

Minutes of the online meeting to Launch 'South Asian Forum on Agriculture Meteorology' (SAFOAM)

Date: 9th January 2021

Time: 1600 Hrs IST to 1945 Hrs IST

Agenda: Annexure-I

Attendees: As per Annexure-II

Venue: Virtual Platform (The Google meet)

The launching meeting of South Asian Forum on Agriculture Meteorology (SAFOAM) was organised. Sixty-two members from seven countries namely, **Afghanistan, Bangladesh, Bhutan, India, Myanmar, Nepal and Sri Lanka** participated in the meeting. The meeting was started by welcoming all the participants. In the beginning Dr. Nabansu Chattopadhyay elaborated the aims and objectives of the meeting. He mentioned that there is so much to exchange and learn from each other in understanding the crop-weather relationship and rendering agrometeorological services in South Asian Region. He also added that elaborate discussion would be made how collectively and meaningfully to form a forum under the scenario of climate change, climatic variability and increased extreme events impacting the economy of unreached and unprivileged farmer in South Asia.

Afterwards, a brief presentation was made by Dr. Chattopadhyay on the following points.

- Need of Weather & Climate Services to Agriculture in South Asia
- Present Status of Meteorological/Agrometeorological Services in this region
- Rationale/Challenge
- Launching of SAFOAM & its Objectives & Vision
- Areas of Collaboration
- Proposed Integration of SAFOAM Activities with Other South Asia Region (SAR) Programme
- Strategies of Formation of SAFOAM

After the presentation of Dr. Chattopadhyay, Dr. L.S. Rathore started to moderate the meeting. In the beginning, Dr. Rathore has given valuable information on the background of the formation of SAFOAM and what could be the role and activities of SAFOAM and also how the today's meeting would be conducted by active participation of the founding members of SAFOAM. Inputs from Dr. Rathore are as follows.

At present there is need to enhance the quality of weather and climate services and more so on application of meteorological information in various sectors particularly in agriculture in SAR. When application of weather and climate information to agriculture are concerned, the agromet community in South Asia really have important role to play. Though different governments and semi governments are making their best efforts in improving the quality of life of farming community in this region, the agromet community in South Asia has important involvement across the boundary of the nation in this region. Based on this, the Idea of formation of SAFOAM is floated. This effort is very timely as many new developments in this area are happening concurrently in this region.

Already a number of forums, agencies and organisations like South Asia Hydrmet Forum (SAHF), South Asian Meteorologist Association (SAMA), Regional Integrated Multi-Hazard Early Warning System (RIMES), the International Maize and Wheat Improvement Center (CIMMYT), The International Centre for Integrated Mountain Development (ICIMOD), International Water Management Institute (IWMI) are doing good job for agriculture in South Asia. SAHF was initiated by World Bank (WB) to enhance the strength of knowledge pool for responding the call of farmers in addition to other users in SAR whereas SAMA has recently established and number of meetings were organised with the member countries in SAR and the enthusiasm showed by the member countries are worth mentioning. The aims and objectives of SAFOAM also would be free exchange of ideas to help sharing of knowledge and information respecting the administrative set up within the respective government in member countries.

The broad agenda in today's meeting would be i) How to go about it basically on administrative set up, finance mechanism, constitution etc. As far the finance mechanism is concerned, he informed that there may be some issues related to registration of the proposed society and foreign exchange regulation etc. As an alternate to this issue, it is proposed to set up of country chapters in all the member countries. When the forum is established, there will be a need of finance. It may be possible to approach for donor agencies or other entities directly or indirectly for supporting activities of the forum.

The main intention of this forum would be to exchange of ideas, information, quality of service, knowledge through virtual mode, IT tools, Google Group, webinar, conferences, e-agromet forum for perpetual discussion and also preparation of website, Newsletter etc. Capacity building in agrimet is important and need of the hour and this forum can help the meeting the training need of govt, semi govt organisations. Also appreciated the participation of Orivaldo Brunini, Director, Agricultural Research Support Foundation, Brazil, Dr. G. Srinivasan, Chief Scientist, Climate Applications, Regional Integrated Multi-hazard Early warning System (RIMES), Bangkok, Thailand and Dr Mannava Sivakumar, Founding Editor-in-Chief, Weather and Climate Extremes (Elsevier), Senior Consultant, WMO and Former Director, Weather and Climate Service, WMO & Secretary IPCC for their kind presence and active support of the present initiative as this underlines the cooperation in formation of SAFOAM.

In order to capture ideas, all the members are requested to give idea how to go forward, what should be the priority areas, constitution and go further and also indicate the immediate activities in 2021 and also mid- and long-term basis etc. He initially requested targeted panellists and then one member from each country and then open forum for discussion. Comments, suggestion from different members, country wise & organisation as well, of the meeting are presented below.

Switzerland (Dr. M.V.K. Sivakumar)

Dr Sivakumar fully supported the idea to form SAFOAM and mentioned that among all the regions in the world, climate change has multidimensional impacts on agroecosystem in South Asia because of increase in temperature, decline in fresh water, sea level rise, melting of glacier in Himalayas, intensity and frequency of extreme events shifting of cropping pattern etc. This ultimately impacts agriculture, related food sector and general economy in South Asia. SAFOAM may address three important issues namely climate change and food security, promote multidisciplinary research in agrometeorology, identify effective adaptation and mitigation including carbon sequestration in agroecosystem. Once the SAFOAM is set up, cooperation with academic institutes, international organisations, local governmental organisations, NGOs may be taken up to provide opportunity to strengthen the institute, human resource development, capacity building etc. Other areas of initiatives may include regional policy mechanism, implementation of local specific mitigation/adaptation options in different

agroecosystem. As far as the food security is concerned, more attention may be paid to the poor farmers and how the ministry of agriculture is addressing the science in this sector. In addition to that special attention may be paid to monsoon science in SAR, gaps in monsoon and its application to agriculture. Another area of interest would be drought management as drought is severe problem in South Asia. Also mention that the World Meteorological Organisation organised international workshop on national policy on drought in recent past and shared its statements on drought management country wise. Besides, coupled ocean climate issue in South Asia may be looked into. Lastly, it is required to navigate and understand the effective regional issues how regional programme, regional mechanisms can help in resolving the issues in the countries in South Asia.

He highlighted the importance and requirements of agrometeorological research and its application in operational agromet advisory services in South Asian Region . He also mentioned about the climate change and its impacts on agriculture. Also addressed the different adaptation and mitigation measures including carbon sequestration etc under the climatic variability and climate change. He further suggested that as far as the research activities and creation of manpower of agromet advisory services are concerned, roping with academic institution/agricultural university will be highly beneficial. Also pointed out understanding of monsoon science and its application to agriculture. Besides, national drought policy may be established for effective monitoring and prediction of drought. Dr. Sivakumar was requested to deliver a lecture on requirements and different aspects of agrometeorological research in SAR. SAFOAM will arrange the webinar for his deliberation shortly.

Brazil (Dr. Orivaldo Brunini)

As the climatic variability and climate change signals are becoming very prominent these days, SAFOAM may look into new adaptation policy, selection of crop variety, new technique. Besides, outputs of the advanced agrometeorological research may be easily accessible to the farmers for crop production. As risk is increasing particularly the drought, suitable drought indices may be developed. He endorsed the idea to set up this forum which may also address the food and water security issues. Besides, arrangement for on line access to information including pests and disease and other may be established. Based on these above issues, through this forum, regional policy on agrometeorological information, weather services etc may be established. Following short and long-term activities may be carried out through SAFOAM.

1. Within 2/3 months, to have a Webinar, where the proposed actions should be presented and discussed, considering the background in meteorology, agrometeorology and agronomy.
2. Verify the suitable proposed programs considering specific demands and constraints for each country – if possible, examples of success projects.
3. Create through International Society for Agricultural Meteorology (INSAM) or even through SAFOAM an Advisory Operational Agrometeorological System.
4. Consider the integration of projects for the different countries.

The Regional Integrated Multi-Hazard Early Warning System (Dr. G. Srinivasan)

Dr Srinivasan supported the idea and highlighted that the SAFOAM may address the research aspects which will certainly benefit the agromet advisory services in this region. Main issue, as far as the meteorological service perspectives in SAR is concerned, it is the delivery of services in useable form and user centric approach. SAFOAM as a regional entity is well placed to address these kinds of challenges. Under such scenario, SAFOAM may have great task particularly in respect of research and

guidance. All these activities may be taken up looking at the bottom-up approach. Elaborated the aims, objectives and recent plans of SAHF and also mentioned the common issues of SAHF and SAFOAM and its implementation coherently. Also made mention on other modalities of formation of SAFOAM like registration, logistics, place of housing etc. Assured fullest cooperation & support from RIMES in this endeavour.

The International Water Management Institute (Dr. Giriraj Amarnath)

He also supported the idea and suggested following;

- The SAFOAM should promote mandate to provide and facilitate access to weather and climate services for multisector and addressing their different requirements through observations and monitoring; research, modelling, and prediction; capacity building; and the creation of user interface platforms;
- Improve the uncertainties of the weather and forecast model available for South Asia and report the limitations of the predictions;
- Need to demonstrate how climate services can benefit or deliver positive impact for adaptation in the agricultural sector and ensure it is operationalized, scaled up and supported by adequate financing in the countries across scales (national to farm-scale decision making)
- Ensure localized climate services considering the demand side of the communities and their perceptions, integrate traditional knowledge, cropping and livelihood patterns, and reliable communication channels.
- Addressing the “Last-mile” barrier both governance and partnership are crucial for innovation in climate services and establish link with different sectors across value-chain;
- Decentralized climate service promotes community participation and enhances two-way feedback.
- Promote importance of value-added climate services for agriculture assists to identify, analyse and prioritize the current and future vulnerabilities and climate risks and design management strategy to promote proactive decision-making
- Improve communication platform (e.g., guidelines on agromet SMS text; radio; template on advisories and SOPs)

Key applications areas

- WCS is a key indicator in water accounting and specifically in minor and major irrigation in managing water use efficiency and economic water productivity
- Weather services for early warning across disaster sector (e.g., Cyclone, landslides, floods and drought).
- Integrate climate information with dynamic risk data in assessing agricultural risk.
- Bundling climate services with two key agriculture technologies namely seed systems and risk transfer and enhancing a full value chain of proven climate services for agriculture
- IWMI’s knowledge products on floods and drought monitoring and early warning (SADMS) can be hosted in the SAFOAM
- Other disaster risk transfer program namely Index Based Flood Insurance (IBFI), Bundled insurance solutions (BICSA), impact-based forecast financing;
- Promote Indian model of KVKs or climate school across South Asia (program and implementation guidelines can be developed to support countries)

Strategy:

- Synergies or alignment with SAFOM and SACOF, South Asia Hydromet Forum, South Asia Met Forum.
- Joint release of a bulletin between SACOF and SAFOM at a regional level
- The official launch should have demand-side from governments in South Asia and possibly by mid-year official workshop can be organized
- Partnership with WMO, ECMWF, NOAA with South Asia partners for a unified cooperation

Bangladesh

Dr. Abdul Mayed

In Bangladesh agriculture production system is highly vulnerable to extreme weather events. Almost every year there is considerable loss of crops in some parts of the country. Recently a number of agrometeorological information and products are generated under the assistance of World Bank for providing sensible advisories at right time and right areas to save the loss of crop and ultimately contribute food security in the country. At present, a portal named Bamis Portal has been created for providing operational agromet advisory services in the country. RIMES also contributed in modernisation of agromet advisory services in the country. In order to create manpower in agromet services in the country Agromet Division in two leading Agricultural Universities have been established recently. At this stage of the weather/climate services rendered by the country, SAFOAM will be ideal platform to provide further guidance, educate etc. to enrich the services to the farming community of the country

Dr. Mazharul Aziz

SAFOAM may address the following two issues in SAR

Knowledge gap between meteorology and agrometeorology

Lead time at least 5-6 days in advance for providing the agromet advisories especially for flood, cyclone, drought and other extreme events to save the loss of crop

Bhutan (Dr. Tshering Wangchen)

In Bhutan, both National Centre for Hydrology & Meteorology (NCHM) & Department of Agriculture (DOA) are involved in operationalisation of agromet advisory service in the country, DOA being the nodal agency in executing the project on AAS. In recent past Bhutan participated in SASCOF, ENCOF and trying to develop seasonal forecast and its application in agriculture. RIMES is also supporting to Decision Support System (DSS) and the same is being implemented in pilot mode in some districts and some specific crop at particular stages of crop. Still, there are issues on reception of skilful temporal and spatial weather forecast relevant for agromet advisory services. Uniform activities operating in neighbouring countries may not be applicable to Bhutan as Bhutan has unique geography (terrain), climate, soils etc. Human resource in the subject of agrometeorology is one of the limitations. International platform like RIMES, SAFOAM may be very helpful in AAS. At present accurate weather forecast at high resolution, initially at district level, and full proof early warning system for extreme events and need based operational agromet advisories are very much required and SAFOAM, may be address the issue.

Nepal

Dr. Shib Nandan Prasad Shah

He also supported the idea. He further mentioned that the subject of Agromet Advisory Services was not taken into consideration till 2012 in Nepal. During 2013-14, a number of discussions were made to implement the operational agromet advisory services and finally in 2015, with the World Bank assistance agromet advisory services started in the country by joint collaboration between Nepal Agricultural Research Council (NARC) and Department of Hydrology & Meteorology. 24-hour weather forecast along with the past weather and crop status; these services started for 26 districts in the country. It is felt that 10 day to one month forecast are required for issuing accurate agromet advisories in the country. Emphasised need for more AWS in the country especially to the hill stations and also the importance of the same to the weather-based insurance in the country. Moreover, the AAS should be farmer's friendly as the farmers are not literate enough to adopt these services. As India has long experience in weather forecasting and agromet advisory services, it is expected that such knowledge may be shared with Nepal through SAFOAM particularly in respect of data sharing, research on crop weather relationship, effect of weather on pest & disease etc.

Dr. Archana Shrestha

She mentioned that the proposal to form SAFOAM is very timely and must be supported. She further mentioned that, as the technology and facility and different weather forecast and services have been developed in developed country and the same is emerging with the World Bank assistance in developing countries, regional collaboration on infrastructural development, weather and agriculture in SAR is highly essential. Modernisation programme may be taken up in agrometeorology sector also. Highlighted the different pillars in operational agrometeorology like integrated agromet services system (weather and climate services), agricultural information, interaction with farmers, user centric information through farmer field school, farmer awareness programme etc, co-production with joint collaboration with meteorology and agriculture, technology and media for wider dissemination/outreach etc. Data sharing mechanism under cross boundary nature like locust and other regional and international level pests and diseases may be developed through this forum. Stressed for standard agromet products in this region and sharing of success stories networking among SAR. Also suggested for annual or biannual workshop along with side events under SAFOAM, development of strategic vision on climate adaptation policy in SAR, establishment of panel or committee for development of curriculum in meteorological department, agricultural universities. Start webinar on recent topic on regional interest.

Sri Lanka (Mr. K.H.M.S. Premalal)

Though Agromet Division established in Meteorological Department in 1976, agromet advisory services for the farmers on agroecological zones in selected parts of the country was started in 2009 by joint collaboration between Meteorological Department & Agriculture Department. However, still the agromet advisories are not easily understood by the farmers. Recently under GCF fund from UNDP, agromet advisories are prepared based on seasonal forecast. Dry land area is very vulnerable to extreme events and climate variability and climate change. RIMES is supporting agromet services by sharing the seasonal forecast also. Two areas SAFOAM can help Sri Lanka's agromet advisory service. These are development & sharing skilful high-resolution medium to sub-seasonal forecast and opening of agromet division in regional agricultural universities for generating manpower who may be involved in operational agromet advisory services in the country. He suggested that SAFOAM may be formed at the earliest.

Afghanistan (Mr. Ismail Hassanzadah)

This is much needed forum for SAR and especially to Afghanistan. Afghanistan is in full support of such forum and share willingness to join. The forum should initially focus on information exchange among all the countries in SAR for better understanding of meteorological services to agriculture and then we may come forward and share our needs and requirements. Currently with the World Bank support developing early action plan on weather and climate and hopefully complete by 2021. It is expected to manage and update the current areas and extending to remote areas like district and ready to help the forum.

Myanmar (Ms. Han Swe)

Agromet advisory project is operating in the country from 1982 under the Division of Meteorology & Hydrology. Primarily weather forecast is provided under this project and disseminates the advisories and bulletin to the users with the help DOA. Mobile application is also a part of dissemination process. During 2015-18, this project is supported by RIMES especially on early warning system in some pilot areas initially in dry zone of the country. Besides, World Bank also supports the country under the broad areas like agroecological mapping, weather monitoring & forecasting, capacity building, agromet services. Under the present circumstances, SAFOAM will definitely play important role in upgradation of agromet advisory services in the country. Besides, SAFOAM may encourage and assist in agrometeorological research and its publication which will ultimately help in Agromet Advisory Services (AAS), hence is need of the hour.

India

Dr. Shailesh Nayak

While congratulating for the initiative, he mentioned that the SAFOAM may be considered as bridge between those who produce knowledge on weather forecast at different level, agriculture, monsoon climate services, monsoon research etc and the users and the government. SAFOAM may encourage persons with agriculture background to join the forum to use the products what we prepare which will be suitable for this community as well. Apart from constitution in SAFOAM, information on Identify the need, gaps, requirements, status in terms of weather observation, weather forecast, status of meeting the needs, different issues including dissemination last miles and other entities required for operational agromet services etc. may be taken up in the beginning and may be exchanged/ circulated to each member country and ultimately organise a virtual workshop at the shortest possible time to identify the areas of cooperation for going forward in each country of SAR

Prof Dr M C Varshneya

Though agricultural production system and the subject of meteorology have advanced significantly, the science of application meteorology to agriculture may be exploited more by SAFOAM for the benefit of farming community in SAR regions. SAFOAM may explore to find and utilise the resources in SAR region to address the need individually and its ramification through common dialogue and ultimately finalise the work plan. Monsoon is changing, moving and the advanced knowledge in this regard is needed in agriculture particularly during kharif and rabi seasons. Accurate monsoon forecast, advanced prediction with sufficient lead time for extreme weather events like flood, drought etc and its role in agriculture are need of the hour. He suggested that the SAFOAM may also initiate the curriculum on monsoon and its application taking consideration of basics and application part of it in SAR

Dr. B V Ramana Rao

Though there are diversity in meteorology, geography and problems, there are different common issues in SAR. He fully supported the initiative and suggested that the SAFOAM may find out the same and may start a smart beginning.

Dr.Y.S.Ramakrishna

While supporting the idea to form SAFOAM which in his opinion is the long-awaited issues where each can help each other. Though there are different issues and different status, there is also avenues to help each other due to advancement of different frontier areas of weather forecast, state of art technology etc. One of the targets of SAFOAM should be to raise the capacity/capability of SAR to raise same level by using the different tools and technology already be available in South Asia. NWP capability and forecast at different spatial and temporal scale especially at finer resolution. SAFOAM may arrange some virtual training programme of interest like drought, flood management, role of El-Nino and corresponding agricultural practices, climate change and food security, strategic plan etc. Remote sensing data may be used at reasonable resolution or at grid level as an alternative to those areas having unrepresentative weather network. RIMEAS and IMD can help in this regard.

Prof. A.M.Seikh

There are many ideas which could be generated as large number of participants gathered today. In SAR, there are diversity in different areas including weather climate cropping pattern etc and also demand of the farmers are also different. Thus, farmers' needs are also different. SAFOAM has great role to address and reasonable solution to these issues. Stressed for the better network of weather station and agricultural practices under changing climate to address the Agromet Advisory System. Highlighted the role of remote sensing for better weather forecasting, weather observatory network at finer resolution, changing climate and its implication to agriculture etc. and ultimately to need based advisory. Also added the risk coping strategies and its application for the farming community in SAR. Also mentioned about the crop insurance scheme launched by the Honourable Prime Minister of India. SAFOAM should look into consideration of the importance of extension activities and also attention may be paid to the animal husbandry also. Also stressed for forming administration, constitution logically by discussing with the members of SAFOAM.

Dr Mrutyunjay Mohapatra

Dr Mrutyunjay Mohapatra, whole heartedly supported the proposal and mentioned that he in his personal capacity as well as Director General of Meteorology, IMD, are willing to help the endeavour. Agriculture is the life of people and agrometeorology has great role to play on the crop production in SAR. Though there is sizeable improvement in agricultural and agrometeorological practices in SAR, still there is scope to improve. According to him, three important components namely harvest, investment and threat to disasters may be considered to maximum agricultural harvest. In addition to this, three components like capability capacity, creditability which are of direct bearing on agricultural production system Besides, detail elaboration was made on the five pillars and its use in agricultural system. These are innovation & application, advisories, partnership, production i.e., agromet products and, customer services. All the issues mentioned above may be addressed collectively in SAR and improve the agricultural production in sustainable manner and ultimately economic condition of farmers in SAR through SAFOAM.

Dr. Someshwar Das

Dr. Someshwar Das mentioned about the different successful activities in brief along with the preparation of draft constitution of SAMA and suggested that SAMA and SAFOAM must work together

to supplement the efforts of each other. As far the framing of constitution of SAFOAM is concerned, Dr. Rathore informed that Dr. Das has done lots of homework for preparation of constitution of SAMA and as the constitutions of SAFOAM will be almost in similar nature, Dr. Das was requested to share the draft constitution of SAMA so that a draft constitution for SAFOAM may be prepared and circulated to all the members of SAFOAM for comments/suggestions for further refining of the same.

Dr.GGSN RAO

Suggested for involvement of respective government/department through SAFOAM activities. Information needs to be generated under actual firm level condition. Also suggested for use of remote sensing product in agromet service and development of web portal/website for SAFOAM. SAFOAM may arrange lecture on current topics at monthly intervals

Dr. Santanu Kumar Bal

Mentioned different dimension of agrometeorology in SAR and necessity for regional cooperation through forum such as SAFOAM. He further mentioned that as India is leading in this subject since long, different institutions/organisations are well placed now to share the information in different components like education, research, infrastructural development, human resource development and services. Under SAFOAM, it is expected that all the countries will interact with each other and also learn from each other so that all may be elevated almost same platform and provide useful weather and climate services to the farmers in this region. Also suggested for creation of web portal for SAFOAM for displaying different information/products for SAR.

Inputs from Other Member (Dr. Vyas Pandey, Dr. Raji Reddy, Dr Raihana Habib Kanth, Dr Veena Sharma, Dr. Sameera Qayoom, Dr. AVM Subba Rao, Dr T. Prathima, Dr Parminder Kaur Baweja, Mr. Abhijit Basu)

It was suggested that SAFOAM may be formed. In India, it may work in close association with Association of Agrometeorologists. Dr Vyas Pandey, assured that Association will fully support the SAFOAM's activities. Other proposed SAFOAM activity includes:

- 1.Crop simulation model for decision support system
2. Issue of different publications like Newsletter, on line journal etc.
- 3.Organic farming & allied sciences of agriculture viz horticulture, forestry, fisheries, sericulture, in AAS
- 4.Indepth resource water management
- 5.Forest fire management
- 6.Strategy for hill station
7. RS and its blending with ICT
8. Need based information for farmers in SAR
9. Rural digitalisation

10. Wireless sensor network-based forewarning for insects and pests.

11. Private public partnership for maximum use of ICTs as an instrument for improving production.

Immediate Plan of SAFOAM

During the course of the meeting, Dr. Rathore has mentioned that today we have agreed to form SAFOAM. All the members are willing to cooperate to the fullest ability and capacity to support the forum in this region considering the constrain of its implementation. A number of suggestions on development on ICT, education, product generation, advisory, dissemination etc have come from the members. Considering the positivity and confluence of mind, it has been decided to establish the South Asia Forum on Agriculture Meteorology (SAFOAM) to help serve the people of the region, particularly the farmers. Following recommendations as immediate plan have been proposed and agreed in the meeting.

*1 To prepare a questionnaires to understand the need, gaps, requirements etc. along with the existing strategies, if any, for meeting the need gaps, requirements for the countries in SAR. The same may be communicated to all the countries for their feedback and ultimately this will help to prepare the action plan (Action: **Dr. Santanu Kumar Bal**)*

*2. To prepare the draft concept on administration/constitution of SAFOAM by constituting the team. The similar concept has already been prepared for the South Asian Meteorologists Associations (SAMA) and the same would be provided by Dr. Someswar Das as both the constitutions would be similar in nature. This will be circulated to all the members of SAFOAM for comments/suggestions for further refining. (Action: **Dr.A.M. Sheikh**)*

*3. To prepare a concept note on utilisation of satellite derived product in agromet advisory services for SAR. Mr. Abhijit Basu may be associated for blending of RS with ICT (Action: **Dr. Bimal Bhattacharya**)*

*4. To prepare concept note on Web Portal in consultation with Dr. Y.S Ramakrishna (Action: **Dr. Santanu Kumar Bal**)*

*5. To prepare draft concept paper for proposed agromet advisory services in hill region in SAR (Action: **Dr Raihana Habib Kanth, Dr Veena Sharma, Dr. Sameera Qayoom, Dr Parminder Kaur Baweja, Dr. Archana Shrestha & Dr. Shib Nandan Prasad Shah**)*

*6. To build capacity in ICT program management and also build such cadre and mentor them for ensuring continuity of Agro-met success and innovation sustenance (Action; **Abhijit Basu**)*

6. Organisation of Webinar for Dr. Sivakumar to deliver a lecture on “Multidimensional agrometeorological research for operational Agromet Advisory Services in South Asia” (Action: **Dr. Nabansu Chattopadhyay**).

Dr. Rathore concluded that meaningful discussion and proposal on development of products, development of tools, sharing of tools, practices, information and participating in training activities have been made. This is a good beginning in SAFOAM. As far as the administrative aspects are concerned, immediate registration may not be required, He said that currently 100 plus members are registered and subsequently the number will increase. He also informed that International Society for Agricultural Meteorology (INSAM) is also reviving and also good platform to share information. The need to develop a consortium approach was emphasized. He also informed that minutes of the

meeting will be circulated to all the members shortly. Dr. Rathore thanked all the members for their gracious presence and active participation in the meeting beyond the time schedule.

In the end, the vote of thanks was given to all the members for their valuable discussions to make the meeting successful and effective.

Annexure I

South Asian Forum on Agriculture Meteorology (SAFOAM)

Programme

Brief Presentation on DRAFT PROPOSAL TO SET UP “SAFOAM” by
Dr. Nabansu Chattopadhyay

President, International Society for Agricultural Meteorology & Former
Deputy Director General of India Meteorological Department

Discussion on “Defining, vision, mission, objective, membership,
management, finance, structure and operation of SAFOAM”

Moderator

Dr. L.S.Rathore

Consultant, The World Bank & Former Director General of India
Meteorological Department

Patronage Address

Dr. Shailesh Nayak

Former Secretary, Ministry of Earth Sciences, Govt. of India

Director, NIAS

Date:9th January 2021

Time:16.00 IST

Through: Google Meet

Annexure II

List of Founding Members attended the Launching Programme of South Asian Forum on Agriculture Meteorology (SAFOAM)

Nepal						
1. Shib Nandan Prasad Shah, National Project Director, Kathmandu, Nepal						
2. Rameshwar Rimal, Technical Officer (Agrometeorology), Kathmandu, Nepal						
3. Manoj Thakur, Senior Scientist, NARC, Nepal						
4. Shiva Prasad Nepal, Senior Meteorologist, DHM, Nepal						
5. Archana Shrestha, Deputy Director General, Meteorological Forecasting Division, Nepal						
Indira Kadel, PhD, DHM, Nepal						
Bangladesh						
6. Dr. Mazharul Aziz, Former Project Director, Dhaka, Bangladesh						
7. Md. Mizanur Rahman, Senior National Consultant, Dhaka, Bangladesh						
8. Dr. Abdul Mueyed, Former Director General, Dhaka, Bangladesh						
Bhutan						
9. Mr. Sonam Pem, Consultant, Agromet Project, Bhutan						
10. Mr. Tshencho Dorji, Dy. Chief Meteorology Officer, Thimphu, Bhutan						
11. Dechen Tshering, Disaster Risk Management Specialist (co-Task Team Leader) of the Disaster Risk & Climate Change Unit, South Asia region, Bhutan						
12. Tshering Wangchen, Head, Agromet Unit, Department of Agriculture, Bhutan						
Myanmar						
13. Ms. Han Swe (Assistant Director, Agro-meteorological Division, DMH, Yangon; Myanmar						
14. Ms. Sabai Lwin (Assistant Director, Agro-meteorological Division, DMH, Yangon, Myanmar						
15. Ms. Swe Swe Oo Head of Seed Division, Assistant Director, Department of Agriculture, Yangon office; Myanmar						
Sri Lanka						
16. Mr. KHMS Premalal, Former Director General of Meteorology, Sri Lanka						
17. Mr. A Karunanayake, Director General of Meteorology, Sri Lanka						
18. B.V.R. Punyawardena, Justice of Peace (For all island), Director/Principal Scientist (Agro-climatology), Natural Resource Management Center, Department of Agriculture, Peradeniya, Sri Lanka						
19. Dr. Giriraj Amarnath, International Water Management Institute, Sri Lanka						
Afghanistan						
20. Ismail Hassanzadah Director, Policy and Coordination, General Directorate of Planning and Policy Ministry of Agriculture, Irrigation and Livestock, Islamic Republic of Afghanistan						
21. Zahiruddin Imampoor Director of Agricultural Statistics & Information System, Ministry of Agriculture, Irrigation and Livestock, Republic of Afghanistan						
Other International Participants						
22. Dr. Mannava Sivakumar, Founding Editor-in-Chief, Geneva, Switzerland						
23. Orivaldo Brunini, Director, Agricultural Research Support Foundation, Brazil						
24. Dr. G. Srinivasan, Chief Scientist, (RIMES), Thailand						
25. Basu Abhijit Founder and CEO Smartex Cognitive, XCED, APAC CEDMA, California, USA						
26. Nachiketa			Acharya,			PhD
Associate			Research			Scientist
International	Research	Institute	for Climate	and	Society	(IRI)
The	Earth	Institute	at		Columbia	University

Lamont Palisades, NY 10964-8000, USA	Campus,	61	Route	9W
India				
27.Dr Shailesh Nayak, Former Secretary, Ministry of Earth Sciences, Government of India				
28.Dr Laxman Singh Rathore, Former Director General of Meteorology				
29.Dr Mrutyunjay Mohapatra, DGM, India Meteorological Department, New Delhi				
30.B V Ramana Rao, Telangana State India				
31.Dr. V.U.M.Rao, Former Project Coordinator (Agrometeorology) I/c, CRIDA, Hyderabad, INDIA				
32.Dr.Y.S.Ramakrishna, Ex- Director, CRIDA (ICAR) and Member, Advisory Committee National Disaster Management Authority (NDMA), TELANGANA - 500070 INDIA				
33.Dr. Nabansu. Chattopadhyay, President, International Society for Agricultural Meteorology, Former Deputy Director General & Head & Scientist F, India				
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47.Dr Raihana habib kanth, Chief scientist FoA SKUAST Kashmir				
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49.Dr. Mahasweta, Gramin Krishi Mausam Sewa, Kalyani Agro-met Field Unit, B.C.K.V., W.B., India				
50.Dr. Sameera Qayoom, Associate Professor, Nodal Officer ICAR (Edu.)				
51. Dr.D Raji Reddy, Hyderabad				
52.Dr. Vinay Sehgal, Division of Agricultural Physics, Indian Agricultural Research Institute,New Delhi, India				
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