

## Development of Practical Problem-solving Skills: Building Networks to Bridge the Digital Divide in Regional Communities

International Cooperation Department  
The ITU Association of Japan

From December 4<sup>th</sup> to December 15<sup>th</sup>, 2017, the ITU Association of Japan held an APT\* training course in Tokyo on the theme of “Development of Practical Problem-solving Skills: Building Networks to Bridge the Digital Divide in Regional Communities”. This was the ITU-AJ’s first APT training course since our space communication training course seven years previously in 2010. This time, the training was conducted in a rental conference room at the south exit of Shinjuku Station in Tokyo, and the trainees stayed at the nearby Hotel Sunroute Plaza Shinjuku.

There were nine trainees at this course, each from a different country (Afghanistan, Bhutan, Cambodia, China, Mongolia, Sri Lanka, Tonga, Vanuatu and Vietnam) (Photo 1).

Our aim was to equip them with the ability to tackle issues arising from the information gap between urban and rural areas of their own countries by drawing up a plan of action based on an analysis of the current situation in their home country and creating the overall design of a communication network that addresses these issues. To help the trainees

understand the problems in their own countries and acquire the skills needed to propose and evaluate solutions to these problems, they not only attended lecture sessions, but also acquired practical skills by taking part in hands-on training and presentations. This sort of practical work is a major feature of the training course.

To make the trainees aware of the issues originating from the digital divide in their own countries, they were asked to report on the current situation and problems of ICT environments in their own countries before coming to Japan. Before the course began, they all gave presentations to report on the situation in their own countries. Through these presentations and the subsequent discussions with lecturers and other trainees, we aimed to provide the presenters with a deeper understanding of the issues faced by their own countries, and to provide all the trainees with a shared understanding of the situation in other countries. These presentations were preceded by a country report on Japan and an overview of the telecoms situation in Japan presented by Kazuhiko Tanaka,

Secretary-General of the ITU-AJ.

At this short training course of less than two weeks, we focused on two subjects: project cycle management (PCM) and network construction.

PCM is a method for the preliminary analysis of problems in order to find a solution. In this course, we aimed to introduce practical, general-purpose methods for identifying the issues that are necessary for the solution of problems originating from information gaps in each participant’s country, and to provide the trainees with a chance to share their knowledge in group discussions (Photo 2). Furthermore, PCM training was performed before the participants created their final action plans (for solving problems in their own countries), giving each of them the opportunity to organize themselves with regard to the formulation of methods for solving ICT issues in their own countries through discussions with other participants.

For network construction, case studies were conducted on six model areas assuming sufficient basic knowledge of transmission and radio wave propagation

■ Photo 1: Opening ceremony



■ Photo 2: PCM drill



\* The Asia-Pacific Telecommunity

(Table, Photo 3). The trainees designed and planned communication networks for each of these six model areas. By presenting their results and discussing them with the lecturers, the trainees acquired basic knowledge about network construction methods for resolving the digital divide in each country, learned how to apply them later on in their action plans, and became able to use the techniques and knowledge gained here to solve various problems in their countries after returning.

After acquiring basic knowledge of PCM and network construction through practical training in this way, the trainees applied their new-found knowledge to their pre-prepared draft proposals for regions affected by an information gap in their own countries and were able to formulate their proposals as action plans.

On the final day, each participant presented their action plan. These action plans described how PCM and network construction methods can be used to

design and build communication networks that solve the issues of each participant's country and were actively discussed. Based on these discussions and the advice of the lecturers, the trainees brushed up their action plans, and shared them with the other trainees before returning to their own countries. In this way, the trainees were able to acquire knowledge of general purpose problem solving methods and learn about practical problem-solving skills through a solution creation process.

In addition to the lectures and practical training in the classroom, the participants also spent one day on a field trip to a Japan Radio Co., Ltd. factory in Nagano Prefecture, including a demonstration of portable LTE equipment for disaster countermeasures (Photo 4). In the morning before visiting the factory, they stopped by at Zenkō-ji temple in Nagano, which was introduced to them in detail by a local English-speaking volunteer guide (Photo 5). This tour enabled the trainees

to learn about Japanese cutting-edge technology by seeing it for themselves, and to deepen their understanding of Japanese culture.

At the end of the training, we asked the trainees for their opinions and suggestions regarding the course content, text materials and site visits with the aim of making further improvements to courses run in the future. By analyzing and examining their feedback, we identified some points where the course can be improved, and we hope to introduce these improvements starting with next year's program.

Last but not least, we would like to express our gratitude to the APT and the Ministry of Internal Affairs of Japan for their help and cooperation in setting up this course, to the lecturers who created the lecture materials and taught the trainees, and to everyone who worked for such a long time to ensure the smooth running of the field trip.

■ **Table: Six model areas used in the network construction exercises**

Area	Characteristics
A	Sparse villages in a mountainous region
B	Small towns strung out along the path of a river
C	A town, a village remote from the town, and a smaller town situated even further away from the village
D	Towns situated along a coastal road
E	Sparse islands situated in a coastal region
F	Sparse hamlets in a desert region

■ **Photo 3: Network construction exercise**



■ **Photo 4: Field trip to JRC in Nagano**



■ **Photo 5: Visiting Zenkō-ji temple**

