JICA Group Training Course 2013

—*Construction and Design of ICT Infrastructure to Bridge the Digital Divide in Rural Areas*—

International Cooperation Department
The ITU Association of Japan

For about 6 weeks from July 25 to September 6, 2013, the ITU Association of Japan (ITU-AJ) held a group training course on behalf of the Japan International Cooperation Agency (JICA). This training course was aimed at cultivating expertise in the creation of infrastructure development plans to rectify the digital divide in rural areas of the trainees' countries and included theoretical and practical training in the establishment of effective and efficient rural communication network facilities and data transmission methods.

In previous business years, the ITU-AJ has held other training courses on behalf of the JICA: Rural telecom engineering (phase I) (1990–99), Rural telecommunication planning (phase II) (2000–04), Information infrastructure maintenance for rural community (phase III), Networking of rural community information infrastructure course (phase IV) (2005–2009), and Capacity building for developing a communication and information environment in rural community (phase V) (2010–2012). During the 23-year span of these five training courses, we have admitted a total of 243 trainees (including individual trainees).

Starting in the current business year, our latest training course follows on from these previous courses with the first year of phase VI (a three-year course). This year we welcomed nine trainees from seven different countries — Bangladesh, Ethiopia, Myanmar, Peru, Samoa, Thailand and Tuvalu.

In the course lectures, the trainees first learned about the state of telecommunications in Japan (Outline of telecommunications in Japan), and were then given a general introduction to the theory of ICT development in rural areas (ICT development strategy: Global challenges for rural communities, Consideration to provide universal service, Development of rural telecommunications, and Fundamentals of rural telecommunication networks). The course also covered the key technology subjects necessary for network design, including Fundamentals of optical networks, Outline of cellular networks (W-CDMA, LTE), Terrestrial digital broadcasting for distributing information in rural areas, and Sensor Networks. As an example of the implementation of a

Appearance of the Chizu town observation element.

Pattern of lectures

Trainees and field trip destinations

communication network in a rural area, we included an item on ICT Technology and frameworks needed for the introduction of ICT in villages called Actively Promote Use of ICT Utilization in Rural Area. These subjects also included lectures on the state of recovery of mobile communication services following the Great East Japan Earthquake.

As an item on the analysis of designed networks, there were lectures on the items that need to be covered in feasibility studies (Study items and process of Feasibility St), and on the outline of project cycle management techniques.

As a practice exercise, the trainees performed network planning drills. This item involved a case study of six rural model areas based on the technical knowledge acquired so far in this training course. For each of these areas, the trainees designed and planned an optimal rural communication network. The results were announced each day, and were studied and discussed by each subject's instructor. This training course brought together the techniques acquired throughout the course, and was well received by the trainees who were able to devise and apply plans back in their own countries using the techniques and knowledge acquired in this system design exercise.

As an actual case study of the construction and operation of a network for a rural region, we examined the town of Chizu in Tottori prefecture. In this town, a system called IRU (indefeasible right of user) was introduced in order to close the information gap of rural areas. The IRU system is a form of state-funded privatization whereby the local government builds a network, which is then operated by communications providers.

The trainees also visited the Panasonic Electronics factory at Nishikinohama to observe a solar power system, which is attracting attention as a power source that can be used in rural regions. Furthermore, to inspect state-of-the-art telecommunications, the trainees visited the NTT Kansai R&D open room. Each visit was well received by the trainees, who not only experienced the nature of work first-hand, but also gained first-hand experience of the latest telecommunications technology.

At the final stage of the training course, the trainees proposed infrastructure development plans aimed at bridging the digital divide in actual rural regions of their own countries. They submitted these proposals to JICA as interim reports, and also delivered presentations. The interim reports made full use of not only network planning but also project management techniques (PDM: Program Development Matrix), and the network designs included considerations of financial aspects (including profitability), human resources, procurement, environmental effects, maintenance/operation, and future design plans. These were finally summarized as an interim report. When the trainees gave their presentations on the final day, there were active question-and-answer sessions. After the trainees had returned home, this interim report was shared with their companies, where the contents of the reports were brushed up to form (within two months) a final report which was submitted to the JICA.

During the period of this training course, we lent PCs to the trainees in the hope that they would as a rule produce electronic text files on CD-ROM.

This training course received a number of good ratings from trainees, but from next year the ITU-AJ plans to clarify any issues that arise during the course by evaluating the content and text of lectures delivered by trainees at the end of the course, and listening to their appraisals, opinions and requests regarding site visits and field trips. By analyzing and investigating these evaluation results, we will shed light on the course's practical problems.