

APT Training 2024

—Developing fundamental network planning skills to bridge the digital divide in rural areas—

The ITU Association of Japan
International Cooperation Department

In an effort to eliminate information disparity between urban and rural areas of developing countries in the Asia-Pacific Telecommunity (APT), the ITU Association of Japan (ITU-AJ) has been running a human-resource training program called the “APT Training program”^{*1}.

In FY2024, a face-to-face training program was proposed to the APT for the eight days^{*2} from October 23 to November 1. This program was decided in late July, and participants were recruited from August 2 to 29, with 13 participants selected from nine countries (Cambodia, Malaysia, Mongolia, Nepal, Sri Lanka, Palau, Kiribati, Tonga, and Tuvalu). The trainees were lodged at the Hotel Sunroute Plaza Shinjuku, near the south exit of Shinjuku Station, and the training was held in meeting rooms on the fourth floor of an adjacent building.

In an effort to eliminate information disparity between urban and rural areas in developing countries, trainees gained skills to analyze the state of communication networks in their own countries, to use basic network design methods for eliminating information disparity, and to apply these methods designing communication networks optimized for their regions.

The training was conducted with lectures and drills for practice. The network planning lectures, regarding technology methods for overcoming digital disparity, and practice drills were handled by Mr. Takayoshi Hamano, formerly of NTT. There were also lectures on Open RAN, given by Mr. Yuji Araki from OREX SAI Co. Ltd.

The schedule for the eight-day training program was as follows:

- Day 1 AM: Orientation, opening ceremony
PM: Presentation of trainee country reports, welcome reception
- Day 2 AM: Presentation of Japan country report by Mr. Komoro
PM: Lectures by Mr. Hamano and Mr. Araki
- Days 3, 4: Group practice drills and presentations
- Day 5: Visit to NTT e-City Labo and Jindaiji temple
- Day 6: Group practice drills and explanation of action plans
- Day 7: Creating action plans
- Day 8 AM: Presentation of trainee action plans, closing ceremony, farewell lunch

On the morning of the first day,

orientation and guidance regarding the training were given. The orientation included the training schedule and a guide to the Shinjuku area. In the afternoon, there was an opening ceremony, in which Mr. Kaiho Aono from the Ministry of Internal Affairs and Communications (MIC) gave a greeting (Figure 1). This was followed by presentation of country reports by the trainees, which they were required to prepare beforehand (Figure 2). The trainees presented overviews of their respective countries, conditions such as the state of ICT facilities, and the remote region selected for an action plan. Trainees and the instructors shared the state of communications environments in their countries through these presentations and Q&A sessions. After presentation of the country reports, a welcome reception was held in the 2F meeting hall of the hotel where the trainees were staying. Mr. Kotaro Mogi from the MIC attended this reception, building closer friendships with

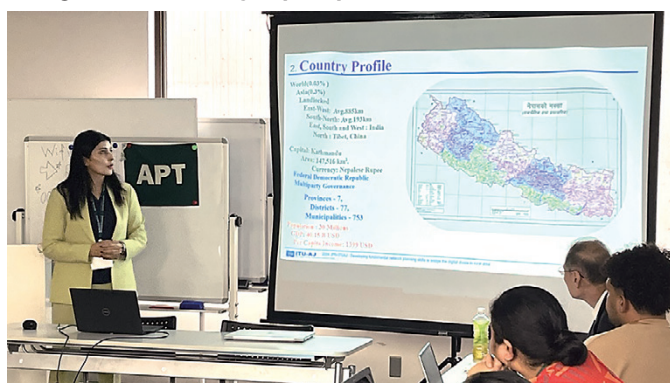
■ Figure 1: Group photograph at the opening ceremony



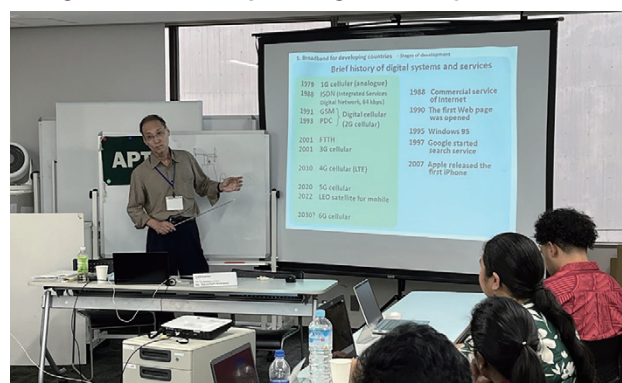
^{*1} A training program funded by the Japanese government to transfer Japanese technologies and services to business people and technologists in APT countries.

^{*2} Excluding the intervening Saturday and Sunday.

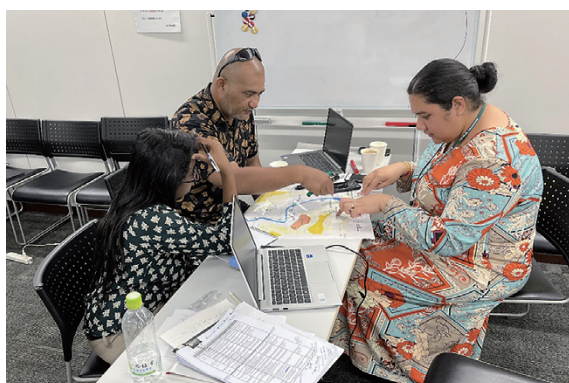
■ Figure 2: A country report presentation



■ Figure 3: Network planning lecture by Mr. Hamano



■ Figure 4: Group discussion during practice drills



■ Figure 5: Presentation after group discussion during practice drills



the participants.

In the morning of the second day, Mr. Takashi Komoro, Secretary-General of the ITU Association of Japan, gave a presentation on the state of mobile communications in Japan, as the country report for Japan. In the afternoon, Mr. Hamano gave a lecture on the network planning to be done on the third and following days, and on wireless technology (Figure 3). This was followed by a lecture on Open RAN by Mr. Araki from OREX SAI Co. Ltd, teaching details about the Open RAN initiative.

On the third, fourth and sixth days, trainees learned basic network design methods through practice and discussion, using drills created with different types of geographic data on each of the three days. During the mornings, the lecturer gave an explanation of the drill, and each trainee individually devised a network plan for that geography. In the afternoons, trainees divided into four groups of three or four

and discussed what would be the best network plan for that geography. These discussions were repeated twice, changing group members, to reach an optimal network plan. Finally, a representative from each group presented their optimal network plan, and these were evaluated by the lecturer, giving comments (Figures 4 and 5).

On the fifth day, trainees visited NTT e-City Labo, in the NTT Central Training Center, so they could see a leading technology research facility in Japan (Figure 6). At NTT e-City Labo, trainees toured some of the solutions that the NTT East Group is currently working on to solve local issues, including digital art, drone-use in infrastructure inspection

■ Figure 6: Group photograph from visit to NTT e-City Labo



■ Figure 7: NTT e-City Labo visit



■ Figure 8: An action plan presentation



(for disaster response and agriculture), 270° naked-eye VR theatre, Local 5G Open Lab, vLab (New Lab), smart construction and logistics, ultra-compact biogas plant, self-driving buses, remote farming trial houses and smart houses, and learned about solutions for realizing a local circular society (Figure 7). Trainees then learned about Japanese culture through a visit to the Jindaiji Temple, which is known as one of the foremost ancient temples in the Kanto region, with a guided tour of the temple given by volunteer sight-seeing guides.

The seventh day was allocated to creation of action plans. On the previous day, Mr. Hamano described how to create an action plan and an application that can be used to create an action plan. The trainees selected a rural area in their own country and had to consider specific factors such as the population, the geography, and the facilities available. They studied optimized network plans for eliminating the digital divide and summarized their materials.

On the last day of training, the trainees gave presentations of their action plans (Figure 8). Q&A sessions with the lecturer and auditors regarding the action plans were held, leading to lively discussion. Afterwards, a closing ceremony was held, with Mr. Komoro, General Secretary of the ITU-AJ, presenting each trainee with a completion certificate (Figure 9). This was followed by comments from the participants evaluating the training, and then a farewell lunch with Japanese cuisine at a Japanese restaurant.

As with last year, there was catering

with drinks and snacks in the training rooms, facilitating lively communication among the trainees and with lecturer and staff. The trainees were particularly interested in the Japanese snacks. To facilitate and promote active group discussion, tables were arranged so that each group could sit around a map of the geography they were discussing. By also holding discussions several times with different group members, they were able to study the network plans while hearing diverse opinions, which helped to create more-complete network plans. A representative from each group presented their best network plan, and effort was made to ensure each member had a chance to give a presentation. Through these efforts, we obtained action plan reports from all of the trainees by the final day.

Satellite communication has been more common in recent years. Many of the trainees this year were interested in

satellite communication, and the lecturer received many questions about it. For future lectures and research facility visits, we will take the latest communication technology trends into consideration when planning lecture content and locations to visit. Also, while the basic concepts related to communication network design and construction will not change, we hope to re-examine the training content to make the training more meaningful and to make the practice drill content more appropriate.

In conclusion, we would like to offer heartfelt thanks to all involved in offering this training program, and in particular to everyone at APT and MIC for their guidance and cooperation, to Mr. Hamano for his efforts preparing the lecture materials and guiding the trainees, to Mr. Araki from OREX SAI Co. Ltd. for giving his lecture, and to Mr. Kobayashi from NTT East for handling the field trip.

■ Figure 9: Group photograph at the closing ceremony

