



Extent of Awareness and Adoption Level of MDWA and Weather Health Indices Used in Roving Seminars on Weather Climate and Farmers (WcFs) in Andhra Pradesh

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ABSTRACT

During 2007-2014, in the State of Andhra Pradesh (undivided), India, fourteen (14) Roving Seminars were organized on “Weather Climate and Farmers (WCFs)”. An evaluation study was conducted to understand the outcome of these seminars on adoption of weather and climate information in their daily farm operations, by using “Murthy’s Daily Weather and Agriculture (MDWA)”. An open ended interview schedule was used for collecting the data and results of the analysis indicated that weather and climate play a vital role in all the farm operations. Weather/climate is a non- monetary farm input and the impact of “Climate change” is observed on the crops and there is an urgent need to address the impacts of climate change on agriculture. Around 27 per cent of the farmers, agricultural scientists, agricultural polytechnic students followed “ Murthy’s Daily Weather and Agriculture (MDWA)” and weather health indices and used weather as one of the non- monetary inputs. They were able to reduce the cost of cultivation of crops by 11% and improved the quality of their produce by 2-3 per cent. Also, 55 per cent of the farmers and agricultural polytechnic students believed strongly that they were not only able to substantially reduce the cost of cultivation of crops but also obtained quality produce by following MDWA and weather health indices through the knowledge gained in the roving seminars. However , they were unable to quantify in monetary terms. The remaining 18 per cent of the respondents were not able to use MDWA, but able to understand the value of weather health indices.

Key words : Climate, Farmers, Weather.

Weather and climate are some of the biggest risk factors impacting on farming performance and management. Extreme weather and climate events such as severe droughts, floods, temperature shocks, etc., often strongly impede sustainable farming development, particularly in the tropics and sub-tropics. Factors such as climate variability and change contribute to the vulnerability of individual farmers and rural communities. Recent weather and climate research efforts have demonstrated the importance of targeted forecasting and scenario analyses in increasing overall preparedness of farmers leading to substantial overall outcomes.

Given the current concerns with climate change and its impacts on crop productivity, especially in the developing countries of the semi-arid regions, there is an urgent need to sensitize the farmers about the projected climate change in their regions and the different adaptation strategies that can be considered to cope with the projected change. Examples of more general decisions that

can be aided by targeted weather and climate information include strategic and tactical crop management options, agricultural commodity marketing and policy decisions about future land use for agriculture. It is with this background the World Meteorological Organization (WMO) is promoting the organization of a series of one-day roving seminars on “Weather Climate and Farmers (WCFs) in different regions of the world to sensitize farmers about the weather and climate information and its applications in the operational farm management. Also, these seminars will increase the interaction between the local farming communities and the local staff of National Meteorological and Hydrological services (NMHSs). The feedback is crucial for NMHSs in providing better services to agricultural community.

The objectives of these seminars are:

To make farmers become more self reliant in dealing with weather and climate issues as the same affect agricultural production on their farms.

To secure farmer self reliance, through helping them better informed about effective weather / climate risk management by sustainable use of natural resources for agricultural production.

MATERIALS AND METHODS

Organizing the seminars

The one day roving seminars bring together farmers of 2-3 villages to a centralized location. Criteria followed in selection of villages:

Representative of as much possible of geographical area as possible with regard to weather and crops
Gender equality, age, etc.

Large, medium and small farmers in equal proportion

Partners and participation by agencies

Roving seminars are organized in full co-operation with NMHSs, local agricultural extension services with the active involvement of the agricultural research personnel from a regional agricultural research station or agricultural university in a region.

Budget for the seminars

The average cost of organizing the roving seminars depends on location. The amount covers the cost of hiring an appropriate location and its preparation, production of suitable training material in local language, local organizational costs including transport, tea, lunch for all participants and travel and honorarium for the resource personnel, DA, food, traveling allowance etc., to farmers has to be provided. Enough money shall be earmarked for providing information on “weather – climate – Agriculture” in the form of pamphlets, small booklets, study material etc. The approximate cost for each seminar is Rs.50,000/(Rupees fifty thousand only) in Andhra Pradesh, India.

Number of seminars organized

To achieve the above objectives in the State of Andhra Pradesh in India, fourteen (14) roving seminars were organized from 2007 to 2014.

Farmers attendance

The number of farmers attended each seminar ranged from 70 to 95. The women farmers were given lecture modules separately (suitable to their farm activities involving weather). Different groups of farmers participated.

Technical aspects Lectures

Enough care and caution was taken to make lectures more interactive and promote good dialogue with farmers. Selection of villages was completed 10 days before seminar. General climate and weather of the region and village and its influence on crops was documented in advance in the lectures. These lectures in local language (Telugu) by the Director / Co-director / Senior Resource persons, etc., selected for seminars focused on Introduction to weather and climate; Introduction of terminologies used in weather / climate forecasting; Use of short term weather forecasting in agricultural operations weather health indices;

Introduction to clouds, weather map, etc., Introduction to seasonal climate patterns; Climate risk in production and drought alerts in different crops ;Introduction to better risk management; Introduction to measurement of weather elements; Planning cropping strategy, water requirements, etc. ; Video / slide show on weather / climate disasters and their management; Display of wall posters, laminated diagrams on weather and climate.

Murthy’s Daily weather and Agriculture (MDWA)

During each seminar the farmers were given information on weather health indices and shown / given the daily weather data for the last 30 days. This data was collected from the daily newspapers available in the villages where the seminar is being organized after pasting same on a white sheet in front of them a day before the event. After showing this huge and valuable information on weather that is available in their own village then the farmers responded with unparalleled enthusiasm to do the same on their own for their own farm and also community benefits. Some farmers agreed to copy/write the weather information available daily on Television and Radio and transmit / exchange the same with other farmers. This operational agrometeorological tool “Daily Weather and Agriculture (DWA) and in local language called “DVV (Dinasari Vatavaranam-Vyasayam)” involves no money because the newspapers are bought by villagers / farmers for learning and enlightening themselves on several issues. Also, in India newspapers are very inexpensive and Television and Radio are available in all villages. Based on the trends observed (analysis of weather data) the management options and guidance is made

available to the farmers within the hand outs as also the “Vyavasaya Panchangams (Agricultural Dairy)” and book in local language distributed during these seminars. This concept was explained in brief in local language to all the farmers.

Material for banners and pamphlets

Information on weather health indices and the general quotations on “Weather- Crop” , Specific quotations on “Weather- Agriculture “ and some golden tips for better crop production etc., were prepared and used during the seminars.

Farmer – Scientist interaction

Several questions and problems that farmers asked on weather health indices and influence of weather on crops were answered during farmer- scientist interactions. Of them the occurrence, damage and control of pests weather health indices and diseases, agro-meteorological, agronomic issues were discussed and solutions were given.

RESULTS AND DISCUSSION

Extent of awareness level and adoption of MDWA and weather health indices

To study this component three (3) specific technologies on climate change- agriculture were selected. These are 1) and weather health indices. Impact of weather/ climate on crops; 2) Impact of climate change on crops and 3) Use of weather/ climate information as non- monetary input. The level of awareness was analyzed based on “Awareness before Roving seminars and after seminars while level of adoption was based on “Adopted and Not adopted” (DRR, 1994-2005).

In the analysis it was revealed that 1) Weather and climate play a vital role in all the farm operations 2) “Climate Change” is observed and there is an urgent need to address the impacts of climate change on agriculture. 3) Information on weather/ climate can be used as a non- monetary farm input in all the agricultural operations. 4) Around 27 per cent of the farmers, agricultural scientists and polytechnic students followed “Murthy’s Daily Weather and Agriculture (MDWA)” and used “Weather/ Climate” as non-monetary input in their daily agricultural operations. They were able to reduce the cost of cultivation of crops by 11 per cent. Also, 55 per cent of the

farmers and agricultural polytechnic students believed strongly that they were not only able to substantially reduce the cost of cultivation of crops but also obtained 2-3 per cent improved quality produce by following weather health indices and MDWA and knowledge gained in the roving seminars, but, were unable to quantify in monetary terms. The remaining 18 per cent of the respondents were not able to use MDWA but used weather health indices and their knowledge. These results are in agreement with the finding of Singh et al., (2009) and Swanson (2006), Murthy (2012) and (2016).

Impact of the MDWA

Around 27 per cent of farmers who attended the roving seminars and used “Murthy’s Daily Weather and Agriculture (MDWA)” as non –monetary input during their crop growth in south west monsoon period were able to reduce the cost of cultivation of their crops by 11 per cent and increase in the quality by 2-3 percent.

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