

## Reports on activities of ex-participants from Nepal <Part 2>

### Application of cultivation technology acquired in training in Japan in the participants' own country

This series, we reported on my visit to Nepalese ex-participants in December 2014 as part of the "Vegetable cultivation technology and marketing method for small scale farmers" course. This second part of the series, we collate case studies of returnees applying what they learned during training in Japan in their own countries.

#### Application of vegetable cultivation technology acquired in training in Japan in the participants' own county

A technique which many ex-participants recognized as useful was rain shelter tomato cultivation. In this visit, we could actually see ex-participants teaching farmers how to do this. We felt happy to know that they were accurately transferring what they learned in their training courses. For example, they were teaching how to evaluate tomato growth using the rates of tomato's stem diameter and the distance between a flower cluster and the growth point.

Presently in Nepal, rain shelter tomato cultivation is widely practiced. This type of tomato cultivation has become an easily applicable technology. On the other hand, the ex-participants who were in Japan one generation earlier, had a slightly different view. When they took the courses in Japan the mainstream tomato cultivation was open field and non-training cultivation with determinate type tomato. This means rain shelter tomato cultivation was not something which can be applied immediately. However since around 2004, when rain shelter and training cultivation began, they became very much needed as extension staff who knew the special cultivation methods.



An ex-participant (left) evaluating tomato growth

The same goes for the hybrid tomato production technology. It used not to be a technique employed in Nepal. However, as hybrid varieties were developed in recent years, people who can provide training to farmers on seed production of hybrid varieties are sought after. From these case studies, we identify two kinds of techniques that are useful in ex-participants' home countries. One is those techniques that can be immediately applied. The other is techniques that can be useful in the future. The training courses consider these two types in the curricula and this visit proved the approach to be appropriate.

In future, as expensive hybrid seeds become common, ex-participants suggested useful training topics which will have future utility. These include effective raising seedling techniques and grafting as a counter measure for nematode damage which affects repeated rain shelter tomato cultivation.

#### Example of application to non-vegetable crops

We also witnessed ex-participants applying what they learned in the training in Japan for other crops. This ex-participant who participated in the 2012 course is working on cardamom cultivation. Cardamom has slow initial growth and is susceptible to weeds. It is also susceptible to dryness and is vulnerable to high temperatures in soil. The participant thought of applying black mulch cultivation techniques which he learned in Japan.

Cultivation techniques that are based on plant physiology can be applicable to all crop production in addition to vegetable cultivation. He understood this well and was working on developing new raising seedling techniques.

#### Other extension activities

For ex-participants who are on management duties away from the cultivation field, there are limited opportunities to apply vegetable cultivation techniques which they learned in Japan. However, we discovered that they are utilizing the training results in different ways such as introducing cultivation case studies from Japan at seminars for farmers and writing about cultivation experiments during the training in Japan in a local bulletin.

During the group discussion with ex-participants, we asked for their opinions on "different cultivation environments" which often is discussed as a challenge of our training courses. Most of them said "It is important to apply knowledge and techniques adapting them to different environments. Implementing this is the job of officers – us."

In order to promote utilization of knowledge and techniques that ex-participants gained in their own countries, it is important to teach basic knowledge, as well as how one could apply the knowledge, considering that what they learn has to be applied in different environments in most cases. The fact that the above opinions were heard from ex-participants, assured me that our training policy is well communicated.

Case studies of ex-participants utilizing cultivation knowledge and techniques learned in training courses in Japan

Example of application in vegetable cultivation technique field	Example of application in other non-vegetable crop cultivation technique field.
<ul style="list-style-type: none"> <li>• Training on rain shelter tomato cultivation (6) Pruning and training, growth evaluation, and pest and disease diagnosis</li> <li>• Training on vegetable seed production techniques Hybrid tomato seed production technique (5); onion seed production technique (3) cucumber seed production technique</li> <li>• Potato cultivation technique (3) Seed potato disinfection technique; increasing of disease free seed potato; planting density; fertilizer experimentation</li> <li>• Introduction of grafting (3)</li> <li>• Raising cell seedling experimentation (2) etc.</li> </ul>	<ul style="list-style-type: none"> <li>• Conducting mulch experiments for beet</li> <li>• Application of black mulch for cardamom seedling production</li> <li>• Growth evaluation and pest and disease diagnosis for cardamom seedling production</li> </ul>
	<p><b>Other extension activities</b></p> <ul style="list-style-type: none"> <li>• Adding vegetable cultivation topic to spice and/or fruit cultivation training for farmers (3)</li> <li>• Writing on experiments done as part of the training in Japan in their local bulletin</li> </ul>

Note: Survey target was 10 ex-participants. The numbers in parentheses indicate the number of cases.