

JICA Broadcast Training

International Economic Affairs Division
Global ICT Strategy Bureau
Ministry of Internal Affairs and Communications

1. JICA Broadcast Training as ODA

As technical cooperation which composes ODA¹ (Figure 1), the Ministry of Internal Affairs and Communications (MIC) provides three types of training related to digital terrestrial broadcasting (JICA Broadcasting Training) for developing countries with close cooperation with JICA.

Each JICA Broadcasting Training is provided based on some ideas referred to as “Significance of ODA”² (Figure 2). Through contribution on the healthy development of broadcasting which is

essential for social order and prosperity of a nation, JICA Broadcast Training aims to contribute to solving social problems, world peace, and national development. Also, it is another important aspect that JICA Broadcast Training raises Japan’s presence in the world, and promotes the spread of Japan’s knowledge and systems related to broadcasting, that is to say enhancing soft power.

Generally speaking, ODA needs support by “All-Japan”; integrating people, knowledge, financing and technology of both the public and private sectors. This

applies to JICA Broadcast Training as well. To make JICA training fruitful and easier to understand how to utilize Japan’s technology and systems for participants, the training has thus far obtained positive understanding and cooperation from many broadcasters and manufacturers in Japan.

2. Japanese broadcast standards and training

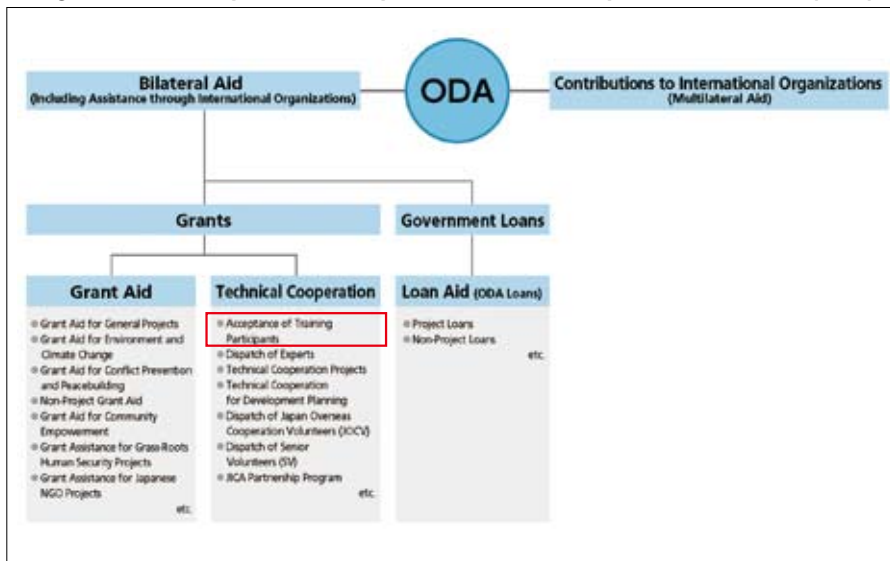
Digital terrestrial broadcasting technology makes it possible to realize high picture quality, expansion of broadcasting areas with efficiency, multiple-channel broadcasts, and transmission of various additional information. Therefore, it is expected utilization of this new technology could be a key in solving many social problems in the world.

At the present time, there are four main standards in digital terrestrial broadcasting, that is ISDB-T, DVB-T/T2, ATSC, and DTMB (Figure 3). Japan has already adopted ISDB-T (Integrated Services Digital Broadcasting–Terrestrial).

In 2013, three countries decided to adopt ISDB-T: Botswana in February, Guatemala in May, and Honduras in September. Moreover, the Philippines, which had been reconsidering which standard to adopt reaffirmed their adoption of ISDB-T in November. In January 2014, MIC dispatched a public-private joint mission in the field of ICT including digital terrestrial broadcasting technology to The Philippines and they participated in ISDB-T International Forum in Manila. Mr. Yoshitaka Shindo, the Minister of Internal Affairs and Communications, led approximately 170 people from 70 companies in Japan.

As of March 2014, Japan is the only country that has completed the transition from analog to digital broadcasting (Analog Switch-Off) with the ISDB-T. Through JICA training, MIC tries to

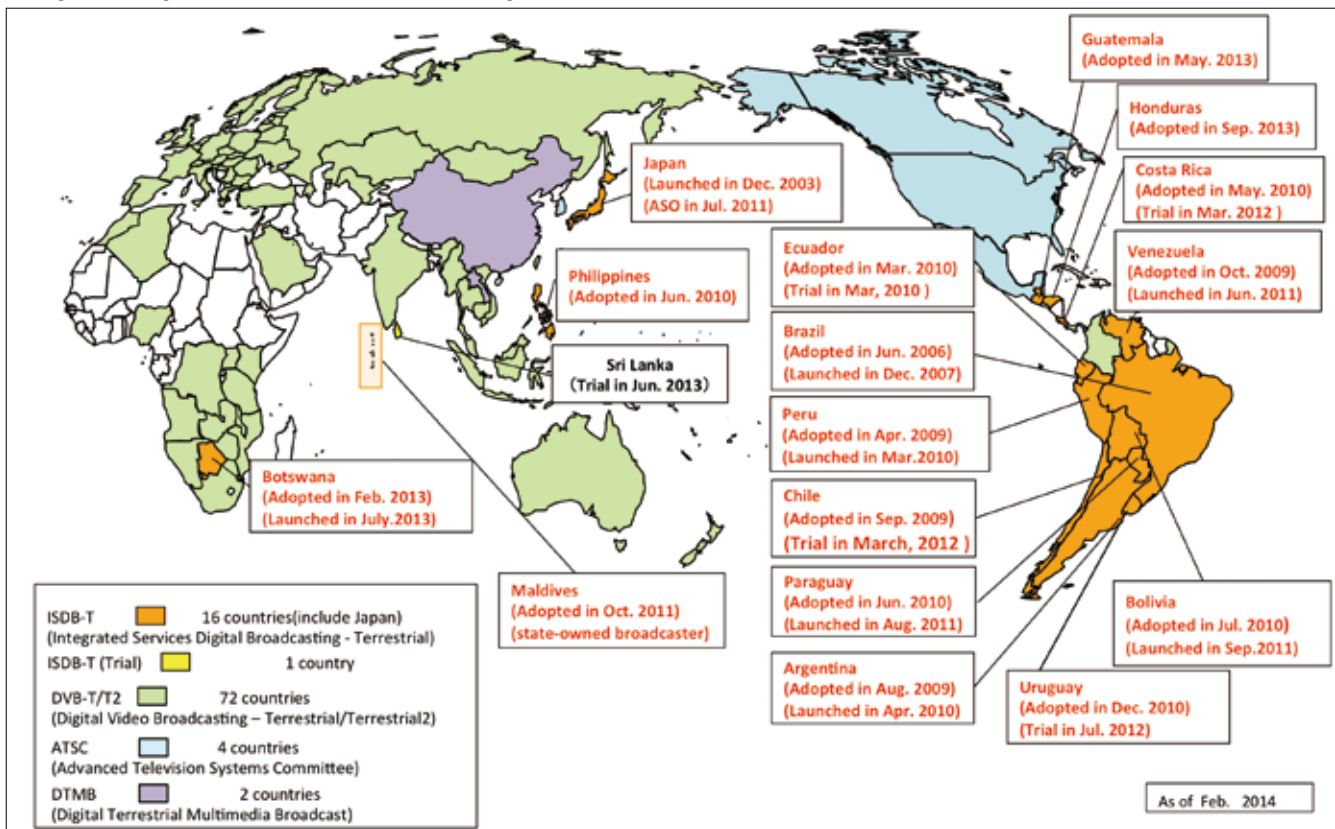
■ Figure 1: The composition of Japan’s Official Development Assistance (ODA)



■ Figure 2: Significance of ODA

- Official Development Assistance (ODA) promotes Japan’s diplomatic efforts, and is one of the most significant means of diplomacy to which Japan contributes internationally.
- Actively using ODA to contribute to the stability and development of developing countries, and to solving global-scale issues also benefits Japan as a country.
- It contributes to reducing poverty in developing countries (to achieving millennium development goals (MDGs)), to building peace and sustainable economic growth, and to the spread and permeation of Japan’s knowledge and systems (expanding soft power). It also contributes to promoting new growth strategies.

Figure 3: Digital Terrestrial TV Broadcasting standards in the world



share Japan’s successful experience of ASO, technic on how to realize various services using ISDB-T, and knowledge about the potential use of ISDB-T in the future, in order to contribute to the development of broadcast policy making and related businesses in each country.

Under the situation that there are significant technical differences between each standard, MIC and JICA provide the training program which mainly consists of contents about a smooth transition to ISDB-T. Therefore, most of the participants come from countries that have already adopted or are considering adopting ISDB-T.

3. Training overview

In 2013, MIC and JICA held three types of broadcast-related training programs (Table 1).

The “Digital Terrestrial TV Broadcast (DTTB) Engineering” course was held in June and September. The program provided a systematic learning of digital broadcast engineering theory, initiatives and problem solving measures taken in Japan to spread digital broadcasting,

Table 1: JICA Broadcast Training

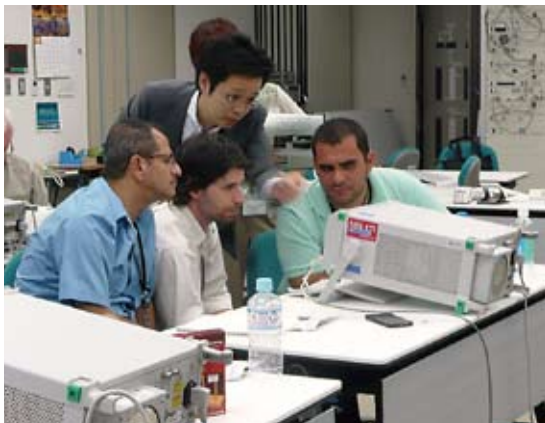
Course Title	Dates (2013)	Trainees (2013)	Content
Digital Terrestrial TV Broadcast (DTTB) Engineering	<English> 6/26 to 8/2	Bhutan (2), Botswana, South Sudan (2), Sri Lanka (3), Zimbabwe (2) <5 countries, 10 participants>	<ul style="list-style-type: none"> - Digital technology theory (sampling, transmission, modulation) - Transmission systems (parallel operation of digital and analog) - Issues with implementing digital broadcasting (Japan case studies, channel planning) - Applications for disaster reporting, digital broadcasting services for educational programming.
	<Spanish> 9/10 to 10/11	Argentina, Bolivia, Brazil, Costa Rica (2), Ecuador, Guatemala, Paraguay, Peru, Uruguay, Venezuela <10 countries, 11 participants>	
TV Program Production for Digital Terrestrial Broadcasting	9/2 to 9/20	Angola, Brazil (2), Chile (2), Costa Rica, Malaysia, Myanmar, Paraguay, Peru, The Philippines, Viet Nam <10 countries, 12 participants>	<ul style="list-style-type: none"> - Broadcast program content rights and protections - Program production technology (HD-specialized filming, digital video compositing technology, etc.) - Visit a program production company for a deeper understanding of program production using digital broadcasting technology (data transmission, One-Seg broadcasts, multi-language broadcasts, etc.) - Training in planning program production using data transmission technologies. - Publishing and discussing program planning proposals.
ISDB-T Broadcasting Executives’ Seminar	11/5 to 11/15	Brazil, Chile, Democratic Republic of the Congo (DRC), Malawi, Paraguay, Peru, Sri Lanka (2) <7 countries, 8 participants>	<ul style="list-style-type: none"> - Japan broadcasting policy, ISDB-T features, etc. - Issues and solutions in switching to digital terrestrial broadcasting. - Methods for deciding a channel plan. - Developing content using features of ISDB-T - Tour of broadcast station, Inter BEE trade show

and technical operation know-how for engineers from broadcasters and related facilities in each country. Many of the countries adopting the ISDB-T are in Central and South America (Figure 1), hence this training program was held in two languages to facilitate participation by engineers; the June course was in English and the September course was in Spanish.

The second training type, titled

“TV Program Production for Digital Terrestrial Broadcasting” was held in September, for directors and producers from national and public broadcasters. The program covered basic knowledge and technologies related to program production for digital broadcasting, as well as new program production technologies and planning methods using the features and technologies of ISDB-T, such as data

■ Photo 1: Transmission/reception training 1



■ Photo 2: Transmission/reception training 2



■ Photo 3: Electric field strength measurement training 1 (class training)



■ Photo 4: Electric field strength measurement training 2



broadcasting³ and One-Seg broadcasting⁴. To encourage conversion of broadcast to digital, it is important not only to prepare the equipment, but also to broadcast attractive and interesting content, so that the population would be willing to view digital broadcasts. Improving the program production capabilities of producers and directors involved in digital content production will become increasingly important in the future, and for that reason, starting in 2013, this new training was offered.

The third training type was titled “ISDB-T Broadcasting Executives’ Seminar.”, aiming to improve general problem solving policy deliberation capabilities for managers of ministries overseeing broadcast administration and related facilities, such as the policy knowledge and public-private cooperation approaches needed in conversion to digital. To support the spread of the ISDB-T, it is particularly important that management in broadcast-related organizations recognize

and understand the superiority of ISDB-T, such as One-Seg broadcasting, data broadcasting, and Emergency Warning Broadcasting System (EWBS)⁵. The program also aimed to promote sharing information about the state of broadcasting in each country, and as such, encourage cooperation across countries in the field of broadcasting, based on the friendships built during the program in Japan.

4. Future of training

The environment surrounding broadcast changes continuously, and various new issues to be reconsidered arise every year. Different participants join the program from various backgrounds. It is thus important to study the issues and amend the contents of programs accordingly. An evaluation meeting is set on the last day of training programs for those concerned, including JICA, MIC and implementing organizations, to gather and meet with participants of the programs, and to talk about impressions and possible

future improvements.

We received various opinions from participants this year. Most responses indicated that the overall training was beneficial, but when asked to identify points for improvement, one response was that it would be good to have courses tailored in more detail to the needs of each country, since progress in switching to digital differs by country. On the other hand, another response indicated that it was important to have the same training for different countries, to get an insight into such differences. There were also opinions to be considered to improve and make the training more meaningful in the future, such as requests for content that was not covered this time, or to place more emphasis on different topics and change how time is allocated.

An evaluation meeting is not the only chance to consider improvements. We are also considering using opportunities for exchanges between the trainees and Japan before they arrive in Japan to see what

■ Photo 5: Channel planning training



■ Photo 7: At closing ceremony



■ Photo 6: Sendai broadcast station tour



concerns and interests they may have, while participants are tasked with preparing a country report describing the state of broadcasting in their country which is to be presented on the first day of a training program.

MIC and JICA hope to provide training that meets the needs of participants by valuing such feedback from them and continue to study such needs.

5. Expectations for the training

Naturally, the broadcast-related issues and the needs of the people in each country differ, since participants gather from different countries. On the other hand, what we, Japan, are able to convey is the experience of Japan in switching to digital broadcasting. In sharing this experience of Japan, there may not be much that can be applied directly in the participants' home countries. Even so, they can adopt and utilize what they have learned in Japan, and if even a little of it is useful, then the training should be meaningful.

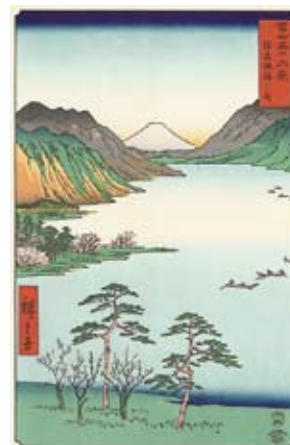
Through digital broadcasting, we hope to improve the lives of people around the world even by a small amount, and that would, as a result, help to increase the number of people with an affinity for Japan, maintaining the connections among concerned personnel in Japan and the participants, so that we can help each other in the future as well.

Finally, we would like to express thanks for the large amount of cooperation we received in providing this training, from JICA, the course leaders from the NHK Communications Training Institute (NHK-CTI) as an implementing organization, and everyone at the various broadcasters and manufacturers. In 2013, the 2020 Olympics was awarded to Tokyo. As the switch to digital broadcasting progresses

around the world, the MIC is working vigorously to maximize this opportunity to enrich broadcasting in Japan. We expect that Japan and participants will keep in touch with, and many broadcasting-related people from many countries will attend our training, and come to see the real situation of broadcasting in Japan.

- 1 Japan's Official Development Assistance White Paper 2012/Japan's International Cooperation: <http://www.mofa.go.jp/policy/oda/white/2012/pdfs/contents.pdf>
- 2 From Ministry of Foreign Affairs web site: <http://www.mofa.go.jp/mofaj/gaiko/oda/about/oda/oda.html>
- 3 Allowing the latest information to be displayed with a push of a button on a remote control, including news, weather, lifestyle, educational, or government report information.
- 4 With services for portable/mobile devices (One-Seg), digital broadcasts can be viewed on devices other than mobile phones while out, such as automobile navigation systems, PCs and portable televisions.
- 5 Enabling emergency information to be received, whether at home or away from home.

Cover Art



**Fuji sanjurokkei
SHinshu,
Suwa no Mizuumi
(Lake Suwa in Shinano
province, from the series 36
Views of Mt. Fuji.)**

Utagawa Hiroshige (1797-1858)

Woodblock print:
Courtesy of Sakai Kokodo Gallery