



1st TRIMESTER NEWSLETTER-AMIS

Dear Readers,

We are pleased to inform you that 6 issues of PPCR: BRCH - AMIS Newsletter have been published. We have tried our best to produce useful information



also in this trimester. This trimester was also occupied in accomplishing important activities like collaboration with Ncell, AMIS infrastructure distribution, organizing GIS Training, Roving Seminar ToT, Focal Person Training and JT/JTA level training on climate change adaptation and use of agro-climate information. Further, we have been able to identify sustainability issues as an initial attempt. Likewise, AMIS Web Portal and mobile application development has almost come to the final stage for going live.

Lastly, I would like to thank Project Management Unit (PMU), Ministry of Agricultural Development (MoAD), The World Bank (WB), District Agricultural Development Offices (DADOs), District Livestock Service Offices (DLSOs) for their support without which project would not have accomplished those activities in given time frame .

It would be a great pleasure for us to receive your views and feedbacks through our website, e-mail or any other channel.

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Major Highlights of the Trimester

- The World Bank Mission-2017
- Collaboration between PPCR:BRCH-AMIS and NCELL for Krishi-Info SMS
- Distribution of AMIS Infrastructure (KISAN SIM, Smart Mobile Phone, Rain-gauge and Thermometers) to Farmers group of Dolakha
- Focal Person Refresher Training on Kisan Call Centre Operation Modality
- 4-days JT/JTA capacity building training on Climate Change Adaptation (CCA), use of Climate Information Services and Roving Seminar ToT in Morang
- Roving Seminars in Dolakha, Kaski and Banke
- Interaction Workshop on “AMIS Product Preparation and Dissemination” in Kaski, Banke and Morang
- GIS Training in Kaski and Banke
- Regular update on “Hamro Krishi” mobile application and AMIS website, farmers mobile
- 123rd Issue of Agro-Met Advisory Bulletin published
- 19th WOGRAM Meeting
- Development stage of AMIS Web Portal and Mobile Application
- Sustainability Issues

World Bank Mission 2017

The World Bank Team led by Task Team Leader Mr. Haris Khan visited PPCR: BRCH-AMIS Project in September 2017. Project Progress, financial progress and progress on AMIS product dissemination was demonstrated in the mission. Team noticed progress and work plan by Application Development Agency (ADA). Likewise, suggested to procure specifications for required hardware and software by the end

of December 2017. Further, WB requested MoAD to share indicators for necessary review and technical inputs in relation to information requirements for various AMIS modules in future. WB team appreciated the regular ongoing task concerning monthly WOGRAM meeting and weekly preparation of Agromet Advisory Bulletin (AAB) across 25 pilot districts.

Regular Update on “Hamro Krishi” mobile application and AMIS website and Farmers Mobile Numbers

Mobile application has been updated regularly. In addition, NAMIS website is upgraded with new look and menus for additional information. Agro-advisory bulletin, photo of different program and regular notices are uploaded in website and mobile application on weekly basis. Contact information of DADO and DLSO in mobile application is updated. Similarly, queries in mobile application are

answered regularly. Cultivation practices of additional fruit, vegetable sections have been added keeping in mind about impact groups and targeted stakeholders. AMIS website has been regularly updated with agro-met advisory bulletin, photo gallery, video gallery and publications. Around 25000 of farmers have been receiving Krishi_Info SMS. Likewise, 1471 farmers using NCELL numbers started to receive Krishi-Info SMS from this trimester.

Collaboration between PCR:BRCH-AMIS and NCELL Pvt.Ltd. for Krishi-Info SMS

The collaboration between PCR:BRCH-AMIS and NCELL Pvt.Ltd. was done on 25th of October 2017 and dissemination along with technical description was done 30th of October 2017. Signing Ceremony and Inauguration was done by Project Director Mr. Shib Nandan Prasad Shah by sending SMS to NCELL subscribers with “information message”. Although the task was halted for a long time due to so many contributing factors, PMU finally has been able to reach an agreement for cooperation to disseminate special information to the farmers on weather based agro-advisories.



At a programme held in the AMIS Project Puja Pratisthan Marg, NCELL Senior Manager

Ishwari Kafle and Agriculture Management Information System Project Director Mr. Shib Nandan Prasad Shah signed the agreement paper. As per the agreement, farmers will be provided agriculture info SMS (Krishi_Info). In previous days, this service was limited to subscribers of Nepal Telecom.

On the occasion, Project Director Mr. Shib Nandan Prasad Shah said the additional number of farmers would be benefitted from this agreement. Mr. Ishwari Kafle on behalf of NCELL was feeling proud to initiate support under its social corporate responsibility (CSR) in the interest of farmers and the agricultural sector's development.

Distribution of AMIS Infrastructure in Dolakha

For Advance use of smart mobile phone and other AMIS infrastructure as a technological tool in agriculture with changing climate, mobile phones together with Kisan SIM, Rain-gauge and Thermometer have been distributed among the farmer's group/cooperatives in Dolakha district in this trimester. Smart mobile phones and Kisan SIM are actually empowering farmers to a great extent. The Krishi-Info messages / information transmitted through phones of many categories like weather advisories, agro-advisories, insect-pests management, fertilizer applications, information on crop and livestock insurance, soil health and nutrition, livestock, irrigation intervals receiving in local languages using KISAN sim cards for the farmers registered in DADO and DLSO are these days gaining popularity in AMIS pilot districts. Likewise, the use of rain-gauge and thermometer play



AMIS Infrastructure Distribution in Dolakha

a great deal to tackle weather aberrations minimizing its impacts by correlating their observation with Agro-Met Advisory Bulletin (AAB). The distribution ceremony was organized under the chairmanship of Senior Agricultural Development Officer of Dolakha Mr. Narayan Shrestha.

GIS Training in Kaski and Banke

In order to enhance the capacity of Government staff in GIS and empower them to undertake their own analyses of their working areas and improve their activity planning and monitoring processes that may be required during Climate Vulnerable Mapping, Mapping of Zone, Super Zone and Pocket Areas and other related researches, 3 days training was organized in Ashoj and Kartik 2074 at Nepalgunj and Pokhara. 38 participants from Dhading, Gorkha, Tanahun, Palpa, Syanja, Kaski, Parbat, Dang, Rukum, Banke, Dailekh and Salyan participated in the training. Participants consisted of officers from District Agriculture Development Office (DADO), District Livestock Service Office (DLSO) and Scientists from Nepal Agriculture Research Council. Training format consisted of formal lectures followed by practical exercises. The practical exercises were organized to consolidate the concepts taught in the lecture



and help the trainees apply their knowledge. Practical exercises were organized around specific tasks like data from Agriculture Super Zone, Zone, Pocket and Block. As such the project blocks are generally used to illustrate the concepts of training in these exercises. Mr. Sushil Lamichane, Scientist from Nepal Agriculture Research Council (NARC) Kathmandu instructed the participants in Pokhara and Nepalgunj.

Roving Seminars in Dolakha, Kaski and Banke

The Roving Seminars on Weather, Climate and Farmers is one day seminars with major objective to make farmers more self-reliant in dealing with weather and climate issues and increase interaction between local farming communities and representatives from Nepal Agriculture Research Council (NARC), Department of Hydrology and Metrology (DHM), Ministry of Agricultural Development (MoAD) and local staff from District Agricultural Development Office (DADO) and District Livestock Service Office (DLSO). Farmers identified from DADO and DLSO are gathered in a centralized location of the area where they are given orientation on operation of Rain-Gauge, Thermometer, Smart Mobile Phone, “Hamro-Krishi” mobile application, climate related risk on agriculture, communication aspects between DADO, DLSO and DHM together with feedback and evaluation.

Table I: Number of farmers enhanced through Roving Seminar in First trimester

Districts	Roving Seminars	Date
Dolakha	250	Ashoj 1-4, 2074
Kaski	350	Ashoj 27-30, 2074
Banke	350	Kartik 18-21, 2074
Total	950	

Focal Person Refresher Training on Kisan Call Centre Operation Modality

The 3 days Focal Person Training for district level technicians were organized between 11 to 13th of Bhadra 2074 at Hotel Bhrikuti View, Godavari Kathmandu. The aim of the training was to enhance capacity of government stakeholders and focal persons from AMIS pilot districts on operation of Kisan Call Centre together with climate change and its impact on agriculture and steps for adaptation through establishment of Agriculture Management Information System (AMIS). Training objectives along with brief introduction of the project and delivery of Agriculture Management Information System (AMIS) was presented by Mr. Shib Nandan Prasad Shah, Project Director from PPCR: AMIS. After this, Impact of climate change in agriculture together with adaptation and mitigation approaches focused in agriculture was presented by Mr. Surendra Gautam from PPCR: AMIS. Mr. Gautam in his session also shared about history of climate change



Project Director sharing AMIS in nutshell

initiatives, UNFCCC, National Climate Change Policy, NAPA, LAPA and Climate Resilient Planning. Mr. Sami Kunwar from PPCR: AMIS discussed about Agro-Met Advisory Bulletin, DHM role and Information Generation Modality to the participants. There were 22 participants from Dhading, Kavre, Chitwan, Kaski, Dolakha and Kathmandu in the training.

19th WOGRAM (Working Group on Agricultural Meteorology) Meeting:

19th WOGRAM Meeting has been organized in this trimester. Following conclusions have been produced in the meeting.

- Cluster based AAB to be produced after clear federal system (Rural Municipality and Urban Municipality) in local level.
- Draft curriculum on agrometeorology to be shared and discussed with TU an AFU Team for finalization.
- ToR on Weather Index based Insurance Expert to be finalized incorporating all the suggestion from WOGRAM meeting and send for NOL.

Interaction Workshop on “AMIS Product Preparation and Dissemination” in Kaski, Banke and Morang

Two days interaction workshop on AMIS Product preparation and Dissemination was organized among 60 Agricultural Technicians working for District Agriculture Development Office (DADO) and District Livestock Service Office(DLSO) of Kaski, Banke and Morang between October and November 2017 by PPCR: BRCH-AMIS Project. The main objective of the workshop was to highlight the significance of ICT based agro-advisory services. In this framework, Department of Hydrology and Meteorology (DHM), Nepal Agriculture Research Council (NARC) are closely working with Ministry of Agricultural Development (MoAD) to deliver ICT based information services and agro-advisories in Nepal which include KISAN-Call Centers, Weekly Agro-Met Advisory bulletins, Hamro-Krishi Mobile Apps & SMSs under Early Warning System. The workshop helped Project Management Unit (PMU) to generate new ideas concerning AMIS product dissemination in an effective manner in days to come.

All the workshops had group discussions where every participant from each district revealed greater usefulness of market related information compared to climate. Majority of the participants said that weekly weather forecast together with crop advisories is helping during crop harvesting time where farmers are able to postpone or prepone harvesting period of the crop based on information provided through Agro-Met Advisory Bulletin (AAB) and Krishi-Info SMS.

The group discussion was held in 3 different topics in all workshops:



1. Distribution of AMIS Infrastructure, its uses and future recommendation
2. AMIS Tools, its importance and future recommendation
3. Agro-Met Advisory Bulletin, its importance and future recommendation

The recommendations received from 3 different workshops are summarized as below.

- Infrastructure distribution should be carried out among larger group of farmers rather than smaller groups
- Trainings on operation and use of AMIS Infrastructure should be provided in frequent interval
- Distributed infrastructure should be stored in safe place
- Distribution of infrastructure should not only be limited to farmers but also to field staff and focal person
- Distribution mechanism should be transparent

- Farmers should be sensitized on operation of AMIS tools like Smart Mobile Phone, Rain Gauge and Thermometer in frequent interval
- Data on rainfall and temperature should be noted regularly
- More consultation among farmers is needed during distribution of tools rather than depending only with DADO and DLSO
- Frequent updates on “Hamro-Krishi” mobile application required
- All the advisories related to crop pests and diseases should contain picture for easy reference
- Letters in bulletin should be larger
- Dissemination mechanism of bulletin should be improved. Until date, bulletins are disseminated only to DADO and DLSO rather than Agriculture Service Centers located in different wards and VDCs.

4-days JT/JTA capacity building training on Climate Change Adaptation (CCA), use of Climate Information Services and Roving Seminar (ToT) in Morang

PPCR: BRCH-AMIS organized JT/JTA training in Kartik and Mangsir 2074 for 60 JT/JTAs of DADOs and DLSOs of 3 districts Dhankuta, Jhapa and Sunsari. The training was aimed to create a learning desire and adult learning principles were incorporated into the session design and delivery of training. More emphasis was given to structure and sequence material, and use of visuals and resources to meet the needs of participants with different learning styles and backgrounds. The main objective of the JT/JTA training is to increase knowledge and skill of concerned government stakeholder for doing a particular job. This means providing certain skills and knowledge related to climate change adaptation, use of climate information services and roving seminar to JT/JTA for specific useful competencies. It is not enough for professionals to have an expertise in a

subject matter in order to conduct and deliver training very effectively at farmer's level. With this aim, Training for JT/JTA together with Roving ToT was designed to enhance real practical skills in designing and delivering training that will make a positive difference in achieving desired training outcomes. Moreover, the training was conducted with following specific objectives:

- To explain the concept and effect of climate change in agriculture
- To define greenhouse gas and its effect, global warming
- To identify factors responsible for climate change
- To communicate the existing and potential effects of climate change to the agricultural sector in their working area/region.

- To advise government officials on soil conservation and climate smart technologies.
- To understand the mitigation and adaptation measures for managing the effects of climate change.
- To understand modern agrometeorological techniques and methods for climate change adaptation and mitigation in agriculture.
- To understand measurement of rainfall and temperature and roving seminar modality
- To understand monitoring and evaluation of project activities
- To understand distribution scheme of AMIS Infrastructure (KISAN SIM, Smart Mobile Phone, Rain gauge, Thermometer and Measuring Cylinder).
- To organize roving seminars in the field

Project Sustainability Issues

Although project has made tremendous progress on a number of key objectives such as establishment and efficient operation of Kisan Call Centre, distribution of AMIS infrastructure (Smart Mobile Phone, Kisan SIM, Raingauge and Thermometer), Development of website, and android based application (Hamro Krishi), capacity building activities of farmers through roving seminars and inter-district exposure visit, several studies like baseline survey, climate vulnerable area mapping, frequently asked question of most of crops, package of cultivation practices, video documentaries to disseminate the project activities, Agro-Met Advisory Bulletin (AAB) among all targeted stakeholders.

However, many major activities are yet to be accomplished which had been delayed due to unavoidable circumstances like devastating Earthquake in 2015 (April 25, 2015) followed by unrest political situation in the country which almost hampered for almost one year. The activities to be completed include:

- Completion and "go-live" of AMIS portal and its sustainability
- Impact evaluation of deliverables together with dissemination of Agro-Met Advisory Bulletin (AAB) among all targeted stakeholders including province level.
- Issues of establishment of KCC in the case federal system mainly on institutional structure, Shifting of Kisan Call Centre (KCC) to Rural/Urban Municipality
- Agriculture Insurance to raise the confidence of vegetable, fruit and livestock farmers as many farmers are still unaware about the importance of this scheme and are in need of being covered by the policy.
- Weather based Index Insurance: Crop or livestock insurance relying on direct measurement of the loss or damage suffered by farmers. It should be materialized based on weather.
- Crop Water Satisfaction Index (CWSI): A valuable tool for monitoring and quantifying

water stress as well as for irrigation scheduling.

- Establishment of drought monitoring system (Satellite, Normalized Difference Vegetation Index)
- Linking WAMIS (World Agro-Meteorological Information Service) with proposed initiative AMIS Portal in Nepal to develop suitable mechanism for operationalizing Agro-Met Advisory Services, different range of forecasts, climate monitoring.
- Monitoring of Agro-Meteorology course in University
- Weekly and Long Range Weather Forecast
- Dissemination of AAB through wide media networks in several local languages
- Regular update of information in Portal (Web, App, SMS)
- Continuation of SMS services to the farmers
- Market price and marketing channels information yet to be linked after establishment of AMIS Portal
- Seasonal Outlook yet to be received from DHM

Although smallholder farmers are vulnerable to climate fluctuations and weather extremes affecting agricultural sector, agro-advisories and climate information (historical, monitored, predicted) are providing great potential to enable farmers to make informed decisions, better manage risk, take advantage of favorable climate conditions, and ultimately adapt to change. In this circumstance, substantial body for the dissemination of climatic information to the farmers is crucial in the entire country. In this context, continuation of climate service in new federal system is vital for farmers to mitigate climate risks for increasing agricultural production. For these reasons, concerned stakeholders and donor agency should realize to consolidate the sustainability of the climate service in favor of farmers.

Progress on AMIS Web Portal Development

The latest progress on AMIS Web Portal Development has been summarized as follows:

- AMIS Hardware and Software Specification Revision Updated
- Submission of Software Requirement Specification (SRS)
- Submission of System Design Document (SDD)
- Portal Development, Mobile Application Development and Integration

123rd issue of Agro Advisory Bulletin (AAB) published and disseminated

With the objective of increasing service to provide weather data and crop/livestock information to pertinent districts, integrated agro advisory bulletin of 123rd issues of AAB have been published and disseminated in 25 AMIS pilot districts until October 2017 with major aim to guide activities to be undertaken by farmers along with mitigation and adaptation measures with respect to issues on main crops, vegetables, and livestock and farming practices.



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