2018	Catla, Jayanthi rohu, Mrigal, Grass carp, Amur Common carp
KVK West Godavari (Undi)	6	6	7.77	Jayanthi rohu, Amur carp	7000/ha		Rohu, Mrigal
KVK Srikakulam	6	6	10.55	Jayanthi rohu, Amur carp	7000/ha		Rohu, Mrigal
Total	**28**	**33**	**37.87**				

New fish species Jayanthi Rohu attained an average growth of 922 grams while amur carp attained a weight of 486 grams at in a period of 8 months from the date of stocking.

Growth Performance (grams) of new fish species demonstrated

KVK	Growth Performance (grams)	
	Jayanthi Rohu	Amur carp
Venkatramanagudam	1565	486
Warangal Mamnoor	550	-
Nalgonda Kampasagar	650	-
Average growth attained	921.67	486

Growth performance of Amur car and Jayanthi Rohu

Krishi Kalyan Abhiyan 2018-19

Eight districts three each from States of Telangana, Andhra Pradesh and 2 from Tamil Nadu have been

identified as Aspirational Districts under the jurisdiction of ICAR- Agricultural Technology Application Research Institute Zone 10.

8 districts (3 each in Telangana and Andhra Pradesh and 2 in Tamil Nadu) have been identified for implementation of the Krishi Kalyan Abhiyan programme from 1st July 2018 to 15thAugust 2018 during phase I, and phase II from 2nd October to 25thDecember 2018.

After success of Krishi Kalyan Abhiyan phase I and II, Phase-III of the programme was iniatiated during 15th January -15th April, 2019 for Genetic up gradation programme through High Yielding Indigenous Breed (HY-IB) bovine semen and delivery of quality Artificial insimination services at farmers doorstep to 100 more villages/district in each 8 districts.

KVKs implementing KKA programme

S. No	State	District	Identified KVKs for implementation		
			Phase I	**Phase II**	**Phase III**
1.	Andhra Pradesh	Vizinagaram	KVK Vizianagaram	KVK Vizianagaram	KVK Vizianagaram
2.	Andhra Pradesh	YSR Kadapa	KVK Utukur (YSR Kadapa)	KVK Utukur (YSR Kadapa)	KVK Utukur (YSR Kadapa)
3.	Andhra Pradesh	Viskhapatnam	KVK Vishakapatnam (BCT) KVK Vishakapatnam (Kondampudi)	KVK Vishakapatnam (BCT) KVK Vishakapatnam (Kondampudi)	KVK Vishakapatnam (BCT) KVK Vishakapatnam (Kondampudi)
4.	Telangana	Jayashankar Bhupalapally	KVK Warangal (Mamnoor)	KVK Warangal (Mamnoor)	KVK Warangal (Mamnoor)
5.	Tamil Nadu	Ramanathapuram	KVK Ramanathapuram	KVK Ramanathapuram	KVK Ramanathapuram
6.	Telangana	Khammam	KVK Khammam (Wyra)	KVK Khammam (Wyra)	KVK Khammam (Wyra)
7.	Tamil Nadu	Virudhnagar	KVK Virudhunagar	KVK Virudhunagar	KVK Virudhunagar
8.	Telangana	KumuramBheemAsifabad	KVK Adilabad KVK Manchiryal	KVK Manchiryal	KVK Manchiryal

Krishi Kalyan Abhiyan District Ranking during phase-I and II - ATARI-X

In both the phase I and II, the 3 districts from Andhra Pradesh namely Vizinagaram , YSR Kadapa and Viskhapatnam ranked first in implementation of the Krishi kalian abhiyan programme from amoung 112 districts where the programme was being implemented. The KVKs involved were KVK Vizianagaram, KVK Utukur (YSR Kadapa), KVK Vishakapatnam (Kondampudi), KVK Vishakapatnam(BCT)

SI. No	State	District	Identified KVKs for implementation	Phase-I	Phase-II
1.	Andhra Pradesh	Vizinagaram	KVK Vizianagaram	1	1
2.	Andhra Pradesh	YSR Kadapa	KVK Utukur (YSR Kadapa)	1	1
3.	Andhra Pradesh	Viskhapatnam	KVK Vishakapatnam (Kondampudi) KVK Vishakapatnam(BCT)	1	1
4.	Telangana	Jayashankar Bhupalapally	KVK Warangal (Mamnoor)	19	50
5.	Telangana	Khammam	KVK Khammam (Wyra)	39	21
6.	Tamil Nadu	Ramanathapuram	KVK Ramanathapuram	49	73
7.	Tamil Nadu	Virudhnagar	KVK Virudhunagar	53	45
8.	Telangana	Kumuram Bheem Asifabad	KVK Adilabad KVK Manchiryal	61	56

11 activities were identified to be implemented in the district in convergence with the state department of agriculture and associated line departments during the phase I and 13 activities in phase II. The zone performance is presented in the table

ICAR-ATARI Zone 10 Activity, Targets and achievements under KKA Phase 1 and II

S.No	Activity		Phase -I	Phase -II
1	Soil Health Cards	Target	82640	101446
		Achievements	83029	100962
2	Mini Kits	Target	40267	3000
		Achievements	41339	3815

3	Horti./ Agro Forestry / Bamboo plant	Target	100000	75000
		Achievements	116270	79290
4	NADEP Pits	Target	4000	4000
		Achievements	2976	2310
5	FMD: Bovine vaccination in each village	Target	100% Saturation	100% Saturation
		Farmers Benefitted	37527	75676
		No. of Units	75502	168815
6	Vaccination of Sheep and Goat for eradication of PPR	Target	100% Saturation	100% Saturation
		Farmers Benefitted	26320	130934
		No. of Units	148215	252260
7	Artificial Inseminations	Target	20000	20000
		No. of Animals	20296	21721
8	Training programme in each of the villages by ICAR/KVKs	No of Trainings	632	721
		No. participants	21724	41909
9	Agriculture Implements	Target	1910	2000
		Issued	1254	887
10	Micro Irrigation	Target	55	8
		No.	62	57
11	Integrated Cropping	Target	7	8
		No.	4	80
12	PMFBY	Target	-	200
		No.	-	194
13	Gramin Haats	Target	-	8
		No.	-	10

Mr. Radha Mohan Singh, Hon'ble Minister for Agriculture and farmers welfare interacting with KVK programme coordinators of Ramnathpuram and Virudhnagar on progress of Krishi kalyan Abhiyan

Dr. YG Prasad, Director reviewing Krishi Kalyan Abhiyan programme along with Mrs. A.Neeraja, Joint Secretary, MOA&FW at KVK Vishakapatnam

Swachhta Hi Sewa programme

Swachhta Hi Sewa programmes were organized by 68 KVKs of Zone-X from 15.9.2018 to 02.10.2018. KVKs of the zone performed shramdhan in 546 villages and contributed towards cleanliness and hygiene in adopted villages/public places, tourist spots, Rallies, Nukkad/Nataks/street plays, folk song and dance performances, awareness campaign in schools and colleges, cleaning of office, farmers hostel, laboratories, weeding in demonstration plots, awareness camps in adopted villages, training programmes on cleanliness and sanitation, cleaning of public places, display of banners, debates, discussions, poster competitions, etc. were undertaken during the period.

Table: Details of activities undertaken during "Swachhta Hi Sewa"

S.No.	List of activities (suggested by M/o Drinking water & sanitation	Site of activity under taken	No. of employees participated
1	Toilet pit-digging exercise and other toilet construction activities	8	263
2	Organize cleaning of streets, drains and back alleys through awareness drives	107	2055
3	Organize waste collection drives in households and common or shared spaces	62	1384
4	Conduct Door to door meeting to drive behavior change with respect to sanitation behaviour	30	987
5	Organize awareness campaigns around better sanitation practices like using a toilet, hand washing, health and hygiene awareness, etc.	126	7155
6	Perform Swachhata related NukkadNataks/street plays, folk song and dance performances	15	1143
7	Conduct Village or School-level rallies to generate awareness about sanitation	71	3961
8	Make wall paintings in public places on the theme of Swachhata	9	428
9	Volunteer for segregation of solid waste into non-biodegradable and biodegradable waste	33	902
10	Mobilize community to build compost pits, where organic matter decomposes to form manure	45	1975
11	Debates, discussions, awareness programs, poster competition etc.	40	210

Training programme on swachhta hi seva to MPEOs in Anantapuramu (Dist).

Village Level Rallies for Generating Awareness about Swachhata-Kalikiri, Chittoor, AP

Folk songs and dance performances-Chaitanyapuram village, Renigunta mandal, Chittoor district, A.P

Anganwadi workers during the cleanliness rally at KVK, Thiruvannamalai, Tamil Nadu

Waste collection drives in households at Vaiyyampalaym SS Kulam block KVK, Coimbatore, Tamil Nadu

Demonstration on TNAU Bio Mineralizer for compost making at ICAR KVK Thiruvannamalai, Tamil Nadu

	
Awareness campaigns at Govt. School (Boys) Bellampalli Mandal of Mancherial (Dist.) Telangana State	Filling the compost pits with collected agricultural waste at RASS - KVK, Vanastali, Karkambadi, Renigunta mandal, RASS-KVK, Andhra Pradesh

Web cast of inauguration Pradhan Mantri Kisan Samman Nidhi (PM-Kisan)

Live web cast of inauguration of the Pradhan Mantri Kisan Samman Nidhi (PM-Kisan) held ay Varanasi on 24th February 2019 by Hon'ble Prime Minister of India, Mr. Narendera Modi was undertaken at 68 KVKs of ATARI Zone-10. The programme was graced by Honorable Governor of the state in Tamil Nadu, Hon'ble Lt. Governor of Union Territory of Puducherry , Hon'ble Cabinet minister Government of India (1), Hon'ble Minister of State, Government of India (1), apart from hon'ble Members of Parliaments (11), Ministers of state government (1) , Vice chancellors of veterinary university, central and state government officers aparts from farmers. A total of 6147 farmers participated in the programme. After the web cast the speech of the Prime Ministers speech was explained in local language in local languages (Telugu and Tamil) to the participants. Enquires and clarification on the PM – KISAN scheme was addressed by the Department officials.

Sl. No.	Name of the State/UT	Number of KVK organized the programme	Dignitaries participated	Number of farmers participated
1.	Andhra Pradesh	23	Hon'ble Governer of states -1 Hon'ble Lieutenant Governor, Union Territory -1	1889
2.	Telangana	16	Hon'ble Cabinet minister, Government of India -1	984
3.	Tamil Nadu	27	Hon'ble Minister of State, Government of India -1 Hon'ble Members of Parliament 11,	3123
4.	Puducherry	2	Hon'ble Ministers of state government-1 Hon'ble MLAs 20	151
Total		**68**		**6147**

Shri.Banwarilal Purohit, Hon'ble Governor of Tamil Nadu , Shri.Piyush Vedprakash Goyal, Minister of Railways and Coal in the Government of India, Shri.Pon Radhakrishnan, Minister of State in the Ministry of Finance and Ministry of Shipping, during live telecast at KVK Kanchipuram

Mrs Kiran Bedi, Hon'ble Lieutenant Governor, of Union Territory of Puducherry at KVK, Puducherry

Mr. R. Kamalakkannan Hon'ble Minister for Agriculture, Govt of Pondicherry at KVK Kariakal

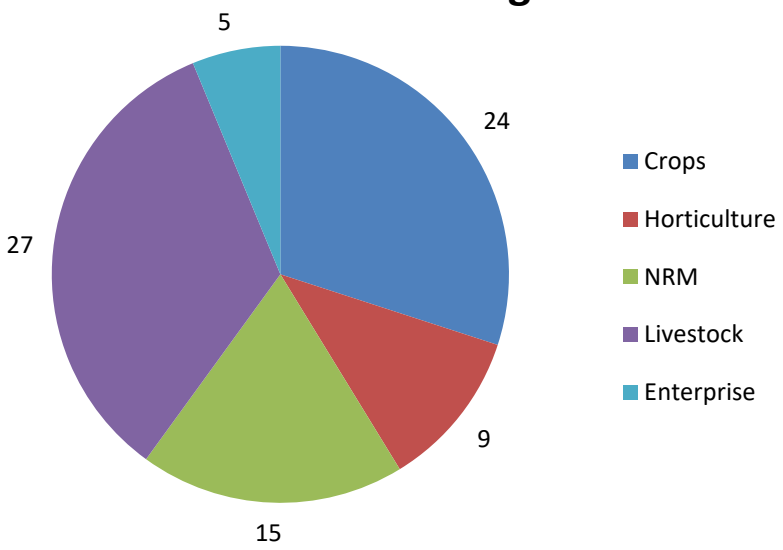
Hon'ble Member of Parliament Mr. A. Anwar Raja, at KVK Ramnathpuram

3.18 Farmers FIRST Programme (FFP)

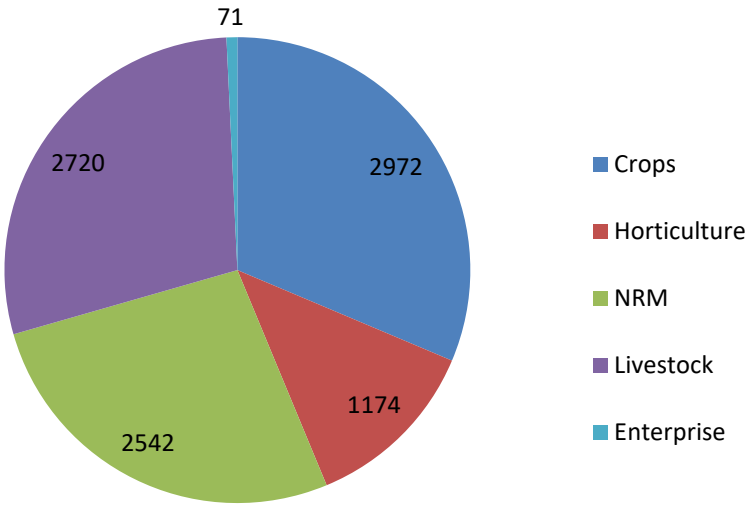
The Farmer FIRST Programme (FFP) is an ICAR initiative to privilege the smallholder agriculture operating in complex, diverse and risk prone situations through enhancing farmers-scientists interface. It is a farmer centric approach for research problem identification, prioritization and conduct of experiments and their management in farmers' conditions. The focus is on farmer's Farm, Innovations, Resources, Science and Technology (FIRST). The project is undertaken covering four major components viz., a. Enhancing Farmer – Scientist Interface b.Technology Assemblage, Application and Feedback c. Partnership and Institution Building and d. Content Mobilization. Farmers First Programme (FFP) has been implemented by Four ICAR institutes (IIMR, IIOPR, IIOR and CRIDA) and one University (TANUVAS, Chennai) under ATARI, Hyderabad.

Under Crop module the FF centers undertook 24 interventions like varietal evaluation, intercropping, seed production, integrated crop management, integrated pest and disease management, fertigation, weather based scheduling of irrigation, use of bio-fertilizers , weed management etc covering 2670 ha area and 2972 households in the operational villages. Horticultural interventions included activities like IPM, plastic mulching, ICM in tomato and chilies, micro-nutrient management, intercropping in coconut and oil palm etc.which were conducted over 417 ha area covering 1174 households. Fifteen different technological interventions like construction of gabion structures across small drains, micro-irrigation, soil test based fertilizer application, tank silt application, land leveling, green manuring, dead furrow for moisture conservation, ridge and furrow method of planting etc. were taken up on 3104 ha benefitting 2542 households under NRM module. A total of 27 interventions related to introduction superior fodder varieties, demonstration of backyard poultry breeds, introduction mineral and nutrient mixtures, oestrous synchronization protocols, conduct of animal health camps, breed improvement in sheep and goats etc., were taken up under livestock covering 2720 households. In enterprise / mechanization based module 4 different interventions (custom hiring center, hand weeders for drudgery reduction, primary processing of millets, community hatchery units etc.,). In partnership and institution building module only one center, ICAR-IIOR facilitated in creating FPO "Vikarabad Farmer Producer Organization" Sanctioned during 2019 by NABARD and 498 members enrolled.

Number of technologies



No. of farmers participated



Demonstration of harvesting oil palm bunches- IIOPR, Hyderabad

Application of bio control agent to manage leaf eating caterpillar- IIOPR, Hyderabad

Dr. T. Mohapatra, Secretary DARE and DG, ICAR addressing the participants of stakeholders meet on doubling the farm income-IIOPR, Hyderabad

Dr. R. K. Mathur, Director, ICAR-IIOPR releasing fish fingerlings in farm ponds- IIOPR, Hyderabad

Field Interactive sessions on importance of soil health at INM plots at IIOR, Rajendranagar

Institute Advisory team monitoring the interventions through NRM

3.19 Skill Development Training Programmes by ASCI

Eighty skill training programmes (including 3 revalidated from 2017-18) under Agricultural Skill Council of India (ASCI) were coordinated by ATARI during 2018-19 with the participation of 35 KVKs, three ICAR institutes (IIOPR- Pedavegi, IIRR-Hyderabad and CIBA-Chennai) and one agricultural university (PJTSAU, Hyderabad) . The trainers of the ASCI skill training programmes underwent 'Training of trainers (TOT)' during 25-27 September, 2018 at PJTSAU , Hyderabad and 17-19, December at ICAR-ATARI, Kanpur to gain platform and domain skills and to get certified by the assessors of ASCI. Each training was conducted with 20 trainees for 25 days duration during which period the trainees were given theory and practical classes on a particular job role to make them competent for getting employment or to start their own enterprise related to the skills acquired. At the end of the training programme the trainees are assessed by third party assessors engaged by ASCI who assessed and certified the trainees. The details of the skill training programmes conducted by various training partners under Zone-X during 2018-19 are presented in the following table.

Details of skill training programmes of ASCI undertaken by KVKs during 2018-19

Sl. No.	Name of KVK/ ICAR Institutes/ AU	Job role	No. of trainees	Notional hours
KVKs				
1.	Anantapur (Kalyandurg)	Mango grower	20	200
		Organic grower	20	200
2.	Kadapa (Utukuru)	Vermicompost producer	20	200
		Mushroom grower	20	200
3.	Krishna(Garikapadu)	Quality seed grower	20	200
		Mango grower	20	200
4.	Srikakulam	Mushroom grower	20	200
		Quality seed grower	20	200
5.	Vizianagaram	Organic grower	20	200
		Mushroom grower	20	200
6.	West Godavari (Undi)	Quality seed grower	20	200
		Bee keeper	20	200
7.	Chittoor (RASS)	Vermicompost producer	20	200
		Floriculturist-open cultivation	20	200
8.	Kurnool(Yagantipalli)	Quality seed grower	20	200
		Organic grower	20	200
9.	Visakhapatnam (BCT)	Organic grower	20	200
		Community service provider	20	200
10.	Guntur (LAM)	Dairy farmer-entrepreneur	20	200
		Vermicopost producer	20	200
11.	West Godavari (VR Gudem)	Bee keeper	20	200
		Small poultry farmer	20	200
12.	Adilabad	Vermicompost producer	20	200
		Quality seed grower	20	200
13.	Khammam (Wyra)	Quality seed grower	20	200
		Nursery worker	20	200
14.	Mahaboobnagar(Palem)	Mango grower	20	200
		Sericulturist	20	200
15.	Nalgonda (Kampasagar)	Nursery worker	20	200
		Vermicompost producer	20	200
16.	Nizamabad	Forest nursery raiser	20	200
		Sericulturist	20	200
17.	Rangareddy (CRIDA)	Floriculturist-open cultivation	20	200
		Dairy farmer - entrepreneur	20	200
18.	Karimnagar (Jammikunta)	Organic grower	20	200
		Forest nursery raiser	20	200
19.	Nalgonda (Gaddipalli)	Vermicompost producer	20	200
		Sericulturist	20	200
20.	Warangal (Mamnoor)	Dairy farmer-entrepreneur	20	200
		Small poultry farmer	20	200
	Bhupalapalli	Dairy farmer-entrepreneur	20	200
21.	Salem	Quality seed grower	20	200
		Organic grower	20	200
22.	Ramnathapuram	Coconut grower	20	200
		Bee Keeper	20	200

Sl. No.	Name of KVK/ ICAR Institutes/ AU	Job role	No. of trainees	Notional hours
23.	Kanyakumari	Bee keeper	20	200
		Mushroom grower	20	200
24.	Madurai	Bee keeper	20	200
		Nursery worker	20	200
25.	Vellore	Microirrigation technician	20	200
		Small poultry farmer	20	200
26.	Virudhunagar	Bee keeper	20	200
		Small poultry farmer	20	200
27.	Dharmapuri	Green house operator	20	200
		Artificial insemination technician	20	200
28.	Shivagangai	Micro-irrigation technician	20	200
		Agricultural extension service provider	20	200
29.	Namakkal	Bee keeper	20	200
		Mushroom grower	20	200
30.	Ariyalur	Mushroom grower	20	200
		Organic grower	20	200
31.	Karur	Organic grower	20	200
		Friends of coconut tree	20	200
32.	Erode	Organic grower	20	200
		Mushroom grower	20	200
33.	Coiumbatore	Organic grower	20	200
		Bee keeper	20	200
34.	Perambalur	Mushroom grower	20	200
		Nursery worker	20	200
35.	Pondicherry	Organic grower	20	200
		Micro-irrigation technician	20	200
ICAR- Institutes				
1.	ICAR-IIOPR (Pedavegi)	Seed processing worker	20	200
2.	ICAR-IIRR, Hyderabad	Quality seed grower	20	200
3.	ICAR-CIBA,Chennai	Shrimp farmer	20	200
		Shrimp farmer	20	200
Agricultural Universities				
1.	PJTSAU, Hyderabad	Agriculture extension service provider	20	200
		Quality seed grower	20	200

Bee Keeper – Namakkal

Mango grower – Krisshna (Garikapadu)

Community service provider- Visakhapatnam

Sericulturist – Mahaboobnagar (Palem)

3.21 Mera Gaon Mera Gaurav

"Mera Gaon Mera Gaurav" (MGMG) is an innovative initiative of Indian Council of Agricultural Research (ICAR), planned to promote the direct interface of scientists with the farmers to hasten the lab to land process. The objective of this scheme is to provide farmers with required information, knowledge and advisories on regular basis by adopting villages. It was implemented by 7 ICAR- institutes in Andhra Pradesh, Telangana and Tamil Nadu states. 68 teams of scientists have adopted 283 villages and organized 3965 activities benefiting 46812 farmers and rural people.

Table:3.20.1. Details of institutes participating in MGMG programme

S No.	Name of institute/ university	No of Teams	No of Scientists	No. of villages
Andhra Pradesh				
1	Indian Institute of Oilpalm Research, Pedavegi	3	13	13
2	Central Tobacco Research Institute, Rajahmundry	7	33	33
Telangana				
1	Indian Institute of Oilseeds Research, Rajendranagar, Hyderabad	9	36	40
2	Indian Institute of Millets Research, Rajendranagar, Hyderabad	9	36	45
3	Central Research Institute for Dryland Agriculture, Hyderabad	14	60	70
Tamil Nadu				
1	Central Institute Brackishwater Aquaculture, Chennai	12	58	12
2	Sugarcane Breeding Institute, Coimbatore	14	56	70
	Total	**68**	**292**	**283**

About 292 scientists made 884 visits in teams and conducted various activities in the adopted villages
involving farmers. Ninety one training programmes were conducted on agriculture, fisheries, value addition and other related aspects benefitting 2716 farmers. 795 Interface meetings/Kisan Ghoshtis were organized with the participation of 10233 farmers. A total of 1690 awareness and demonstration programmes were conducted on various aspects of agriculture, aquaculture, climate change, mechanization, water conservation, new crops, varieties etc. involving 10254 farmers. Mobile advisories (344 Nos.) and literature (151 Nos.) on improved agricultural practices, soil health,

pest and disease management, nutrition, value addition, government schemes etc. were provided to 12900 farmers & rural women. All these efforts by the ICAR-institutes resulted in employment generation, higher yields from the crops and income generation during off season thereby increasing the income levels of the farmers and rural people.

Table: 3.20.2. Details of activities conducted under MGMG programme

S. No.	Name of activity	No. of activities conducted	No. of farmers participated & benefitted
1.	Visit to village by teams	884	10184
2.	Interface meeting/ *Goshthies*	795	10233
3.	Training organized	91	2716
4.	Demonstrations conducted	1496	3131
5.	Mobile based advisories **(No of message)**	344	8447
6.	Literature support provided **(No)**	151	4453
7.	Awareness created (No)	194	7123
8.	Others	10	525
	Total	**3965**	**46812**

Demonstration on pest control

Training of farmers on soil health management

Field day on sorghum hybrids

Demonstration of portable raingun in Vegetables

Awareness campaign cum demonstration on application of bioagent

Demonstration on Redgram+Greengram intercropping

Demonstration on Backyard Poultry

Distribution fish seed for Homestead backyard Pearl spot hatchery

Annapurna Krishi Prasaar Seva (AKPS)

The interactive information dissemination system (IIDS) named as Annapurna Krishi Prasaar Seva (AKPS) is a join initiative of Digital India Corporation (formerly Media Lab Asia) , Acharya N.G.Ranga Agricultural University (ANGRAU) and Professor Jayashankar Telangana State Agricultural University which delivers web, mobile and IVRS (Interactive Voice Response Software) based solutions and enables agricultural related information to be pulled by farmers and also pushed by experts to send problem and context dependent information to the farmers. This system enables data to be transferred from farmers to experts and back in the form of voice, text, images and videos. Under ANGRAU, AKPS has been implemented through 8 KVKs (KVK Nellore, KVK Srikakulam, KVK Kadapa Utukur, KVK Anantapur Reddipalli , KVK Praksam Darsi, KVK Krishna Garikapadu, KVK West Godavari Undi, KVK Chittoor Kalikiri), 5 DATTC centers (Banavasi, Guntur, Vizianagaram, Peddapuram, Kondempudi) and 6 KVKs in Telangana (KVK Nalgonda Kampasgar, KVK Khammam Wyra, KVK Adilabad, KVK Mahabubnagar Palem, KVK Nizamabad Rudrur, KVK Warangal Malyal)and 6 DATTC centers (Mahabubnagar, Mahabubabad, Medak, Warangal ,Karimnagar, Rangareddy) under PJTSAU. A meeting to discuss the parameters / methodology for the impact assessment of AKPS was held on Wednesday, 29th August 2018 at ICAR-ATARI, Hyderabad.

AKPS centers (KVKs) under ICAR-ATARI, Hyderabad

S.No	State	KVK
1.	Andhra Pradesh	KVK Nellore
2.	Andhra Pradesh	KVK Srikakulam
3.	Andhra Pradesh	KVK Kadapa (Utukur)
4.	Andhra Pradesh	KVK Anantapur (Reddipalli)
5.	Andhra Pradesh	KVK Praksam (Darsi)
6.	Andhra Pradesh	KVK Krishna (Garikapadu)
7.	Andhra Pradesh	KVK West Godavari (Undi)
8.	Andhra Pradesh	KVK Chittoor (Kalikiri)
9.	Telangana	KVK Nalgonda (Kampasgar)
10.	Telangana	KVK Khammam (Wyra)
11.	Telangana	KVK Adilabad
12.	Telangana	KVK Mahabubnagar (Palem)
13.	Telangana	KVK Nizamabad (Rudrur)
14.	Telangana	KVK Warangal (Malyal)

S.No	State	DAATTC Center
1.	Andhra Pradesh	DAATTC, Banavasi
2.	Andhra Pradesh	DAATTC, Guntur
3.	Andhra Pradesh	DAATTC, Vizianagaram
4.	Andhra Pradesh	DAATTC, Peddapuram
5.	Andhra Pradesh	DAATTC, Kondempudi
6.	Telangana	DAATTC Mahabubnagar
7.	Telangana	DAATTC Mahabubabad
8.	Telangana	DAATTC Warangal
9.	Telangana	DAATTC Medak
10.	Telangana	DAATTC Karimnagar
11.	Telangana	DAATTC Rangareddy

S.No	Activity	Achievement during the year 2018-19	
		ANGRAU	PJTSAU
1	No.of Experts registered	657	102
2	No.of farmers registered	288908	43056
3	No.of farmers Calls answered	2573	714
4	No.of text messages sent by KVKS/ DATTCs	1348	593
5	No.of voice messages sent by KVKS/ DATTCs	538	116
6	No.of farmers called back by KVKs/ DATTCs	0	284

DISTRICT AGRO MET UNITS (DAMUs)

ICAR entered into an Memorandum of Understanding (MOU) with Indian Meteorological Department (IMD) for setting up of District AgroMet Units (DAMUs) under the Gramin Krishi Mausam Seva (GKMS) in 530 districts of the country to receive weather data from IMD and Automatic Weather Stations to be established at each DAMU to prepare and disseminate sub-district livel agro-met advisory bulletins. Thus DAMUs are expected to bring IMD and KVKs together in a structured matter to ensure better understanding of roles and responsibilities and to cater to the beneficiaries in a more effective manner. In this project IMD would provide technical guidance , install and inspect Automatic Weather Stations (AWS) at all KVKs by bringing them at par with national network of IMD. IMD also would provide training to the personnel (One SMS (Agro-meteorology) and one agro-met observer) posted at DAMU. On the other hand ICAR agrees to exchange data on soil and crop recorded at their DAMU centers with IMD and to encourage and guide personnel posted at DAMU for active participation in supervision , exchange data with other organizations as per dynamic needs of the system and to issue agro-met advisories with the help of an expert panel to be set up at district level. Under ICAR-ATARI, Hyderabad, 24 DAMU centers (9 from Andhra Pradesh, 4 from Telangana and 11 from Tamil Nadu and Puducherry) are identified for establishment from 2018-19 onwards.

Orientation training on preparation and dissemination of agromet advisory services to farmers was held during 1-2 August 2018 at ICAR-ATARI, Hyderabad. This training was imparted to 24 nodal officers of District Agromet Units (DAMUs) to be established at KVKs as part of IMD-ICAR collaboration for implementation of Gramin Krishi Mausam Sewa (GKMS). Dr Y.G. Prasad, Director, ATARI emphasized the role of agromet advisory services in minimizing the adverse impact of monsoon aberrations, extreme weather events due to increasing climate variability. Participants were provided orientation on preparation of agromet advisory bulletins using observations, weather forecast, crop stage and crop growth conditions. Existing dissemination of agromet bulletins and outreach was discussed. Hands-on experience training was imparted on accessing block level weather observations, weather forecast, selection of crops and preparation of block level advisories and their dissemination using the web portal to farmers.

List of KVKs under DAMUs project in Zone X

S.No.	Name of the KVK
Andhra Pradesh	
1.	Kadapa (Utkur)
2.	Nellore
3.	Prakasam (Darsi)
4.	Srikakulam
5.	Vizianagaram
6.	Krishna (Garikapadu)
7.	Kurnool (Banavasi)
8.	East Godavari (Kalavacherla)
9.	West Godavari (VRGudem)
Telangana	
10.	Adilabad
11.	Khammam (Wyra)
12.	Nalgonda (Kampasagar)
13.	Warangal (Malyal)
Tamil Nadu and Puducherry	
14.	Cuddalore
15.	Salem
16.	Pudukottai
17.	Ramanathapuram
18.	Trichy
19.	Vellore
20.	Virudhanagar
21.	Dharmapuri
22.	Tiruvallur
23.	Kancheepuram
24.	Puducherry

3. STAFF POSITION

S.No	Name	Designation
1.	Dr.Y.G.Prasad	Director
3.	Dr.Chari Appaji	Principal Scientist (Agril. Extn.)
4.	Dr.J.V.Prasad	Principal Scientist (Agril. Entomology.)
5.	Vacant	Principal Scientist (Agril. Extn.)
6.	Dr. A. Bhaskaran	Principal Scientist (Soil Science)
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	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	Senior Technical Officer
17.	Smt. Subbalakshmi	Skilled Supporting Staff

5. List of KVKS in Zone-X

S.No	KVK/ District	Name and Address of KVKs
	Tamil Nadu	
1	Cuddalore	Krishi Vigyan Kendra, Vriddhachalam, Cuddalore-606 001
2	Dharmapuri	Krishi Vigyan Kendra,Papparapatti, Dharmapuri – 636809
3	Kanyakumari	Krishi Vigyan Kendra, Thirupathisaram, Kanyakumari - 629 901
4	Madurai	Krishi Vigyan Kendra, Agricultural College and Research Institute, Madurai – 625104
5	Nagapattinam	Krishi Vigyan Kendra, Sikkal, Nagapattinam –611108
6	Pudukottai	Krishi Vigyan Kendra, Vamban Colony, Pudukkottai – 622303
7	Ramanathapuram	Krishi Vigyan Kendra, Coastal Saline Research Centre Collectorate Complex, Ramanathapuram – 623503
8	Salem	Krishi Vigyan Kendra, Sandhiyur, Via Mallur, Salem – 636203
9	Tiruvarur	Krishi Vigyan Kendra, Needamangalam,Thiruvarur-614404
10	Tiruvallur	Krishi Vigyan Kendra, Tirur, Tiruvallur-602025
11	Trichy	Krishi Vigyan Kendra, Sirugamani, Trichy - 639 115
12	Vellore	Krishi Vigyan Kendra, Virinjipuram, Vellore - 632 104
13	Villupuram	Krishi Vigyan Kendra, Tindivanam, Villupuram – 604002
14	Virudhanagar	Krishi Vigyan Kendra, Kovilangulam, Aruppukkottai, Virudhunagar – 626107
15	Kancheepuram	Krishi Vigyan Kendra , Kattangulathur (P.O.), Kattupakkam - 603 203, Kancheepuram
16	Namakkal	Krishi Vigyan Kendra, VC & RI Campus, Namakkal - 637002
17	Shivagangai	Krishi Vigyan Kendra, Kundrakudi, Sivagangai-630 206
18	Coimbatore	Krishi Vigyan Kendra, Vivekananduram, Seeliyur Via, Karamadai Block, Coimbatore-641113
19	Dindigul	Krishi Vigyan Kendra, Gandhigram Rural Institute, Gandhigram, Dindigul-624302
20	Erode	Krishi Vigyan Kendra ,272, Perumal Nagar, Puduvalliampalayam Road, Kalingiyam PostGobichettipalayam Taluk, Erode-638 453
21	Karur	Krishi Vigyan Kendra, Pulutheri, RT Malai Post, Kulithalai Taluk, Karur-621313
22	Krishnagiri	Krishi Vigyan Kendra, Elumichangiri,Mallinayanalli Post, Krishnagiri – 635120.
23	Perambalur	Krishi Vigyan Kendra, Valikanduram Distt. Perambalur – 621115
24	Theni	ICAR Krishi Vigyan Kendra, Kamatchipuram (S.O) Theni-625520
25	Tiruvannamalai	Krishi Vigyan Kendra, Kilnelli Village, Chithathur Post, Vembakkam Taluk, District. Thiruvannamalai-604 410
26	Tuticorin	Krishi Vigyan Kendra, MudivaithanendalVagaikulam, Thoothukudi-628102
27	Ariyalur	Krishi Vigyan Kendra, Cholamadevi Post, Jayamkondam, Udayarpalayam,Ariyalur – 612902
28	Tirunalveli	Krishi Vigyan Kendra, Urmelalagian, Ayikudi Post, Tenkasi-Tk,Tirunelveli District, Tamil Nadu - 627 852
29	Villupuram-II (New KVK)	Krishi Vigyan Kendra
30	Tirpur (New KVK)	Krishi Vigyan Kendra
	Andhra Pradesh	
1	Anantapur (Reddipalli)	Krishi Vigyan Kendra, Reddipalli (V), B.K.Samudram (Mdl), Anantapuram (Dist) - 515701
2	Anantapur (Kalyandurg)	Krishi Vigyan Kendra, Garudapuram (V), Kalyandurg (M),Krishi Vigyan Kendra, Kalyandurg, Anantapur-515761
3	Chittoor(Kalikiri)	Krishi Vigyan Kendra, CLRC Building, Madanapalle Road, Kalikiri - 517 234. Chittoor district. Andhra Pradesh
4	Chittoor(Rass)	Krishi Vigyan Kendra,RASS-KVK,Vanasthali, Karakambadi Post,

S.No	KVK/ District	Name and Address of KVKs
		Renigunta Mandal, Chittoor Dt., A.P-517 520
5	East Godavari(Kalavacherla)	Krishi Vigyan Kendra, Kalavacharla, Rajanagram Mandal, East Godavari - 533 294
6	East Godavari(Pandirimamidi)	Krishi Vigyan Kendra, Pandirimamidi,Rampachodavaram, East Godavari District, Pin: 533 288
7	Guntur(Vinayshram)	
8	Guntur(Lam)	Krishi Vigyan Kendra, Lam, Guntur - 520034
9	Kadapa	Krishi Vigyan Kendra, Utukur, Kadapa, Y.S.R district,Andhra Pradesh - 516003
10	Kadapa-2	Krishi Vigyan Kendra, Vonipenta, YSR Kadapa district-516173
11	Krishna (Garikapadu)	Krishi Vigyan Kendra, Garikapadu, Krishna District, 521175, Andhra Pradesh
12	Krishna (Ghantasala)	Krishi Vigyan Kendra, Agril. Research Station, GhantasalaKrishna , AP– 521 133
13	Kurnool (Banavasi)	Krishi Vigyan Kendra, Near G.L.S. Farm,, Banavasi,YemmiganurMandal, Kurnool District -518360, Andhra Pradesh
14	Kurnool (Yagantipalli)	Krishi Vigyan Kendra, Yagantipalle, Kurnool Dt, Andhra Pradesh - 518124
15	Nellore	Krishi Vigyan Kendra,Mini By Pass Road, A.K. Nagar (Post), B.V. Nagar, Andhra Pradesh-524 004
16	Nellore (Periyavaram)	Krishi Vigyan Kendra, Periyavaram, Venkatagiri Post, SPSR Nellore district-524 132
17	Prakasam (Darsi)	Krishi Vigyan Kendra, Agril. Research Station, PO:Darsi, Prakasam – 523247
18	Prakasam (Kandukur)	Krishi Vigyan Kendra,Central Tobacco Research Institute, Research Station Premises, Kandukur – 523 105, Prakasam
19	Srikakulam	Krishi Vigyan Kendra, Amadalavalasa-532185
20	Vishakapatnam	Krishi Vigyan Kendra, BCT-Krishi Vigyan Kendra, Haripuram, Rambilli Mandal, Visakhapatnam-531061
21	Vishakapatnam (Kondempudi)	Krishi Vigyan Kendra, C/o Jyothirmaya trust, Amarapuri, Pottidorapalem post, Butchayyapeta Mandal, Visakhapatnam-531026
22	Vizayanagaram	Krishi Vigyan Kendra,Rastakuntabai, Vizianagaram-535523
23	West Godavari (Vrgudem)	Krishi Vigyan Kendra, Venkataramannagudem,West Godavari-534 101
24	West Godavari (Undi)	Krishi Vigyan Kendra, Undi, West Godavari-534199
	Telangana	
1	Adilabad	Krishi Vigyan Kendra, ARS premises, Ramnagar, Adilabad- 504002
2	Mancherial	Krishi Vigyan Kendra, Bellampalli, Mancherial
3	Karimnagar(Jammikunta)	Krishi Vigyan Kendra, Jammikunta, Karimnagar-505122
4	Karimnagar (Ramgirikilla)	Krishi Vigyan Kendra, Ramagirikhilla, Ratnapu, Ramagiri, Peddapalli district-505212
5	Khammam	Krishi Vigyan Kendra, ARS Wyra, Khammam-507165
6	Khammam (Kothagudem)	Krishi Vigyan Kendra,Garimellapadu Village, Kothagudem Mandal, Khammam-507165
7	Mahabubnagar (YFA)	Krishi Vigyan Kendra,Madanapuram (Vill. & Mdl),Wanaparthy, Mahabubnagar -509110
8	Mahabubnagar (Palem)	Krishi Vigyan Kendra, Palem,Mahabubnagar-509215
9	Medak	Krishi Vigyan Kendra, Didgi Village, Zaheerabad, Medak-502220
10	Medak-2	Krishi Vigyan Kendra, Tunki Village, Kowdipally, Mandal, Medak
11	Nalgonda (Gaddipalli)	Krishi Vigyan Kendra, Gaddipalli, Garedapalli Mandal, Nalgonda -508201
12	Nalgonda (Kampasagar)	Krishi Vigyan Kendra, Kampasagar, Babusaipet Post , Tripuraram Mandal, Nalgonda-508207
13	Nizamabad	Krishi Vigyan Kendra, Farm Science Centre, Rudrur, Varmi Mandal, Nizamabad-503188

S.No	KVK/ District	Name and Address of KVKs
14	Ranga Reddy	Krishi Vigyan Kendra, Near Deer Park, Bhagyalatha Busstop,Hayathnagar Research Farm, Telangana -501 505
15	Warangal (Malyal)	Krishi Vigyan Kendra, Malyal, Mahabubabad, Warangal 506101
16	Warangal (Mamnoor)	Krishi Vigyan Kendra,Mamnoor, Warangal, Telangana -506166
	Puducherry	
1	Karaikal	Krishi Vigyan Kendra , Madur, SelloreThirunallar, Karaikal-609 607
2	Pondicherry	Krishi Vigyan Kendra, Kurumbet, Puducherry-605 009