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2023



भारतीय कृषि अनुसंधान परिषद-कृषि प्रौद्योगिकी अनुप्रयोग अनुसंधान संस्थान  
अंचल-६, गुवाहाटी, असम

**ICAR-Agricultural Technology Application Research Institute**  
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**Dr. G. Kadirvel**  
Director

# Preface

It is with great pride and a sense of accomplishment that I present the Annual Report for the year 2023, encapsulating the dedicated efforts and notable achievements of ICAR-ATARI, Zone VI, Guwahati. This year has been marked by significant strides in advancing agricultural technology application research, technology dissemination and sustainable farming practices across the North Eastern region of India.

Throughout the year, our institute has successfully executed a range of research projects, focusing on critical areas such as new extension methodologies, climate-resilient agriculture and youth engagement in flagship programme. NEMA, NICRA-TDC, ARYA, Farmers FIRST, Natural farming, NFSM-Pulses, NMOOP-Oilseeds and DAMU have had a profound impact on the agricultural landscape, empowering farmers with innovative techniques and fostering resilience against climatic change. The collaborative efforts of our scientists and KVKs have led to the widespread adoption of advanced agricultural practices. By promoting new technologies of National Agricultural Research and Education System, we have supported farmers in improving productivity, livelihood security while ensuring environmental sustainability.

Our commitment to capacity building and knowledge dissemination is reflected in the numerous training programs and extension activities conducted throughout the year. These initiatives have equipped thousands of farmers, rural youth and extension personnel with the skills and knowledge necessary to embrace modern agricultural practices and achieve greater success in their endeavors. Furthermore, the provision of high-quality seeds, planting materials, bio-products etc. has empowered farmers to adopt improved varieties and sustainable practice. As we reflect on the achievements of 2023, we are inspired to continue our journey towards a more resilient and prosperous agricultural future. We remain committed to fostering sustainable practices, enhancing farmer livelihoods and contributing to the overall development of the agricultural sector.

This document is a succinct manifestation of the significant achievements made by the institute and the KVKs during the year 2023. I express my sincere gratitude to Dr. Himanshu Pathak, Secretary, DARE & Director General, ICAR, Govt. of India, Dr. U. S. Gautam, DDG (AE), Dr. R.R. Burman, ADG (AE), Dr. R.K. Singh, ADG (AE) and all the colleagues in the Agricultural Extension Division for their constant support, guidance and encouragement culminating in the successful execution of the mandates of the institute. My sincere appreciation and compliments to the Head of the host institutes and KVK staffs for the contribution in the technology demonstration and dissemination in agricultural sector for the benefit of farmers in the region. Director of institute sincerely acknowledged the efforts made by editorial board of annual report, scientist, administration, finance and other supporting staff of the institute for successfully implementing the projects and bringing the significant achievement and timely publication of the document.

**(Kadirvel Govindasamy)**  
Director

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# Executive Summary

The ICAR- Agricultural Technology Application Research Institute (ATARI), Zone VI, Guwahati and 47 KVKs under its fold spanning three different states, viz., Arunachal Pradesh, Assam and Sikkim have made strenuous efforts in its endeavor to successfully execute the various job roles fulfilling the mandates enshrined for the KVKs and ICAR-ATARI, Guwahati. ICAR- ATARI, Guwahati has donned the mantle of monitoring, coordinating and directing the various KVKs under its jurisdiction in its fervent attempt to fulfill the needs and aspirations of different stakeholders including the farmers in the region. A great deal of support received from Head of host organizations has facilitated the materialization of various mandates of the institute, fulfilling the needs of different stakeholders including KVKs in providing technological and methodological backstopping, information support, skill up-gradation, entrepreneurship development etc. in crops, livestock and other enterprises.

During the year 2023, the institute has successfully implemented its ongoing externally funded research projects namely; New Extension Methodologies and Approaches (NEMA) through 11 selected KVKs, Technology demonstration component of National Innovation on Climate Resilient Agriculture (NICRA-TDC) for technology demonstration on farmers' fields through 9 selected KVKs, Attracting and Retaining Youth in Agriculture (ARYA) through 5 selected KVKs and Farmers FIRST Project (FFP) through Assam Agricultural University, Jorhat, CFLD on Pulses through 34 selected KVKs, CFLD on Oilseeds through 36 selected KVKs and Natural farming through 27 selected KVKs. Scientists of the ICAR-ATARI, Zone VI during the year 2023 published research articles in prestigious national journals.

During the period, the institute through its 9 NICRA-TDC KVKs, various interventions of climate resilient agricultural technologies such as low cost raised based vermicomposting unit, cultivation of high value crops in polyhouse, no till cultivation of potato, water harvesting in *Jalkund* for life saving irrigation, submergence tolerant rice variety 'Ranjit Sub 1', 'Bahadur Sub 1' in rice-toria cropping system in flash flood affected areas, low cost improved *Mechang* type poultry house and goat house for flood affected areas, de-worming along with mineral supplementation etc. were done. ICAR-ATARI, Guwahati has also undertaken five other flagship programmes namely, ARYA, Farmers FIRST, NEMA, NMOOP- Oilseeds and NFSM-Pulses and has ensured its successful implementation in various KVKs under its jurisdiction.

During the year 2023, KVKs under ICAR-ATARI, Guwahati has taken up a total of 524 technologies of crops for their assessment to identify location specific technologies under local farming situations with 1495 numbers of trials. The major thematic areas included for assessment were varietal evaluation with 564 number of trials, Integrated Nutrient Management (189), Integrated Pest Management (73), Integrated Crop Management (7), Integrated Disease management (62), Integrated farming management (12), Resource Conservation Technology (8), Value Addition (84), Weed Management (9), Mushroom Cultivation (35), Crop Production (53) and Organic cultivation (36). While a total of 128 technologies with 558 numbers of trials related to livestock enterprises such as cattle, piggery,

fishery, poultry, duckery, goater, rabbitry etc. were taken for assessment with major thematic areas of evaluation of breed (166), Nutrition management (30), fish production (75), breed introduction (130), production and management (40) feed and fodder management (33).

In the year 2023, a total of 4697 Cluster Frontline Demonstrations (CFLDs) in oilseeds and pulses were conducted by the KVKs of Assam, Arunachal Pradesh and Sikkim, covering a total area of 1765.4 ha. Out of which CFLD on oilseeds covered 3405 demonstrations in 1295 ha area and CFLD on pulses covered 1292 demonstrations in 470.4 ha area.

Other than oilseed and pulses, a total of 2812 Frontline demonstrations (FLDs) were conducted by KVKs of Assam, Arunachal Pradesh and Sikkim on various crops such as cereals, vegetable, fruits, flowers, plantation crops, cole crops, spices and fodder crops etc. during the year 2023. Out of which, 1637.04 ha area with 1762 farmers from Assam, 188.07 ha area with 905 farmers from Arunachal Pradesh and 25.9 ha with 145 farmers from Sikkim were covered. In case of FLD conducted on cereals, 330.14 ha, 96 ha and 2.5 ha were covered in Assam, Arunachal Pradesh and Sikkim respectively, which benefited 874, 200 and 16 farmers from Assam, Arunachal Pradesh and Sikkim. FLD on vegetable crops benefited 210 farmers in Assam, 530 farmers in Arunachal Pradesh and 24 farmers in Sikkim by covering an area of 21.56 ha, 54.5 ha and 3.6 ha. FLD conducted on fruit crops benefitted 24 farmers from Assam and 26 farmers from Arunachal Pradesh covering an area of 54.61 ha and 9.5 ha respectively.

A total of 4133 training courses including sponsored and vocational training programmes

were conducted by the KVKs of its zone which benefitted 64846 numbers of farmers, farm women, rural youth and extension personnel on different thematic areas such as crop production, horticulture, soil health and fertility management, livestock production and management, home science and women empowerment, agricultural engineering, plant protection, fisheries, agro-forestry etc.

The KVKs have made immense strides to organize various extension activities and have been successful in conducting a total of 36920 numbers of extension activities under the auspices of ICAR-ATARI, Guwahati hugely benefitting a contingent of 264200 numbers farmers, farm women, agripreneurs, extension personnel and rural youth including school children in the region culminating in a much wider dissemination and adoption of improved agricultural technologies and their role in agricultural development.

During the period 2023, the KVKs under the zone have endeavored to provide high quality seeds, planting materials and bio-products to the tune of 4529.187 tonnes seeds of cereals, pulses, oilseeds and vegetables etc., 31.69 lakhs numbers of planting materials of fruits, vegetables, forest species, plantation, ornamental crops etc. and 3273.22 quintal of bio-products of bio-agents, bio-fertilizers and bio-pesticides and 763040 numbers of livestock strains, fingerlings and rabbits in the region.

A concerted and strenuous effort by ICAR-ATARI, Guwahati has been directed towards strengthening of the Directorate of Extension Education (DEEs), and Agriculture Technology Information Centres (ATICs) under the zone through regular monitoring mechanism.

# कार्यकारी सारांश

**भा.कृ.अनु.प-** कृषि प्रौद्योगिकी अनुप्रयोग अनुसंधान संस्थान (अटारी), अंचल-VI और इसके 47 कृ.वि.के तीन, अलग-अलग राज्यों अरुणाचल प्रदेश, असम और सिक्किम में फैले हुए हैं, और अपने कृ.वि.के एवं भा.कृ.अनु.प- अटारी गुवाहाटी के लिए निहित जानदेश को पूरा करने के लिए विभिन्न कार्य भूमिकाओं को सफलतापूर्वक निष्पादित करने में प्रयासरत हैं। भा.कृ.अनु.प- अटारी गुवाहाटी ने क्षेत्र में किसानों सहित हितधारकों की जरूरतों और आकांक्षाओं को पूरा करने के प्रयास में अपने क्षेत्राधिकार के तहत विभिन्न कृ.वि.के की निगरानी, समन्वय और निर्देशन का कार्य किया है। असम कृषि विश्वविद्यालय, जोरहट एवं केंद्रीय कृषि विश्वविद्यालय, इम्फाल के कृषि विस्तार निदेशालय और अन्य मेजबान संगठन की सहायता हितधारकों की फसल एवं दूसरी पशुधन उद्यम जैसी विभिन्न जरूरतों जैसे की प्रौद्योगिकी एवं कार्यप्रणाली मदद, जानकारी सहायता, कौशल उन्नयन, उद्यमिता विकास इत्यादि द्वारा क्षेत्र को सक्षम कर रहा है।

वर्ष 2023 के दौरान, संस्थान ने पहले से चल रही बाह्य वित्त पोषित अनुसंधान परियोजनाओं को सफलतापूर्वक लागू किया है, 11 चयनित कृ.वि.के के माध्यम से नई विस्तार पद्धतियां और दृष्टिकोण (एनईएमए), 9 चयनित कृ.वि.के के माध्यम से किसानों के खेतों पर प्रौद्योगिकी प्रदर्शन के लिए जलवायु लचीला कृषि पर राष्ट्रीय नवाचार (एनआईसीआरए), 5 चयनित कृ.वि.के के माध्यम से कृषि में युवाओं को आकर्षित करना और बनाए रखना (एआरवाईए), असम कृषि विश्वविद्यालय, जोरहाट के माध्यम से परियोजना (एफएफपी), 34 चयनित कृ.वि.के के माध्यम से दलहन पर सीएफएलडी 36 चयनित कृ.वि.के के माध्यम से तिलहन पर सीएफएलडी और 27 चयनित कृ.वि.के के माध्यम से प्राकृतिक खेती। वर्ष 2023 के दौरान भा.कृ.अनु.प-अटारी, अंचल-VI के वैज्ञानिकों ने प्रतिष्ठित राष्ट्रीय और अंतर्राष्ट्रीय शोध पत्रिकाओं में शोध लेख प्रकाशित किए।

इस अवधि के दौरान, संस्थान ने 9 एनआईसीआरए कृ.वि.के के माध्यम से जलवायु लचीली कृषि प्रौद्योगिकियों के विभिन्न हस्तक्षेप जैसे कम लागत पर आधारित वर्मीकम्पोस्टिंग इकाई, पॉलीहाउस में उच्च मूल्य वाली फसलों की खेती, जीवन बचाने के लिए जलकुंड के जल संचयन से सिंचाई, बाढ़ प्रभावित क्षेत्रों में जलमग्न सहिष्णु में धान की किस्मों जैसे 'रंजीत सब 1', 'बहादुर सब 1', का प्रदर्शन बाढ़ प्रभावित क्षेत्रों के कम लागत में उन्नत मेचांग प्रकार के पोल्ट्री हाउस और बकरी हाउस, इत्यादि का प्रदर्शन किया। भा.कृ.अनु.प- अटारी, गुवाहाटी ने दो अन्य फ्लैगशिप कार्यक्रम जैसे एनएमओओपी तिलहन और एनएफएसएम दलहन भी क्रियान्वित किए जो अपने अधिकार क्षेत्र के क्रमशः 34 और 36 कृ.वि.के में इसका सफलतापूर्वक कार्यान्वित सुनिश्चित किया।

वर्ष 2023 के दौरान, भा.कृ.अनु.प-अटारी, गुवाहाटी के तहत कृ.वि.के ने 1495 परीक्षणों के साथ स्थानीय कृषि स्थितियों के तहत स्थान विशिष्ट प्रौद्योगिकियों की पहचान एवं उनके मूल्यांकन के लिए फसल उद्यमों के विभिन्न क्षेत्रों में कुल 524 प्रौद्योगिकियों को लिया था। मूल्यांकन के लिए शामिल प्रमुख विषयगत क्षेत्रों में 564 परीक्षणों के साथ विविध मूल्यांकन, एकीकृत पोषक तत्व प्रबंधन (189), एकीकृत कीट प्रबंधन (73), एकीकृत फसल प्रबंधन (7), एकीकृत रोग प्रबंधन (62), एकीकृत खेती प्रबंधन (12) शामिल थे। संसाधन संरक्षण प्रौद्योगिकी (8), मूल्य संवर्धन (84), खरपतवार प्रबंधन (9), मशरूम खेती (35), फसल उत्पादन (53) और जैविक खेती (36) शामिल है। जबकि पशुधन उद्यमों जैसे मवेशी, सुअर पालन, मत्स्य पालन, मुर्गी पालन, बत्तख पालन, बकरी पालन, खरगोश पालन आदि से



संबंधित 558 परीक्षाओं को मूल्यांकन के लिए लिया गया था।

वर्ष 2023 में, अंचल-VI के तहत असम, अरुणाचल प्रदेश और सिक्किम के कृ.वि.के द्वारा तिलहन और दालों में कुल 4697 क्लस्टर फ्रंटलाइन प्रदर्शन (सीएफएलडी) आयोजित किए गए, जिसमें कुल 1765.5 हेक्टेयर क्षेत्र शामिल थे। जिसमें से तिलहन पर सीएफएलडी ने 1295 हेक्टेयर क्षेत्र में 3405 प्रदर्शनों को अच्छादित किया, और दालों पर सीएफएलडी ने 470.4 हेक्टेयर क्षेत्र में 1292 प्रदर्शनों को अच्छादित किया।

तिलहन और दलहन के अलावा, असम, अरुणाचल प्रदेश और सिक्किम के कृ.वि.के द्वारा अनाज, सब्जी, फल, फूल, वृक्षारोपण फसल, कोल फसल, मसाले और चारा फसल आदि जैसी विभिन्न फसलों पर कुल 2812 प्रथम पंक्ति प्रदर्शन (एफएलडी) आयोजित किए गए। वर्ष 2023 के दौरान, असम के 1762 किसानों के साथ 1637.04 हेक्टेयर क्षेत्र, अरुणाचल प्रदेश के 905 किसानों के साथ 188.07 हेक्टेयर क्षेत्र और सिक्किम के 145 किसानों के साथ 25.9 हेक्टेयर क्षेत्र को कवर किया गया। अनाज पर आयोजित एफएलडी के मामले में, असम, अरुणाचल प्रदेश और सिक्किम में क्रमशः 330.14 हेक्टेयर, 96 हेक्टेयर और 2.5 हेक्टेयर को कवर किया गया, जिससे असम, अरुणाचल प्रदेश और सिक्किम के 874, 200 और 16 किसानों को लाभ हुआ। सब्जी फसलों पर एफएलडी ने 21.56 हेक्टेयर, 54.5 हेक्टेयर और 3.6 हेक्टेयर क्षेत्र को कवर करके असम में 210 किसानों, अरुणाचल प्रदेश में 530 किसानों और सिक्किम में 24 किसानों को लाभान्वित किया। फलों की फसलों पर किए गए एफएलडी से असम के 24 किसानों और अरुणाचल प्रदेश के 26 किसानों को क्रमशः 54.61 हेक्टेयर और 9.5 हेक्टेयर क्षेत्र में लाभ हुआ।

कृ.वि.के द्वारा प्रायोजित और व्यावसायिक प्रशिक्षण कार्यक्रमों सहित कुल 4133 प्रशिक्षण पाठ्यक्रम आयोजित किए गए जिसमें विभिन्न उत्पादन क्षेत्रों जैसे कि उत्पादन, बागवानी, मृदा स्वास्थ्य और उर्वरता जैसे विभिन्न विषयगत क्षेत्रों पर कुल 64846 किसान, कृषक महिलाओं, ग्रामीण युवाओं और विस्तार कर्मियों को लाभ हुआ।

कृ.वि.के ने विभिन्न विस्तार गतिविधियों को व्यवस्थित करने के लिए काफी प्रयास किए हैं और भा.कृ.अनु.प- अटारी, गुवाहाटी के तत्वाधान में कुल 36920 विस्तार गतिविधियों का संचालन करने में सफल रहे हैं, जिसमें 264200 संख्या में किसानों, कृषि महिलाओं, कृषि उद्यमी के साथ-साथ स्कूली बच्चों सहित विस्तार कर्मियों और ग्रामीण युवाओं को काफी फायदा हुआ है, और क्षेत्र में व्यापक कृषि प्रसार और बेहतर कृषि प्रौद्योगिकियों को अपनाने और कृषि विकास में उनकी भूमिका सम्मानित किया गया।

2023 की अवधि के दौरान, क्षेत्र के अंतर्गत कृषि विज्ञान केन्द्रों ने उच्च गुणवत्ता वाले बीज, रोपण सामग्री और जैव-उत्पाद प्रदान करने का प्रयास किया है। कुल 4529.187 टन बीज अनाजों के और 31.69 लाख संख्या के फल, सब्जियां, वन प्रजातियां, वृक्षारोपण, सजावटी फसलें आदि की रोपण सामग्री, 3273.22 क्विंटल जैव-उत्पादों, जैव-उर्वरकों और जैव-कटीनाशकों के जैव-उत्पाद और 763040 संख्या में पशुधन उपभेद, खरगोश, मछली बीज कृ.वि.के द्वारा प्रदान किए गए।

नियमित गतिविधि के रूप में यथाक्रम निगरानी तंत्र के माध्यम से संस्थान ने क्षेत्र के विस्तार शिक्षा निदेशालयों (डीईई) और कृषि प्रौद्योगिकी सूचना केन्द्र (एटीआईसी) को सुदृढ़ बनाने में गंभीर प्रयास किए।



## 1.0

## INTRODUCTION

### 1.1 Genesis of Agricultural Technology Application Research Institute (ATARI)

The Indian Council of Agricultural Research created 8 (Eight) Zonal Coordinating Units (ZCU) with a staff strength of 6 (Six) in each unit for the purpose of implementation of Lab-to land programme encompassing 50,000 farm families over the entire country during the year 1979. Subsequently, the ICAR deftly laid out the blueprint that the KVK project would be monitored by these units and increased the staff strength to 8 (Eight). During the VIII<sup>th</sup> Plan (1992-1997), when the total number of KVKs was 261, the ICAR ushered in the revision of the staff strength of Zonal Coordinating Units to 15 (Fifteen). During the XI<sup>th</sup> plan, on an average, each zonal coordinating unit had been entrusted to handle an annual budget of about Rs. 55 crores. In a bid to ensure proper management of large number of KVKs, the Zonal Coordinating Units were upgraded to the status of Project Directorate, called Zonal Project Directorate (ZPD) with total sanctioned staff strength of 17 with effect from March 19, 2009. Subsequently the ZPD was elevated to the level of Research Institute called Agricultural Technology Application Research Institute (ATARI) in 11<sup>th</sup> August, 2015. The number of ATARIs has been increased from 8 to 11 to enable proportionate distribution of KVKs under each unit and facilitate better coordination and monitoring of the KVKs. ICAR-ATARI, Guwahati was formed as part of the bifurcation process which was eventuated in view of the overriding responsibilities shouldered by ICAR-ATARI Zone VII, Umiam and also to facilitate better coordination and monitoring of the KVKs under its jurisdiction. The foundation stone for the ICAR-Agricultural Technology Application

Research Institute (ATARI), Zone VI, was laid by then Hon'ble Union Minister of Agriculture & Farmers Welfare, Shri Radha Mohan Singh at ICAR-CPCRI, Regional Centre, Kahikuchi on 14<sup>th</sup> February, 2016. Later on, the office was shifted temporarily to ICAR-CIFRI, Regional Centre Housefed Complex, Dispur, Guwahati on 31<sup>st</sup> December, 2018. The permanent office building of ICAR-ATARI, Zone VI, Guwahati has been constructed at Kahikuchi and subsequently shifted from ICAR-CIFRI, Regional Centre, Guwahati to its permanent office building in the year 2022.

### 1.2 Agricultural Technology Application Research Institute (ATARI), Zone VI

The ICAR- Agricultural Technology Application Research Institute (ATARI), Zone VI with its headquarter at Dispur, Guwahati with 47 KVKs under its fold, is primarily responsible for the monitoring and reviewing the technology assessment, refinement, demonstration, training programmes and other extension activities being conducted by the KVKs in the three states of North East Region, i.e. Arunachal Pradesh, Assam and Sikkim. Besides, the institute is also engaged in providing guidance to the KVKs to accomplish its technological activities, ensuring continuous flow and access of technologies to the KVKs, enabling the Directorates of Extension Education of SAUs and CAU in the region to oversee the activities of the KVKs. ICAR-ATARI, Zone VI has also taken up need based Human Resource Development (HRD) programmes for KVK staff with adequate financial support, liaison with different stakeholders and other line departments in the region.

### 1.3 Mandates of the Institute

The mandate ICAR-ATARI are Coordination and monitoring of technology application and frontline extension education programmes; and strengthening agricultural extension research and knowledge management.

### 1.4 Major achievements at a glance

During the year 2023, the institute has successfully implemented research projects namely; New Extension Methodologies and Approaches (NEMA) through 11 selected KVKs, Technology demonstration component of National Innovation on Climate Resilient Agriculture (NICRA-TDC) for technology demonstration on farmers' fields through 9 selected KVKs, Attracting and Retaining Youth in Agriculture (ARYA) through 5 selected KVKs and Farmers FIRST Project (FFP) through Assam Agricultural University, Jorhat, CFLD on Pulses through 34 selected KVKs, CFLD on Oilseeds through 36 selected KVKs and Natural farming through 27 selected KVKs. Scientists of the ICAR-ATARI, Zone VI and staffs of KVKs during the year 2023 published research articles in prestigious national and international research journals.

During the period, the institute through its 9 NICRA-TDC KVKs, various interventions of climate resilient agricultural technologies such as low cost raised based vermicomposting unit, cultivation of high value crops in polyhouse, no till cultivation of potato, water harvesting in *Jalkund* for life saving irrigation, submergence tolerant rice variety 'Ranjit Sub 1', 'Bahadur Sub 1' in rice-toria cropping system in flash flood affected areas, low cost improved *Mechang* type poultry house and goat house for flood affected areas, de-worming along with mineral supplementation etc. were done. ICAR-ATARI, Guwahati has also undertaken five other flagship programmes namely, ARYA, Farmers FIRST, NEMA, NMOOP- Oilseeds and NFSM-Pulses and has ensured its successful implementation in various KVKs under its jurisdiction.

During the year 2023, KVKs under ICAR-ATARI, Guwahati has taken up a total of 524 technologies of crops for their assessment to identify location specific technologies under local farming situations with 1495 numbers of trials. The major thematic areas included for assessment were varietal evaluation with 564 number of trials, Integrated Nutrient Management (189), Integrated Pest Management (73), Integrated Crop Management (7), Integrated Disease management (62), Integrated farming management (12), Resource Conservation Technology (8), Value Addition (84), Weed Management (9), Mushroom Cultivation (35), Crop Production (53) and Organic cultivation (36). While a total of 128 technologies with 558 numbers of trials related to livestock enterprises such as cattle, piggy, fishery, poultry, duckery, goatery, rabbitry etc. were taken for assessment with major thematic areas of evaluation of breed (166), Nutrition management (30), fish production (75), breed introduction (130), production and management (40) feed and fodder management (33).

In the year 2023, a total of 4697 Cluster Frontline Demonstrations (CFLDs) in oilseeds and pulses were conducted by the KVKs of Assam, Arunachal Pradesh and Sikkim covering a total area of 1765.4 ha. Out of which CFLD on oilseeds covered 3405 demonstrations in 1295 ha area and CFLD on pulses covered 1292 demonstrations in 470.4 ha area.

Other than oilseed and pulses, a total of 2812 Frontline demonstrations (FLDs) were conducted by KVKs of Assam, Arunachal Pradesh and Sikkim on various crops such as cereals, vegetable, fruits, flowers, plantation crops, cole crops, spices and fodder crops etc. during the year 2023. Out of which 1637.04 ha area with 1762 farmers from Assam, 188.07 ha area with 905 farmers from Arunachal Pradesh and 25.9 ha with 145 farmers from Sikkim were covered. In case of FLD conducted on cereals, 330.14 ha, 96 ha and 2.5 ha were covered in Assam, Arunachal Pradesh and Sikkim respectively, which benefited



874, 200 and 16 farmers from Assam, Arunachal Pradesh and Sikkim. FLD on vegetable crops benefited 210 farmers in Assam, 530 farmers in Arunachal Pradesh and 24 farmers in Sikkim by covering an area of 21.56 ha, 54.5 ha and 3.6 ha. FLD conducted on fruit crops benefitted 24 farmers from Assam and 26 farmers from Arunachal Pradesh covering an area of 54.61 ha and 9.5 ha respectively.

A total of 4133 training courses including sponsored and vocational training programmes were conducted by the KVKs under zone VI which benefitted 64846 numbers of farmers, farm women, rural youth and extension personnel on different thematic areas such as crop production, horticulture, soil health and fertility management, livestock production and management, home science and women empowerment, agricultural engineering, plant protection, fisheries, agro-forestry etc.

The KVKs have made immense strides to organize various extension activities and

have been successful in conducting a total of 36920 numbers of extension activities under the auspices of ICAR-ATARI, Guwahati hugely benefitting a contingent of 264200 numbers farmers, farm women, agripreneurs, extension personnel and rural youth including school children in the region culminating in a much wider dissemination and adoption of improved agricultural technologies and their role in agricultural development.

During the period 2023, the KVKs under the zone have endeavored to provide high quality seeds, planting materials and bio-products to the tune of 4529.187 tonnes seeds of cereals, pulses, oilseeds and vegetables etc., 31.69 lakhs numbers of planting materials of fruits, vegetables, forest species, plantation, ornamental crops etc. and 3273.22 quintal of bio-products of bio-agents, bio-fertilizers and bio-pesticides and 763040 numbers of livestock strains, fingerlings and rabbits in the region.

## 1.5 Organizational structure of KVKs under ICAR-ATARI, Zone-VI, Guwahati

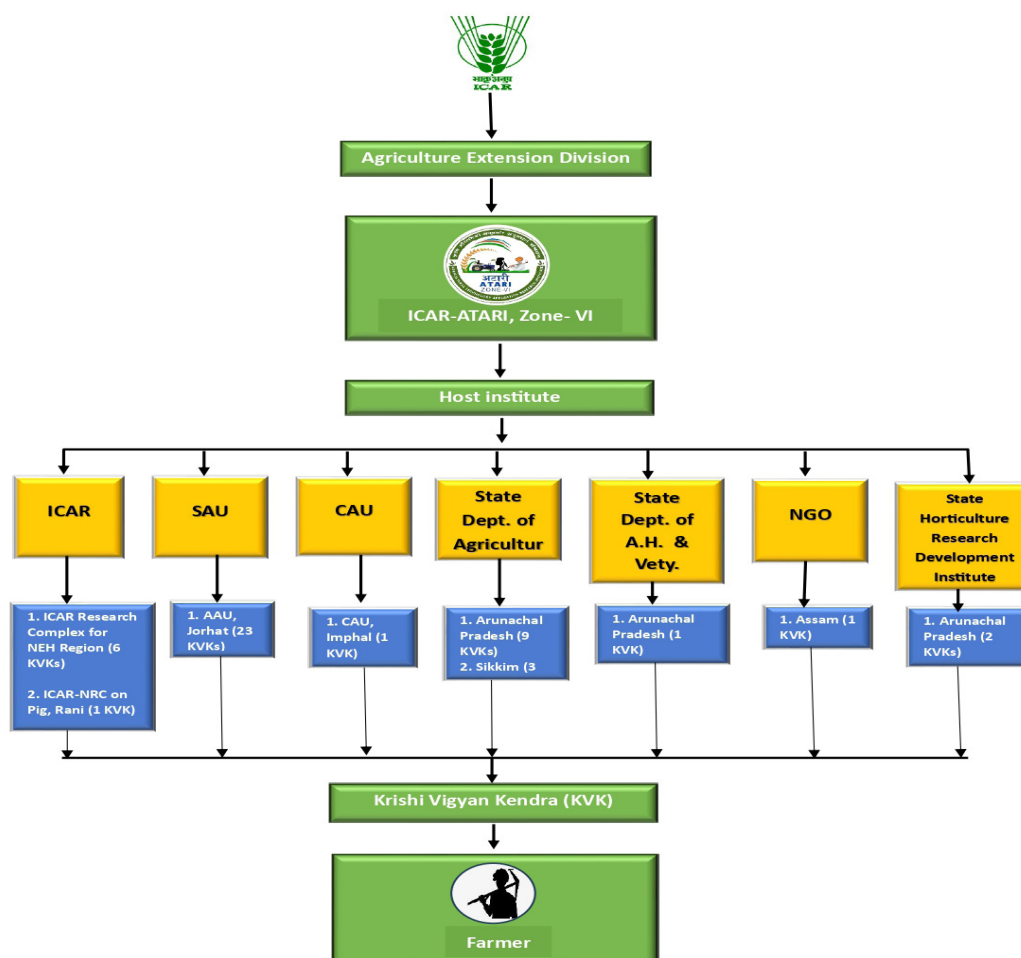


Fig 1 : Organizational Structures of KVKs under ICAR-ATARI, Zone-VI, Guwahati

### 1.5.1 Operational area of ICAR-ATARI, Zone VI, Guwahati



Fig 2(a) : Map of of North –East India showing the operational state under ICAR-ATARI, Zone-VI

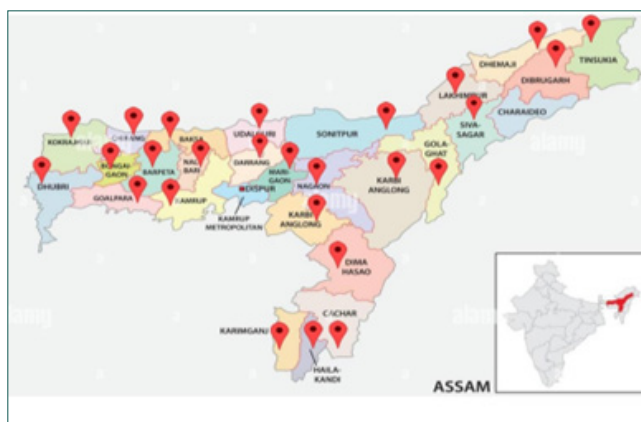


Fig 2(b): Location of KVKs in Assam

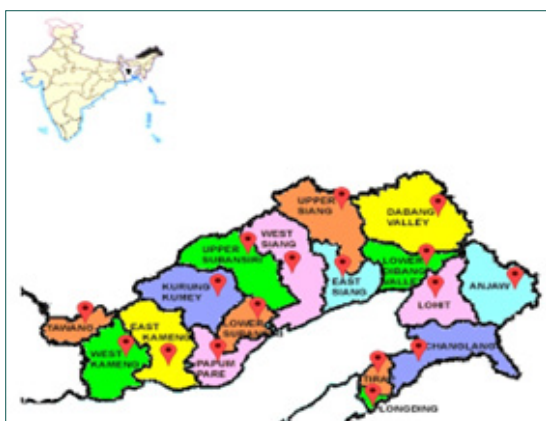


Fig 2(c): Location of KVKs of Arunachal Pradesh



Fig 2 (d) : Location of KVKs of Sikkim

### 1.6 Staff position of Agricultural Technology Application Research Institute (ATARI), Zone VI

**Table 1. Present Staff Position of Agricultural Technology Application Research Institute, Zone VI as per sanction strength**

Sl. No.	Category	Sanctioned Strength	In position	Vacant
1	Director	1	1	0
2	Principal Scientist	1	1	0
3	Scientist	2	2	0
4	AAO	1	1	0
5	AF&AO	1	0	1
6	Assistant	2	0	2
7	Upper Division Clerk	1	0	1
8	Lower Division Clear	2	0	2
9	Technician (T-3)	1	0	1
10	Stenographer	1	0	1
11	Technician (T-1)	1	0	1
<b>Total</b>		<b>14</b>	<b>5</b>	<b>9</b>



## 1.6 Budget Provisions

Table 2 (A): Budget 2023-24 for ATARI, Zone-VI &amp; Krishi Vigyan Kendras including DEE under Grant in Aid-General (COMPONENT WISE)

SL. NO.	Name of KVK/ Institute	Details BE/RE	Pay & Allowances	TA	HRD	Research & Technology Demonstration Expenditure				Total Research & Technology Demonstration Expenditure	General Expenditure Including Miscellaneous Administrative			Total General including Misc. Admin.	Total General	Grand Total	
						OTHER than NEH, TSP & SCSP	SCSP	TSP	NEH		SCSP	NEH	TSP				OTHER than NEH, TSP & SCSP
A KVKs Under Zone-VI																	
1	AAU, Jorhat	R.E.	3181.317	114.250	23.000	65.500	74.000	9.600	89.930	239.030	139.900	107.390	4.000	147.550	398.840	775.120	3956.437
2	State Agril. Deptt., AP	R.E.	1546.047	42.000	9.000	9.000	0.000	32.000	46.100	87.100	0.000	123.230	10.000	50.500	183.730	321.830	1867.877
3	State Agril Deptt., Sikkim	R.E.	496.024	15.000	3.000	1.500	10.670	7.500	12.550	32.220	12.430	29.000	0.000	7.300	48.730	98.950	594.974
4	ICAR-PC for NEH Region, Umiam	R.E.	733.310	20.000	6.000	1.500	4.500	6.500	24.500	37.000	10.000	65.550	3.000	14.000	92.550	155.550	888.860
5	CAU, Imphal	R.E.	174.660	2.000	1.000	1.000	0.000	6.000	1.000	8.000	0.000	14.000	1.500	4.000	19.500	30.500	205.160
6	Keshav Smarak Nyas, Haflong	R.E.	95.200	4.000	1.000	1.000	0.000	5.900	0.950	7.850	0.000	16.300	1.000	8.000	25.300	38.150	133.350
7	SHRDI, Itanagar	R.E.	214.000	10.000	2.000	0.000	0.000	0.000	11.500	11.500	0.000	26.000	0.000	8.000	34.000	57.500	271.500
8	Deptt. Of Animal Husbandry, Veterinary & Dairy Development	R.E.	186.148	2.500	1.000	0.000	0.000	6.000	1.000	7.000	0.000	15.000	2.000	0.000	17.000	27.500	213.648
9	NRC on Pig, Rani	R.E.	216.040	0.600	0.500	2.500	3.000	0.000	8.400	13.900	5.500	7.500	0.000	6.000	19.000	34.000	250.040
10	ICAR-ATARI, Guwahati	R.E.	146.374	12.290	1.258	60.430	0.000	0.000	0.000	60.430	0.000	19.202	0.000	0.000	19.202	93.180	239.554
Total (Rs.)			6989.119	222.640	47.758	142.430	92.170	73.500	195.930	504.030	167.830	423.172	21.500	245.350	857.852	1632.280	8621.399

**Table 2 (B): Budget 2023-24 for ATARI, Zone-VI & Krishi Vigyan Kendras including DEE under Grant in Aid-Capital (COMPONENT WISE)**

Sl. No.	Name of KVK	Details	Non Recurring									Total
			IT	Livestock		EQUIP/ TOOLS	LIB	Vehicle	Furniture	WORKS	Compound wall cum fencing	
		B.E/R.E	OTHER THAN NEH & TSP	TSP	NEH	NEH	NEH	NEH	NEH	NEH	NEH	
A	KVKs/Institute Under Zone-VI											
1	AAU, Jorhat	R.E.	0.000	0.000	0.000	13.800	0.000	54.000	0.000	3.200	0.000	71.000
2	State Agril. Deptt., AP	R.E.	0.000	6.000	2.000	48.800	0.000	27.000	0.000	15.200	68.000	167.000
3	State Agril Deptt., Sikkim	R.E.	0.000	4.000	0.000	16.000	0.000	0.000	0.000	6.000	0.000	26.000
4	ICAR-RC for NEH Region, Umiam	R.E.	0.000	8.000	0.000	32.000	0.000	0.000	0.000	12.000	0.000	52.000
5	CAU, Imphal	R.E.	0.000	0.000	0.000	16.000	0.000	0.000	0.000	4.000	0.000	20.000
6	Keshav Smarak Nyas, Haflong	R.E.	0.000	4.000	0.000	6.400	0.000	0.000	0.000	3.600	0.000	14.000
7	SHRDI, Itanagar	R.E.	0.000	0.000	0.000	12.800	0.000	0.000	0.000	3.200	0.000	16.000
8	Deptt. Of Animal Husbandry, Veterinary & Dairy Development	R.E.	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
9	NRC on Pig, Rani	R.E.	0.000	0.000	4.000	0.000	0.000	0.000	0.000	2.000	0.000	6.000
10	ICAR-ATARI, Guwahati	R.E.	16.000	0.000	0.000	0.000	6.000	0.000	13.500	171.500	0.000	207.000
Total (Rs.)			16.000	22.000	6.000	145.800	6.000	81.000	13.500	220.700	68.000	579.000



## 1.7 Brief account of KVK Genesis, Mandate and Growth

### 1.8.1. KVK Genesis

In view of the acute need to provide vocational education in agriculture and allied fields, the Education commission (1964-66) laid out a slew of measures as part of the vigorous effort to establish specialized institutions to tap into the potential of a large number of boys and girls in the rural areas and engage them in various agricultural activities. In its bid to rope in rural youth, the Education Commission had suggested creating institutes suited to the needs of the rural youth and thus be christened "Agricultural Polytechnics". The recommendation of the commission was discussed threadbare between the cohorts of Ministry of Agriculture, Planning Commission, ICAR and other allied institutions. Taking a leaf out of the brief structure laid out about establishing such an institute post discussion, ICAR finally toyed with the idea of establishing KVKs as innovative institutions doubling up as a platform to impart vocational training to the practicing farmers, school drop outs and field level extension fonctionnaires. The ICAR Standing committee on Agricultural Education in its meeting held in August, 1973 remarked that since the establishment of KVKs was a subject of national importance meant to augment agricultural production and improve the socio-economic conditions of the farming community, the assistance of all the related institutes should be taken on board to ensure proper implementation of the scheme. The ICAR, in earnest, constituted a committee in 1973 helmed by Dr. Mohan Singh Mehta of Seva Mandir, Udaipur (Rajasthan) to chalk out a detailed blueprint to expedite the implementation of the scheme. The Committee submitted its report in 1974.

The first KVK was established at Puducherry in 1974 on a pilot basis under the administrative control of the Tamil Nadu Agricultural University (TNAU), Coimbatore. In

1976-77, the planning commission ratified the proposal of the ICAR to establish 18 KVKs during the Fifth Five Year Plan. With the establishment of these KVKs, the demand for such KVKs had grown by leaps and bounds rightfully catering to the needs of the farming community in a holistic manner. In view of the increasing demand, the Governing Body (GB) of the ICAR approved 12 more KVKs in 1979 and were established in the same year from Agricultural Produce Cess Fund (AP Cess Fund). The Governing Body of the ICAR approved another 14 KVKs in 1981, which were established during 1982-83 from AP Cess Fund.

A High Level Evaluation Committee on KVK constituted by the ICAR in 1984, vociferously espoused the establishment of more such KVKs to cater to the growing demands of the farmers and impart the technical knowhow among the farmers to develop a scientific approach towards agriculture. Cognizant of the need to establish more such KVKs, the planning commission approved the establishment of 44 new KVKs during the sixth plan. Thus, by the end of Sixth Plan, 89 KVKs started operating in this country. During the seventh plan, 20 new KVKs were established. Inspired by the success of the KVKs at many different places across the country, it subsequently led to the fuelling of demand for establishment of more KVKs in the remaining districts of the country. The planning commission further approved 74 new KVKs during 1992-93 and another 78 KVKs during the eight plan in the year 1992-97. The number of KVKs increased to 290 during the ninth plan with the establishment of 29 more KVKs. At present there are 731 KVKs established in the country. These are the excellent network for exchange of technology and empowerment of farmers to enhance productivity and profitability.

The KVKs are striving hard to narrow the time lag between generation of technology at the research institution and its application in location specific farmers' fields for increasing production, productivity and net farm income on a sustainable basis.

### 1.8.2 KVK Mandate

The mandate of the KVK is Technology Assessment and Demonstration for its wider application and to enhance Capacity Development (TADA-CD). To implement the mandate effectively through creation of awareness about improved agricultural technologies, the following activities have been defined for each KVK.

- 1) On- farm testing to assess the location specificity of agricultural technologies under various farming systems.
- 2) Out scaling of farm innovations through frontline demonstration to showcase the specific benefits/worth of technologies on farmer's field.
- 3) Capacity development of farmers and extension personnel to update their knowledge and skills in modern agricultural technologies and enterprises.
- 4) Work as knowledge and resource centre for improving overall agricultural economy in the operational area.
- 5) Conduct front line extension programmes and provide farm advisories using ICT and other media on varied subjects of interest to farmers.
- 6) Data documentation, characterization and strategic planning of farming practices.

### 1.8.3 Growth of KVKs under ICAR-ATARI, Zone VI, Guwahati

The first KVK in the region was established in Napam of Sonitpur District of Assam in the year 1979 with the objective of imparting

training to the farmers and to enable them to be better equipped with the requisite skills and knowledge so that they could be put to right use, further strengthening the advanced agricultural and allied practices adopted by the farmers. The KVKs have now acquired a whole new realm of outreach encompassing different facets of agricultural technology dissemination and adoption by the farming community. The responsibilities vested on the KVKs have swelled over time to include frontline demonstration, on-farm testing, providing training to the stakeholders, carrying out extension related activities, adopting various capacity building measures, providing purposeful employment to the rural youth and demonstrating various climate resilient technologies that could address the scourge of climate change that have come to influence agricultural production pattern in a huge way. There are 47 KVKs in total under the jurisdiction of ICAR- ATARI, Guwahati spread over three different states, i.e., Assam, Arunachal Pradesh and Sikkim. There are 26 KVKs in the state of Assam, 17 KVKs in Arunachal Pradesh and 4 KVKs in Sikkim. Out of the 26 KVKs in Assam, 23 KVKs are under the Assam Agricultural University as their host institute, 2 KVKs under ICAR and 1 KVK is under NGO. Out of 17 KVKs in Arunachal Pradesh, 9 KVKs are under the State Agriculture Department, 1 KVK under the Animal Husbandry Department, 1 KVK under Central Agricultural University, 4 KVKs under ICAR and 2 KVKs under State Horticulture Research and Development Institute. Out of 4 KVKs in Sikkim, 1 KVK is under ICAR and 3 KVKs are under the State Agriculture Department.

**Table 3. State-wise distribution of KVKs under ICAR-ATARI, Zone VI, Guwahati**

State	KVK (No.)	Host Institution
Arunachal Pradesh (17)	9	State Dept. of Agriculture, Arunachal Pradesh
	1	CAU, Imphal, Manipur
	1	Dept. of Vety& A.H., Arunachal Pradesh
	4	ICAR-RC for NEH Region, Barapani
	2	State Horticulture Research and Development Institute
Assam (26)	23	AAU, Jorhat
	1	ICAR-NRC on Pig, Rani, Guwahati
	1	ICAR-RC for NEH Region, Barapani
	1	NGO
Sikkim (4)	1	ICAR RC for NEH Region, Barapani
	3	State Agriculture Department
<b>TOTAL</b>	<b>47</b>	

## 2.0

## ACHIEVEMENTS

**2.1 Manpower and infrastructure facilities in KVKs****2.1.1 Brief account of Manpower in KVKs**

At present, the KVKs under ICAR-ATARI, Guwahati have a total of 601 staff in different position like Senior Scientist & Head, Subject

Matter Specialist, Programme Assistant, Assistant Superintendent, Supporting staff, Driver and Stenographer (Table 4) accounting for 79.92% of total staff in position. The vacancies are currently in the process of being filled by the respective host institutes.

**Table 4. State wise summary of present staff position of the KVKs under ICAR-ATARI, Guwahati**

Sl no	State	Senior Scientist and Head	SMS	Farm Manager	Programme Assistant (Computer)	Programme Assistant (Lab. Technician)	Assistant	Stenographer	Driver	SSS	Total
1	Assam	23	140	24	22	19	21	20	48	27	344
2	Arunachal Pradesh	11	77	13	13	12	10	11	26	25	198
3	Sikkim	3	22	4	3	4	3	4	8	8	59
<b>Total</b>		<b>37</b>	<b>239</b>	<b>41</b>	<b>38</b>	<b>35</b>	<b>34</b>	<b>35</b>	<b>82</b>	<b>60</b>	<b>601</b>

**2.2.2 Brief account of infrastructural facilities in the KVKs**

As regard the infrastructural facilities, 39 KVKs have constructed their administrative buildings in their proposed sites and 13 have been approved in the EFC of 2021-26. A total of 7 KVKs have already constructed farmers' hostel. Presently, 17 KVKs have built their staff quarters. Construction of 202 demonstration units has been accomplished by 22 KVKs. As regard of fencing, 19 KVKs have already erected fortified fencing around the premises and 9 KVKs have already obtained approval for fencing. As part of specialized equipment distribution programme in the KVKs, a total of 35 KVKs have already built Soil and Micronutrient Analysis Laboratory and 14 more such facilities are being approved for installation in the EFC of 2021-26. A total of 16 KVKs have constructed Rain Water Harvesting

Structures cum Integrated Farming System and 34 more are proposed. There are a total of 3 portable carp hatcheries and 12 more such carp hatcheries are approved for construction as per the EFC of 2021-25. A total of 16 KVKs have made arrangements for E-connectivity. A total of 4 Minimal processing facilities have already been constructed by the KVKs and 14 more are in the pipeline. A total of 5 V-KVK & KVK NET have been established and 42 more are proposed in the EFC of 2021-26. A total of 9 KVKs have taken the initiative to ensure provision of IT Kit to E-Farmers and 10 more KVKs would be entrusted with the similar task as per the EFC of 2021-26. A total of 16 "25 KVA" Silent Genset have been made available to the KVKs and 23 more such Silent Gensets are proposed to be distributed among the rest of the KVKs (Table 5).

### 2.2.2 Technology Assessment

In order to assess location specificity of agricultural technologies on crops, livestock, fisheries and other enterprises under various farming systems, the KVKs under ICAR-ATARI, Zone VI made assessment and refinement of different agricultural technologies in farmers' fields during the period. The specific achievements made under this head are given below:

#### 2.2.1. Technology Assessment

During the year 2023, a total of 524 technologies were taken up on different areas of crop enterprises by its KVKs for their assessment to identify location specific technologies under local farming situations with 1495 numbers

of trials. The major thematic areas included for assessment were varietal evaluation with 564 number of trials, Integrated Nutrient Management (189), Integrated Pest Management (73), Integrated Crop Management (7), Integrated Disease management (65), Integrated farming management (12), Drudgery reduction (8), Mushroom Cultivation (35), Value Addition (84), Vermicomposting (37), Post harvest loss/Technology (19), Resource Conservation Technology (8), Weed Management (9), Water management (9), Soil Health management (47), Biological control (24), Organic cultivation (16), Farm machinery (10), Crop Management (17), Crop Production (53), Production Technology (15), Feed and Fodder management (35), Kitchen gardening (11) etc. (Table 6)

**Table 6: Summary of crop-based technologies assessed under different thematic areas during 2023**

Sl. No	Thematic areas	Assam		Arunachal Pradesh		Sikkim		Total	
		No. of technology assessed	No. of trial	No. of technology assessed	No. of trial	No. of technology assessed	No. of trial	No. of technology assessed	No. of trial
1	Varietal evaluation	126	278	51	197	16	89	193	564
2	Integrated nutrient Management	65	135	10	38	5	16	80	189
3	Integrated pest Management	14	37	5	22	3	14	22	73
4	Integrated crop management	2	4	-	-	1	3	3	7
5	Integrated disease management	13	33	13	32	-	-	26	65
6	Integrated farming management	2	6	1	3	1	3	4	12
7	Drudgery reduction	2	5	-	-	1	3	3	8
8	Mushroom cultivation	5	28	1	3	1	4	7	35

9	Value addition	29	44	12	31	3	9	44	84
10	Vermicomposting	2	25	1	4	2	8	5	37
11	Post-harvest loss/Technology	11	7	2	12	-	-	13	19
12	Resource conservation technology	4	8	-	-	-	-	4	8
13	Weed management	6	9	-	-	-	-	6	9
14	Water management	1	3	1	3	1	3	3	9
15	Seed/Plant production	-	-	-	-	-	-	-	-
16	Soil health management	16	26	-	-	4	21	20	47
17	Small scale income generating enterprise	-	-	-	-	-	-	-	-
18	Biological control	2	6	4	18	-	-	6	24
19	Organic cultivation	16	33	1	1	1	2	18	36
20	Farm machinery	2	6	1	3	1	1	4	10
21	Crop Management	10	14	2	3	-	-	12	17
22	Crop Production	14	53	-	-	-	-	14	53
23	Production Technology	1	5	2	10	-	-	3	15
24	Feed and Fodder Management	3	30	1	5	-	-	4	35
25	Kitchen gardening	1	5	2	6	-	-	3	11
26	Others	21	106	3	16	3	6	27	128
	<b>Grand Total</b>	368	906	113	407	43	182	524	1495

While a total of 128 technologies with 558 numbers of trials related to livestock enterprises such as cattle, piggery, fishery, poultry, duckery, goatery, rabbitry etc. were taken for assessment with major thematic areas of evaluation of breed (166), Nutrition management (30), fish

production (75), Disease Management (21), breed introduction (130), Breed management (26), feed and fodder management (33), production and management (40), Small scale income generating enterprises (18), Processing and value addition (17) etc. (Table 7)

**Table 7: Summary of livestock technologies assessed under different thematic areas during 2023**

Sl. No	Thematic areas	Assam		Arunachal Pradesh		Sikkim		Total	
		No. of technology assessed	No. of trial	No. of technology assessed	No. of trial	No. of technology assessed	No. of trial	No. of technology assessed	No. of trial
1	Evaluation of Breed	27	119	6	32	2	15	35	166
2	Nutrition Management	6	19	2	8	1	3	9	30
3	Fish Production	9	24	13	51	0	0	22	75
4	Disease Management	3	13	8	8	0	0	11	21
5	Breed introduction	10	67	7	39	4	24	21	130
6	Breed management	7	26	0	0	0	0	7	26
7	Feed and Fodder Management	5	18	1	5	1	10	7	33
8	Production and Management	5	23	2	4	2	13	9	40
9	Small scale income generating enterprises	2	18	0	0	0	0	2	18
11	Processing and value addition	1	2	0	0	3	15	4	17
10	Others	1	2	0	0	0	0	1	2
	<b>Grand Total</b>	76	331	39	147	13	65	128	558

## 2.3 Cluster Frontline Demonstrations (CFLD)

During the year 2023, a total of 4697 Cluster Frontline Demonstrations (CFLDs) in oilseeds and pulses were conducted by the KVKs of Assam, Arunachal Pradesh and Sikkim, covering a total area of 1765.4 ha. Out of which CFLD on oilseeds covered 3405 demonstrations in 1295 ha area and CFLD on pulses covered 1292 demonstrations in 470.4 ha area.

### 2.3.1 CFLD on Oilseeds

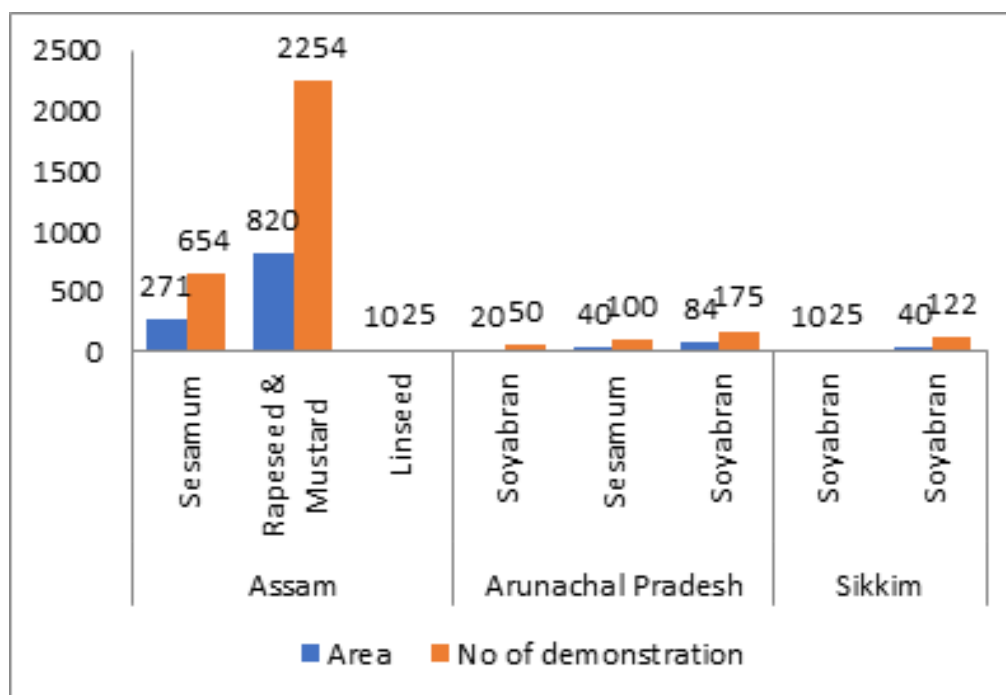
From the table 8, it was revealed that a total of 2933, 325 and 147 number of demonstrations were conducted, covering

an area of 1101, 144 and 50 ha on various oilseed crops in Assam, Arunachal Pradesh and Sikkim respectively during the year 2023. Among the three states, the highest number of demonstrations were conducted in Rapeseed & Mustard (2254) covering 820 hectares area in Assam whereas highest yield was observed in Soybean (19.35 q/ha) in Arunachal Pradesh followed by Soyabean (18.8 q/ha) in Sikkim. The most promising B:C ratio was observed in Soybean (2.58:1) in Arunachal Pradesh followed by Sesamum (2.39:1) in Assam and the lowest was found in the state of Sikkim in Rapeseed & Mustard (1.59:1) followed by Soyabean (1.92:1) in Sikkim during the reporting period.



**Table 8. Cluster Frontline Demonstration on Oilseeds during 2023**

State	Crop	Area (ha)	Number of Farmers/ demo.	Avg. yield (q/ha)		Avg. % increase in yield over check	Avg. cost of cultivation (Rs./ha)		Avg. Benefit cost ratio
				Demo yield	Check yield		Demo	Check	
Assam	Sesamum	271	654	6.69	5.05	35.03	22973.07	20851.76	2.39
	Rapeseed & Mustard	820	2254	8.81	6.62	34.07	25267.7	22988.27	1.98
	Linseed	10	25						
<b>Total</b>		<b>1101</b>	<b>2933</b>						
Arunachal Pradesh	Soybean	20	50	19.35	14.65	32.08	37500	34250	2.58
	Sesamum	40	100	5.52	4.6	23.68	19250	17750	2.12
	Rapeseed & Mustard	84	175	7.8	5.8	33.01	18682	12175	1.94
<b>Total</b>		<b>144</b>	<b>325</b>						
Sikkim	Soybean	10	25	18.8	13.2	42.4	32860	29120	1.92
	Rapeseed & Mustard	40	122	8.6	6.55	31.25	26692.5	24257.5	1.59
<b>Total</b>		<b>50</b>	<b>147</b>						
<b>Grand Total</b>		<b>1295</b>	<b>3405</b>						

**Fig3. Number of demonstration and Area under CFLD on oilseed crops during 2023**

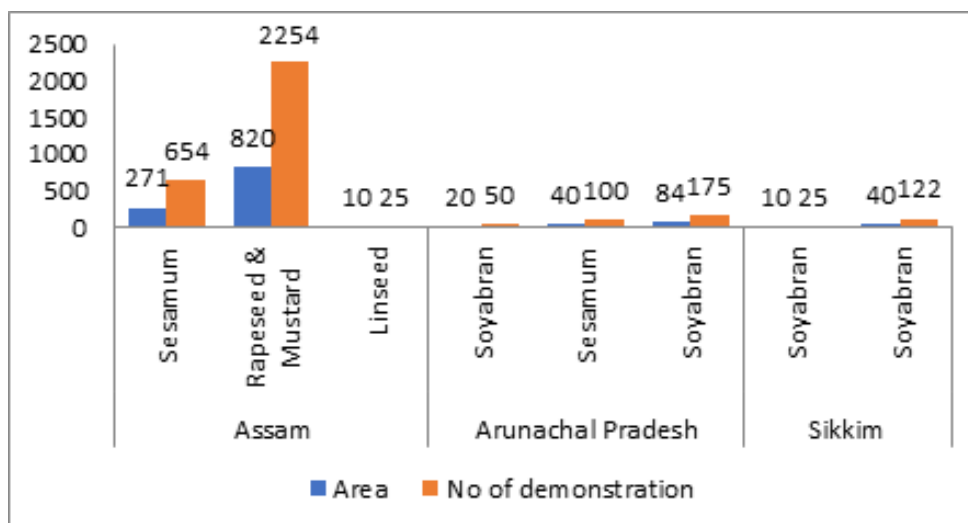
### 2.3.2. CFLD on Pulses

From the table 9, it was revealed that during the reporting period of 2023, a total of 888, 208, 196 number of demonstrations were conducted by the KVKs on different pulse crops covering an area of 294 ha, 96 ha and 80.4 ha area in Assam, Arunachal Pradesh and Sikkim respectively. Among the three states, the highest

numbers of demonstrations were conducted in Black gram (761) covering 259 ha area in Assam. Highest yield was observed in Rajmah (13.2 q/ha) in Sikkim followed by Pigeon pea (11.38 q/ha) in Arunachal. The most promising B:C ratio was also observed in Pigeon pea (2.59:1) in Arunachal followed by blackgram (2.40:1) in Sikkim during the period.

**Table 9: Cluster Frontline Demonstration on Pulses during 2023**

Cluster Frontline Demonstration on Pulses during 2023									
State	Crop	Area (ha)	No of farmer/ demo.	Average yield (q/ha)		Avg. % increase in yield over check	Avg. cost of cultivation (Rs./ha)		Average Benefit-cost ratio
				Demo	Check		Demo	Check	
Assam	Black gram	259	761	8.04	6.26	26.28	25614.33	23697.86	1.96
	Green gram	20	50	8.6	6.59	30.5	25000	24000	1.89
	Pigeon Pea	15	77	ongoing					
		<b>294</b>	<b>888</b>						
Arunachal	Blackgram	95	189	7.9	5.8	37.56	24083.33	20908.33	2.5
	Pigeon Pea	10	19	11.38	8.25	37.94	28540	26530	2.59
		<b>96</b>	<b>208</b>						
Sikkim	Blackgram	60.4	146	9.8	7.22	38.48	32385	28333.33	2.40
	Rajmah	20	50	13.2	9.4	40.43	50000	45000	3.4
		<b>80.4</b>	<b>196</b>						
<b>Total</b>		<b>470.4</b>	<b>1292</b>						



**Fig 4: Number of demonstration and Area under CFLD on oilseed crops during 2023**

### 2.3.3. Frontline Demonstrations on Various Crops other than CFLD Oilseed & Pulses

During the year 2023, a total of 2812 Frontline demonstrations (FLDs) were conducted by KVKs of Assam, Arunachal Pradesh and Sikkim on various crops such as cereals, vegetable, fruits, flowers, plantation crops, cole crops, spices and fodder crops etc.

It can be envisioned from the table that, 1637.04 ha area with 1762 farmers from Assam, 188.07 ha area with 905 farmers from Arunachal Pradesh and 25.9 ha with 145 farmers from Sikkim were covered under FLD on various crops

other than CFLD on oilseed & pulses. In case of FLD conducted on cereals, 330.14 ha, 75.7 ha and 2.5 ha were covered in Assam, Arunachal Pradesh and Sikkim respectively, which benefited 874, 200 and 16 farmers from Assam, Arunachal Pradesh and Sikkim respectively. FLD on vegetable crops benefited 210 farmers in Assam, 530 farmers in Arunachal Pradesh and 24 farmers in Sikkim by covering an area of 21.56 ha, 54.5 ha and 3.6 ha respectively. FLD conducted on fruit crops benefitted 24 farmers from Assam and 26 farmers from Arunachal Pradesh covering an area of 54.61 ha and 9.5 ha respectively.

**Table 10. Frontline Demonstration on various crops during 2023**

Crop	No. of farmers/	Area (Ha)	Average yield (q/ha)		Avg. % change in yield over check	Avg. cost of cultivation (Rs./ha)		Average Benefit cost ratio
	Demo.		Demo	Check		Demo	Check	
Assam								
Cereals								
Paddy	497	185.14	47.4	42.4	16.24	46542.5	44890.31	1.99
Maize	31	7	41.16	35.36	17.25	48683.33	48683.33	1.79
Toria	241	83	9.27	6.82	40.04	23674.66	23069.85	2.06
Foxtail Millet	105	55	8.26	6.77	18.59	27610	27350	1.66
Sub Total	874	330.14						
Vegetables								
Brinjal	9	1.02	200.25	148.5	36.6	109220	95220.01	3.2
Ridge Gourd	8	0.314	158.5	146	8.21	70250	58880	3.72
Bitter Gourd	3	0.4	245	181.3	35.13	109500	104800	2.74
French Bean	6	2.13	74.24	59.97	21.4	49550	53850	2.2
Potato	18	4.52	147.25	131.25	17.27	88435.25	86745.5	3.14
Pumpkin	27	3.04	273.2	194.8	34.42	139060	96600	4.22
Colocasia	8	0.59	168.67	173.83	6.19	167000	148000	3.44
Carrot	92	6.65	480.98	368.31	35.93	150535	143782.66	4.41
Okra	24	1.39	154	136.5	14.41	96500	87500	3.44

Broccoli	6	0.52	174.21	138.7	26.73	100665	92500	4.72
Bottle gourd	9	0.99	229	161.26	39.3	89355	75254.92	3.64
<b>Sub Total</b>	<b>210</b>	<b>21.56</b>						
<b>Spices</b>								
Turmeric	15	0.92	193.8	150	17.95	133933.3	101500	3.85
Black pepper	25	2	29.08	6.61	340	40000	40000	3.8
Ginger	7	1	120	88	28.66	75000	72450	4.03
Chillies	10	1.52	159.66	92.97	87.93	63366.47	52109.43	3.05
<b>Sub Total</b>	<b>57</b>	<b>5.44</b>						
<b>Fruits</b>								
Apple ber	2	1.5	43.38	32.86	32.03	67420	67420	2.55
Strawberry	6	0.012	44.76	38.01	27.16	793272.5	597020	5.18
Pineapple	5	51	270	185	45.94	60000	48000	4.5
Papaya	2	0.1						
Assam Lemon	9	2	140	110	43.5	80000	65000	3.8
<b>Sub Total</b>	<b>24</b>	<b>54.61</b>						
<b>Plantation Crop</b>								
Sugarcane	3	0.26	25.3	23.4	8.12	42000	43000	2.4
Tea	3	0.26						
<b>Sub Total</b>	<b>6</b>	<b>0.52</b>						
<b>Oilseeds</b>								
Toria, Sesamum, Mustard, Rapeseed/ Mustard,	336	162.26	9.31	7.24	28.67	23179.8	20734	2.13
<b>Sub Total</b>	<b>336</b>	<b>162.26</b>	<b>9.31</b>	<b>7.24</b>	<b>28.67</b>	<b>23179.8</b>	<b>20734</b>	<b>2.13</b>
<b>Pulses</b>								
Blackgram, Lentil	44	14.51	11.56	9.48	22.79	36861.33	36150	2.3
<b>Sub Total</b>	<b>44</b>	<b>14.51</b>	<b>11.56</b>	<b>9.48</b>	<b>22.79</b>	<b>36861.33</b>	<b>36150</b>	<b>2.3</b>
<b>Others</b>								
Mushroom	96	12 ha & 185 units	2.92 kg/ bed	1.35kg/ bed	9.63	7532.5	6892.8	2.96
Apiculture	28	1000 ha & 20 units	11.13 kg/box			2050		3.9

Vermiculture	87	36 ha & 38 units	10.88	8.46	75	63333.33	4898.56	3.6
Sub Total	211	1048 ha & 243 units						
Grand Total	1762	1637.04 ha & 243 units						
Arunachal Pradesh								
Cereals								
Paddy	112	33	40.87	34.17	25.63	33297	31680	2.02
Wheat	20	0.5	42	33	27	20000	18000	2.15
Maize	28	11	42.86	29.7	46.65	35900	24066	1.23
Buckwheat	55	20	11.65	9.45	17.48	23250	22750	2.65
Toria	50	16.5	7.33	5.72	29.88	20486.66	18335	2.22
Foxtail Millet	35	15	16.95	11.5	49.33	52353	49290	1.7
Sub Total	200	96						
Vegetables								
French Bean	35	8	159	127	33.89	98409	89404.5	1.66
Potato	367	18	188.33	133.33	70.35	64666.66	57666.66	2.86
Cabbage	38	9.5	141.38	83.7	62.73	54444.66	47888.66	3.08
Cauliflower	24	6	245	70	250	39000	16000	3
Tomato	39	7.5	188.5	156.75	42.74	101375	89675	3.09
Okra	7	1	147.5	115	28.26	73500	71500	3.13
Garden Pea	20	4.5	18.25	12.5	31.51	20500	18600	3.56
Sub Total	530	54.5						
Spices								
Garlic	5	1	120	88	36	705882	676923	3.4
Ginger	1	0.5	38	22	72.72	10500	6700	4.2
Chillies	28	4.47	299.4	191.06	113.71	133833.3	119833.33	4.03
Sub Total	34	5.97						
Fruits								
Khasi Mandarin	6	3.5	126.25	82.5	143	70000	58000	2.7
Banana	5	2.5	365	300	21	150000	150000	3.4
Pineapple	10	2.5	196.5	140	40	180000	180000	2.4

Orange	5	1	84	66	27.27	98300	85200	3.41
<b>Sub Total</b>	<b>26</b>	<b>9.5</b>						
<b>Oilseed</b>								
Toria	40	35	13.07	8.9	44.3	28500	25650	2.6
<b>Sub Total</b>	<b>40</b>	<b>35</b>	<b>13.07</b>	<b>8.9</b>	<b>44.3</b>	<b>28500</b>	<b>25650</b>	<b>2.6</b>
<b>Pulses</b>								
Soyabean, blackgram (Seed production)	30	8	25.27	20.6	24.67	19100	17650	2.82
<b>Sub Total</b>	<b>30</b>	<b>8</b>	<b>25.27</b>	<b>20.6</b>	<b>24.67</b>	<b>19100</b>	<b>17650</b>	<b>2.82</b>
<b>Others</b>								
Mushroom	72	14.1 ha and 80 bags	66.25	43.5	65.25	1239	1167	5.04
Honey Bee	13	5 box	10kg/ box/ year	7kg/ box/ year	71	5000	5000	2.01
<b>Sub Total</b>	<b>85</b>	<b>14.1 ha and 85 bags &amp; 5 box</b>						
<b>Grand Total</b>	<b>905</b>	<b>188.07 ha and 85 bags &amp; 5 box</b>						
<b>Sikkim</b>								
<b>Cereals</b>								
Paddy	16	2.8	36.12	26.5	46.01	98000	95000	2.41
<b>Sub total</b>	<b>16</b>	<b>2.8</b>						
<b>Vegetables</b>								
Tomato	10	1	347.2	302.7	12.82	161510	182600	3.86
Brinjal	14	2.6	78.2	56.6	38	120000	82900	3.9
<b>Sub total</b>	<b>24</b>	<b>3.6</b>						
<b>Spices</b>								
Turmeric	10	1.5	243.8	187.6	23	85650	74820	2.9
Ginger	10	1	110	74	48.65	165500	110500	4.15

Chillies (Cherry Pepper)	10	1.5	103.7	77.4	25.36	152760	115850	6.7
<b>Sub total</b>	<b>30</b>	<b>4</b>						
<b>Oilseed</b>								
Mustard, toria	25	3	8.6	6.3	36.51	20265	22125	1.47
<b>Sub total</b>	<b>25</b>	<b>3</b>						
<b>Pulses</b>								
Rajmah	40	12.5	14.03	10.43	38.11	45116.66	40823.33	2.27
<b>Sub total</b>	<b>40</b>	<b>12.5</b>						
<b>Others</b>								
Honey Bee	10	10 units	3.5L/ hive/ha	2L/ hive/ha	28.57	38000	22000	2.4
<b>Sub total</b>	<b>10</b>	<b>10 units</b>						
<b>Grand Total</b>	<b>145</b>	<b>25.9 ha and 20 units</b>						
<b>Grand total of three states</b>	<b>2812</b>							

### 2.3.4. FLD on Livestock, poultry and fishery

During the reporting period of 2023, the KVKs of Assam conducted a total of 597 demonstrations under livestock, poultry and fishery sector covering 118045 numbers of animals, poultry, fingerlings and other birds. The demonstration under livestock were undertaken in the field of dairy (11), poultry (310), Goatary (7), Duckery (187), Piggery (11), Fishery (78) as shown in table 10.

In Arunachal Pradesh under livestock, poultry and fishery sector, a total of 243 demonstrations were conducted by the KVKs during 2023 covering 87216 numbers of animals, poultry, fingerlings and other birds. The demonstration under livestock were undertaken in the field of poultry (86), Duckery (30), Fishery (84000), and Piggery (21) (Table 10).

A total of 69 demonstrations were conducted by the KVKs of Sikkim under livestock, poultry and fishery sector during 2023, covering 805 numbers of animals, poultry and other birds. The demonstration under livestock were undertaken in the field of poultry (13), Piggery (155) and sheep (10) (Table 10).

During the reporting period of 2023, a total of 919 demonstrations were conducted by all the KVKs of the zone under livestock, poultry and fishery sector covering 206076 number of animals, poultry, fingerlings and other birds. The demonstrations under livestock were undertaken mainly in the field of Dairy (17), poultry (409), Goatary (7), Duckery (217), Piggery (67), Fishery (192).



**Table 11. Frontline Demonstration on Livestock enterprise during 2023**

Enterprise	No. of Farmers											No. of animals, poultry,birds, fingerlings etc.	Performance Parameters
	Male					Female					Grand		
	ST	SC	Gen	OBC	TOTAL	ST	SC	Gen	OBC	TOTAL	Total		
Assam													
Dairy	1	1	2		4		1	2	4	7	11	5	Avg. Milk production, Avg. Fodder production
Poultry	22	28	26	45	121	22	39	52	76	189	310	7055	Avg. egg production, Avg. Body weight, Mortality
Goatary	1			1	2	2		3		5	7	18	Avg. body weight at 9 month weight at 6 months, act of kidding time
Duckery	18	7	13	45	83	26	1	21	56	104	187	2800	Avg. Body weight, Egg weight
Piggery	3		3	3	9	1			1	2	11	35	Mortality, Avg. Litter size at birth and weaning, Avg Body weight gain
Fishery	17	4	38	10	69	2	0	5	2	9	78	108132	Growth performance, Fish production
Total											597	118045	
Arunachal Pradesh													
Poultry	29			3	32	53			1	54	86	2900	Avg. egg production, Avg. body weight, Mortality
Duckery	10			8	18	11			1	12	30	295	Avg. body weight gain
Fishery	58				58	56					56	84000	
Piggery	6			5	11				2	2	13	21	Avg. body weight gain
TOTAL											243	87216	
Sikkim													
Poultry	1		1	2	4	2	1	2	4	9	13	650	Avg. egg production, Avg. Body weight, Mortality
Piggery	15	3	6	4	28	14	1	1	2	18	46	155	Mortality, Avg. Litter size at birth and weaning, Avg Body weight gain
Other (Sheep)	3				3	7				7	10	Cluster based approach	1. Wool Yield (a. Wound Injury b. Wool Yield in 2nd Shearing 2. Wool processing (a. Drudgery to women b. Processing time c. Processing Efficiency d. Quality of processed wool )
TOTAL											69	805	

ICAR-ATARI, ZONE VI													
Dairy	1	0	2	3	6	2	2	2	5	11	17	5	Avg. Milk production, Avg. Fodder production
Poultry	52	28	27	50	157	77	40	54	81	252	409	10605	Avg. egg production, Avg. Body weight, Mortality
Goatary	1	0	0	1	2	2	0	3	0	5	7	18	Avg. body weight at 9 month weight at 6 months, act of kidding time
Duckery	28	7	13	53	101	37	1	21	57	116	217	3095	Avg. Body weight, Egg weight
Piggery	24	3	9	12	45	15	1	1	5	22	67	211	Mortality, Avg. Litter size at birth and weaning, Avg Body weight gain
Fishery	75	4	38	10	127	58	0	5	2	65	192	192132	Growth performance, Fish production
Others (Shhep)	3	0	0	0	3	7	0	0	0	7	10	10	Wool Yield (a. Wound Injury b. Wool Yield in 2nd Shearing Wool processing (a. Drudgery to women b. Processing time c. Processing Efficiency d. Quality of processed wool )
Total											919	206076	

### 2.3.5 FLD on Other enterprise

The demonstrations conducted by the KVKs under its zone were not only confined to the traditional enterprises or practice of growing crops and rearing livestock. Keeping in view the importance of secondary agricultural practices for rural livelihood, the KVKs also took various initiatives to popularize these secondary agricultural enterprises like; production of vermicomposting, mushroom cultivation, bee keeping, production and utilization of natural dye etc. From the table 12, it was found that total 1281 demonstrations were conducted in other

enterprises. In Assam, during the year 2023, a total of 675 demonstrations were conducted in other enterprises such as; Vermicomposting (86), Mushroom Production (136), Fodder production (39), Apiculture (48), Nutritional Gardening (305), Muga silkworm (4), Value addition (44), Farm implements (3), Drudgery reduction (5), Eri worm (5). In Arunachal Pradesh, a total of 596 demonstrations were conducted namely vermicomposting (33), mushroom production (93), Apiculture (20), Nutritional Gardening (60), Value Addition (290), Farm implements (100).

**Table 12: Frontline Demonstration (FLD) on other enterprises during 2023 in Assam, Arunachal Pradesh and Sikkim.**

Enterprise	No of farmers/ demo	Performance parameters/ indicators
Assam		
Vermicomposting	86	Avg. Yield, Nutrient composition, Production and Economics
Mushroom production	136	Avg. Yield per block/bed, production
Fodder	39	Yield, Productivity
Apiculture	48	Total honey yield, Honey production
Nutritional Gardening	305	Yield and Nutritional aspect
Muga silkworm	4	Cocoon yield
Value addition	44	Shelf life, Income
Farm implements	3	Efficiency, economics of production
Drudgery reduction	5	Rate of perceived exertion, Nos. of labours required, Time span (min)/quintal
Eri worm	5	Cocoon yield
Total	675	
Arunachal Pradesh		
Vermicomposting	33	Avg. Yield, Nutrient composition, Production and Economics
Mushroom production	93	Avg. Yield per block/bed, production
Apiculture	20	Total honey yield, Honey production
Nutritional Gardening	60	Yield and Nutritional aspect
Value addition	290	Shelf life, Income
Farm implements	100	Efficiency, economics of production
Total	596	
Sikkim		
Apiculture	10	Max. yield, Min yield, Extraction method division0 s
Total	10	
Grand total	1281	

## 2.4 Training Programmes

A plethora of training programmes were taken up by the KVKs to disseminate the scientific know how and facilitate the up-gradation of skills of farmers, farm women and rural youth in improved agricultural and allied practices and to reinvigorate the extension functionaries keeping them updated with recent developments in technological breakthroughs, government schemes along with enhancing their managerial skills for adequate grooming of the farming community. The training courses were of varied types split along the continuum of skill up-gradation tailored to the requirements of intended beneficiaries as well as budget provision for the same. The programmes covered a large number of thematic areas covering almost all the enclaves of rural livelihood options. From table 15-19, it was revealed that a total of 4133 training programmes were conducted by the KVKs in different areas of agriculture and allied

activities benefitting a total of 64846 farmers and farm women, rural youth, NGOs, civic bodies and in-service extension personnel etc.

### 2.4.1. Training programmes for farmers and farm women

A total of 2498 numbers of training courses were taken up during 2023, benefitting 40196 number of farmers and farm women on various agricultural technologies (Table 13). Among the total participants 20160 belongs to Assam, 16520 and 3516 were from Arunachal Pradesh and Sikkim respectively. The thrust areas of these training programmes have been riveted towards productivity enhancement of field crops, horticultural crops, plant protection, live stock production management, soil health and fertility management, home science and power empowerment, capacity building and group dynamics, etc.

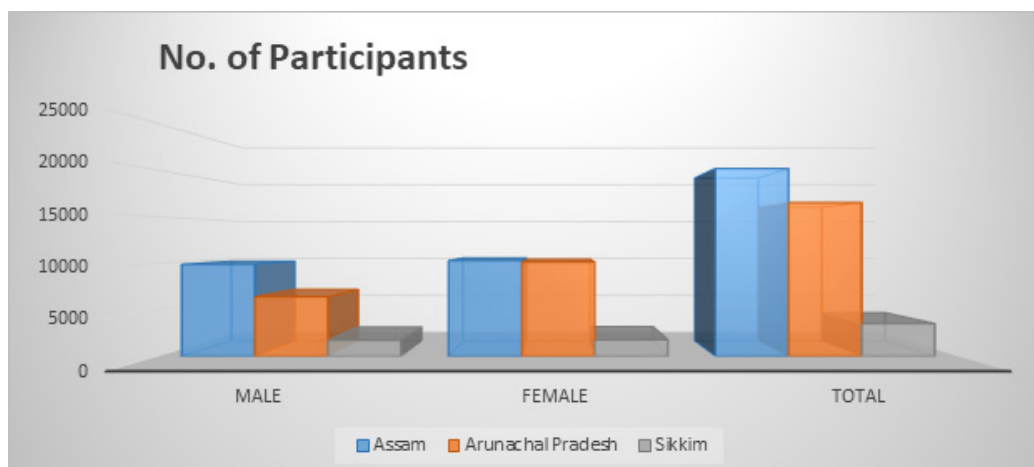
Table 13: Summary of training programme conducted for farmers and farm women

Sl. No.	Thematic Area	No. of Courses		Assam										Arunachal Pradesh										Sikkim										Grand Total			
		Assam	Arunachal Pradesh	No. of participant										No. of participant										No. of participant													
				General					OBC		ST/SC			Total	General					OBC		ST/SC			Total	General					OBC		ST/SC			Total	
				Male	Female	Male	Female	Total	Male	Female	Male	Female	Total		Male	Female	Male	Female	Total	Male	Female	Male	Female	Total		Male	Female	Male	Female	Total							
1	Crop Production	170	73	25	1343	643	865	672	483	369	4375	0	0	0	179	1162	1514	2855	76	51	71	119	156	167	640	7870											
2	Horticulture	130	90	28	263	299	446	631	486	529	2654	38	14	0	264	919	1307	2542	72	59	32	49	316	198	726	5922											
	a) Vegetable crops (Nutritional garden)	35	43	14	49	145	143	250	158	150	895	0	0	0	211	312	610	1133	49	40	17	25	162	96	389	2417											
	b) Fruits	34	12	3	28	53	145	176	116	135	653	0	0	0	53	90	153	296	8	6	0	0	54	24	92	1041											
	c) Layout & Management of orchard	4	2	0	31	9	12	3	31	15	101	0	0	0	0	68	68	136	0	0	0	0	0	0	0	237											
	d) Ornamental plants	2	1	0	4	29	0	10	2	4	49	0	0	0	0	30	74	104	0	0	0	0	0	0	0	153											
	e) Protective Cultivation	4	7	9	16	0	26	7	20	38	107	0	0	0	0	60	60	120	12	11	9	13	88	65	198	425											
	f) Plantation crops	6	4	0	35	13	10	13	11	36	118	7	0	0	0	109	64	180	0	0	0	0	0	0	0	298											
	g) Tuber crops	20	0	0	28	2	8	47	37	20	142	0	0	0	0	0	0	0	0	0	0	0	0	0	0	142											
	h) Spices	11	4	2	45	18	58	47	42	80	290	31	14	0	0	47	27	119	3	2	6	11	12	13	47	456											
	i) Medicinal and Aromatic Plants	2	5	0	0	0	0	0	23	17	40	0	0	0	0	85	87	172	0	0	0	0	0	0	0	212											
	j) Production of organic input	5	10	0	3	0	10	16	42	19	90	0	0	0	0	80	136	216	0	0	0	0	0	0	0	306											
	k) Floriculture	7	2	0	24	30	34	62	4	15	169	0	0	0	0	38	28	66	0	0	0	0	0	0	0	235											
3	Soil Health and Fertility Management/ INM	90	38	15	294	251	351	405	232	278	1811	0	0	0	0	709	673	1382	53	27	42	25	176	93	416	3609											

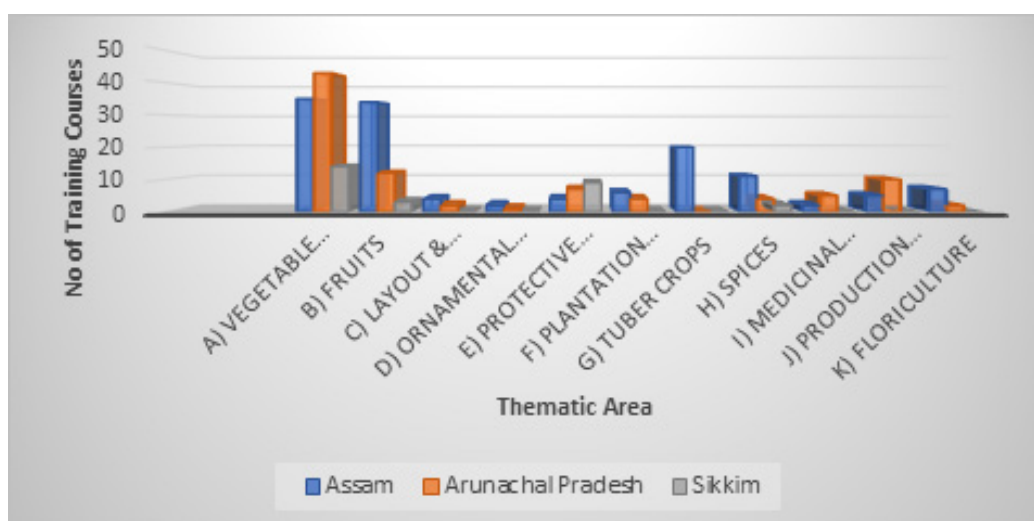
4	Livestock Production and Management	200	57	31	338	375	365	781	489	767	3115	0	0	0	0	0	0	836	914	1750	104	91	91	95	393	287	1061	5926
	a) Dairy	23	3	2	102	40	88	83	44	64	421	0	0	0	0	0	37	38	75	8	15	7	14	45	38	127	623	
	b) Piggery	29	11	5	16	20	45	65	180	235	561	0	0	0	0	0	205	158	363	26	18	18	24	80	53	219	1143	
	c) Poultry	28	16	5	37	57	65	280	99	134	672	0	0	0	0	0	187	285	472	4	3	5	4	52	47	115	1259	
	d) Rabbitry	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	18	9	8	11	16	13	75	75
	e) Disease Management	20	15	7	38	69	49	49	42	103	350	0	0	0	0	0	235	234	469	24	29	24	22	95	76	270	1089	
	f) Feed management	6	3	5	33	20	16	70	22	8	169	0	0	0	0	0	23	46	69	17	11	21	11	58	35	153	391	
	g) Goatery	89	2	3	100	121	94	228	90	174	807	0	0	0	0	0	7	44	51	5	4	3	2	36	23	73	931	
	h) Production of quality animal products	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	25	15	40	2	2	5	7	11	2	29	69	
	i) Mithun management	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	82	38	120	0	0	0	0	0	0	0	120	
5	j) Housing management	5	3	0	12	48	8	6	12	49	135	0	0	0	0	0	35	56	91	0	0	0	0	0	0	0	226	
	Fisheries	141	66	0	290	240	258	265	274	374	1701	0	0	0	0	0	919	1050	1969	0	0	0	0	0	0	0	3670	
	Home Science/ Women empowerment	31	43	15	65	226	49	158	69	140	707	0	0	0	0	0	234	932	1166	58	67	37	99	94	85	440	2313	
	Agri. Engineering	1	8	0	4	4	0	8	0	11	27	0	0	0	0	0	63	119	182	0	0	0	0	0	0	0	209	
	Integrated Pests Management	35	28	7	140	88	210	268	142	100	948	42	49	0	0	0	364	391	846	32	23	0	0	52	42	149	1943	
9	Integrated Disease Management	16	15	6	87	78	27	114	63	51	420	43	19	0	0	0	199	275	536	21	18	0	0	45	27	111	1067	
10	Integrated Crop Management	11	3	0	2	1	0	8	36	37	84	0	0	0	0	0	23	19	42	0	0	0	0	0	0	0	126	
11	Integrated Farming System	3	15	0	10	5	1	0	32	50	98	5	3	0	0	0	143	197	348	0	0	0	0	0	0	0	446	

12	Production of seeds/planting materials	8	9	0	14	5	15	1	104	69	208	0	0	0	0	223	214	437	0	0	0	0	0	0	0	645
13	Capacity Building and Group Dynamics	30	17	4	264	157	125	92	78	150	866	72	47	0	0	138	344	601	0	0	96	0	0	96	1563	
14	Agroforestry	2	0	0	5	0	0	8	26	12	51	0	0	0	0	0	0	0	0	0	0	0	0	0	51	
15	Post harvest Technology	0	11	0	0	0	0	0	0	0	0	0	0	0	0	52	155	207	0	0	0	0	0	0	207	
16	Resource Conservation Technology	4	4	0	6	3	24	19	2	62	116	0	0	0	0	44	53	97	0	0	0	0	0	0	213	
17	Value addition	28	34	5	3	91	10	167	46	146	463	6	2	3	2	81	861	955	0	11	8	23	6	68	116	1534
18	Integrated Water management	17	1	0	1	0	14	20	5	36	76	0	0	0	0	31	10	41	0	0	0	0	0	0	117	
19	Mushroom cultivation	21	32	3	15	61	73	149	25	88	411	10	20	0	0	112	381	523	11	16	0	0	6	40	73	1007
20	Bee Keeping	0	9	3	0	0	0	0	0	0	0	0	0	0	0	76	184	260	42	36	0	0	15	11	104	364
22	Plant Protection	51	31	0	301	95	387	380	228	202	1593	205	149	0	0	293	410	1057	0	0	0	0	0	0	0	2650
23	Production of Inputs at site	6	3	0	35	33	49	26	15	14	172	0	0	0	0	60	46	106	0	0	0	0	0	0	278	
24	Others	238	0	0	472	206	374	386	325	312	2075	0	0	0	0	0	0	0	0	0	0	0	0	0	2075	
	Total	1563	734	201	3658	2610	3292	4153	2928	3519	20160	421	303	3	445	5972	9376	16520	416	372	239	481	1083	925	3516	40196

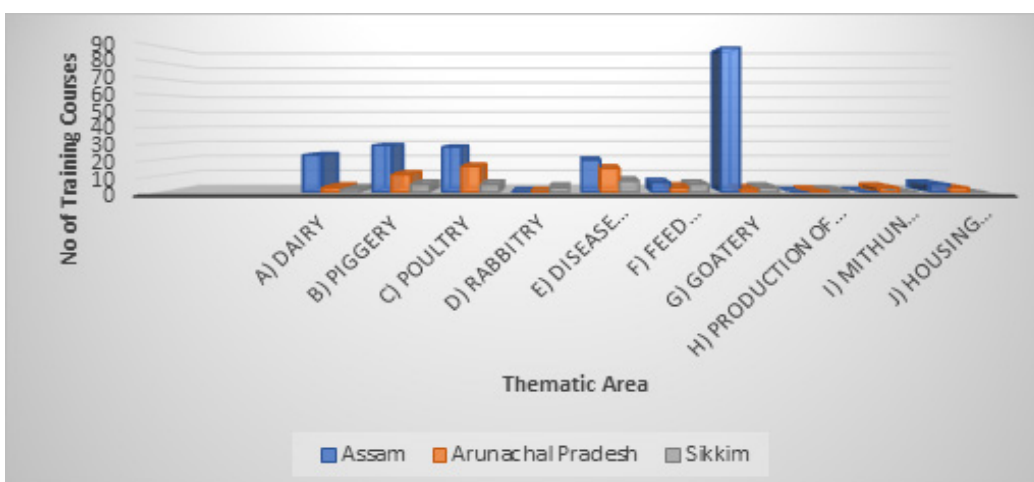




**Fig 5: No of participants in the training programme for farmers and farm women during 2023**



**Fig 6: No. of courses taken up in under the thematic area of horticulture during 2023**



**Fig 7: No. of courses taken up under the thematic area of Livestock Production and Management during 2023**

### 2.4.2 Training Programme for Rural Youth

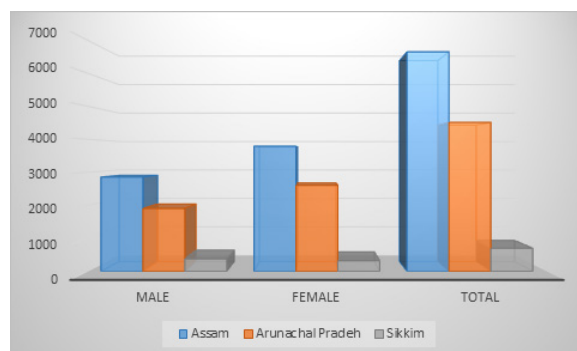
During 2023, as many as 640 training programmes were organised by KVKs covering 11856 numbers of rural youth. Among the total participants 6 645, belongs to Assam, 4510 and 701 were from Arunachal Pradesh and Sikkim respectively.

**Table 14 : Summary of Training programme conducted for rural youth during 2023**

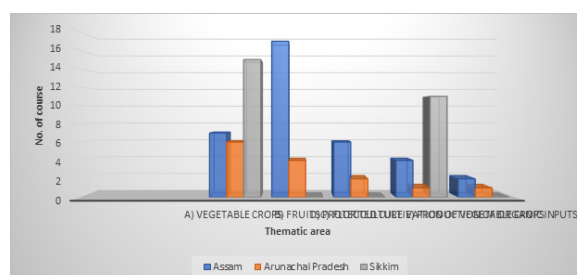
Sl.No.	Thematic area	No. of course			Assam										Arunachal Pradesh										Sikkim										Grand Total
					No. of participant										No. of participant										No. of participant										
		Assam		Arunachal Pradesh		Sikkim		General		OBC		ST/SC		Total		General		OBC		ST/SC		Total		General		OBC		ST/SC		Total					
1	Crop Production	39	18	17	80	76	211	211	152	143	873	0	0	0	0	0	0	0	0	230	372	602	9	8	7	33	40	0	0	0	97	1572			
2	Horticulture	36	14	26	97	137	147	252	134	136	903	0	0	0	0	0	0	0	0	130	332	462	26	4	7	57	44	0	0	0	138	1503			
	a) Vegetable crops	7	6	15	23	30	15	32	22	16	138	0	0	0	0	0	0	0	0	45	106	151	16	4	7	19	18	0	0	0	64	353			
	b) Fruits	17	4	0	26	34	101	174	90	32	457	0	0	0	0	0	0	0	0	19	75	94	0	0	0	0	0	0	0	0	551				
	e) Floriculture	6	2	0	5	8	29	43	13	62	160	0	0	0	0	0	0	0	0	56	112	168	0	0	0	0	0	0	0	0	328				
	f) Protected cultivation of vegetable crops	4	1	11	10	58	0	2	7	26	103	0	0	0	0	0	0	0	0	8	17	25	10	0	0	0	38	26	0	74	202				
3	g) Production of organic inputs	2	1	0	33	7	2	1	2	0	45	0	0	0	0	0	0	0	0	2	22	24	0	0	0	0	0	0	0	0	69				
	Soil Health and Fertility Management/ INM	19	2	5	85	36	92	74	58	32	377	0	0	0	0	0	0	0	0	25	25	50	2	5	1	28	12	0	48	475					

4	Livestock Production and Management	46	40	45	116	114	183	246	266	274	1199	0	0	0	0	0	0	729	809	1538	32	42	32	102	50	0	258	2995
	a) Dairying	7	2	0	36	22	59	10	48	43	218	0	0	0	0	0	0	49	34	83	0	0	0	0	0	0	0	301
	b) Piggery	13	2	0	5	5	43	86	82	55	276	0	0	0	0	0	0	16	18	34	0	0	0	23	10	0	33	343
	c) Poultry production	18	5	10	25	82	56	127	85	130	505	0	0	0	0	0	0	34	94	128	5	11	5	34	18	0	73	706
	d) Sheep and goat rearing	2	0	3	0	0	10	10	18	9	47	0	0	0	0	0	0	0	0	0	5	7	6	0	3	0	21	68
	e) Production of quality animal products	1	15	0	15	0	10	0	5	0	30	0	0	0	0	0	0	459	403	862	0	0	0	0	0	0	0	892
	0) Duckery	2	0	0	20	5	0	0	12	13	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	50	
	g) Quail farming	0	3	22	0	0	0	0	0	0	0	0	0	0	0	0	0	14	40	54	15	9	10	12	5	0	51	105
	h) Feed management	2	4	3	15	0	5	13	9	6	48	0	0	0	0	0	0	55	81	136	5	15	8	3	0	0	31	215
	i) Disease management	1	5	0	0	0	0	0	7	18	25	0	0	0	0	0	0	50	85	135	0	0	0	18	10	0	28	188
5	j) Rabbitry	0	0	7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	3	12	4	0	21	21
	k) Mithun husbandry	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	52	54	106	0	0	0	0	0	0	0	106
	Fisheries	48	18	0	63	40	76	27	124	50	380	9	6	0	0	0	243	163	421	0	0	0	0	0	0	0	801	
	Home Science/ Women empowerment	21	3	12	29	106	32	197	1	35	400	0	0	0	0	0	0	52	67	119	11	6	10	28	10	0	65	584
	Agricultural Engineering	3	0	0	17	3	21	0	14	0	55	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	55	
	Insect Pest Management	14	3	0	40	38	106	80	56	75	395	27	7	0	0	0	0	21	118	173	0	0	0	0	0	0	0	568
	Integrated crop management	4	2	0	16	25	25	22	9	15	112	0	0	0	0	0	0	16	41	57	0	0	0	0	0	0	169	
	Integrated Farming	8	7	0	29	8	53	66	27	28	211	0	0	0	0	0	0	154	112	266	0	0	0	0	0	0	477	

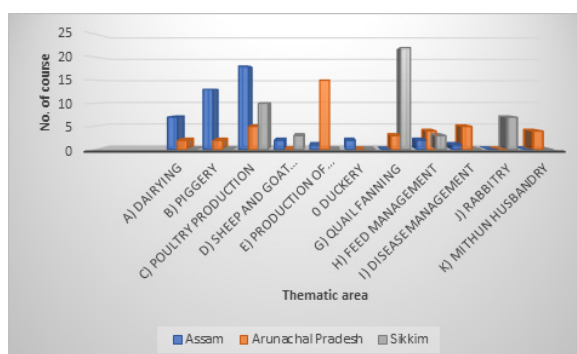
11	Planting material production	4	0	0	0	8	0	35	16	48	5	112	0	0	0	0	0	0	0	0	0	0	0	0	0	112
12	Capacity Building and Group Dynamics	5	1	0	17	34	33	30	5	13	132	0	0	0	0	4	21	25	0	0	0	0	0	0	0	157
13	Post Harvest Technology	4	4	0	0	7	0	64	0	4	75	0	0	0	0	34	98	132	0	0	0	0	0	0	0	207
14	Resource conservation	0	2	0	0	0	0	0	0	0	0	0	0	0	0	21	33	54	0	0	0	0	0	0	0	54
15	Mushroom Cultivation	22	7	14	16	71	53	135	100	184	559	5	15	0	0	41	81	142	12	0	0	9	8	0	29	730
16	Bee Keeping	5	3	13	18	10	4	34	37	22	125	0	0	0	0	23	48	71	12	0	0	18	12	0	42	238
17	Vermi-culture	3	1	0	0	0	17	51	2	10	80	0	0	0	0	28	28	56	0	0	0	0	0	0	0	136
18	Value addition	24	4	0	13	56	2	58	27	111	267	0	0	0	0	15	73	88	0	0	0	0	0	0	0	355
19	Small scale processing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	22	0	22	22
20	Soil and Water Testing	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	2	7	5	0	18	18
21	Agro-forestry	1	0	0	0	0	0	0	0	8	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25
22	Sericulture	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
23	Nutrition Garden	1	6	0	1	0	6	3	5	11	26	2	3	0	0	20	73	98	0	0	0	0	25	0	25	149
24	Marketing	1	0	0	0	0	0	0	25	0	25	0	0	0	0	0	0	0	0	0	0	0	0	0	0	25
25	Other	66	5	18	72	39	129	242	65	144	691	5	7	0	0	96	98	206	0	0	0	7	0	0	7	904
	Total	355	138	147	632	764	1133	1759	1089	1268	6645	48	38	0	0	1857	2567	4510	105	61	58	261	216	0	701	11856



**Fig 8. Number of participants under the training programme for Rural youth**



**Fig 9. Number of courses taken up under the thematic area of horticulture**



**Fig 10: Number of courses taken up under the thematic area of livestock production and management**

### 2.4.3 Training programmes for extension personnel

During the year 2023, different training programmes for the extension personnel in the region were organised with the sole purpose of up-grading their knowledge, keeping them in an account with the requisite skills in the frontier areas of agricultural technology development. A total of 215 courses were taken up for the extension personnel, out of which 143, 58 and 14 number of courses were carried out in Assam, Arunachal Pradesh and Sikkim respectively which benefitted a total of 3258 in-service

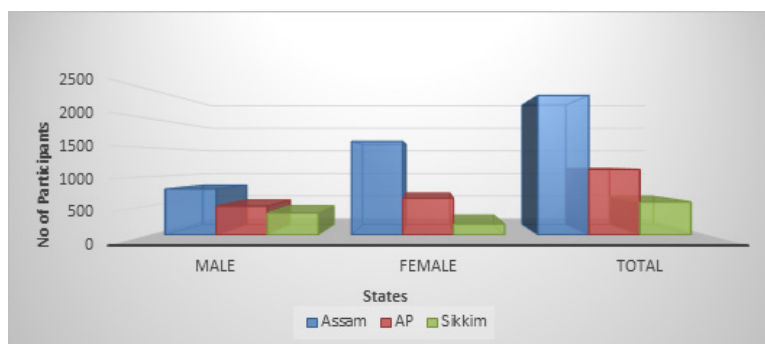
extension personnel (Table 15). Out of the benefitted trainees, 1565 belongs to Assam, 1125 from Arunachal Pradesh and 568 from Sikkim. A total of 26 courses benefitting 423 extension personnel were conducted on different areas of horticulture, while 32 courses benefitting 579 extension personnel were organised in crop production by the KVKs during the year 2023. The other important thrust areas covered were soil health and fertility management/ INM (17 courses, 332 participants), livestock production and management (23 courses, 430 participants), home science/ women empowerment (16 courses, 328 participants) etc.

Table 15. Summary of training programmes conducted for extension personnel during 2023

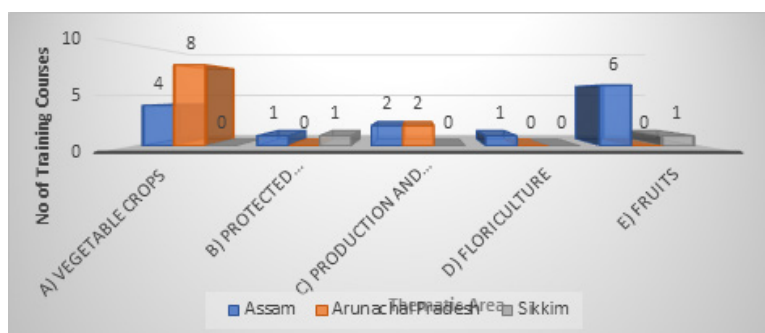
Sl.No.	Thematic area	No. of course			Assam										Arunachal Pradesh										Sikkim										Grand Total
		Assam	Arunachal Pradesh	Sikkim	No. of participant										No. of participant										No. of participant										
					General		OBC		ST/SC		Total	General		OBC		ST/SC		Total	General		OBC		ST/SC		Total										
					Male	Female	Male	Female	Male	Female		Male	Female	Male	Female	Male	Female		Male	Female	Male	Female	Male	Female		Male	Female								
1	Crop Production	23	5	4	43	77	27	140	20	116	303	0	0	0	0	0	57	44	101	25	19	65	32	175	579										
2	Horticulture	14	10	2	36	158	43	44	34	57	178	0	0	0	0	0	75	99	174	12	10	9	2	23	15	71	423								
	a) Vegetable crops	4	8	0	12	71	26	3	25	16	70	0	0	0	0	0	54	56	110	0	0	0	0	0	0	0	180								
	b) Protected cultivation technology	1	0	1	0	14	0	11	0	0	11	0	0	0	0	0	0	0	0	12	10	0	13	9	44	55									
	c) Production and use of organic inputs	2	2	0	2	10	5	0	6	18	29	0	0	0	0	0	21	43	64	0	0	0	0	0	0	0	93								
	d) Floriculture	1	0	0	0	0	12	8	0	0	20	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	20								
	e) Fruits	6	0	1	22	63	0	22	3	23	48	0	0	0	0	0	0	0	0	0	0	9	2	10	6	27	75								
	Soil Health Management/ INM	11	5	1	21	53	16	16	24	57	113	0	0	0	0	0	79	110	189	5	3	3	2	10	7	30	332								
3	Livestock Production and Management	17	2	4	90	35	53	84	74	65	276	3	0	0	0	0	15	60	78	17	13	10	10	13	13	76	430								
	a) Piggery management	2	1	2	9	0	8	0	22	10	40	0	0	0	0	0	8	58	66	2	6	4	5	7	9	33	139								
	b) Poultry management	5	0	0	36	4	11	47	17	9	84	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	84								
	c) Management in farm animals	5	0	0	19	5	29	19	23	17	88	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	88								
	d) Feed and fodder production	0	1	1	0	0	0	0	0	0	0	3	0	0	0	0	7	2	12	3	2	5	2	4	2	18	30								
	e) Disease management	5	0	1	26	26	5	18	12	29	64	0	0	0	0	0	0	0	0	12	5	1	3	2	2	25	89								

5	Fisheries	6	7	0	17	3	4	4	3	0	11	3	2	2	1	88	47	143	0	0	0	0	0	0	0	154
6	Integrated Farming System	2	1	0	13	10	3	2	4	7	16	0	0	0	0	40	33	73	0	0	0	0	0	0	0	89
7	Home Science/ Women empowerment	22	8	0	3	31	1	64	0	123	188	0	0	0	0	20	120	140	0	0	0	0	0	0	0	328
8	Agricultural Engineering	1	0	2	5	0	8	0	7	0	15	0	0	0	0	0	0	0	7	5	4	4	10	6	36	51
9	Integrated Pest Management	4	8	0	31	13	12	24	9	8	53	0	0	0	0	69	62	131	0	0	0	0	0	0	0	184
10	Integrated Disease management	1	1	0	1	2	19	12	0	0	31	0	0	0	0	15	10	25	0	0	0	0	0	0	0	56
11	Integrated Crop Management	1	3	0	13	0	2	1	5	0	8	1	0	1	0	12	30	44	0	0	0	0	0	0	0	52
12	Integrated Nutrient Management	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	Bio control	3	0	0	15	18	10	0	18	0	28	0	0	0	0	0	0	0	0	0	0	0	0	0	0	28
14	Capacity Building and Group Dynamics	4	2	0	12	78	0	11	0	13	24	0	0	0	0	11	4	15	0	0	0	0	0	0	0	39
15	Agro-forestry	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	Resource conservation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	Mushroom Cultivation	3	4	1	6	6	10	16	5	20	51	1	0	1	0	26	14	42	14	12	0	0	10	9	45	138
18	Soil and water testing	1	2	3	0	17	0	11	0	6	17	1	9	3	0	0	21	34	16	9	10	8	54	27	124	175
19	Value addition	2	2	0	0	5	0	44	0	4	48	0	0	0	0	0	38	38	0	0	0	0	0	0	0	86
20	Marketing	21	1	0	0	3	0	20	5	15	40	0	0	0	0	18	13	31	0	0	0	0	0	0	0	71
21	Others	19	2	0	69	24	34	73	45	141	293	0	0	0	0	31	25	56	31	0	0	0	46	0	77	426
	Total	143	58	14	349	480	218	550	222	575	2394	9	11	7	1	477	620	1125	115	63	52	31	211	96	568	4087

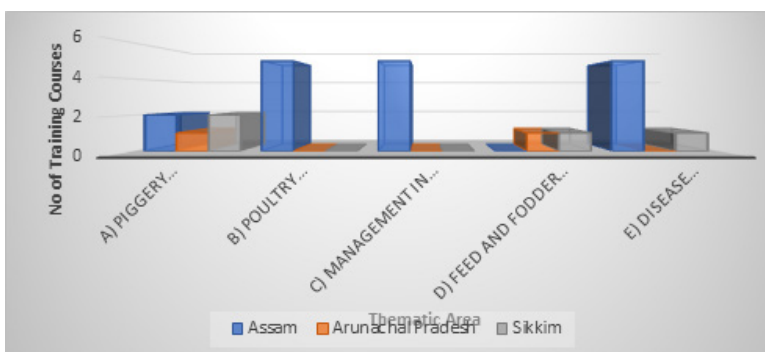




**Fig 11: Number of Extension Personnel trained during 2023**



**Fig 12: Number of courses taken up under the thematic area of Horticulture**



**Fig 13: Number of courses taken up under the thematic area of livestock production and management**

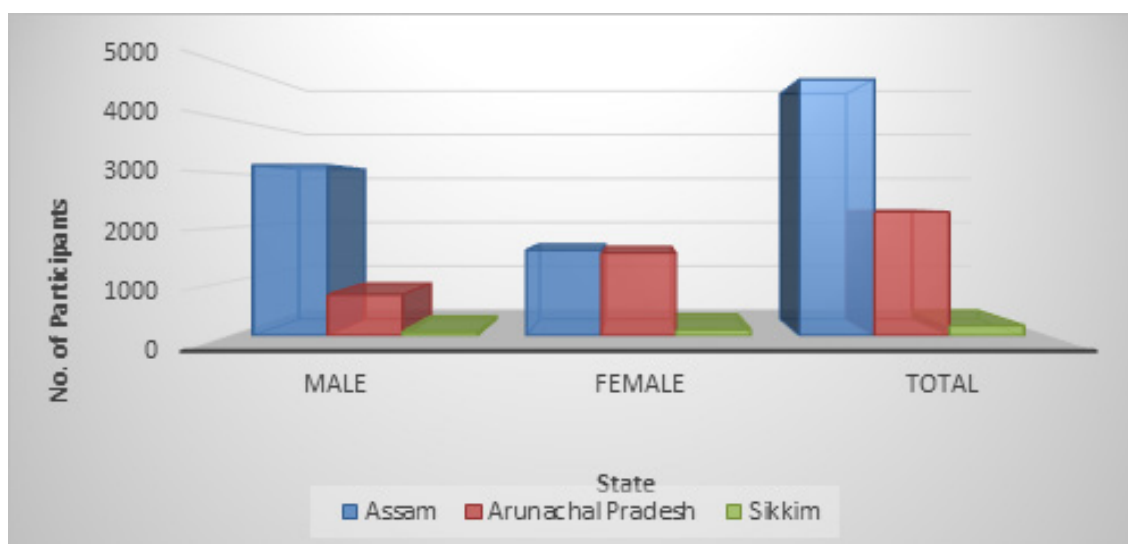
#### 2.4.4 Sponsored Training Programmes

The KVKs of ICAR-ATARI, Zone VI, Guwahati conducted a total of 376 (Assam-305, Arunachal Pradesh-50 and Sikkim-21) sponsored training courses during the period funded by different agencies/organization benefitting a total of 7212 (Assam-4735, Arunachal Pradesh-2287 and Sikkim-190) number of participants. Out of the total number of participants, 3983 were male (Assam-3151, Arunachal Pradesh-759 and Sikkim-73) and 3229 were female (Assam-1584, Arunachal Pradesh-1528 and Sikkim-117 (Table 16).

The participants in the sponsored training programmes consisted mostly of farmers, farm women, rural youth, in-service extension personnel and members of different NGOs and civic bodies. The training programmes were organised to upgrade their knowledge and skills in major areas of horticulture (33 courses, 363 participants), animal science (28 courses, 538 participants), plant protection (23 courses, 992 participants), agronomy (12 courses, 285 participants), fisheries (28 courses, 115 participants), agri. extension (6 courses, 523 participants) etc.

Table 16: Summary of Sponsored Training Programmes conducted during 2023

Sl. No.	Thematic area	No. of course		Assam										Arunachal Pradesh										Sikkim										Grand Total										
		Assam	Arunachal Pradesh	No. of participant										No. of participant										No. of participant																				
				General					OBC					ST/SC					Total					General					OBC						ST/SC					Total				
				Male	Female	Male	Female	Total	Male	Female	Male	Female	Total	Male	Female	Male	Female	Total	Male	Female	Male	Female	Total	Male	Female	Male	Female	Total	Male	Female	Male	Female	Total											
1	Agricultural Engineering	9	0	0	14	8	50	50	256	159	537	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	537													
2	Agricultural Extension	1	5	0	2	3	0	15	0	3	23	0	0	0	0	0	110	390	500	0	0	0	0	0	0	0	0	0	0	0	523													
3	Agronomy	7	0	5	77	23	57	21	36	9	223	0	0	0	0	0	0	0	0	0	14	28	0	0	48	62	62	285																
4	Animal Science	4	8	16	35	27	14	16	35	52	179	0	0	0	0	0	95	247	342	0	0	3	10	8	17	17	538																	
5	Crop production	23	3	0	170	112	55	4	293	124	758	0	0	0	0	0	32	75	107	0	0	0	0	0	0	0	0	0	0	865														
6	Fisheries	25	3	0	18	7	0	0	30	20	75	0	0	0	0	0	20	20	40	0	0	0	0	0	0	0	0	0	0	115														
7	Home Science	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	11	89	100	0	0	0	0	0	0	0	0	0	0	100														
8	Horticulture	26	7	0	28	17	26	3	14	15	103	0	0	0	0	0	39	221	260	0	0	0	0	0	0	0	0	0	0	363														
9	Multidisciplinary	3	1	0	58	7	1	7	4	2	79	0	0	0	0	0	16	13	29	0	0	0	0	0	0	0	0	0	0	108														
10	Plant Protection	9	14	0	71	29	36	28	40	63	267	210	164	0	0	0	193	158	725	0	0	0	0	0	0	0	0	0	0	992														
11	Plant Breeding	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0														
12	PPV&FRA	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	10	90	100	0	0	0	0	0	0	0	0	0	0	100														
13	Soil Science	7	0	0	53	25	59	25	64	18	244	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	244														
14	Resource Conservation	1	0	0	52	11	0	0	20	0	83	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	83															
15	Value addition and Mushroom Production	1	3	0	0	0	0	0	11	19	30	0	0	0	0	0	20	44	64	0	0	0	0	0	0	0	0	0	94															
16	Others	189	1	0	765	182	341	234	366	246	2134	0	0	0	0	0	3	17	20	0	0	0	0	0	0	0	0	0	2154															
Total		305	50	21	1343	451	639	403	1169	730	4735	210	164	0	0	0	549	1364	2287	14	28	3	10	56	79	190	7212																	



**Fig 14 : Number of Participants in sponsored Training Programme during 2023**

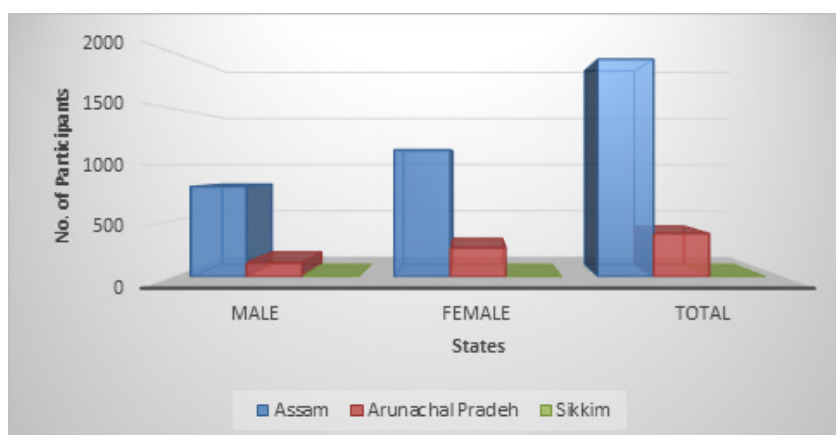
#### 2.4.5 Vocational Training Programmes

The KVKs in the region also conducted 404 vocational training courses during the period which benefitted a total of 2324 participants. Out of the total number of participants 930 were male (Assam-805, Arunachal Pradesh-125) and 1394 were female (Assam-1134, Arunachal Pradesh- 260) (Table 17). The participants in the vocational training programmes mainly

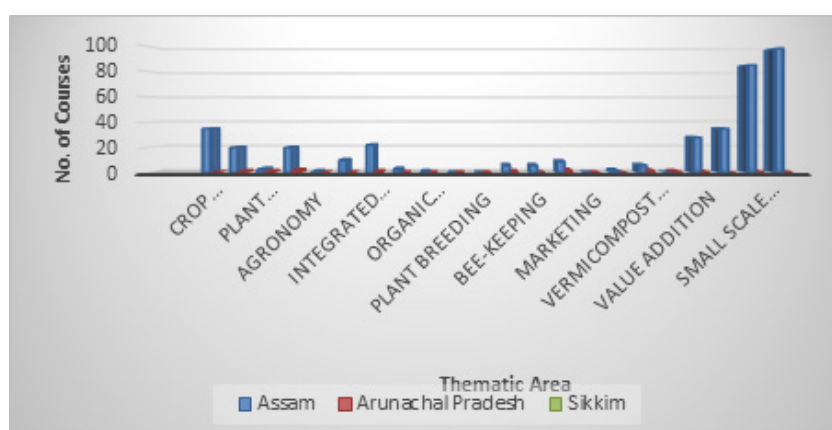
comprised of farmers, farm women and rural youth. The training programmes were organised to upgrade their knowledge and skills in major areas of crop production and management (35 courses, 91 participants), horticulture (21 courses, 359 participants), fisheries and livestock (10 courses, 270 participants), plant protection (4courses, 75 participants), small scale income generating activities (86 courses, 136 participants), etc.

Table 17 : Summary of Vocational Training Programme conducted by KVKs during 2023

Sl No.	Thematic area	No. of course			Assam						Arunachal Pradesh						Sikkim						Grand Total			
		Assam	Arunachal Pradesh	Sikkim	No. of participant						No. of participant						No. of participant									
					General		OBC		ST/SC		Total	General		OBC		ST/SC		Total	General		OBC			ST/SC		Total
					Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female		Male	Female	Male
1	Crop Production and Management	35	0	0	30	9	21	20	8	3	91	0	0	0	0	0	0	0	0	0	0	0	91			
2	Horticulture	20	1	0	75	31	47	93	44	29	319	0	0	0	0	10	30	40	0	0	0	0	359			
3	Plant protection	3	1	0	5	1	21	23	0	0	50	0	0	0	0	15	10	25	0	0	0	0	75			
4	Agri. Extension	20	2	0	0	10	0	40	0	0	50	0	0	0	0	5	60	65	0	0	0	0	115			
5	Agronomy	1	0	0	5	0	15	0	1	0	21	0	0	0	0	0	0	0	0	0	0	0	21			
6	Livestock and Fisheries	10	0	0	48	15	30	24	117	36	270	0	0	0	0	0	0	0	0	0	0	0	270			
7	Integrated Farming System	22	1	0	22	15	9	5	34	3	88	0	0	0	0	6	18	24	0	0	0	0	112			
8	Home science	3	0	0	3	15	4	29	2	20	73	0	0	0	0	0	0	0	0	0	0	0	73			
9	Organic Farming	1	0	0	3	7	0	10	2	3	25	0	0	0	0	0	0	0	0	0	0	0	25			
10	Horticulture	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
11	Plant Breeding	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
12	Soil Science	6	1	0	17	20	23	10	19	37	126	0	0	0	15	15	30	0	0	0	0	0	156			
13	Bee-keeping	6	0	0	17	17	33	6	35	18	126	0	0	0	0	0	0	0	0	0	0	0	126			
14	Mushroom production	9	2	0	2	19	35	103	4	38	201	0	0	0	14	26	40	0	0	0	0	0	241			
15	Marketing	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
16	Women Empowerment	2	0	0	0	8	0	12	0	20	40	0	0	0	0	0	0	0	0	0	0	0	40			
17	Vermicomposting	6	2	0	23	1	8	10	0	4	46	0	0	0	15	38	53	0	0	0	0	0	99			
18	Agri. Engineering	0	1	0	0	0	0	0	0	0	0	0	0	0	22	13	35	0	0	0	0	0	35			
19	Value addition	28	1	0	0	40	3	42	1	34	120	0	0	0	8	20	28	0	0	0	0	0	148			
20	Post-Harvest Technology	35	0	0	0	34	0	34	0	5	73	0	0	0	0	0	0	0	0	0	0	0	73			
21	Small scale income generating activities	85	1	0	0	24	0	61	4	27	116	0	0	0	0	20	20	0	0	0	0	0	136			
22	Others	98	1	0	17	19	14	25	4	25	104	0	0	0	15	10	25	0	0	0	0	0	129			
	Total	390	14	0	267	285	263	547	275	302	1939	0	0	0	125	260	385	0	0	0	0	0	2324			



**Fig. 15 : Number of Participants in Vocational Training Programme during 2023**



**Fig. 16 : Number of courses taken up under the vocational Training Programme**

## 2.5 Extension Activities

During 2023, KVKs of ICAR-ATARI, Zone VI, Guwahati were involved in a number of extension programmes and activities. Along with traditional media of technology dissemination, the KVKs used the recent technological innovations like ICTs to reach among the unreached. A vast stretch of the region being extreme remote to access technology dissemination was a huge challenge. In this particular context, the efforts put by KVKs during 2023 to disseminate the improved farming technologies by exploiting possible extension approaches suitable for Assam, Arunachal Pradesh and Sikkim were praise worthy. The KVKs in the region organized a total of 36920 of extension programmes/activities out of which 7890 in Arunachal Pradesh, 25360 in Assam and 3670 in Sikkim

which reached over 264200 farmers and other targeted beneficiaries including farm women, rural youth, civil societies and school children in the region in different aspects of agri-preneural opportunities (Table no 18). The numbers of beneficiaries covered through these extension activities in Arunachal Pradesh, Assam and Sikkim were 79150, 172095 and 17692 respectively. The extension activities conducted by the KVKs were categorised into five major groups, viz., field trips and visits, group activities, mass outreach programmes, camps & campaigns and publications. The highest numbers (26684) of activities were conducted under the group field trips and visits while the highest numbers (97757) of beneficiaries served through different mass outreach programmes of KVKs. A detail of the extension activities including number of beneficiaries is given in table 19.

Table 18. Extension Activities organized by KVKs in Assam, Arunachal Pradesh and Sikkim during 2023

No. of Category	Extension activities	No programmes	ASSAM											Total Participants (M+F)
			Male Participants					Female Participants						
			UR	SC	ST	OBC	TOTAL	UR	SC	ST	OBC	TOTAL		
Field Trips and visits	Diagnostic visits	974	752	206	628	530	2116	407	146	332	287	1172	3288	
	Scientists visit to farmers field	2320	3531	334	8858	1089	13812	8669	163	4599	545	13976	27788	
	Attended as resource person	358	638	179	241	446	1504	225	91	146	238	700	2204	
	Exposure visits	93	993	185	288	471	1937	302	109	183	198	792	2729	
	Farmers Visit to KVK	15644	3528	1267	2276	2839	9910	1988	762	1340	1479	5569	15479	
	Others (Pls mention)	0	0	0	0	0	0	0	0	0	0	0	0	
	<b>Total</b>	<b>19389</b>	<b>9442</b>	<b>2171</b>	<b>12291</b>	<b>5375</b>	<b>29279</b>	<b>11591</b>	<b>1271</b>	<b>6600</b>	<b>2747</b>	<b>22209</b>	<b>51488</b>	
Group activities	Farmers Scientist Interaction	111	518	148	396	431	1493	350	163	340	314	1167	2660	
	Group meetings/ Discussion	170	363	106	300	213	982	328	102	303	195	928	1910	
	Kisan Gosthi	5	65	13	77	6	161	15	28	34	73	150	311	
	Farmers' seminar/workshop	10	46	5	39	36	126	17	8	159	90	274	400	
	Mahila Mandal Conveners' meetings	0	0	0	0	0	0	0	0	0	0	0	0	
	Self Help Group Conveners meetings	5	16	10	67	84	177	4	21	42	44	111	288	
	Method Demonstrations	162	326	111	292	227	956	544	243	339	321	1447	2403	
	Awareness programmes on PPV & FRA	0	0	0	0	0	0	0	0	0	0	0	0	
	Farm Science Club Conveners meet	32	0	0	0	0	0	0	0	0	0	0	0	
	Lecture delivered as resource person	458	1256	157	887	675	2975	1121	250	586	428	2385	5360	
Ex-trainees meet	5	24	4	25	16	69	19	5	19	4	47	116		
	Others (Pls mention)	48	133	192	3	479	807	199	240	1	576	1016	1823	
	<b>Total</b>	<b>1006</b>	<b>2747</b>	<b>746</b>	<b>2086</b>	<b>2167</b>	<b>7746</b>	<b>2597</b>	<b>1060</b>	<b>1823</b>	<b>2045</b>	<b>7525</b>	<b>15271</b>	

Mass outreach programmes	Advisory Services	2784	4252	769	987	1394	7402	2818	792	837	1014	5461	12863
	Kisan Mela	10	8063	10	2079	46	10198	613	28	381	93	1115	11313
	Film show	28	216	51	63	43	373	125	55	74	225	479	852
	Exhibition	24	8150	77	2239	157	10623	762	55	405	171	1393	12016
	Farmers Seminar/ workshop	6	15	0	23	18	56	19	3	48	20	90	146
	Field Day	114	840	130	617	708	2295	395	111	358	579	1443	3738
	PRA	16	304	156	63	248	771	305	109	92	321	827	1598
	Celebration of important days	207	1746	400	752	1094	3992	1273	424	989	1753	4439	8431
	TV Talks	16	1	0	0	0	1	1	0	0	0	1	2
	Radio talks	62	2	0	0	0	2	3	0	0	0	3	5
	Newspaper coverage	390	6	8	2	6	22	5	7	6	8	26	48
	Others (Pls mention)	47	831	258	3188	447	4724	794	406	3920	880	6000	10724
	<b>Total</b>	<b>3704</b>	<b>24426</b>	<b>1859</b>	<b>10013</b>	<b>4161</b>	<b>40459</b>	<b>7113</b>	<b>1990</b>	<b>7110</b>	<b>5064</b>	<b>21277</b>	<b>61736</b>
Camps and Campaigns	Animal Health Camp	38	766	124	280	273	1443	193	77	216	290	776	2219
	Plant health camp	55	804	257	3434	476	4971	912	341	4210	888	6351	11322
	Awareness Camp	272	1977	518	801	681	3977	1544	511	1447	1076	4578	8555
	Self-help groups	19	0	0	0	0	0	0	0	0	0	0	0
	Swachta Bharat campaign	164	3093	502	698	918	5211	1287	313	584	840	3024	8235
	Soil health/ testing Campaigns	33	188	73	99	252	612	66	27	64	112	269	881
	Soil Health distribution programme	44	191	21	123	162	497	72	74	94	103	343	840
	web casting	68	976	183	318	384	1861	332	160	206	477	1175	3036
	Awareness programmes on PPV & FRA	250	198	115	247	224	784	198	103	197	181	679	1463
	Jai Kisan Jai Vigyan/ Technology week	21	66	16	330	105	517	40	24	372	109	545	1062
	Others (Pls mention)	21	1442	24	8	75	1549	2702	11	12	141	2866	4415
	<b>Total</b>	<b>985</b>	<b>9701</b>	<b>1833</b>	<b>6338</b>	<b>3550</b>	<b>21422</b>	<b>7346</b>	<b>1641</b>	<b>7402</b>	<b>4217</b>	<b>20606</b>	<b>42028</b>



Publications	Training/ practical manual	30	270	25	85	619	999	152	15	72	366	605	1604
	Extension literature	89	198	88	265	139	690	255	39	309	251	854	1544
	News letter	12	0	0	0	0	0	0	0	0	0	0	0
	Research papers	57	0	0	0	0	0	0	0	0	0	0	0
	Technical report/ article	35	0	0	0	0	0	0	0	0	0	0	0
	Literature delivered to resource person	150	180	0	20	0	200	0	0	0	0	0	200
	Electronic media	94	0	0	0	0	0	0	0	0	0	0	0
	CD publication	2	16	5	7	4	32	6	8	5	1	20	52
	Technical bulletins	59	50	56	19	11	136	30	42	40	7	119	255
	Leaflets/folders	45	0	0	0	0	0	0	0	0	0	0	0
	Others (Pls mention)	58	31	0	2	0	33	0	1	1	0	2	35
	<b>Total</b>	<b>276</b>	<b>342</b>	<b>137</b>	<b>108</b>	<b>472</b>	<b>1059</b>	<b>174</b>	<b>91</b>	<b>128</b>	<b>120</b>	<b>513</b>	<b>1572</b>
	<b>Grand Total</b>	<b>25360</b>	<b>46658</b>	<b>6746</b>	<b>30836</b>	<b>15725</b>	<b>99965</b>	<b>28821</b>	<b>6053</b>	<b>23063</b>	<b>14193</b>	<b>72130</b>	<b>172095</b>

Arunachal Pradesh													
No. of Category	Extension activities	No programmes	Male Participants					Female Participants					Total Participants (M+F)
			UR	SC	ST	OBC	TOTAL	UR	SC	ST	OBC	TOTAL	
Field Trips and visits	Diagnostic visits	669	0	0	1324	0	1324	0	0	1466	0	1466	2790
	Scientists visit to farmers field	1410	0	0	1624	0	1624	0	0	1897	0	1897	3521
	Attended as resource person	109	0	0	1732	0	1732	0	0	2512	0	2512	4244
	Exposure visits	5	0	0	112	0	112	0	0	170	0	170	282
	Farmers Visit to KVK	2168	0	0	3022	0	3022	0	0	3759	0	3759	6781
	Others (Pls mention)	5	0	0	25	0	25	0	0	39	0	39	64
	Total	4366	0	0	7839	0	7839	0	0	9843	0	9843	17682

Group activities	Farmers Scientist Interaction	256	0	0	1899	0	1899	0	0	2682	0	2682	4581
	Group meetings/ Discussion	202	0	0	1523	0	1523	0	0	1764	0	1764	3287
	Kisan Gosthi	36	0	0	517	0	517	0	0	717	0	717	1234
	Farmers' seminar/workshop	3	0	0	91	0	91	0	0	70	0	70	161
	Mahila Mandal Conveners' meetings	3	0	0	38	0	38	0	0	107	0	107	145
	Self Help Group Conveners meetings	26	0	0	241	0	241	0	0	734	0	734	975
	Method Demonstrations	169	0	0	1279	0	1279	0	0	1952	0	1952	3231
	Awareness programmes on PPV & FRA	0	0	0	0	0	0	0	0	0	0	0	0
	Farm Science Club Conveners meet	0	0	0	0	0	0	0	0	0	0	0	0
	Lecture delivered as resource person	166	0	0	2447	0	2447	0	0	3368	0	3368	5815
Mass outreach programmes	Ex-trainees meet	0	0	0	0	0	0	0	0	0	0	0	0
	Others (Pls mention)	4	0	0	97	0	97	0	0	48	0	48	145
	Total	865	0	0	8132	0	8132	0	0	11442	0	11442	19574
	Advisory Services	1738	0	0	6586	0	6586	0	0	7060	0	7060	13646
	Kisan Mela	4	0	0	581	0	581	0	0	656	0	656	1237
	Film show	91	0	0	1273	0	1273	0	0	1848	0	1848	3121
	Exhibition	37	1	0	1968	1	1970	2	1	1333	0	1336	3306
	Farmers Seminar/ workshop	6	0	0	280	0	280	0	0	191	0	191	471
	Field Day	82	30	3	576	0	609	25	1	769	0	795	1404
	PRA	24	19	0	336	0	355	19	0	189	0	208	563
	Celebration of important days	95	0	0	3040	0	3040	0	0	3554	0	3554	6594
	TV Talks	0	0	0	0	0	0	0	0	0	0	0	0
	Radio talks	11	0	0	0	0	0	0	0	0	0	0	0
	Newspaper coverage	146	1	0	2	0	3	2	0	3	0	5	8
	Others (Pls mention)	7	0	0	7	0	7	0	0	9	0	9	16
	Total	2241	51	3	14649	1	14704	48	2	15612	0	15662	30366

Camps and Campaigns	Animal Health Camp	8	0	0	0	101	0	101	0	0	0	129	0	129	230
	Plant health camp	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Awareness Camp	54	53	0	1478	0	1531	63	0	970	0	1033	0	2564	
	Self -help groups	16	0	0	0	0	0	0	0	273	0	273	0	273	
	Swachh Bharat campaign	102	75	0	1111	0	1186	0	0	1655	0	1655	0	2841	
	Soil health/ testing Campaigns	24	0	0	289	0	289	0	0	269	0	269	0	558	
	Soil Health distribution programme	77	0	0	553	0	553	0	0	511	0	511	0	1064	
	web casting	5	2	0	287	0	289	0	0	141	0	141	0	430	
	Awareness programmes on PPV & FRA	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Jai Kisan Jai Vigyan/ Technology week	7	0	0	65	0	65	0	0	112	0	112	0	177	
	Others (Pls mention)	3	0	0	84	0	84	0	0	380	0	380	0	464	
	<b>Total</b>	<b>296</b>	<b>130</b>	<b>0</b>	<b>3968</b>	<b>0</b>	<b>4098</b>	<b>63</b>	<b>0</b>	<b>4440</b>	<b>0</b>	<b>4503</b>	<b>0</b>	<b>8601</b>	
	Training/ practical manual	4	0	0	79	0	79	0	0	131	0	131	0	210	
Publications	Extension literature	26	0	0	52	0	52	0	1	110	0	111	0	163	
	News letter	5	0	1	50	0	51	0	0	57	0	57	0	108	
	Research papers	15	0	2	2	0	4	0	1	1	0	2	0	6	
	Technical report/ article	12	0	0	2	0	2	0	0	1	0	1	0	3	
	Literature delivered to resource person	13	0	0	129	0	129	0	0	192	0	192	0	321	
	Electronic media	5	0	0	0	0	0	0	0	0	0	0	0	0	
	CD publication	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Technical bulletins	2	2	0	2	0	4	0	0	3	0	3	0	7	
	Leaflets/folders	39	0	4	849	0	853	0	1	1609	1	1611	1	2464	
	Others (Pls mention)	1	1	2	0	0	3	0	2	0	0	2	0	5	
	<b>Total</b>	<b>122</b>	<b>3</b>	<b>9</b>	<b>1165</b>	<b>0</b>	<b>1177</b>	<b>0</b>	<b>5</b>	<b>2104</b>	<b>1</b>	<b>2110</b>	<b>1</b>	<b>3287</b>	
	<b>Grand Total</b>	<b>7890</b>	<b>184</b>	<b>12</b>	<b>35753</b>	<b>1</b>	<b>35950</b>	<b>111</b>	<b>7</b>	<b>43441</b>	<b>1</b>	<b>43560</b>	<b>1</b>	<b>79510</b>	

Sikkim													
No. of Category	Extension activities	No programmes	Male Participants					Female Participants					Total Participants (M+F)
			UR	SC	ST	OBC	TOTAL	UR	SC	ST	OBC	TOTAL	
Field Trips and visits	Diagnostic visits	157	13	27	284	117	441	12	17	186	77	292	733
	Scientists visit to farmers field	182	58	26	161	148	393	28	18	125	94	265	658
	Attended as resource person	30	8	16	152	124	300	14	18	170	94	296	596
	Exposure visits	3	8	5	13	22	48	3	2	6	6	17	65
	Farmers Visit to KVK	2557	44	62	1102	951	2159	21	38	558	554	1171	3330
	Others (Pls mention)	0	0	0	0	0	0	0	0	0	0	0	0
	Total	2929	131	136	1712	1362	3341	78	93	1045	825	2041	5382
Group activities	Farmers Scientist Interaction	10	16	8	158	21	203	32	14	181	41	268	471
	Group meetings/ Discussion	28	31	20	170	165	386	6	9	91	72	178	564
	Kisan Gosthi	11	14	15	168	52	249	12	9	165	38	224	473
	Farmers' seminar/workshop	16	0	25	145	230	400	16	12	130	135	293	693
	Mahila Mandal Conveners' meetings	2	3	0	16	0	19	1	0	11	0	12	31
	Self Help Group Conveners meetings	0	0	0	0	0	0	0	0	0	0	0	0
	Method Demonstrations	47	26	26	308	56	416	31	12	218	49	310	726
	Awareness programmes on PPV & FRA	2	9	3	5	4	21	6	2	6	4	18	39
	Farm Science Club Conveners meet	0	0	0	0	0	0	0	0	0	0	0	0
	Lecture delivered as resource person	52	72	39	312	170	593	74	46	353	147	620	1213
	Ex-trainees meet	1	0	0	21	1	22	0	0	7	0	7	29
	Others (Pls mention)	0	0	0	0	0	0	0	0	0	0	0	0
	Total	169	171	136	1303	699	2309	178	104	1162	486	1930	4239

Advisory Services	329	20	34	797	520	1371	24	33	605	271	933	2304
Kisan Mela	4	7	12	210	77	306	4	4	164	39	211	517
Film show	3	0	6	50	64	120	0	3	23	34	60	180
Exhibition	14	57	51	463	192	763	97	52	438	188	775	1538
Farmers Seminar/ workshop	1	0	0	18	0	18	0	0	22	0	22	40
Field Day	12	18	12	83	122	235	9	4	59	82	154	389
PRA	2	15	5	10	0	30	10	2	15	0	27	57
Celebration of important days	25	23	15	140	101	279	32	6	119	37	194	473
TV Talks	4	0	0	0	0	0	0	0	0	0	0	0
Radio talks	2	0	0	0	0	0	0	0	0	0	0	0
News paper coverage	59	0	0	0	0	0	0	0	0	0	0	0
Others (Pls mention)	1	14	10	40	31	95	9	7	25	21	62	157
Total	456	154	145	1811	1107	3217	185	111	1470	672	2438	5655
Animal Health Camp	3	5	5	69	30	109	2	8	36	17	63	172
Plant health camp	0	0	0	0	0	0	0	0	0	0	0	0
Awareness Camp	10	10	15	77	110	212	10	7	71	68	156	368
Self-help groups	0	0	0	0	0	0	0	0	0	0	0	0
Swacch Bharat campaign	24	34	15	109	27	185	25	4	100	17	146	331
Soil health/ testing Campaigns	2	0	5	62	15	82	0	2	54	10	66	148
Soil Health distribution programme	3	1	16	69	120	206	0	8	37	61	106	312
web casting	11	12	8	131	71	222	31	12	118	52	213	435
Awareness programmes on PPV & PRA	0	0	0	0	0	0	0	0	0	0	0	0
Jai Kisan Jai Vigyan/ Technology week	5	0	10	188	40	238	0	5	149	20	174	412
Others (Pls mention)	0	0	0	0	0	0	0	0	0	0	0	0
Total	58	62	74	705	413	1254	68	46	565	245	924	2178

Publications	Training/ practical manual	8	3	0	6	5	14	4	0	5	7	16	30
	Extension literature	0	0	0	0	0	0	0	0	0	0	0	0
	News letter	3	0	0	0	0	0	0	0	0	0	0	0
	Research papers	6	0	0	1	0	1	0	2	0	0	2	3
	Technical report/ article	0	0	0	0	0	0	0	0	0	0	0	0
	Literature delivered to resource person	4	0	0	0	0	0	0	0	0	0	0	0
	Electronic media	0	0	0	0	0	0	0	0	0	0	0	0
	CD publication	2	0	0	0	0	0	0	0	0	0	0	0
	Technical bulletins	0	0	0	0	0	0	0	0	0	0	0	0
	Leaflets/folders	19	39	12	37	49	137	21	0	19	28	68	205
	Others (Pls mention)	16	0	0	0	0	0	0	0	0	0	0	0
	<b>Total</b>	<b>58</b>	<b>42</b>	<b>12</b>	<b>44</b>	<b>54</b>	<b>152</b>	<b>25</b>	<b>2</b>	<b>24</b>	<b>35</b>	<b>86</b>	<b>238</b>
	<b>Grand Total</b>	<b>3670</b>	<b>560</b>	<b>503</b>	<b>5575</b>	<b>3635</b>	<b>10273</b>	<b>534</b>	<b>356</b>	<b>4266</b>	<b>2263</b>	<b>7419</b>	<b>17692</b>

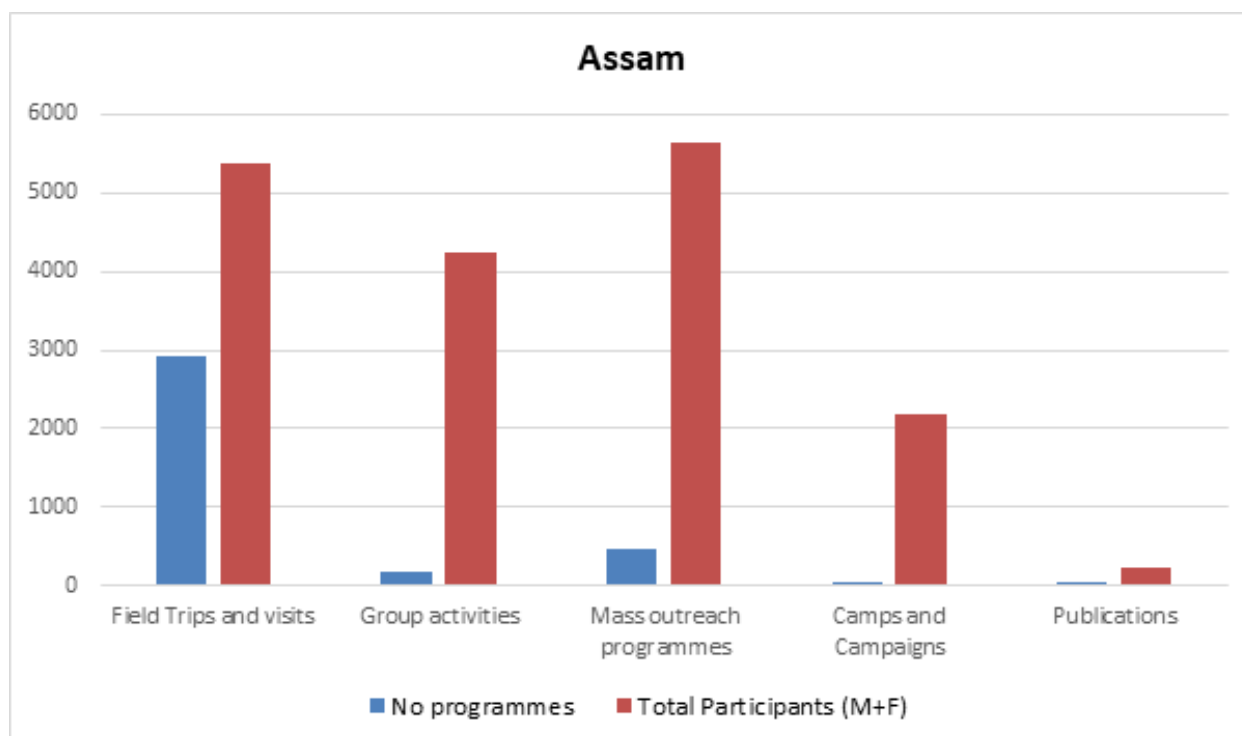
Table 19: Summary of Extension activities during 2023

Grand total													
No. of Category	Extension activities	No programmes	Male Participants					Female Participants					Total Participants (M+F)
			UR	SC	ST	OBC	TOTAL	UR	SC	ST	OBC	TOTAL	
Field Trips and visits	Diagnostic visits	1800	765	233	2236	647	3881	419	163	1984	364	2930	6811
	Scientists visit to farmers field	3912	3589	360	10643	1237	15829	8697	181	6621	639	16138	31967
	Attended as resource person	497	646	195	2125	570	3536	239	109	2828	332	3508	7044
	Exposure visits	101	1001	190	413	493	2097	305	111	359	204	979	3076
	Farmers Visit to KVK	20369	3572	1329	6400	3790	15091	2009	800	5657	2033	10499	25590
	Others (PIs mention)	5	0	0	25	0	25	0	0	39	0	39	64
	Total	26684	9573	2307	21842	6737	40459	11669	1364	17488	3572	34093	74552

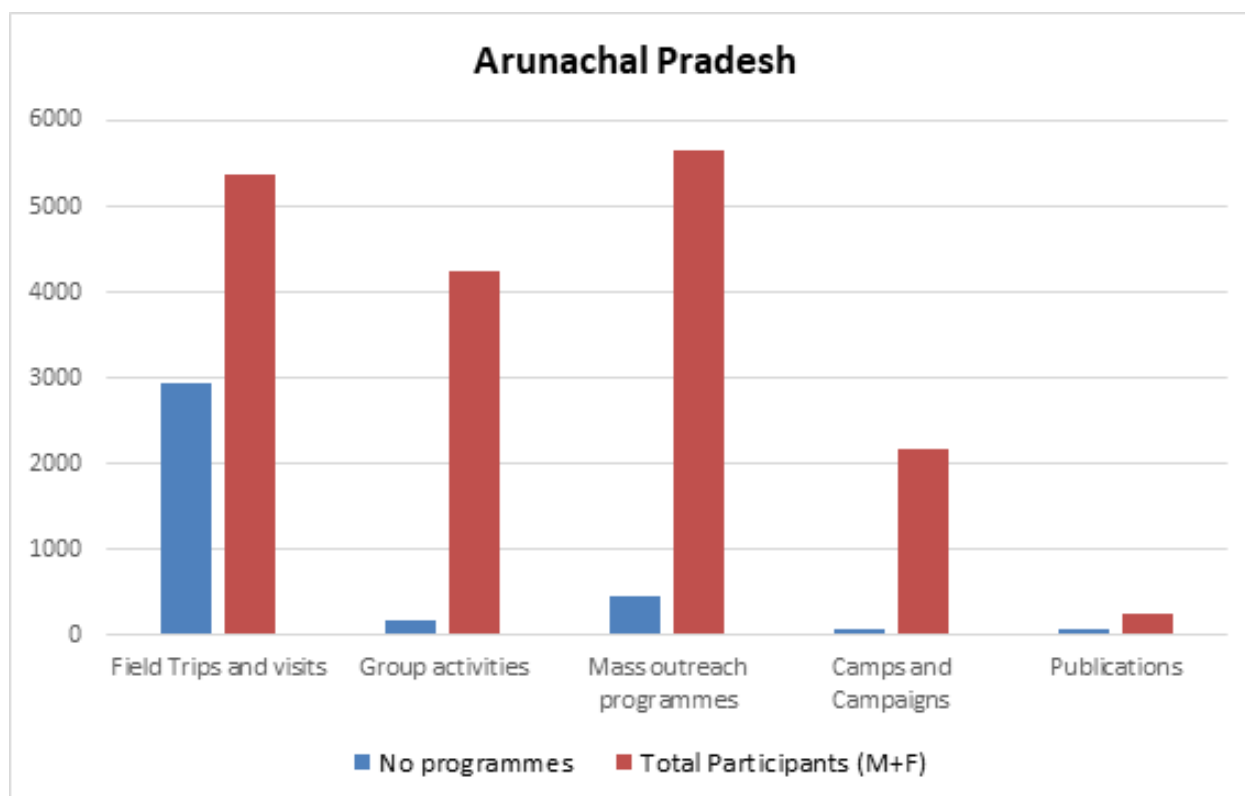
Group activities	Farmers Scientist Interaction	377	534	156	2453	452	3595	382	177	3203	355	4117	7712
	Group meetings/ Discussion	400	394	126	1993	378	2891	334	111	2158	267	2870	5761
	Kisan Gosthi	52	79	28	762	58	927	27	37	916	111	1091	2018
	Farmers' seminar/workshop	29	46	30	275	266	617	33	20	359	225	637	1254
	Mahila Mandal Conveners' meetings	5	3	0	54	0	57	1	0	118	0	119	176
	Self Help Group Conveners meetings	31	16	10	308	84	418	4	21	776	44	845	1263
	Method Demonstrations	378	352	137	1879	283	2651	575	255	2509	370	3709	6360
	Awareness programmes on PPV & FRA	2	9	3	5	4	21	6	2	6	4	18	39
	Farm Science Club Conveners meet	32	0	0	0	0	0	0	0	0	0	0	0
	Lecture delivered as resource person	676	1328	196	3646	845	6015	1195	296	4307	575	6373	12388
	Ex-trainees meet	6	24	4	46	17	91	19	5	26	4	54	145
	Others (Pls mention)	52	133	192	100	479	904	199	240	49	576	1064	1968
	Total	2040	2918	882	11521	2866	18187	2775	1164	14427	2531	20897	39084
	Advisory Services	4851	4272	803	8370	1914	15359	2842	825	8502	1285	13454	28813
	Kisan Mela	18	8070	22	2870	123	11085	617	32	1201	132	1982	13067
Mass outreach programmes	Film show	122	216	57	1386	107	1766	125	58	1945	259	2387	4153
	Exhibition	75	8208	128	4670	350	13356	861	108	2176	359	3504	16860
	Farmers Seminar/ workshop	13	15	0	321	18	354	19	3	261	20	303	657
	Field Day	208	888	145	1276	830	3139	429	116	1186	661	2392	5531
	PRA	42	338	161	409	248	1156	334	111	296	321	1062	2218
	Celebration of important days	327	1769	415	3932	1195	7311	1305	430	4662	1790	8187	15498
	TV Talks	20	1	0	0	0	1	1	0	0	0	1	2
	Radio talks	75	2	0	0	0	2	3	0	0	0	3	5
	News paper coverage	595	7	8	4	6	25	7	7	9	8	31	56
	Others (Pls mention)	55	845	268	3235	478	4826	803	413	3954	901	6071	10897
	Total	6401	24631	2007	26473	5269	58380	7346	2103	24192	5736	39377	97757



Camps and Campaigns	Animal Health Camp	49	771	129	450	303	1653	195	85	381	307	968	2621
	Plant health camp	55	804	257	3434	476	4971	912	341	4210	888	6351	11322
	Awareness Camp	336	2040	533	2356	791	5720	1617	518	2488	1144	5767	11487
	Self-help groups	35	0	0	0	0	0	0	0	273	0	273	273
	Swachh Bharat campaign	290	3202	517	1918	945	6582	1312	317	2339	857	4825	11407
	Soil health/ testing Campaigns	59	188	78	450	267	983	66	29	387	122	604	1587
	Soil Health distribution programme	124	192	37	745	282	1256	72	82	642	164	960	2216
	web casting	84	990	191	736	455	2372	363	172	465	529	1529	3901
	Awareness programmes on PPV & FRA	250	198	115	247	224	784	198	103	197	181	679	1463
	Jai Kisan Jai Vigyan/ Technology week	33	66	26	583	145	820	40	29	633	129	831	1651
Publications	Others (Pls mention)	24	1442	24	92	75	1633	2702	11	392	141	3246	4879
	Total	1339	9893	1907	11011	3963	26774	7477	1687	12407	4462	26033	52807
	Training/ practical manual	42	273	25	170	624	1092	156	15	208	373	752	1844
	Extension literature	115	198	88	317	139	742	255	40	419	251	965	1707
	News letter	20	0	1	50	0	51	0	0	57	0	57	108
	Research papers	78	0	2	3	0	5	0	3	1	0	4	9
	Technical report/ article	47	0	0	2	0	2	0	0	1	0	1	3
	Literature delivered to resource person	167	180	0	149	0	329	0	0	192	0	192	521
	Electronic media	99	0	0	0	0	0	0	0	0	0	0	0
	CD publication	4	16	5	7	4	32	6	8	5	1	20	52
	Technical bulletins	61	52	56	21	11	140	30	42	43	7	122	262
	Leaflets/folders	103	39	16	886	49	990	21	1	1628	29	1679	2669
	Others (Pls mention)	75	32	2	2	0	36	0	3	1	0	4	40
	Total	811	790	195	1607	827	3419	468	112	2555	661	3796	7215
	Grand Total	36464	47015	7103	70847	18835	143800	29267	6318	68514	16301	120400	264200



**Fig 17 (a): Major category-wise extension activities conducted by the KVKs of Assam during 2023**



**Fig 17 (b): Major category-wise extension activities conducted by the KVKs of Arunachal Pradesh during**

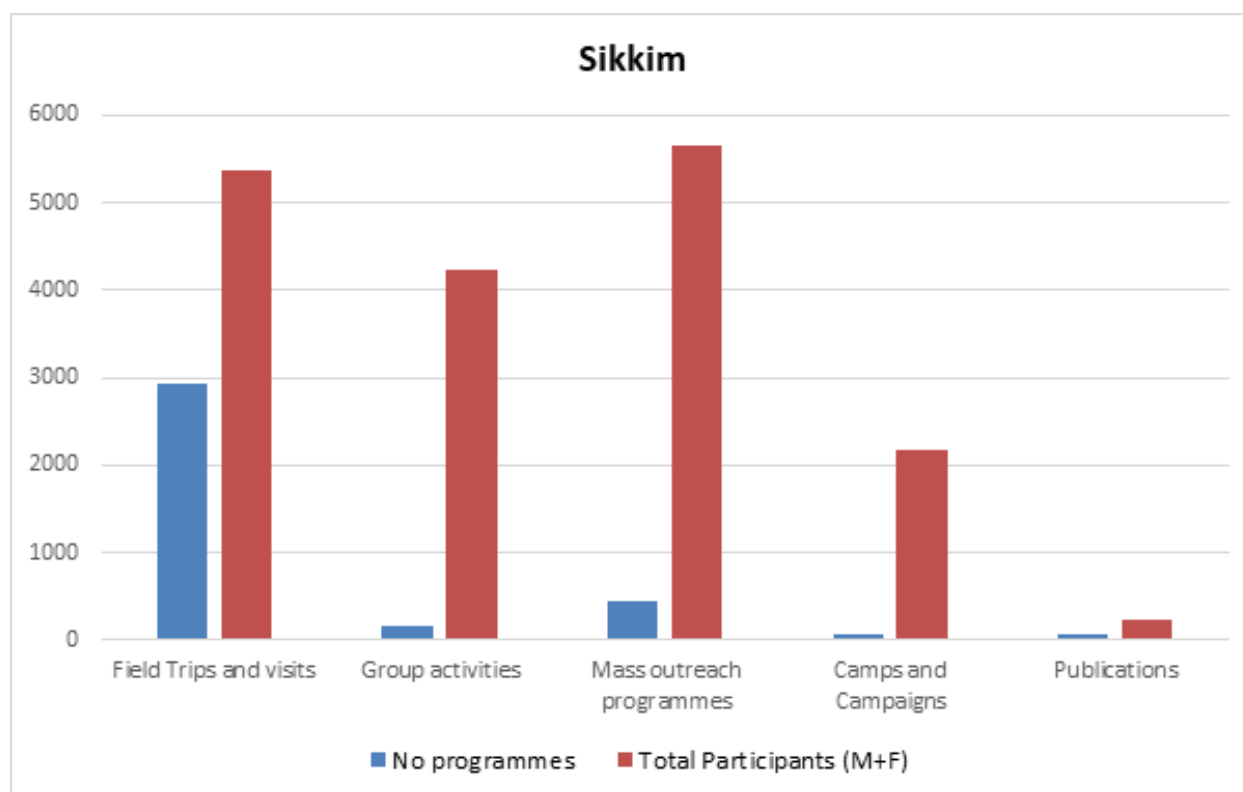


Fig 17 (c): Major category-wise extension activities conducted by the KVKs of Sikkim during 2023

## 2.6 Technological interventions to empower women empowerment

In keeping with the increasing thrust to empower the farm women, female rural youth and female extension personnel, a wide range of activities such as capacity building, skill improvement, drudgery reduction, formation of SHGs, resource mobilization etc. were taken up by the KVKs to impart requisite skills among the farm women and make them self-sufficient. A total of 22184 women representing 55.18 per cent of the total beneficiaries (40196) were provided skill-oriented trainings in different areas of crop and livestock enterprises in case of farmers and farm women. A total of 6718 female rural youth representing 56.67 per cent of the total beneficiaries (male and female rural youth) were trained for skill improvement and entrepreneurship development. Out of a total of 4087 extension personnel trained during 2023,

2427 women were extension personnel (59.38%). Women empowerment was the sole premise around which various sponsored and vocational training programmes were pioneered. A total of 1394 accounting for 59.98 per cent of the total number of beneficiaries (2324) participating in the vocational training programme were female. About 44.72 per cent of the total number of beneficiaries (7212) participated in the sponsored training programme were female. The training programmes were mainly centered around nursery raising, vermicomposting, value addition and drudgery reduction etc.

## 2.7 Production of seeds, planting materials and bio-products

Production of quality seeds and planting materials and their distribution to the farmers were accorded top priority by the KVKs of the

region. During the period 2023, the Assam produced highest quantity (3657.63 quintal) of quality seeds followed by Arunachal Pradesh (752.35 quintal) and Sikkim (119.2 quintal). These seeds include cereals, pulses, oilseeds, fruits, spices, fodder crops, vegetables and others. In case of planting materials, a total 12.61 lakhs of planting material produced by Assam, followed by Arunachal Pradesh (11.27 lakhs) and Sikkim (7.35 lakhs). Planting materials includes fruits, plantation crops, vegetables, ornamental crops, spices and others. Livestock offspring/

strains were also produced by the KVKs of the region during 2023. Assam produced a total of 741876 numbers of livestock offspring/strains followed by Arunachal Pradesh (20480) and Sikkim (684). Livestock component includes cattle, goater, poultry, piggery, fish fingerlings and others. The KVKs of the region also produced a lot of bio-products such as bio-agents, bio-fertilizers, bio-pesticides etc. Assam produced 2844.26 quintal whereas Arunachal Pradesh and Sikkim produced 279.75 quintal and 149.20 quintal respectively (Table 20).

**Table 20. Production of seeds, planting materials and Bio-products during 2023**

Sl. No.	Major Group/ Class	Assam Quantity	Arunachal Pradesh Quantity	Sikkim Quantity	Total Quantity
A.	Seeds (in quintal)				
1	Cereals	2071.18	236.75	37.6	2345.53
2	Pulses	859	75	46.1	980.1
3	Oilseeds	611.78	424.6	11	1047.38
4	Fruits	0.37	-	-	0.37
5	Spice	30.285	10	16.5	56.785
6	Fodder Crops	-	-	-	-
7	Vegetables	-	-	-	-
8	Others	85.022	6	8	99.022
	<b>Total</b>	<b>3657.637</b>	<b>752.35</b>	<b>119.2</b>	<b>4529.187</b>
B.	Planting materials (in Lakhs.)				
1	Fruits	2.02885	0.025	0.05	2.10385
2	Plantation crops	2.65005	0.0598	3.57781	6.28766
3	Vegetables	1.19145	11.641	3.73	16.56245
4	Ornamental plants	0.22725	0	0	0.22725
5	Spices	0.63271	0	0	0.63271
6	Others	5.88453	0	0	5.88453
	<b>Total</b>	<b>12.61484</b>	<b>11.7258</b>	<b>7.35781</b>	<b>31.69845</b>
C.	Bio-Products (in quintal)				
1	Bio-agents	0	0	0	0
2	Bio-Fertilizers	2697.549	279.751	149.2	3126.5
3	Bio-Pesticides	21.72	0	0	21.72
4	Others	125	0	0	125
	<b>Total</b>	<b>2844.269</b>	<b>279.751</b>	<b>149.2</b>	<b>3273.22</b>

D.	Livestock component (Nos.)				
1	Cattle	23	0	3	26
2	Goatery	81	0	1	82
3	Poultry	16911	380	300	17591
4	Piggery	192	0	160	352
5	Fingerlings	724659	20000	0	744659
6	Others	10	100	220	330
	<b>Total</b>	<b>741876</b>	<b>20480</b>	<b>684</b>	<b>763040</b>

## 2.8 Scientific Advisory Committee (SAC) Meeting

A total of 47 Scientific Advisory Committee (SAC) meetings were held during the year 2023 by the KVKs of ICAR-ATARI, Zone VI, Guwahati (Table 21). The SAC meetings were a wonderful platform to make a thorough and critical review of the progress made against various activities that were undertaken by the KVKs as part of their mandate. Members participating in the

SAC meetings traversed the longest spectrum of various scientific domains including people from input agencies, mass media, farmer representatives as well as financial institutions and the participating members enriched the purpose of such review meetings with critical analysis and constructive suggestions to address the varied problems of the KVKs. The members also laid out a blueprint in terms of action plan for next year based on the suggestions received from the stakeholders present in the meeting.

**Table 21. Scientific Advisory Committee meetings of KVKs during 2023**

Sl. No.	State	No. of SAC conducted
1	Arunachal Pradesh	17
2	Assam	26
3	Sikkim	4
<b>Grand Total</b>		<b>47</b>

## 2.9 Institute Management Committee (IMC)

The 8<sup>th</sup> Institute Management Committee (IMC) meeting was organized on 3<sup>rd</sup> November, 2023 at ICAR-ATARI, Zone-VI, Kahikuchi, Guwahati under the chairmanship of Dr. G Kadirvel, Director, ICAR-ATARI, Zone VI, Guwahati, Assam. Discussion was held on the ATR of previous IMC meeting namely construction of administrative building of 5 KVK's, fencing

of KVK campus etc. The IMC members gave their recommendation to divert the budget for construction of training hall within the allocated EFC budget during the meeting. In addition to this, the members also discussed about the urgent requirement of Guest House for the ICAR-ATARI considering the strategic location of the institute and also requirement of transit Guest House for many ICAR institute in the NE region of India.

## 2.10. Special Programmes

### 2.10.1. Cluster FLDs under National Mission on Oilseed and Oil palm (NMOOP) during 2023

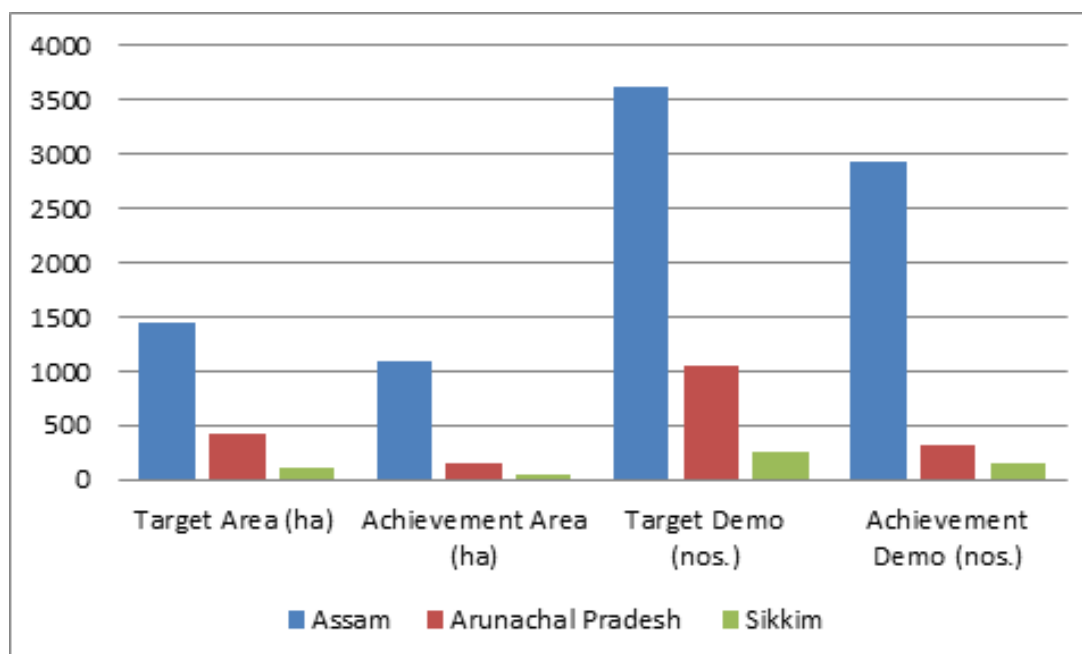
The ICAR-ATARI, Guwahati has selected 36 numbers of KVKs from its jurisdiction for conducting CFLD on oilseeds under NMOOP during 2023. Its main emphasis is to demonstrate the production potential of newly released technologies on the farmer's field at different location in a given farming system and organized farming and extension activities for dissemination of various technologies.

### Achievement of oilseeds during 2023

During 2023, the Cluster FLD on oilseeds covered a wide range of crops viz. sesamum, soybean, rapeseed & mustard and linseed. The selected KVKs have covered a total of 1295 ha area out of the allocated area of 1970 ha through 1295 nos. of demonstrations on various oilseed crops. The state wise average productivity of major oilseed crops under NMOOP during 2023 are presented in the table 23 and the respective graphs is shown in the figures 17. From the table 24 and figure 18, it was cleared that the average productivity of soybean was highest in Arunachal (19.35q/ha) followed by Rapeseed & Mustard (8.81q/ha) in Assam

**Table 22. State-wise allotment of KVKs for CFLD on Oilseeds during 2023**

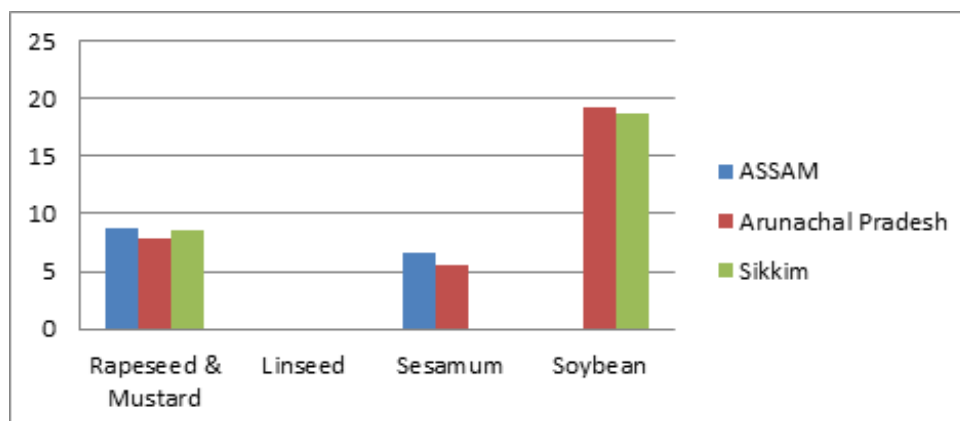
State	Target Area (ha)	Achievement Area (ha)	Target Demo (nos.)	Achievement Demo (nos.)
Assam	1450	1101	3625	2933
Arunachal Pradesh	420	144	1050	325
Sikkim	100	50	250	147
<b>Zone VI Total</b>	<b>1970</b>	<b>1295</b>	<b>4925</b>	<b>3405</b>



**Fig 18: State-wise area allotment and area achievement of KVKs for CFLD on Oilseeds during 2023**

**Table 23. State-wise productivity of Oilseed crops under NM00P during 2023**

Sl. No.	State	Average productivity (q/ha) of Oilseed crops		
		Rapeseed & Mustard	Sesamum	Soybean
1	Assam	8.81	6.69	-
2	Arunachal Pradesh	7.84	5.52	19.35
3	Sikkim	8.6	-	18.8

**Fig 19: Average productivity of different oilseed crops under CFLD on oilseed**

### 2.10.2. Cluster Frontline Demonstration (CFLDs) on Pulses

There were 34 number of KVKs included for Cluster Frontline Demonstration (CFLDs) on pulses under National Food Security Mission (NFSM) from ICAR-ATARI, Guwahati. The main purpose of it was to demonstrate the production potential of newly resealed technologies of pulses on the farmer's field at different location in a given farming system and organized farming and extension workers for dissemination of various technologies.

### Achievement

The CFLDs on pulses covered a wide range of crops viz. black gram, green gram, pigeon pea, rajmah. A total of 470.4 ha area were covered for cluster demonstration on pulses out of the allocated area of 825 ha and a total of 1292 demonstrations were conducted by the selected KVKs of the region. The state wise average productivity of major pulse crops under CFLD were presented in the table 25 and 26 respectively. From the table 26, it was observed that the average productivity of Rajmah was found to be highest in Sikkim i.e. 13.2 q/ha followed by pigeon pea in Arunachal (11.38 q/ha).

**Table 24. State-wise allotment of KVKs for CFLD on pulses during 2023**

State	Target Area (ha)	Achievements Area (ha)	Target Demo (nos.)	Achievements Demo (nos.)
Assam	675	294	1686	888
Arunachal Pradesh	100	96	250	208
Sikkim	50	80.4	125	196
Zone VI Total	825	470.4	2061	1292



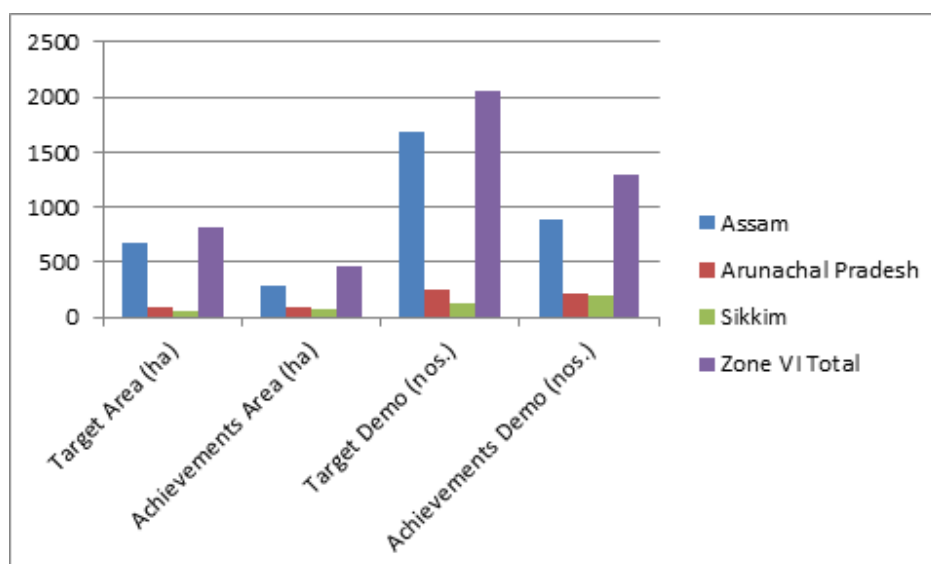


Fig 20: State-wise area allotment and area achievement of KVKs for CFLD on Pulses during 2023

Table 25. State-wise productivity of pulses during 2023

Sl. No	State	Average Productivity(q/ha) of Pulse crops			
		Black gram	Green gram	Pigeon Pea	Rajmah
1	Assam	8.04	8.6	-	-
2	Arunachal Pradesh	7.9	-	11.38	-
3	Sikkim	9.8	-	-	13.2

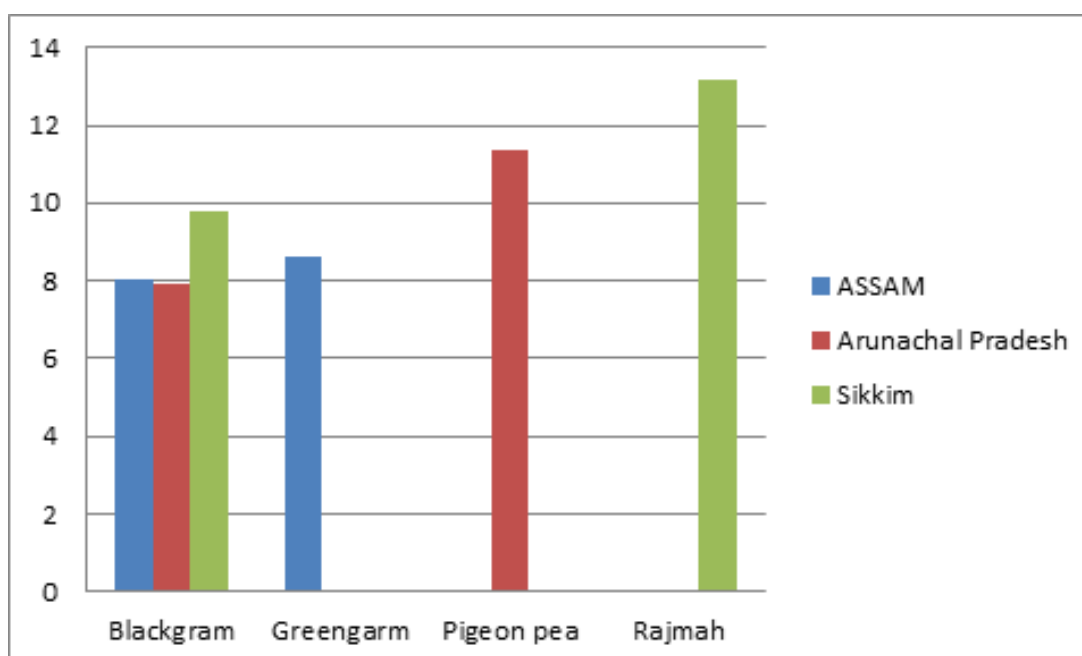


Fig 21: Average productivity of different pulses under CFLD on pulses

## 2.11. Rain Water Harvesting Structure

During 2023, 47 KVKs from its zone undertook some activities aimed at water conservation which was in consonance with the need to surmount the problem of water crisis posed by the vagaries of an ever changing and capricious climate. The rainwater harvesting structures were constructed to provide irrigation to *rabi* crops such as; linseed, vegetables etc. *Jalkunds* have been one of the most appropriate and efficacious means to meet the requirements of irrigation and have proven to be a boon to the farmers who have utilized *Jalkund* for the purpose of irrigation. More number of farmers are now inspired by this technology and there is a consensus to popularize and improvise this technology to benefit a greater swathe of the farming community. KVKs of the region have built several such rainwater structures at different

locations to cater the needs of the farmers and augment production. During 2023, as many as 10,14 and 2 training programmes and 5,4 and 2 demonstrations were carried out in Assam, Arunachal Pradesh and Sikkim respectively to impart the farmers with the basic techniques on construction and use of rainwater harvesting structures using locally available resources. This helped in the production of 17235, 18280 and 3256 numbers of planting materials in Assam, Arunachal Pradesh and Sikkim respectively. During the same period, a total of 1485 farmers of Assam, 547 farmers of Arunachal Pradesh and 237 farmers of Sikkim visited the KVKs and similarly 158, 23 and 15 no. of KVK staff of Assam, Arunachal Pradesh and Sikkim have visited from Assam and Arunachal Pradesh respectively to farmers field to guide the farmers about the efficient construction of the structures (Table 27)

**Table 26. Achievement of Rainwater harvesting structure 2023**

Sl. No.	State	No. of KVKs	No. of training Programme	No. of Demonstration	No. of Planting materials produced	Visit by farmers										Visit by KVK staff
						ST	SC	OBC	Gen	TOTAL	ST	SC	OBC	Gen	TOTAL	
1	Assam	26	10	4	18280	192	157	210	487	1046	135	61	103	140	439	158
2	Arunachal Pradesh	17	14	5	17235	293	0	0	0	293	254	0	0	0	254	23
3	Sikkim	4	0	2	3256	56	26	15	19	116	41	33	27	20	121	15
Grand Total		47	24	11	38771	541	183	225	506	1455	430	94	130	160	814	196

## 2.12 Soil and Water Testing

### 2.12.1. Sample analysis

As an addendum to the mandated activities, the KVKs under its zone during 2023 also aided the farmers by providing them facilities for laboratory based analysis of soil, water and plant samples. During the period KVKs analyzed a total of (2341) samples comprising of soil sample (2006), water sample (112) and plant sample (223). 584 numbers of soil sample, 10 numbers of water sample in Assam, 1018 numbers of soil sample, 102 number of water samples and 215 number of plant samples in

Arunachal Pradesh and 404 numbers of soil samples in Sikkim were analysed during the year 2023. In the process, a total of 367 villages were covered comprising of 173 villages in Arunachal Pradesh, 171 villages in Assam and 23 villages in Sikkim and as many as 2243 male farmers were benefited which includes 1001 male farmers from Assam, 982 male farmers from Arunachal Pradesh and 260 male farmers from Sikkim and 1463 female farmers were benefited which includes 662 female farmers from Assam, 701 female farmers from Arunachal Pradesh and 106 female farmers from Sikkim (Table 28).

**Table 27. Status of Soil & Water testing labs in KVKs under ICAR-ATARI, Zone VI during 2023**

Sl. No.	State Name	Samples tested/ Analysed	No. of Sample	Farmers beneficiary										Village covered
				Male					Female					
				ST	SC	OBC	Gen	TOTAL	ST	SC	OBC	Gen	TOTAL	Total
1	Assam	Soil sample	584	246	300	260	183	989	523	27	77	29	656	153
		Water sample	10	0	2	1	4	7	0	1	1	1	3	10
		Plant Sample	8	1	1	0	3	5	0	1	1	1	3	8
		Grand Total	602	247	303	261	190	1001	523	29	79	31	662	171
2	Arunachal Pradesh	Soil sample	1018	710	0	0	1	711	494	0	0	0	494	83
		Water sample	102	79	0	0	0	79	27	0	0	0	27	34
		Plant sample	215	192	0	0	0	192	180	0	0	0	180	56
		Grand Total	1335	981	0	0	1	982	701	0	0	0	701	173
3	Sikkim	Soil sample	404	117	17	120	6	260	78	7	57	2	144	23
		Grand Total	404	117	17	120	6	260	45	6	55	0	106	23
4	ICAR ATARI ZONE VI	Soil sample	2006	1073	317	380	190	1960	1095	34	134	31	1294	259
		Water sample	112	79	2	1	4	86	27	1	1	1	30	44
		Plant sample	223	193	1	0	3	197	180	1	1	1	183	64
		Grand Total	2341	1345	320	381	197	2243	1269	35	134	31	1469	367

**2.12.2. Soil Heath Cards (SHCs)**

This particular scheme envisages issuing soil health cards to farmers bearing the crop wise recommendations of nutrients and fertilizers required for the individual farms to help the farmers to improve productivity through judicious use of inputs. KVKs in the region tested

various soil samples in its soil testing labs and analyzed the soils for micronutrient deficiency and suggested measures to deal with it. As many as 2174 numbers of Soil Health Card (SHCs) were distributed to 2174 farmers on the event of World Soil Health Day on 5<sup>th</sup> December, 2023 and other farmers' programmes organized by KVKs in the region (Table 29).

**Table 28. State wise details of Soil- Health Cards (SHCs) distributed to the farmers during 2023**

Sl. No.	State	No. of KVKs	No. of SHC Distributed	No. of male farmer benefitted	No of female farmer benefitted
1	Assam	24	675	577	98
2	Arunachal Pradesh	12	1117	748	369
3	Sikkim	4	372	243	129
	<b>ICAR-ATARI Guwahati</b>	<b>40</b>	<b>2174</b>	<b>1568</b>	<b>596</b>

### 2.13 Kisan Mobile Advisory Services rendered by KVKs during 2023

During 2023, KVKs provided Kisan Mobile Advisory Services through the transfer of technologies by disseminating information, advices, solutions and suggestions to various agriculture related problems as well as ensuring the collection of feedback from the farmers for further assessment and refinement for generating location specific technologies. Under ICAR-ATARI, Zone VI, a total of 13505 messages were circulated benefitting 3239565 farmers (Table 30). As many as 3982 messages were circulated benefitting 3146354 numbers of farmers in Assam whereas in Arunachal Pradesh 4772 messages were circulated benefitting 80712 numbers of farmers followed by 4751 messages were circulated benefitting 11899 number of farmers in remote districts of Sikkim. The messages were mostly about crops, livestock, weather, marketing, awareness generation and other enterprises.

**Table 29. KMAS rendered by KVKs during 2023**

Enterprise	Type of message	No. of message	Assam										
			Male					Female					Grand Total
			ST	SC	OBC	Gen	TOTAL	ST	SC	OBC	Gen	TOTAL	
Crop	Text only	756	124147	46214	283742	427529	881632	52506	17246	80501	178736	328989	1210621
	Voice only	365	38	131	40	65	274	26	5	8	11	50	324
	Voice and text both	214	975	593	3621	3934	9123	401	189	1086	2001	3677	12800
	<b>Total</b>	<b>1335</b>	<b>125160</b>	<b>46938</b>	<b>287403</b>	<b>431528</b>	<b>891029</b>	<b>52933</b>	<b>17440</b>	<b>81595</b>	<b>180748</b>	<b>332716</b>	<b>1223745</b>
Live stock	Text only	294	40002	13783	54688	104115	212588	16730	6361	25004	47139	95234	307822
	Voice only	137	7	12	20	91	130	25	4	5	14	48	178
	Voice and text both	164	660	217	2775	1818	5470	234	46	769	548	1597	7067
	<b>Total</b>	<b>595</b>	<b>40669</b>	<b>14012</b>	<b>57483</b>	<b>106024</b>	<b>218188</b>	<b>16989</b>	<b>6411</b>	<b>25778</b>	<b>47701</b>	<b>96879</b>	<b>315067</b>
Weather	Text only	621	102018	18600	69175	154820	344613	51918	10565	44184	62562	169229	513842
	Voice only	27	17	2	5	17	41	1	1	1	2	5	46
	Voice and text both	236	1170	726	3813	4127	9836	296	163	1736	2003	4198	14034
	<b>Total</b>	<b>884</b>	<b>103205</b>	<b>19328</b>	<b>72993</b>	<b>158964</b>	<b>354490</b>	<b>52215</b>	<b>10729</b>	<b>45921</b>	<b>64567</b>	<b>173432</b>	<b>527922</b>
Marketing	Text only	96	13899	766608	8796	4575	793878	8391	2712	6054	2076	19233	813111
	Voice only	97	21	9	18	46	94	4	3	6	13	26	120
	Voice and text both	100	508	242	2360	2170	5280	38	26	328	559	951	6231
	<b>Total</b>	<b>293</b>	<b>14428</b>	<b>766859</b>	<b>11174</b>	<b>6791</b>	<b>799252</b>	<b>8433</b>	<b>2741</b>	<b>6388</b>	<b>2648</b>	<b>20210</b>	<b>819462</b>

Awareness	Text only	220	25760	8343	35068	18114	87285	12135	5234	18158	9284	44811	132096
	Voice only	120	22	14	26	35	97	10	3	9	12	34	131
	Voice and text both	106	1303	735	3193	3041	8272	309	495	1499	2102	4405	12677
	<b>Total</b>	446	27085	9092	38287	21190	95654	12454	5732	19666	11398	49250	144904
Other Enterprise	Text only	219	19277	6387	27049	15678	68391	9908	4081	12637	7091	33717	102108
	Voice only	112	9	28	19	13	69	2	5	16	7	30	99
	Voice and text both	98	970	952	4045	4113	10080	397	195	1194	1781	3567	13647
	<b>Total</b>	429	20256	7367	31113	19804	78540	10307	4281	13847	8879	37314	115854
	<b>Grand Total</b>	3982	330803	863596	498453	744301	2437153	153331	47334	193195	315941	709801	3146954

Arunachal Pradesh													
Enterprise	Type of message	No. of message	No. of beneficiary										
			Male					Female					Grand Total
			ST	SC	OCB	Gen	TOTAL	ST	SC	OCB	Gen	TOTAL	
Crop	Text only	1429	13511	3921	0	1024	18456	17947	6312	0	2260	26519	44975
	Voice only	790	873	0	0	0	873	895	0	0	0	895	1768
	Voice and text both	451	688	0	0	0	688	741	0	0	0	741	1429
	<b>Total</b>	2670	15072	3921	0	1024	20017	19583	6312	0	2260	28155	48172
Live stock	Text only	259	5303	0	0	0	5303	5818	0	0	0	5818	11121
	Voice only	232	233	0	0	0	233	306	0	0	0	306	539
	Voice and text both	100	170	0	0	0	170	167	0	0	0	167	337
	<b>Total</b>	591	5706	0	0	0	5706	6291	0	0	0	6291	11997
Weather	Text only	461	3804	0	0	0	3804	3969	0	0	0	3969	7773
	Voice only	0	0	0	0	0	0	0	0	0	0	0	0
	Voice and text both	0	0	0	0	0	0	0	0	0	0	0	0
	<b>Total</b>	461	3804	0	0	0	3804	3969	0	0	0	3969	7773
Marketing	Text only	75	760	0	0	0	760	598	0	0	0	598	1358
	Voice only	23	147	0	0	0	147	194	0	0	0	194	341
	Voice and text both	51	199	0	0	0	199	400	0	0	0	400	599
	<b>Total</b>	149	1106	0	0	0	1106	1192	0	0	0	1192	2298

Text only	270	2011	0	0	0	0	2011	3258	0	0	0	3258	5269
Voice only	162	275	0	0	0	0	275	273	0	0	0	273	548
Voice and text both	62	293	0	0	0	0	293	678	0	0	0	678	971
<b>Total</b>	<b>494</b>	<b>2579</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2579</b>	<b>4209</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4209</b>	<b>6788</b>
Text only	254	1664	0	0	0	0	1664	1637	0	0	0	1637	3301
Voice only	135	129	0	0	0	0	129	133	0	0	0	133	262
Voice and text both	18	51	0	0	0	0	51	70	0	0	0	70	121
<b>Total</b>	<b>407</b>	<b>1844</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1844</b>	<b>1840</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1840</b>	<b>3684</b>
<b>Grand Total</b>	<b>4772</b>	<b>30111</b>	<b>3921</b>	<b>0</b>	<b>1024</b>	<b>0</b>	<b>35056</b>	<b>37084</b>	<b>6312</b>	<b>0</b>	<b>2260</b>	<b>45656</b>	<b>80712</b>

Sikkim													
Enterprise	Type of message	No. of message	No. of beneficiary										
			Male					Female					Grand Total
			ST	SC	OBC	Gen	TOTAL	ST	SC	OBC	Gen	TOTAL	
Crop	Text only	102	471	39	88	62	660	686	73	196	111	1066	1726
	Voice only	340	130	11	29	53	223	86	6	9	16	117	340
	Voice and text both	271	543	40	190	0	773	344	20	100	0	464	1237
	<b>Total</b>	<b>713</b>	<b>1144</b>	<b>90</b>	<b>307</b>	<b>115</b>	<b>1656</b>	<b>1116</b>	<b>99</b>	<b>305</b>	<b>127</b>	<b>1647</b>	<b>3303</b>
Live stock	Text only	22	230	0	0	0	230	114	0	0	0	114	344
	Voice only	212	77	9	19	26	131	58	3	8	12	81	212
	Voice and text both	155	398	40	140	0	578	209	20	30	0	259	837
	<b>Total</b>	<b>389</b>	<b>705</b>	<b>49</b>	<b>159</b>	<b>26</b>	<b>939</b>	<b>381</b>	<b>23</b>	<b>38</b>	<b>12</b>	<b>454</b>	<b>1393</b>
Weather	Text only	63	258	39	88	62	447	538	73	196	111	918	1365
	Voice only	1587	396	31	259	293	979	213	11	138	246	608	1587
	Voice and text both	53	94	0	0	0	94	58	0	0	0	58	152
	<b>Total</b>	<b>1703</b>	<b>748</b>	<b>70</b>	<b>347</b>	<b>355</b>	<b>1520</b>	<b>809</b>	<b>84</b>	<b>334</b>	<b>357</b>	<b>1584</b>	<b>3104</b>

Marketing	Text only	1544	436	31	259	293	1019	236	11	138	246	631	1650
	Voice only	0	0	0	0	0	0	0	0	0	0	0	0
	Voice and text both	38	79	0	5	12	96	42	0	5	1	48	144
<b>Total</b>		1582	515	31	264	305	1115	278	11	143	247	679	1794
Awareness	Text only	46	115	0	5	12	132	69	0	5	1	75	207
	Voice only	0	0	0	0	0	0	0	0	0	0	0	0
	Voice and text both	80	65	20	48	14	147	24	10	29	5	68	215
<b>Total</b>		126	180	20	53	26	279	93	10	34	6	143	422
Other Enterprise	Text only	103	316	39	106	76	537	560	73	205	116	954	1491
	Voice only	48	30	0	0	0	30	18	0	0	0	18	48
	Voice and text both	87	168	5	46	3	222	89	4	29	0	122	344
<b>Total</b>		238	514	44	152	79	789	667	77	234	116	1094	1883
<b>Grand Total</b>		4751	3806	304	1282	906	6298	3344	304	1088	865	5601	11899

Table 30. Summary of KMAS rendered by KVKs during 2023

ICAR-ATARI, Guwahati												
Enterprise	Type of message	No. of message	No. of beneficiary									
			Male					Female				
			ST	SC	OBC	Gen	TOTAL	ST	SC	OBC	Gen	TOTAL
Crop	Text only	2287	138129	50174	283830	428615	900748	71139	23631	80697	181107	356574
	Voice only	1495	1041	142	69	118	1370	1007	11	17	27	1062
	Voice and text both	936	2206	633	3811	3934	10584	1486	209	1186	2001	4882
	<b>Total</b>	4718	141376	50949	287710	432667	912702	73632	23851	81900	183135	362518
												1275220

Live stock	Text only	575	45535	13783	54688	104115	218121	22662	6361	25004	47139	101166	319287
	Voice only	581	317	21	39	117	494	389	7	13	26	435	929
	Voice and text both	419	1228	257	2915	1818	6218	610	66	799	548	2023	8241
	<b>Total</b>	1575	47080	14061	57642	106050	224833	23661	6434	25816	47713	103624	328457
Weather	Text only	1145	106080	18639	69263	154882	348864	56425	10638	44380	62673	174116	522980
	Voice only	1614	413	33	264	310	1020	214	12	139	248	613	1633
	Voice and text both	289	1264	726	3813	4127	9930	354	163	1736	2003	4256	14186
	<b>Total</b>	3048	107757	19398	73340	159319	359814	56993	10813	46255	64924	178985	538799
Marketing	Text only	1715	15095	766639	9055	4868	795657	9225	2723	6192	2322	20462	816119
	Voice only	120	168	9	18	46	241	198	3	6	13	220	461
	Voice and text both	189	786	242	2365	2182	5575	480	26	333	560	1399	6974
	<b>Total</b>	2024	16049	766890	11438	7096	801473	9903	2752	6531	2895	22081	823554
Awareness	Text only	536	27886	8343	35073	18126	89428	15462	5234	18163	9285	48144	137572
	Voice only	282	297	14	26	35	372	283	3	9	12	307	679
	Voice and text both	248	1661	755	3241	3055	8712	1011	505	1528	2107	5151	13863
	<b>Total</b>	1066	29844	9112	38340	21216	98512	16756	5742	19700	11404	53602	152114
Other Enterprise	Text only	576	21257	6426	27155	15754	70592	12105	4154	12842	7207	36308	106900
	Voice only	295	168	28	19	13	228	153	5	16	7	181	409
	Voice and text both	203	1189	957	4091	4116	10353	556	199	1223	1781	3759	14112
	<b>Total</b>	1074	22614	7411	31265	19883	81173	12814	4358	14081	8995	40248	121421
	<b>Grand Total</b>	13505	364720	867821	499735	746231	2478507	193759	53950	194283	319066	761058	3239565



## 2.14. Creation of Seed Hubs for increasing indigenous production of pulses in the year 2023

In the relentless effort to augment the production of pulses in the region in the year 2023-2024, four KVKs under ICAR-ATARI, Guwahati were selected for creation of seed hubs

to fulfil the seed requirements of the farmers in the region. These KVK seed hubs produced as much as 2170.5 q of various pulse seeds such as; black gram (874.5), lentil (530q), rajmah (15q), Field pea (50 q) and green gram (86q) covering an area of 292.1 hectare during the period.

**Table 31: Performance of seed hubs for increasing indigenous production of pulses in 2023**

Report on Seed Hub 2023 (January 2023-December 2023)				
Name of KVKs/Center	Crop	Variety	Area (ha)	Seed Production (q)
Lakhimpur	Blackgram	AAU SBC 40	20	90
	Greengram	Soorya	0.1	1
Jorhat	Black Gram	SBC-40 (Shyamal)	40	225
	Green Gram	SGC-20	20	75
	Field Pea	HFP 715	10	50
Kamrup	Blackgram	SBC 40	60	547.5
	Lentil	PL 9	70	530
	Toria	TS 38	60	615
Karimganj	Greengram	IPU 02-43	3	10
	Blackgram	PU-31	4	12
	Rajmah	Kota & Arun	5	15
<b>Total</b>			<b>292.1</b>	<b>2170.5</b>

## 2.15. Swachhata Pakhwara, 2023

The Swachhata Pakhwara programme was observed with much aplomb and gaiety during the reporting period at ICAR-ATARI-Guwahati for a period of 11 days i.e. from 16<sup>th</sup> December to 31<sup>st</sup> December, 2023. The programme began on a thrifty note ushering in the oath taking ceremony in the presence of Dr. G Kadirvel, Director, ICAR-

ATARI, Guwahati. Various activities were taken up as part of the programme which mostly involved cleaning drive of the office premises, display of banner at prominent places, taking Swachhata pledge, briefing of the activities to be organized during the Pakhwada, plantation of trees etc. as mentioned in the table given below;

**Table: 32: Activities performed during 'Swachhata Hi Suraksha' 2023**

S. No.	Date	Activities	Total of all Eleven ATARIs		
			No. of KVKs involved	No. of Participants (Farmers/ Staffs/ other Participants)	No. of VIPs attended the program
1	16.12.2023	Display of banner at prominent places, taking Swachhata pledge, Stock taking & briefing of the activities to be organized during the Pakhwada, plantation of trees.	25	200	1
2	17.12.2023	Basic maintenance: Stock taking on digitization of office records/ e-office implementation. Cleanliness drive including cleaning of offices, corridors and premises. Review of progress on weeding out old records, disposing of old and obsolete furniture's, junk materials and white washing/ painting.	10	150	0
3	18.12.2023	Sanitation and SWM Encourage cost effective and appropriate technologies for ecologically safe and sustainable sanitation. Cleanliness and sanitation drive in the villages adopted under the Mera Gaon Mera Gaurav Programme and/ or other schemes by ICAR Institutes/KVKs involving village community. Reviewing the progress made under ongoing Swachhta activities including implementation of Swachhta Action Plan (SAP) & providing at the spot solutions.	41	1120	5

4	19.12.2023	Cleanliness and sanitation drive within campuses and surroundings including residential colonies, common market places. Stock taking of biodegradable and non-biodegradable waste disposal status and providing on the spot solutions.	45	1520	6
5	20.12.2023	Stock taking of waste management & other activities including utilization of organic wastes/ generation of wealth from waste, polythene free status, composting of kitchen and home waste materials. Promoting clean & green technologies and organic farming practices in kitchen gardens of residential colonies and at least one nearby village and proving on the spot technology solutions.	35	962	3
6	21.12.2023	Campaign on cleaning of sewerage & water lines, awareness on recycling of waste water, water harvesting for agriculture/ horticulture application/kitchen gardens in residential colonies/ 1-2 nearby villages.	45	1635	4
7	22.12.2023	Organising Workshops, exhibitions, technology demonstrations on agricultural technologies for conversion of waste to wealth, safe disposal of all kinds of wastes. Debate on Swachhata at the DARE/ ICAR establishments, Seminars, awareness camps, rallies, street plays and expert talks	46	1458	4

8	23.12.2023	Celebration of Special Day-Kisan Diwas (Farmer's Day)-23 December inviting farmers. Experience sharing on Swachhata initiatives by farmers and civil society officials. Felicitating farmers/ civil society officials for exemplary initiatives on Swachhata.	19	310	2
9	24.12.2023	Swachhta Awareness at local level (organizing Sanitation Campaigns involving and with the help of the farmers, farm women and village youth in new villages not adopted under any scheme by Institutes/ establishments.	28	265	0
10	25.12.2023	Cleaning of public places, community market places and/or nearby tourist/selected spots.	13	69	0
11	26.12.2023	Fostering healthy competition: Organising Webinar, VC meetings, competition and rewarding best offices/ residential areas/ campuses on cleanliness. Quiz, assay & drawing competitions for school children, village youth.	39	1254	10
12	27.12.2023	Massive community mobilization for Plastic Waste Shramdaan: Awareness on waste management & other activities including utilization of organic wastes/ generation of wealth from waste, polythene free status. Curb the use of Single Use plastic (SUP) and discourage the use of plastic in the office. Composting of kitchen and home waste materials, promoting clean & green technologies and organic farming practices in new area.	42	1358	9

13	28.12.2023	Campaign on cleaning of sewerage & water lines, awareness on recycling of waste water, water harvesting for agriculture/ horticulture application/kitchen gardens in residential colonies. Outside campuses/ nearby villages with the involvement of local/ village communities.	38	1121	5
14	29.12.2023	Visits of community waste disposal sites/ compost pits, cleaning and creating awareness on treatment & safe disposal of bio-degradable/ non-bio-degradable wastes by involving civil/ farming community.	33	954	6
15	30.12.2023	Involvement of VIP/VVIPs (Union Ministers, MPS and other dignitaries) in the Swachhta activities, Involvement of print and electronic media may be ensured so that adequate publicity is given to the Swachhta Pakhwada.	46	854	2
16	31.12.2023	Organization of press conference for highlighting the activities of Swachh Bharat Pakhwada by involving all stake holders including farmers/ VIPs/ press and electronic media.	20	55	0

## 2.16 Performance of Agricultural Technology Information Centre (ATIC)

There is only one Agricultural Technology Information Centre (ATIC) at Assam Agricultural University, Jorhat which is under the jurisdiction of ICAR-ATARI Zone VI, Guwahati. It was sanctioned in the year 1999 by Indian Council of Agricultural Research. The role of appropriate information and its dissemination to the farmers or other end users are very much vital. The important point is not only to generate the technology, but also to ensure that the required

information is delivered rapidly to the farmers with the least dissemination loss.

In the course of agricultural revolution, the availability of improved varieties of cereals, oilseeds, pulses and other crops, breeds of livestock including poultry and fisheries, horticultural planting materials and improved management practices have been largely possible for attaining food self-sufficiency despite population explosion. For this purpose, the farmers are in search of quality seeds, planting materials and other inputs, diagnostic

services, information through audio, video print and electronic media and consultancy services. Agricultural Technology Information Centre (ATIC) of AAU, Jorhat was providing such facilities of information for dissemination to the farmers as a single window delivery system. This service includes both for providing solution of location specific problems and making available all the technological information along with technological inputs and products.

#### Facilities available at ATIC, AAU, Jorhat

##### A. Technological products

1. Seeds of field crops, vegetable and other horticultural crops.
2. Nursery plants of vegetables, fruits and ornamental plants.
3. Bio-fertilizer
4. IPM-organic and bio-pesticides
5. Small farm implements
6. Tissue cultured plant materials

7. Processed products and by-products of cereals, oilseeds, pulses, vegetables, fruits, mushrooms including spawn, honey, milk, meat & fish etc.
8. Agricultural equipments and drawing of designs.
9. Vermi-culture and vermicompost.
10. Vaccine/diagnostic kit.

##### B. Information Facilities available at ATIC, AAU, Jorhat

1. Exhibition / technology museum
2. Touch screen kiosk
3. Cafeteria
4. Sales counter
5. Farmer's feedback register

During the year 2023, total numbers of farmers visited the ATIC was 4810 (Table 34).

**Table 33. Summary of the farmers visit to ATIC**

Year	Number of farmers		Total
	Male	Female	
2023	2886	1924	4810

##### B. Technological inputs sold

ATIC has sold processed products like tea. The products sold through ATIC in different periods wise given below (Table 34)

**Table 34. Input/products sold through ATIC in 2023**

Sl. No.	Item	Value
1	Tea (CTC)	159300
	<b>Total sale proceed</b>	<b>159300</b>

#### 2.17. Mera Gaon Mera Gaurav (MGMG)

Mera Gaon Mera Gaurav is a flagship programme of the Hon'ble Prime Minister of India which has been implemented through various KVKs to promote best farming practices among the farmers. During the period, a total of

47 functioning KVKs involved in the programme by adopting 208 numbers of villages. Under this programme, a total of 369 numbers of field demonstration on various agriculture and allied technologies as well as 268 training programmes for farmers and farm women were organized during 2023 (Table 36).

**Table 35. Achievements under Mera Gaon Mera Gourav (MGMG) during 2023**

Sl. No.	Name of State	No. of KVK	No. of villages covered	No of visit made	No. of Demonstration	No of farmers meetings	No of training	Total no of Beneficiaries
1	Assam	26	76	552	153	141	103	11049
2	Arunachal Pradesh	17	125	573	212	366	158	13961
3	Sikkim	4	7	37	4	7	7	4662
<b>ICAR-ATARI, Zone-VI, Total</b>		<b>47</b>	<b>208</b>	<b>1162</b>	<b>369</b>	<b>514</b>	<b>268</b>	<b>29672</b>

**2.18 Awards and Recognition**

Name of KVK	Name of Award/ Recognition	State Level/National Level/ Any Other	Date of received	Organization name
Golaghat	Second Best Prize in the Exhibition	State level	01.11.2023	AAU-Assam Rice Research Institute, Titabar
Kokrajhar	“Certificate of Appreciation” to Smti Porna Sarmah, SMS, Community science, KVK,Kokrajhar	Assam agricultural University, 26 <sup>th</sup> January 2024 on 75 <sup>th</sup> Republic day at Jorhat	26 <sup>th</sup> January 2024	Assam agricultural university, Jorhat
	“Best innovative article award” to Smti Porna Sarmah, SMS, Community science, KVK,Kokrajhar	Others	21 <sup>st</sup> April 2024	Agriculture & food: e-Newsletter
North Lakhimpur	Excellence in Extension Award	National	18 – 20 <sup>th</sup> December, 2023	International Conference on GRISAAS 2023 at UAS, Karnataka
	Poster Presentation Award	International	28 <sup>th</sup> September, 2023	Lakhimpur College of Veterinary Science, AAU
	Best Oral Presentation Award	National	6 – 9 <sup>th</sup> November, 2023	Indian Horticultural Congress, College of Veterinary Science, AAU, Khanapara
	Value Addition Award	State	7 <sup>th</sup> August, 2023	Department of Agriculture, Lakhimpur, Assam

Udalguri	Best KVK professional award	International	20/12/2023	Society of Extension Education, Agra
	Best stall prize presented by Commandant and All Ranks, 23 Bn SSB Lalpool, Assam	Regional	1/9/2023	SSB Lalpool
	Excellence in Extension Award	National	July 10 to 11, 2023	Agricultural Research council Nigeria, Mabushi, Abuja, Nigeria & National Agriculture Development Cooperative Ltd. Baramulla, India, held at Matrika Auditorium, Shri Mata Vaishno Devi University, Katra
	Best KVK Scientist Award	National	05.09.2023	SABUJEEMA An International Multidisciplinary E-magazine in association with SRW & SP Publishing
	Young Extension Scientist Award	National		Society of Fisheries and Life Sciences, College of Fisheries, Mangaluru, Karnataka
West Siang	Best KVK Professional Award received by Head KVK	National level	March, 2024	MOBILIZATION Society, IARI, New Delhi
	Woman Scientist Award Received by SMS(Plant Breeding)	National level	March,2024	Society for Conservation of Natural Resources, West Bengal
Karimganj	1 <sup>st</sup> Best Presentation Awards to Dr. P. Choudhury on the topic entitled "Egg type Native duck variety Nageswari of Barak Valley of Assam"	National Seminar organized (Online) on 27 and 28 October, 2023	28 October, 2023	Society of Kishi Vigyan
	DR.BP PAL MEMORIAL AWARD to Dr. P. Choudhury	1 <sup>st</sup> International Agriculture Conference on Natural Vs Organic Farming:in Context to Bharatiya Agriculture held during 24,25 and 26 December 2023 (Hybrid Mode)	26 December 2023	Gujarat Natural Farming and Science University, Anand



Kamrup	1 <sup>st</sup> best poster presentation to Mr. Mahabrata Das	National Fish Farmers' Day held on 10-11 July 2023	11 July 2023	College of Fishery (CAU, Imphal), Lembucherra, Tripura
	Letter of Appreciation for outstanding efforts in large scale seed production of Toria and Mustard	National	31.10.2023	ICAR-DRMR
	Best Presentation Award on Women Scientist on Plant Health Management	National	22 and 23 <sup>rd</sup> Dec, 2023	Indian Phytopathological Society
	Best Poster Presentation in the Asian Citrus Congress, 2023	National	28-30 October, 2023	Indian Society of Citriculture, Nagpur
	The certificate of Appreciation on Language, Cultures and Knowledge System of Assam	National	9th -14th October, 2023	Research and Development Cell, Internal Quality Assurance Cell, LCB College
	Certificate of Excellence in Reviewing	National	13.09.2023	International Journal of Plant and Soil Science
	Best Presentation Award on Introduction of sustainable turkey farming as an alternative means of livelihood in Kamrup District	National	27 <sup>th</sup> -28 <sup>th</sup> October, 2023	Society of Krishi Vigyan
	Certificate of Award in Oral Presentation on the topic Plant disease management approaches for organic cultivation of Ginger & Turmeric	National	24th 25th November, 2024	Indian Phytopathological Society
	Certificate of Appreciation for participating in organizing the 10 <sup>th</sup> Indian Horticulture Congress	National	06 <sup>th</sup> -09 <sup>th</sup> November, 2023	Indian Academy of Horticultural Science

## 2.19. Technology backstopping through Directorate of Extension Education

The Directorate of Extension (DEE) of Assam Agricultural University, Jorhat is providing technology backstopping to the KVKs through different activities at university level.

During 2023, a total number of 32 numbers of meetings and workshops were organized by DEE. To oversee the impact of agricultural technologies through KVKs, a total 20 scientists visited farmer's field. As many as 510 newspaper coverage and 4 radio talks were delivered by the experts for the benefits of the farmers.

**Table 36: Summary of monitoring and review of KVK activities by Directorate of Extension Education during 2023**

Sl. No.	Particulars	DEE, AAU Assam
1	No. of DEEs	1
2	No. of Workshops / meetings organized by DEEs	13
3	SAC meetings	23
4	Workshops / seminars	9
5	Training programmes	18
6	Others (Group discussions, interface meetings, field visits, review meetings etc.)	26
7	Monitoring of interventions	5
8	World soil day programme	1
9	Farmer Scientist Interaction	20
10	Exhibition	5
11	Special day celebration	12
12	Scientists visit to farmer's field	20
13	No. of farmers visit to DEE	6205
14	Diagnostics visit	10
15	Radio talk	4
16	Newspaper Coverage	10
17	Lectured delivered as resource person	18

The Directorate of Extension Education (DEE) of Assam Agricultural University, Jorhat provided various technologies. They also conducted 9 HRD programmes on technology

advancement and provided 5 research reports, extension booklets & leaflets, documentary films and provided 70 nos of farm advisories etc. through KVK.

**Table 37. Number of major technologies provided through KVKs**

Sl. No.	Major technologies provided	No of KVKs
1	HRD programmes on technology advancement	9
2	Research reports, Extension booklets & leaflets, Documentary films provided	5
3	Fam Advisories	70

## 3.0

## RESEARCH AND DEVELOPMENT PROJECTS

## 3.1. Externally funded projects

## 3.1.1 National Innovation on Climate Resilient Agriculture-Technology Demonstration Component (NICRA-TDC)

Under ICAR-ATARI, Zone VI, a total of nine KVKs have been conducting NICRA-TDC programme during 2023. Out of the nine KVKs, three KVKs i.e. one from Assam (KVK Dhubri), one from Arunachal Pradesh (KVK West Siang) and one from Sikkim (KVK East Sikkim) has been implementing NICRA-TDC programme since 2011 and the remaining KVKs i.e. KVK Darrang, KVK Dhemaji and KVK Nalbari from Assam, KVK Namsai and KVK East Siang from Arunachal and KVK South Sikkim from Sikkim started NICRA-TDC program during 2021-22. These KVKs had demonstrated different climate resilient technologies covering areas of natural resource management, crop production, livestock, poultry, fishery and institutional interventions in the adopted villages. Different farming system typologies covered were Rainfed with animals, Rainfed without animal, Irrigated with animal, Rainfed low land, Rainfed medium

land with animal, Irrigated medium land with animal, Rainfed upland. Under each typologies, different intervention were taken up such as low cost raised based vermicomposting unit, Soil health improvement through vermicomposting in cole crops, King chilly and tomato cultivation in low-cost polyhouse, zero – tillage cultivation of potato, *Jalkund* for life saving irrigation and vermicomposting were also done by the KVK. Submergence tolerant rice variety 'Ranjit Sub 1', 'Bahadur Sub 1' in rice - toria cropping system in flash flood affected areas.

The NICRA KVK has covered a total of 17 villages under 22 no of different typologies. Through the NICRA village KVK has covered 275.24 ha area under crops & vegetables and 144 unit in case of vermicompost & livestock component by covering 898 nos of farmers. Besides these KVK has also conducted different institute interventional programme like training, capacity building, awareness, extension activity for the benefit of farmers. With the help of capital grant all the 9 KVK has established Custom Hiring Centres where different types of equipment are available for farming community.



Fig 22: Jalkund for rabi vegetables



Fig 23 : Zero-tillage potato cultivation in rice-fallow





Fig 24 : Backyard poultry rearing



Fig 25 : Demonstration of Boro rice



Fig 26 : Oyster Mushroom production



Fig 27: Input distribution programme

### 3.1.2 Natural Farming

The natural farming project was started in the year of 2023. During this period, a total of 127 number of awareness programme, 141 numbers of training programme and 179

number of demonstration was conducted in three states namely Arunachal Pradesh, Assam and Sikkim. In total 5839 numbers of people were sensitized through mass awareness regarding the importance of natural farming.

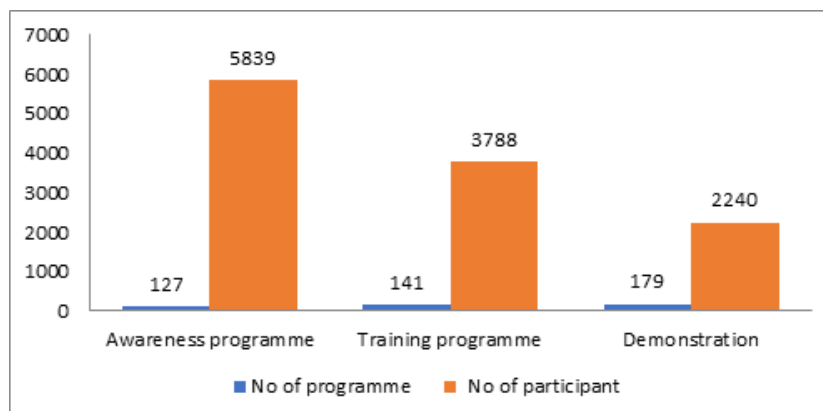


Fig 28: Total no of programme conducted and participant under Natural farming during 2023

### 3.1.3. Attracting and Retaining Youths in Agriculture (ARYA)

ARYA, one of the important flagship programme of Govt. of India focuses on entrepreneurial activities, income generation and capacity building which largely benefits the unemployed rural youth. Five KVKs under the zone viz. KVK Karbi Anglong, KVK Kokrajhar, KVK Lakhimpur, KVK North Sikkim and KVK East Siang are working under ARYA.

In Assam, the different enterprises undertaken by the KVKs in their selected villages were ; pineapple cultivation, piggery, poultry rearing, ericulture, stevia & tapioca cultivation and mushroom production. A total of 12 numbers of training programmes were conducted under ARYA benefitting rural youths. Also 12 numbers of On-farm training, 11 awareness programme and 164 advisory services were also provided during the year 2023 which benefited 105 numbers of rural youths. A total of 37 demonstrations were conducted and critical inputs (chicks, piglets, feed, vaccines, mushroom spawn and pineapple suckers) were provided.

In Arunachal Pradesh, the enterprises undertaken by the KVKs in their selected villages

were; poultry rearing, protected cultivation and fish hatchery. A total of 7 numbers of training programmes were conducted under ARYA for the benefit of rural youths. Also 1 numbers of On-farm training, and 35 advisory services were provided during the year 2023 which benefited 180 numbers of rural youths. Apart from that, 16 demonstrations were also conducted.

In Sikkim, the enterprises undertaken by the KVKs in their selected villages were; walk in tunnel farming, mushroom production, piggery and poultry rearing. A total of 2 numbers of training programmes were conducted under ARYA benefitting 30 rural youths. A total of 4 demonstrations were conducted and critical inputs (piglets, chicks, feed, vaccines, polythene and mushroom spawn) were also provided.

#### Impact of the ARYA Project

During the year 2023, the average annual income of the youth has been increased by Rs.463600.00. A total of 21 numbers of trainings, 22 awareness programmes, 344 advisory services and 55 demonstrations were conducted under ARYA by the KVKs of Zone VI, benefitting 450 numbers of rural youth in the zone (Table 40)

**Table 38 : Various activities conducted under ARYA for the year 2023**

Sl. No.	Name of the KVK	No. of training conducted	No. of on-farm training conducted	No. of awareness programmes conducted	No. of advisory services provided	No. of demonstrations conducted	No. of rural youth benefitted	Increase in annual income after implementation of ARYA (in Rs.) (approx.)
<b>ASSAM</b>								
1	Karbi Anglong	5	5	7	32	12	12	6,00,000.00
2	Kokrajhar	4	4	4	107	16	80	8,00,000.00
3	Lakhimpur	3	3	-	25	9	13	7,00,000.00
<b>Total</b>		12	12	11	164	37	105	21,00,000.00
<b>ARUNACHAL PRADESH</b>								
4	East Siang	7	1	-	35	16	180	50000.00
<b>Total</b>		7	1	-	35	16	180	50000.00
<b>SIKKIM</b>								
5	North Sikkim	2	2	-	4	2	30	1,68,000.00
<b>Total</b>		2	2	-	4	2	30	1,68,000.00





**Fig 29 : Eri spinning unit under ARYA project**



**Fig 30 : Piggery Production under ARYA Project**



**Fig 31 : Mushroom production under ARYA project**



**Fig 32: Pineapple production under ARYA**

#### 3.1.4. Farmer FIRST Programme

The Farmer FIRST programme of ICAR is presently being implemented by Assam Agricultural University, Jorhat entitled "Participatory technology assessment for enhancing farming system productivity and developing entrepreneurship for sustainable livelihood, under ICAR-ATARI, Zone VI Guwahati. The project initially implemented in four villages namely Paninora, Shyam Gaon, Khamjongia and Dangdhora of Titabor had been expanded including additional four villages, viz. Bolimora, Bagichachuk, Hazarijachuk and Eragaon of Nakachari under Titabor subdivision of Jorhat district.

Baseline and PRA survey conducted during the initial year of the implementation of the project revealed that the farmers in the

project site belong primarily to marginal and small categories with very few belonging to semi-medium with the large majority being resource poor farmers. The demography of the village cluster was found to be of diverse ethnicity, religion and language like Mishing tribe, Tea Garden Workers, Tai Khamyang Buddhists, Sonowal and Thengal Kachari, Tai Ahoms etc. with 40 per cent of the total population being ST (P) while about 50 per cent falling under Other backward classes (OBC) and smaller proportion belonging to the unreserved categories. The farmers of the villages were mostly high school drop-outs. Agriculture scenario was found to be basically mono-cropped with *sali* rice being the main crop. Several traditional rice varieties dominated the farmers filed with hardly any seed replacement. Among the improved varieties, *Ranjit* was found to be most predominant.

**Table 39. Achievements of Farmer FIRST Programme (FFP) 2023-24**

NRM Module		Crop Module		Horticulture Module		Livestock & Poultry			Extension Activities	
Demonstrations	No. Farm Families	Demonstrations	No. Farm Families	Demonstrations	No. Farm Families	Demonstrations	No. Farm Families	No. of Animals	No. of prog	Farmers
2	33	3	102	4	60	2	394	5100	11	304

**Fig 33: Mushroom Spawn Production Unit****Fig 34: Distribution of premium scented rice seeds****Fig 35: Hands on training of mushroom spawn production****Fig 36: Potato cultivation in rice-fallow**

## 4.0

## PUBLICATIONS

Table 40 : List of publications

Sl No	Type of material: book/ bulletin/success story etc.	Title of the publication	Journal Name	Name of author(s)
1	Research Article	Ethnoveterinary practices amongst tribal pig farmers in Karbi Anglong district of Assam, India	Indian Journal of Traditional Knowledge	Monuj Kumar Doley, Subal Maibangsa, Neethi Baruah, Manoranjan Neog, Janmoni Shyam, Ritam Hazarika and Prasannan Kumar Pathak
2	Research Article	Isolation and Molecular Characterization of <i>Riemerella anatipestifer</i> from Domesticated Ducks of Assam, India	Indian Journal of Animal Research	M K Doley, Ritam Hazarika, S Das, R K Sharma, P Borah, D K Sarma,
3	Research Article	Adaptation of vaccine strain of duck plague virus in chicken embryo fibroblast cell culture	Indian Journal of Animal Sciences	M Doley, S K Das, N N Barman and G Rajbongshi
4	Research Article	Isolation and molecular identification of <i>Riemerella anatipestifer</i> from ducks in Assam	Indian Journal of Animal Research	Ritam Hazarika, M K Doley, S Das, R K Sharma, P Borah, D K Sarma
5	Research Article	<i>Clostridioides difficile</i> in food and food products of animal origin in Assam, India	Anaerobe	R Hazarika, H Sarmah, M K Doley, D P Saikia, G Hazarika, L M Barkalita
6	Research Article	Characterization of <i>Pasteurella multocida</i> and <i>Riemerella anatipestifer</i> of Ducks in Assam, India	Indian Journal of Animal Research	B Borah, R Hazarika, P Deka, D P Saikia, M K Doley, S Sinha, R K Sharma
7	Research Article	Quality analysis of Assam Lemon ( <i>Citrus limon</i> L.) through HPLC after application of plant growth regulators	AMA, Agricultural Mechanization in Asia, Africa and Latin America	Sukanya Gogoi , Utpal Kotoky , Saurav Baruah



8	Research Article	Processing technologies of various ethnic fish products consumed in Asian countries: a review	Indian Journal of Traditional Knowledge	Kapil Deb Natha, Deepayan Royb & Sankar Chandra Dekaa,*
9	Research Article	Research Article Preparation, Characterization, and Nutritional Analysis of Napham: An Indian Traditional Smoke-Dried-Fermented Fish Paste	Hindawi Journal of Food Biochemistry	Kapil Deb Nath , C. Nickhil , Debasish Borah , R. Pandiselvam , and Sankar Chandra Deka
10	Research Article	Evaluation of the German Angora Rabbit Fiber Produced in the Northeast Region of India	Journal of Natural Fibers	Sanchita Biswas Murmu, Sanjoy Debnath & Chewang N. Bhutia
11	Research Article	Morpho-molecular variability of different isolates of Ustilagonoidea virens causing false smut of rice	Archives of Phytopathology and Plant Protection	Thapa, S., Mahapatra, S., Baral, D., Chatterjee, A., Shivakoty, P., Subba, B., & Das, S.
12	Research Article	Emergence of a novel genotype of class II New Castle Disease virus in North Eastern States of India	Gene Volume 864, 15 May 2023, 147315	Tridib Kumar Rajkhowa , Doris Zodinpuui , Lhaki Doma Bhutia , Sikder Jabidur Islam , Amrit Gogoi , Lalthapuii Hauhnar, J Kiran , Om Prakash Choudhary
13	Research Article	An analytical study on growth performance of major food grain and oil seed crops in the context of Food Security: Rajasthan, India	Indian Journal of Agricultural Research	Devendra Kumar Verma, Nikita Khoisnam, Guneshori Maisnam, Ranjit Subba & Sudarshan C. Awatade
14	Research Article	Evaluation of Nymphaea nouchali leaf meal based diets on growth, digestive enzymes and haematological parameters of Labeo Catla fingerlings (Hamilton, 1822)	Journal of Environmental Biology	B. Daflari , P. Saharia , A. Talukdar , S. Baishya , D. Sarma , K. Bhagawati , B. Bordoloi , P. Saikia , J. Thakuria

15	Research Article	Footandmouth diseaseassociated myocarditis is age dependent in suckling calves	Scientific Reports	Pankaj Deka 1*, Sangeeta Das 1*, Ritam Hazarika 1, Ray Kayaga 2, Biswajit Dutta 1, Abhijit Deka 1, Utpal Barman 1, Rofique Ahmed 1, Nazrul Islam 3, Mihir Sarma 1, Ilakshy Deka 4, Manoranjan Rout 5, Krishna Sharma 1 & Rajeev K. Sharma
16	Research Article	Destructive Phytophthora on orchids: current knowledge and future perspectives	Frontiers in Microbiology	Tusar Kanti Bag 1*, Pranab Dutta 2*, Manjunath Hubballi 3, Ravpreet Kaur 1, Madhusmita Mahanta 2, Ardhendu Chakraborty 4, Gitasree Das 5, Madhusmita Katakya 6 and Rajesh Wonghonde
17	Research Article	Comparative study of Biochemical attributes in Khasi Mandarin (Citrus reticulata) among different districts of Assam	Agricultural mechanization in Asia, Africa and Latin America	Dorodi Priyom Duarah1*, Subhankar Saha2, Tasvina R. Borah3, Munmi Bora1, Dibosh Bordoloi4, Rajendra. P. Das5, Utpal Kotoky5
18	Research Article	Economic and Sustainable Appraisal of Organic Grower Through No – Till Garden Pea (Pisum sativum) under Rice (Oryza sativa) – fallow.	Indian Journal of Agricultural Sciences	Manoj Kumar, Raghavendra Singh, R. K. Avasthe, P.K. Pathak and J.K Singh
19	Research Article	Thermal Stress Impaired Expression of Insulin like Growth Factor Binding Proteins in Pig.	Indian Journal of Animal Sciences	Borah, S., Soren, S., Talukdar, R., Kalita, L., Pame, K., Nath, A.J., Borah, B., Pathak, P.K. & Bhattacharyya, B.N.
20	Research Article	Exploring Possibilities of Potato cultivation in Rice - Fallow of Sikkim	Journal Of Agri Search	Manoj Kumar, Raghavendra Singh, R. K. Avasthe, P.K. Pathak and J.K Singh

## 5.0

## PARTICIPATION IN MEETINGS/WORKSHOPS

Table 41 : participation in meetings

Sl. No	Duration and date	Purpose of attending meeting
1	10-02-2023 to 12-02-2023	To participate in the Zonal Monitoring Committee activities from 11 <sup>th</sup> -12 <sup>th</sup> February, 2023 at CRIDA, Hyderabad.
2	15-02-2023 to 23-02-2023	To attend Natural Horticulture Fair on 22 <sup>nd</sup> to 23 <sup>rd</sup> February, 2023
3	03-03-2023 to 06-03-2023	To attend the Annual Conference of VCs & Directors of ICAR Institutes at New Delhi
4	21-03-2023 to 22-03-2023	To attend the Millet Mela and Stakeholder's Convergence Workshop on 21 <sup>st</sup> March, 2023.
5	21-04-2023 to 24-04-2023	To attend the NICRA TDC Review cum Action Plan Workshop at KVK South Sikkim
6	28-05-2023 to 31-05-2023	To attend the Review meeting & Interface meeting on 29 <sup>th</sup> & 30 <sup>th</sup> May 2023 at Itanagar.
7	08-06-2023 to 09-06-2023	To attend the National Conference at ICAR-Research complex for NEH Region, Umiam, Meghalaya.
8	29-06-2023 to 01-07-2023	<ol style="list-style-type: none"> <li>1. To attend the interactive meeting with Vice Chancellor, DEE and Comptroller on Technology Back-stopping of KVKs of Assam</li> <li>2. Implementation of different central scheme through KVKs.</li> <li>3. New initiative on collaboration of research project.</li> <li>4. To Visit the KVK Jorhat</li> </ol>
9	20-07-2023 to 22-07-2023	To attend the Annual Zonal Workshop of Krishi Vigyan Kendras (KVKs) under ICAR-ATARI, Zone-VII on 21 <sup>st</sup> July, 2023 at NRC on Mithun, Medziphema, Nagaland
10	03-08-2023 to 09-08-2023	<ol style="list-style-type: none"> <li>1. To attend the RAC meeting on 4<sup>th</sup>- 6<sup>th</sup> August, 2023.</li> <li>2. To attend the Millet "Recipe contests" meeting at Krishnaguri KVK on 07<sup>th</sup> August, 2023.</li> </ol>
11	25-08-2023	<ol style="list-style-type: none"> <li>1. To attend the interaction meet with farmers. of Morigaon, Assam</li> <li>2. To monitor the Morigaon KVK of ongoing Frontline demonstration (FLD).</li> </ol>
12	26-08-2023	To attend the Foundation Stone Laying Ceremony of the Administrative Building of Krishi Vigyan Kendra, Darrang
13	03-09-2023 to 04-09-2023	To attend the site selection committee visit to Longding, Arunachal Pradesh.

14	06-09-2023 to 08-09-2023	<ol style="list-style-type: none"> <li>1. Discussion on community based ecosystem service in the tribal farming NEHU, Tura, Meghalaya.</li> <li>2. Delivering lecture under NAHEP to Community Science College Tura &amp; discussion on ecosystem service.</li> </ol>
15	14-09-2023 to 20-09-2023	<ol style="list-style-type: none"> <li>1. To attend the Interactive meeting on Technology application research and Demonstration, vibrant village programme, zero hunger village on 15<sup>th</sup> &amp; 16<sup>th</sup> September, 2023.</li> <li>2. To attend the Millet Recipe Contest and Vibrant Village Programme on 17<sup>th</sup> September, 2023 at KVK East Kameng</li> <li>3. To attend the Millet Recipe Contest and Vibrant Village Programme on 18<sup>th</sup> September, 2023 at KVK Tawang.</li> <li>4. Visit to KVK Sonitpur for official purpose on 20<sup>th</sup> September, 2023</li> </ol>
16	25-09-2023 to 27-09-2023	To attend the National Conference on Agriculture for Rabi Campaign on 26 <sup>th</sup> September, 2023 at A.P. Shinde Symposium Hall, NASC Complex, Pusa, new Delhi.
17	05-10-2023 to 06-10-2023	To attend the Round table discussion on Pulses scheduled to be held on 5 <sup>th</sup> October, 2023 at Committee Room No.142, Krishi Bhawan, New Delhi.
18	09-10-2023 to 13-10-2023	To participate the 16 <sup>th</sup> Agriculture Science Congress Expo during 10 <sup>th</sup> to 13 <sup>th</sup> October, 2023 at Kochi.
19	07-11-2023 to 09-11-2023	<ol style="list-style-type: none"> <li>1. To attend the Annual review workshop of National Innovations in Climate Resilient Agriculture (NICRA) meeting from 8<sup>th</sup> to 9<sup>th</sup> November, 2023 at NASC Complex, New Delhi.</li> <li>2. Discussed on the EFC allocation budget and other related project with Director of Agric</li> </ol>
20	25-11-2023 to 30-11-2023	To attend the National Workshop of Farmers FIRST Programme (FFP) held at CSKHPKV, Palampur during 28 <sup>th</sup> to 30 <sup>th</sup> November, 2023.
24	11-12-2023 to 13-12-2023	To attend the CAU-Regional Agri Fair-2023-24 on the theme "North East India Farmers Conclave" as a "Co-Chair" during Technical Session-3 on the topic "Circular Economy in Agri & Allied Sector" on 13 <sup>th</sup> December, 2023 at State Agril Expo, 4 <sup>th</sup> Mile, Chumoukedima, Dimapur, Nagaland.

## 6.0

## WORKSHOPS/TRAINING AND CAPACITY BUILDING PROGRAMMES

The Director and the Scientist of ICAR-ATARI, Guwahati made a number of monitoring visits to the KVKs of three North-Eastern States during 2023. Different officials from the Council, Agricultural Universities, Research Institutes and other developmental agencies also made visits to KVKs to review and monitor the ongoing mandated activities of KVKs in the region. The ICAR-ATARI, Guwahati during 2023 organized

various programmes for KVK Staff, Rural Youth and Agri-preneurs of the region in collaboration with KVKs and other institutions like College of Veterinary Science, AAU, Khanapara and Assam Agricultural University, Jorhat, Assam. Besides extension and research prioritization, review of progress of KVK activities and action plan formulation programs were also organized by this institute during the year.

**Table 42: Meeting/workshops conducted during 2023**

Sl. No.	Title of Training	Venue/Duration	Date	Total Participants
1	Review Meeting of ARYA and Farmer FIRST by Video conference by ( Google Meet APP)	ICAR-ATARI Zone-VI, Kahikuchi, Guwahati, Assam	10.01.2023	13
2	Review meeting of Natural Farming Project by Video conference by ( Google Meet APP)	ICAR-ATARI Zone-VI, Kahikuchi, Guwahati, Assam	18.01.2023	27
3	6th Institute Management Committee (IMC) Meeting of ICAR-ATARI, Zone-VI, Guwahati (Virtual Mode) by Video conference by ( Google Meet APP)	Conference Hall, ICAR-ATARI Zone-VI, Kahikuchi, Guwahati, Assam	08.02.2023	10
4	Annual Action Plan Workshop	Conference Hall, ICAR-ATARI Zone-VI, Kahikuchi, Guwahati, Assam	27.02.2023 to 28.02.2023	70
5	Review cum Annual Action Plan workshop of NICRA TDC Krishi Vigayan Kendra 2023	KVK South Sikkim	22.04.2023 to 23.04.2023	25

6	World Intellectual Property Day 2023	Conference Hall, ICAR-ATARI Zone-VI, Kahikuchi, Guwahati, Assam	26.04.2023	30
7	MoU Coconut Development Board	Conference Hall, CPCRI Campus	26.04.2023	20
8	Workshop cum Tanning programme of integrated management ganoderma disease of Arecanut	CPCRI	26.04.2023 to 27.04.2023	35
9	A Convergence Meeting on Coconut Development Board Scheme through KVKs. Hybrid mode (Online/Offline)	Conference Hall, ICAR-ATARI Zone-VI, Kahikuchi, Guwahati, Assam	11.05.2023	25
10	Review cum interface meeting of KVKs Arunachal Pradesh	State Banquet hall, Itanagar, Arunachal Pradesh	29.05.2023 to 30.05.2023	82
11	World Environmental Day 2023	Conference Hall, ICAR-ATARI Zone-VI, Kahikuchi, Guwahati, Assam	05.06.2023	50
12	Orientation Training Programme for newly recruited SMSs of Arunachal Pradesh	Conference Hall, ICAR-ATARI Zone-VI, Kahikuchi, Guwahati, Assam	03.07.2023 to 07.07.2023	50
13	VI Annual Zonal Workshop for KVKs	Assam Administrative Staff College, Khanapara	06.07.2023 to 07.07.2024	100
14	Meeting held with CPCRI & CDB	Conference Hall, ICAR-ATARI Zone-VI, Kahikuchi, Guwahati, Assam	12.09.2023	08
15	World Environment Day 5 June 2023	Conference Hall, ICAR-ATARI Zone-VI, Kahikuchi, Guwahati, Assam	05.06.2023	50
16	07th Institute Management Committee (IMC) Meeting of ICAR-ATARI, Zone-VI, Guwahati (Virtual Mode) by Video conference by ( Google Meet APP)	Conference Hall, ICAR-ATARI Zone-VI, Kahikuchi, Guwahati, Assam	03.11.2023	





**Fig 37 : Review meeting of KVKs of Arunachal Pradesh at Itanagar, Arunachal Pradesh**



**Fig 38: Dr. Himanshu Pathak, Secretary, DARE & DG-ICAR, visited ICAR-ATARI, Zone-VI, Guwahati**



**Fig 37 : Review meeting of KVKs of Arunachal Pradesh at Itanagar, Arunachal Pradesh**



**Fig 38: Dr. Himanshu Pathak, Secretary, DARE & DG-ICAR, visited ICAR-ATARI, Zone-VI, Guwahati**



**Fig 41 : 6<sup>th</sup> Annual Zonal Workshop for KVKs under ICAR – ATARI, Zone – VI**



**Fig 42. Celebration of World Environment Day at ICAR-ATARI, Guwahati**



**Fig 43 : Celebration of 77<sup>th</sup> Independence day at ICAR-ATARI, Guwahati**