

Proceedings of 16th Scientific Advisory Committee (SAC) Meeting

Venue: Training Hall, KVK West Khasi Hills

Date: 19th December, 2024

Time : 11: 30 a.m

Introduction

The meeting was presided over by Chairperson, Shri. Canning Shabong, Jt. Director, Department of Agriculture and Farmers' Welfare, Govt. of Meghalaya. Also, present included Dr. A. K. Mohanty, Director ATARI- Zone VII, Officers and representatives of Line Department of the District, Progressive farmer, Farm woman, representative of KVK East Khasi and West Jaintia Hills (*Annexure 1*) and the staffs of KVK West Khasi Hills. Firstly, the Chairman requested an introduction of all the participants of the meeting. This was then followed by presentation of the Annual Progress Report for 2024 by respective Subject Matter Specialist (SMS), KVK, West Khasi Hills, Nongshillong. Thereafter, each presentation was followed by Discussion.

Welcome speech

Smt. Vereena J. Lyngdoh, Senior Scientist and Head of KVK West Khasi Hills delivered a warm welcome address and highlighted the importance of SAC meeting.

Presentation Annual Progress Report (APR) 2024

The Subject Matter Specialists presented their respective Annual Progress Report 2024, summarizing key accomplishments, training programs, demonstrations and ongoing activities.



Discussion and Recommendations

On Farm Trials (OFT)

Horticulture

Regarding the OFTs on Low cost plastic tunnels, Dr. A.K. Mohanty inquired about the minimum temperature under open condition in comparison with the intervention and its effect on the crop growth. He advised about highlighting the difference in temperature in and out of polytunnel, to which SMS Horticulture responded about the range of temperature observed under protected cultivation and on how the temperature affects at various stages that were observed: such as flowering stage, effects on the crop yield and any other physiological attributes affected. These recorded data should be shown during Annual Zonal Workshop (AZW) all data should be given about the improvement. As the OFT will be carried out in the following year (under AAP), he advised that such observations affecting the yield may be continued to be taken up at Farmers' field for adequate scientific backup and may be taken up at KVK Farm.

Shri. Canning Shabong mentioned that many polyhouse units that were provided under various schemes have suffered low maintenance, damages leading to abandonment by farmers. SMS Horticulture



emphasized on how the tunnels that were established under these OFTS were designed to last longer as the frame of the tunnels was not of the conventional bamboo frame. She further requested that with the support and assistance of the State Department, every household can own such units if included into a state scheme and replicated in farmer's field.

Extension

Dr. A. K. Mohanty mentioned about the interface meet previously given for Extension discipline on how to carry out the mandated activities such as undertaking entrepreneurial aspects of any product that has been developed under other disciplines. This can be done to find out about the consumer response, market potential, adoption scale of that product by utilizing extension model viz., pluralistic extension model,

commodity based extension model, cost sharing extension model, etc. and the results can be present to the State Department for validation.

Front Line Demonstrations (FLD)

Agronomy

Regarding the activities under Natural Farming, Shri. Canning Shabong inquired about the success of disease and pest management, yield output, farmer's acceptability and the result through Natural Farming practices. Kum. Mesaya R. Marak SMS informed that there are few promising farmers who have taken up Pea (*Pisum sativum*) cultivation under natural farming. Pea was taken up since it is a leguminous crop, hence, it is less nutrient exhaustive. Seed treatment with Beejamruth is undertaken for resistance against seed borne and soil borne diseases and Jeevamruth is applied as biofertilizer as well as for disease and pest management.

Further, he expressed that in his assessment and findings on Natural Farming in North Garo Hills District indicate lower yield, disease and pest problems etc,. Furthermore, he added that nutrient management is not feasible leaving huge room for refinement for its adaptability under Meghalaya condition which can be undertaken by KVK. Kum. Mesaya R. Marak, SMS Agronomy acknowledged that few farmers under the Meghalaya State Rural Livelihoods Society (MSRLS) in Umkrem Village have successfully undertaken natural farming in seasonal vegetables and rice crop.

Dr. A. K. Mohanty, emphasized that there should be scientific evidence involving KVK field data that specify at which stage natural farming is not adaptable. Since it is a nationally driven policy, he suggested that for policy marking, proper OFT should be done with sufficient data and scientific backup for defending the statements scientifically.

Horticulture

Shri. Canning Shabong guaranteed that regarding Value Addition/ Food Processing, The Directorate of Food Processing has dedicated manpower for co-ordinating specialized trainings and other capacity building activities. Therefore, farmers should be linked with technology providers and associated institutes to encourage farmer motivation and income generation. It is also crucial to create awareness of loans, training at designated institutes, viz., College of Home Science, Tura, Central Food Technological Research Institute (CFTRI), Mysore for value addition of various farm produce so farmers will be exposed to industry level production not restrict to home scale production. He also suggested value addition of chow chow into 'peda', a value added product similar to gourd as a good enterprise.

Dr. A. K. Mohanty suggested the that technology for tutti frutti value addition of chow chow with proper citation of the source of technology needs to be further popularized as it is promising. This will help to highlight the work done by the KVK with due credit. Since the marketing of fresh chow chow is not very

promising, value addition should be further encouraged along with packaging, licencing and branding initiatives. Product analysis can be done by collaborating with the Institute of Bioresource and Sustainable Development (IBSD), Shillong. This can then be transferred to women Self Help Groups (SHGs) or Farmer Producer Organization (FPOs) after a thorough training and guidance from KVK. Regarding any capacity building and other works sought out by the CBBOs, of the FPOs there should be an official letter circulated to establish the intellectual contribution of the KVK. Such steps are to be taken up to showcase impact through KVK and claim the product copyright.

Regarding scientific beekeeping, Shri. Canning Shabong advised on working in co-ordination with the established the Bee cluster and engaging their master trainer who is thoroughly equipped with good practical knowledge. Farmers should be trained in processing and value addition rather than on the rearing aspects of beekeeping, he also suggested to link up with District Horticulture Office for combined benefits through the Bee cluster and Apiculture Mission scheme of the department.

Dr. A. K. Mohanty suggested to not undertake scientific beekeeping as FLD but only as a training activity as it is already taken up by the State Department under different schemes. Other new technologies in beekeeping can be taken up, if any.

Training Programmes

Dr. A. K. Mohanty stated that External Funded Project should be encouraged apart from the KVK mandated works for good rating of the KVK. However, Dr. A. K. Mohanty did remind all present that some KVKs were shut down also for not prioritising the KVK related works first. He questioned about who all were involved in the external funded project that was displayed during the powerpoint presentation and what were the components involved. He informed that any data collected from the sowing time and the various factors at every stage that co-relate with the yield has to be judiciously recorded while undertaking any field programme. KVK's role will come after the technology developed by any entity is tested at the field level.

Presentation of Annual Action Plan 2025

Agronomy

Dr. A. K. Mohanty recommended undertaking more trials more varietal evaluation trial of buckwheat by additional KVKs of different Host Organization in Meghalaya like KVK Ri Bhoi, East Garo Hills and South Garo Hills since the priority is to achieve State evaluation and recommendation of a technology. Shri. Canning Shabong indicated that buckwheat cultivation is piloted by the Meghalaya Farmers Empowerment Commission (MFEC), Shillong with buckwheat honey production as one of the significant priority. Hence, Dr. A. K. Mohanty reiterated that the adoption of a high yielding variety after testing shall be highly beneficial.

Dr. A. K. Mohanty also suggested researching and popularising suitable rice varieties (2-4) under organic farming practices. Varieties developed by Assam Agricultural University, Jorhat, National Rice Research Institute, Cuttack, etc., having similar agro climatic condition may be assessed. It should be of suitable taste and other important characteristics should also be taken into account. Hereafter, extension person should do the consumer and market assessment before giving a rating to a variety.

Shri. Canning Shabong expressed concern about the common Rust disease problem which seriously affects the survivability and yield of the crop and suggested timely disease management strategies as crop loss affect farmers' investment. Dr. A. K. Mohanty also recommended the selection of rust tolerant/ resistant varieties and changing the sowing window to avoid rain and foggy conditions during the harvest period. Also, quality check of the selected variety against the local variety should be done. Shri. Canning Shabong recommended undertaking effective precautionary



management practices against Fall Army Worm (*Spodoptera frugiperda*).

Horticulture

Dr. A. Mohanty advised for the publication of a popular article on protected cultivation (refined) in local newspaper and Hill Faming Journal.

Animal Science

Dr. A. K. Mohanty suggested including Kamrupa in the breed assessment of poultry birds, as consumers will have variable preference of the different poultry meat. Similarly, for assessment in piggery, more breeds are to be evaluated to get better data for publication and popularization by the State department. He recommended avoiding evaluation of Lumsniang with farmers practice (breed) but taking up Hampshire breed instead as a non-descript breed is not a well-defined breed. Dr. A. K. Mohanty instructed on comparison of breed BV380 and Kalinga and checking additional parameters throughout the year.



Fishery

Shri. P. Lamin, Supdt. of Fisheries, West Khasi Hills, informed the meeting that The two species combination (*Labeo gonius* & *Cyprinus carpio*) has already been cultured in composite fish culture in combination with Indian Major Carps (IMC) and exotic carps. Regarding balanced floating pelleted feed, Dr. A. K.

Mohanty recommended to find replacements for utilizing locally available ingredients with the same nutritional content, as this will be cost effective and feasible for the farmer. For Carp Fry rearing in Jalkund Shri. P. Lamin proposed for collaboration as using LDPE agri- film is not yet popularized.

Rectification/recommendation during the online pre SAC presentation (Fisheries) held on 03/01/2025: Composite Fish Culture have been found to perform better in low altitude in comparison to mid and higher altitudes. There are very less suitable fish species that perform well in mid and high altitudes, other than exotic carps (Grass, silver and common carp). Although, exotic carps perform better in mid and high altitude, there is less consumer preference in respect to grass carp and silver carp. Hence, the two species combination (*Labeogonius* & *Cyprinus carpio*) is taken up as OFT due to its high consumer preference, better selling price and suitability in mid and high altitude.

The house recommends to incorporate IMC also on the OFT on two species combination (*Labeogonius* & *Cyprinus carpio*). Regarding OFT on balanced floating pelleted feed, the house recommends using rice bran and oil cake in the ratio of 1:1 as feed for farmer's practice instead of using only rice bran. Fish-cum-mushroom was also encouraged as the spent and decompose substrate can be utilised as manure in fish pond for the growth of planktons.

Training Programmes

Shri. Canning Shabong recommended gap assessments within the farming community to determine and address the motivational aspect and provide confidence to the farmer at their skill level. The quality of the trainings needs to be of the highest quality and the trained farmers with good performance may be linked to the concerned departments for continued assistance in terms of resource and input. He urged that farmers strive for good return for their investments in the farming activity and a promising per unit return will encourage adoption of technology.

Extension Activities

Shri. Canning Shabong recommended subject documentation of extension activities and farmer success stories by videography (film production/ video clip). Collaboration of mass media personnel for planned activities can be carried out. Dr. A. K. Mohanty also proposed to make arrangement of funds and personnel for the video production of 8- 10 minutes.

Interaction with Progressive Farmer

Short speech by Progressive Farmer, Shri. Artist L. Nonglait, Umkrem

More farmers in his village are trying to take up Natural Farming due to existing health hazards from the indiscriminate use of chemicals. KVK has conducted several trainings on various topics and provided assistance in the form of small polyhouse for producing vegetables which are utilized in the midday meal scheme. Other assistance includes poultry distribution that gives benefit from the sale of birds for meat purpose and manure production for crop production. He expressed constraints in meeting the feed requirement due to expensive feed cost for poultry, but adopting *Azolla* for feed supplement has showed favourable results except for winter season when other enterprises have to be taken up like piggery, insect rearing, etc. in order to sustain their livelihood.

Short speech by Farm Woman, Smt. Siralin Thabah, Nongshillong

Expresses her gratitude to KVK for the support and upliftment in her farming activities approximately from 2020- 2021 in the form of capacity building, input distribution, etc., that she received individually and through the FPO. She has received benefits from vermicompost production that is being sold @ Rs. 10/kg during various fairs. This enables her to provide additional income for her household and looks forward to continue working and encourage other farmers and farm women to associate with the KVK office. In her personal experience in buckwheat cultivation, it is more suitable in winter. In farming there are several challenges and occasionally face heavy losses but they will always continue to work hard in their endeavours.



The Vote of Thanks was delivered by Shri. H. Sungoh, Farm Manager, KVK West Khasi Hills

General Discussion:—

Dr. A. K. Mohanty stated that presentation should be more scientific evidence based and more refinements are to be included. Challenging or assessing a technology is very important as this technology may not be performing at the field level. A technology maybe developed by a Scientist, Research complex, Institute or Organization but it has to be tested in specific districts and farmers' field for their adaptability. This will ensure scientific evidence for the success and adoption by farmers. ICAR will inquire as to how many technologies have been given to the State department for adoption. Hence, priority given as to how many technologies has been transferred backed with scientific evidence and data for the same.

Dr. A. K. Mohanty stated that Research paper and other Scientific Publications are highly important for securing good rating of the KVK. Data register should be kept for OFT and all related activities to facilitate research publications. Hence, the SMSs are to maintain data register. Shri. Canning Shabong suggested that the KVK Head should have a clear understanding about core needs, goals and mission of KVK to achieve the targets without duplication of works with State Departments and other Organizations/Agencies.

Technologies and trials that are identified and taken up should be replicated in 4-5 districts of the State in order to achieve a state-wise evaluation. The recommended technologies with good performance can be transferred to State departments for adoption in their Action Plan. It should be noted that the technologies already implemented under the State Government are not to be undertaken for OFTs or FLDs.

Dr. A. K. Mohanty emphasized that SMS Extension should undertake impact assessment of training programmes and technologies disseminated to find out the level of adoption. Success stories should be highlighted and published regularly in the public domain and agricultural websites for recognition of KVK and promotion of the successful farmer at the National level. Financial constraints experienced for technology dissemination can be addressed by collaborating with concerned state departments. Shri. Canning Shabong stressed that the aspect of marketing is very important for farmers, hence they should be provided with necessary information, knowledge and skill of marketing.



Annexure 1: Officials/ Representatives present at the 16th Scientific Advisory Committee Meeting

1. Dr. A. K. Mohanty, Director ICAR-ATARI Zone-VII, Umiam
2. Shri. C. Shabong, Joint Director, Department of Agriculture & Farmers Welfare, Govt of Meghalaya
3. Smt. V. J. Lyngdoh, Senior Scientist & Head, KVK, West Khasi Hills
4. Shri. V. Khonglah, Senior Scientist & Head, KVK, East Khasi Hills
5. Shri. D. L. Marshillong, JCO, ARCS, Nongstoin
6. Shri. R. Kharjana, Ranger, S&WC, Mairang Range
7. Shri. N. Kharmuti, Forest Ranger/ Mairang Range, DFO Nongstoin Div.
8. Dr. Subrata Das, YP-II (Technical), ICAR-ATARI Zone-VII, Umiam
9. Smt. Aibanrihun Lyngdoh, SMS (Horticulture), KVK, East Khasi Hills
10. Shri. S. Marbianang, SMS (Agril. Ext), KVK, East Khasi Hills
11. Dr. Alethea Dympep, SMS (Agril. Ext.) KVK, Jaintia Hills
12. Smt. Marbiangdor Mawlong, SMS (Plant Protection), KVK, Jaintia Hills
13. Shri. Walseng Sangma, ADA, DAO, I/c PD, ATMA, Nongstoin
14. Shri. P. Marngar, Horticulture Inspector, DAO, Eastern West Khasi Hills
15. Dr. Apborlang Mylliem Umlong AH & Vety. Officer Mawthadraishan C&RD Block
16. Smt. Philakyntiew Nongkynrih, DDM, NABARD, Nongstoin
17. Shri. P. Lamin, Supdt. of Fisheries, West Khasi Hills
18. Shri. Artist L. Nonglait, Progressive Farmer, Umkrem
19. Smt. Skadalin Thabah, Farmer Woman, Nongshillong