Improvement of vegetable cultivation course:
AAI's effort to link abroad experience and training in Japan <Part 4>

Irrigation technology extension, and data collection and application methods for extension

Following the previous part on crop production and irrigation, today we will introduce training focusing on irrigation technology extension and data collection and application methods for extension.

Training on irrigation technology extension

In this training, we focused on the effects of irrigation on crop production, problems irrigation may cause, and the necessity of water saving. We also provided lectures and practices, introducing a case study from our water saving irrigation technical cooperation project in Syria, and effective planning and implementation methods for extension activities.

In Syria's technical cooperation project, we established a system to directly link training and extension to combine extension worker training and actual extension activities. This provided extension workers opportunities to apply what they learn in training in their own extension work. For conducting extension work, we emphasized the importance of good preparation. In the training we introduced a series of preparation tasks including preparation of an activity summary, timetable for the extension day, tools and materials that will be used during extension activities and farmer training materials, as well as questionnaires for participating farmers to evaluate the extension training sessions.

Training on data collection and application methods for extension

In order to implement extension activities effectively, it is necessary to fully understand target areas, and the issues local farmers face. To do this, sorting and analysis of existing information and collected data is an effective method. In this training course, we delivered lectures and practices related to application of basic agricultural data obtained from agricultural statistics and various data obtained from local surveys, as well as development of the questionnaires for data collection.

Methods for understanding target areas

There are many sources of data that can be used in data analysis. In our training, the aim was to see analysis of existing and collected data as a method for improved understanding of characteristics of target areas.

Using the Excel chart creation function, we visualized precipitation, crop production, irrigation area, production cost and issues farmers face. Then participants tried to understand what can be read from the graphs and charts. In addition, by using the Excel filtering function, we taught how to extract data from agricultural statistics data based on a set of conditions, and visualize it in a graph for further analysis.

Farm surveys and data collection

In addition to the use of existing data such as agricultural statistics, we could also use information that is collected through farm surveys. There are different survey strategies. Some surveys would collect a wide range of comprehensive information, and other surveys focused on a smaller number of survey items.

In this training, we employed the latter method, narrowing down targets, finding out the situations surrounding target farmers and identifying their challenges, so that these findings can form the basis for extension activities to follow. For example, we worked on devising measures against scab (*Streptomyces* spp.), one of the diseases that affects potatoes. In a group, participants discussed what type of surveys would be necessary to understand the situation, in order to identify survey items and develop a survey questionnaire. We include in our survey items, target farmers' knowledge and action related to some recommended measures to mitigate outbreak of scab, such as use of high quality seed potatoes, introduction of rotation cropping and controlling of soil pH.

Farm survey results and extension activity planning

After the above farm surveys, we conducted extension activities as a follow-up action for solving identified problems. Farm survey results revealed the actual situation of the scab outbreak and measures that are being taken. Based on the information, the extension target is set. Such targets could include: percentage increase in the number of farmers using high quality seed potatoes; increase in hectare areas with rotation cropping; and reduction in the percentage of scab occurrence. After conducting extension activities, we repeat farm surveys to ascertain and evaluate impacts of the extension activities. By going through a cycle of farm surveys to understand situations, implementation of extension activities to take counter-measures for identified problems, evaluation of extension activities and then further extension activities, we can achieve increased effectiveness of extension work.

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Participants discussing farm survey methods