





#### About The Cover

The past 60 years witnessed a deepening and strengthening cooperation between Japan and the Philippines – a relationship made more meaningful by the growing number of beneficiary individuals, communities, and sectors depicted in the cover montage. The circular design represents the dynamic cycle of kanreki, which in Japan means a new beginning or rebirth after 60 years.

#### About JICA

JICA is the world's largest bilateral development organization operating in over 150 countries to help some of the globe's most vulnerable people.

JICA in the Philippines provides cooperation in economic growth, poverty reduction, disaster mitigation, other development issues such as health and governance, and in promoting peace and development in conflict-affected Mindanao. With these focus points, JICA aims to promote inclusive and dynamic development to secure a better future for Filipinos.

**60 years** Japan's Official Development Assistance<sub>y</sub>

#### Japan Together with the World

The logo reflects the strong friendship of Japan with the world as conveyed by the image and meaning of Mizuhiki. Throughout centuries, the Mizuhiki evolved into an art, and added special meaning to the Japanese word Musubu meaning connection or tying.

As Japan marks 60 years of its Official Development Assistance (ODA) since it joined the Colombo Plan, a collective socio-economic development effort worldwide, the Mizuhiki-inspired logo was chosen to resonate Japan's enduring affection and togetherness with the rest of the world.

FOREWORD

HISTORY: Through the Years: Evolution of Japan's Official Development Assistance

- **CHAPTER 1:** Nurturing Meaning ful Friendship
- **CHAPTER 2:** Securing Basic Human Needs
- **CHAPTER 3**: Building Institutional Capacity
- **CHAPTER 4:** *Promoting Equitable Growth*
- **CHAPTER 5:** Enhancing Resiliency Against Natural Calamities



#### 60 YEARS OF JAPAN-PHILIPPINES COOPERATION

While JICA operations in the Philippines started only in 1974, the road to friendship through Japan official development assistance began in 1954 when Japan joined the Colombo Plan that was earlier formed–originally by and for British Commonwealth nations–to facilitate cooperation and assistance to developing countries.

As Japan's economy strengthened in the 1970s and became one of the world's leading industrialized nations, its role as a source of development aid to many developing countries likewise grew. In 1989, Japan became the world's top donor nation.

The Philippines is among the countries that has benefitted immensely from Japan's assistance and cooperation programs– from infrastructure, health care, education, food security, and capacity-building of many government agencies. In the process, it improved and enhanced the lives of millions of Filipinos throughout the archipelago.

This book marks not only the 60 years of Japan-Philippines cooperation, it also chronicles how individuals and sectors have grown and developed to become self-sustaining communities with the help and generosity of a caring neighbor. "May the stories highlighted in this book enlighten us with lessons and best practices that we can carry on to our ongoing and future cooperation projects."

#### FOREWORD

# A SOLID LEGACY OF COOPERATION

To our friends and stakeholders in the Philippines, we thank you for your unwavering support to the Japan International Cooperation Agency (JICA).

JICA will continue to support, as we have done for the past decades, the Philippines' aspiration for sustained economic growth. We laud the efforts of the Philippine government in bringing prosperity closer to its people.

It is worth noting the global recognition given to the Philippines as Asia's emerging bright spot in recent years. In this context, JICA therefore remains steadfast in addressing areas such as socioeconomic, infrastructure, lasting peace and development in Mindanao, and typhoon Yolanda reconstruction and recovery so that development will impact more people.

As a returnee or *balikbayan* to the Philippines, I look forward to stronger partnerships with our counterparts built upon the solid legacy of past Japan-Philippine cooperation projects.

May the stories highlighted in this commemorative publication enlighten us with lessons and best practices that we can carry on to our on-going and future cooperation projects.

Likewise, as we remember the 60 years of Japan's Official Development Assistance (ODA) this year, we hope that the young generation of Japanese and Filipinos find inspiration in our past projects most especially in exploring new ways, ideas, and opportunities that address the challenges of our countries.

Once again, thank you for your support to JICA, and we look forward to more successful years of Japan-Philippines cooperation.

NORIAKI NIWA Chief Representative

### THROUGH THE YEARS: **EVOLUTION OF JAPAN'S OFFICIAL DEVELOPMENT ASSISTANCE**

1962 Overseas Technical Cooperation Agency (OTCA) was

![](_page_3_Picture_2.jpeg)

### 1978

Japan announced five consecutive mediumterm ODA targets for the country

![](_page_3_Picture_5.jpeg)

![](_page_3_Picture_7.jpeg)

### 2003

JICA transformed from special public institution to an independent administrative institution

![](_page_3_Picture_10.jpeg)

![](_page_3_Picture_12.jpeg)

2008 The new JICA was launched

# 1999

Japan Bank for International Cooperation (JBIC) was established by merging the Export-Import Bank of Japan (JEXIM) and the OECF

### 2007

JOCVs dispatched in the fields reached 30,000; number of countries receiving ODA loans reached 100

![](_page_3_Picture_18.jpeg)

# 2014

Japan ODA celebrates 60 years of development cooperation in the Philippines

![](_page_3_Picture_21.jpeg)

# NURTURING MEANINGFUL<br/>FRIENDSHIP

CHAPTER

![](_page_4_Picture_2.jpeg)

![](_page_4_Picture_3.jpeg)

Yoko Ishii (left), a young Japanese volunteer dispatched to Department of Trade and Industry, Bohol

![](_page_5_Picture_0.jpeg)

Launching of JICA Alumni Association of the Philippines (JAAP) 8 March 2014, Universidad de Manila

# TRAINING FILIPINO LEADERS

"It was through my training in Japan that I made better sense of the words respect, friendship, and leadership. We learned discipline, became organized, focused, and more importantly we shared what we have learned by being active in the alumni association. The training had a positive impact to my personal and professional life."

**EVANGELINA G. LAWAS JAAP Interim President** 

exposures in Japan.

Training Program for Young Leaders (TPYL) Rural Development Training Course Tohoku, Japan 2013

In 1984, the ASEAN-Japan Friendship Program for the 21st Century was established to create venue for cultural exchange and promotion of friendship and mutual trust between Japan and the ASEAN countries. This was later on renamed as Training Program for Young Leaders (TPYL) in 2007. TPYL sends group of Filipino young leaders to Japan to enhance their specialties by experiencing and learning technologies and skills for a period of 18 days.

Other than short-term training courses, JICA also offers the Japan Grant Aid for Human Resource Development Scholarship (JDS). It aims to provide Filipinos a Master's Degree from top Japanese universities in order to strengthen the human resource of the Philippine government.

One of the nurturing aspects of Japan-Philippines friendship and cooperation is the training program provided to Filipinos which began in 1954. Filipinos acquire technical skills and knowledge from Group Training Courses (GTCs) through sharing of expertise and field

![](_page_5_Picture_11.jpeg)

![](_page_5_Picture_13.jpeg)

JDS Batch 11 Fellows send-off celebration, August 2013 Makati City

![](_page_6_Picture_0.jpeg)

Japan - ASEAN Friendship Programme for the 21st Century Nippon Budokan, Japan

April -May 1985

![](_page_6_Picture_2.jpeg)

![](_page_6_Picture_3.jpeg)

Japan - ASEAN Friendship Programme for the 21st Century Nagano, Japan, April - May 1985

![](_page_6_Picture_5.jpeg)

Group Training Course in the Maintenance of Construction Machinery Tokyo, Japan, May - August 1981 JICA's training programs heavily involve Japanese universities and non-government organizations to share technologies and expertise in agriculture, rural development, health, education, environment, disaster management, peace-building, and governance, among others.

Following the steady increase of the number of Filipinos trained in Japan, two alumni associations were established for the JICA training programs.

Participants of GTCs organized the Philippine-Japan Fellows Association (PhilJAFA) in 1967. The Philippine-ASEAN Japan Friendship Association (PAJAFA-21) was created for the alumni of TPYL in 1984.

The alumni groups were consolidated under the JICA Alumni Association of the Philippines, Inc. (JAAP) which also included JDS fellows in 2013.

As of 2013, the program already benefitted more than 15,000 Filipinos with many past participants making significant contribution in their respective fields.

Group Training Course in Maintenance of Construction Machinery, Tokyo Japan May - August 1981

![](_page_6_Picture_14.jpeg)

![](_page_7_Picture_1.jpeg)

Safe Vegetables Promotion and Marketing Project with Soil/ Resource Conservation, Benguet Province

One of JICA's grassroots projects include the establishment of Mokusaku production plants through JAEC. Mokusaku or wood vinegar is made from charcoal and other organic waste products, and is being used as an alternative to fertilizers.

# EMPOWERING

THE GRASSROOTS THROUGH JAPANESE NGOS, UNIVERSITIES, AND LOCAL GOVERNMENT

![](_page_7_Picture_6.jpeg)

Safe Vegetables Promotion and Marketing Project with Soil/Resource Conservation, Japan Agricultural Exchange Council (JAEC) La Trinidad, Benguet

![](_page_7_Picture_9.jpeg)

Watershed Reforestation and Environmental Education Programs Ikaw-Ako Japan-Negros Partnership, Silay City, Negros Occidental

Aside from implementing government-to-government assistance projects, JICA also tapped Japanese non-government organizations (NGOs), local government units (LGUs), and universities to help in the socio-economic development of the grassroots communities.

Through the Technical Cooperation for Grassroots Projects (TCGP) scheme, JICA is able to further promote and nurture the mutual trust, friendship, and cooperation between Filipinos and Japanese. Under TCGP, the implementing Japanese organization is dispatched to the grassroots community to directly share their technologies and expertise.

![](_page_8_Picture_0.jpeg)

Japanese volunteer Hiroyuki Kato assisting students of Bohol Island State University (BISU)

Silk Industry Support Project Organization for Industrial, Spiritual and Cultural Advancement (OISCA) Japan Bago City, Negros Occidental

![](_page_8_Picture_3.jpeg)

Currently, there are 15 community-based projects under TCGP in the Philippines ranging from Tuberculosis control and prevention, protecting children's rights, microfinancing for farmers, indigenous farming, and promoting health and sanitation among indigenous communities like the Mangyans.

Other projects that are undertaken in cooperation with Philippine NGOs and LGUs include disaster risk reduction and management, reforestation and agroforestry, organic vegetable farming, rabies prevention, and community livelihood improvement.

![](_page_8_Picture_6.jpeg)

Farmers harvest cocoons in Bago City, Negros Occidental

# BUILDING FRIENDSHIP AND MUTUAL UNDERSTANDING

PHOTO BY MR. HIROYUKI KATO

![](_page_9_Picture_0.jpeg)

VOLUNTEERS DISPATCHED TO THE PHILIPPINES AS OF MAY 2014

![](_page_9_Picture_2.jpeg)

Takaaki Ito in Tuloy Foundation Inc., Muntinlupa City

The Japan Overseas Cooperation Volunteers (JOCV) Program dispatches young Japanese professionals to provide technical assistance and transfer technology at the grassroots level since 1965.

The volunteers provide support on a wide range of fields and specializations directly to the local people, where they find great fulfillment and genuine friendship while building understanding and cooperation.

Juri Watanabe (middle) in Mayoyao, Ifugac

"With JOCVs here in the Philippines, we are able to provide the necessary technical expertise to Filipino partner institutions-both government and non-government and at the same time, promote better socio-cultural understanding between our societies.'

JOSELITO DE VERA Executive Director, Philippine National Volunteer Service Coordinating Agency (PNVSCA)

"A JOCV, Mr. Shinji Kameyama, (who was initially assigned to UP CVM) was absorbed by the budding semen processing laboratory at DTRI. At that time, the laboratory had only very minor equipment, but Mr. Kameyama put to good use his expertise on semen processing, artificial insemination and embryo transfer. His presence in the laboratory helped the staff produce researches and student theses. He also helped in the preparation of the program proposal on dairy development that was eventually supported by JICA."

DR. JOSE ARCEO BAUTISTA Associate Professor, College of Agriculture, UPLB

Artificial Insemination Project Dairy Training and Research Institute (DTRI) University of the Philippines Los Baños

JOCV Yamaki (left) in a dairy farm in Sta. Maria, Bulacan

![](_page_10_Picture_5.jpeg)

"I still recommend young Japanese to join the JICA volunteer program. Personally, if I haven't been a volunteer, my view of the world would still be limited. When I came to the Philippines, I immediately felt accepted and had many friends."

KUMIKO YAMAKI former Japanese volunteer for artificial insemination

#### JAPANESE VOLUNTEERS STRENGTHEN LIVESTOCK INDUSTRY

Backyard farmers account for 90% of the livestock industry in the Philippines, but most do not have the know-how, resources, and capability to increase production on their own. With this, volunteers from the Japan Overseas Cooperation Volunteers (JOCV) Program provided training and technical support on artificial insemination to small farmers.

JOCVs were first dispatched to the National Artificial Breeding Center (NABC) in the late 70s, with JICA providing assistance to the Bureau of Animal Industry (BAI) in creating a system to strengthen artificial insemination in the grassroots level.

Today, the successful Unified National Artificial Insemination Program continues to help not only increase the income of small backyard growers, but also enhance the quality and market value of the Philippine livestock industry.

# SECURING BASIC HUMANAN NEEDS

CHAPTER

![](_page_11_Picture_2.jpeg)

# I M P R O V I N G QUALITY OF BASIC EDUCATION

IND COODD

JAPH ; AND PHIL TP

"In the 1990s, the Philippines ranked third from the bottom in the whole Asia in Science and Math because majority of the teachers were not Science or Math majors. After our teachers underwent the School-Based Training Program (SBTP), our National Achievement Test results improved, and for quite some time Iloilo schools were posting the highest scores. The cooperation continues, now we have two JOCVs working with us."

> **PROF. ELLEN HOJILLA** Western Visayas State University

Recto Memorial National High School (RMNHS) Tiaong, Quezon

"The inquiry-based learning approach that we adopted from the project, which is widely being used and enhanced by the teachers trained under NISMED, helped a lot in improving class participation and performance. It widened and deepened the scope and coverage of the approach in teachers' training and student learning.

DR. MERLE TAN former Director, UP-NISMED

![](_page_12_Picture_6.jpeg)

2.854 NEW CONSTRUCTION

**ELEMENTARY SCHOOLS** 

Number of school facilities assisted under Yen loan scheme

Eastern La Trinidad National High School, Beckel, La Trinidad, Benguet Province

![](_page_12_Figure_12.jpeg)

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JICA school building in Haliap National High School Haliap, Ifugao

![](_page_13_Picture_1.jpeg)

![](_page_13_Picture_2.jpeg)

A JICA school building inside Eastern Visayas State University in Tacloban, Leyte withstood Typhoon Yolanda and is currently being used by students in the area.

The Japanese government plays a major role in uplifting the quality of basic education in the Philippines. JICA's assistance to the education sector ranges from providing textbooks and educational equipment, training science and mathematics teachers, to constructing and rehabilitating thousands of typhoon-resilient school buildings nationwide.

JICA helped build resilient elementary and secondary school buildings in over 535 sites from 1994 to 2005 under JICA's grant aid program. Apart from easing shortage of classrooms, the sturdy structures also helped save thousands of lives as it also serve as evacuation shelters during typhoon season.

Meanwhile, JICA's collaboration with the University of the Philippines-National Institute for Science and Mathematics Education (UP-NISMED) helped train thousands of science and math teachers and upgraded their teaching methods and materials.

Japan, through then Japan Bank for International Cooperation (JBIC) and World Bank, financed the Third Elementary Education Project (TEEP), a 10-year ODA loan-assisted project implemented from 1997 to 2006 which helped improve access to basic education among the country's poor and marginalized. Under TEEP, 2,854 new school buildings were built, and more than 9,000 facilities were rehabilitated.

![](_page_13_Picture_8.jpeg)

Natives of Mayoyao, Ifugao practice facility-based delivery under Maternal and Child Health Care Project, Mountain Province

# P R O M O T I N G MATERNAL AND CHILD HEALTH CARE

![](_page_14_Picture_0.jpeg)

Mayoyao District Hospital Ifugao, Mountain Province

![](_page_14_Picture_2.jpeg)

Benguet General Hospital La Trinidad, Benguet

Japan's support to the Philippines to reach the UN's Millennium Development Goals (MDG) is most apparent in the field of maternal and child health (MCH) care. JICA's assistance has led to a dramatic decline in the number of maternal and child deaths in the country, especially in poor and remote regions.

JICA has been assisting the Department of Health (DOH) in improving MCH since 1967 through various projects including Poliomyelitis Control (1967-1974); Family Planning (1974-1989); Maternal and Child health and Family Planning in Region III (1992-2002); and the Medical Equipment Supply with the UN Food Program (1996-2003).

JICA's MCH programs are most successful in the provinces of Biliran and Ifugao, where mother and child mortality rates were significantly reduced through JICA's provision of intensive training for health workers, improvement of health facilities, and raising awareness on safe motherhood and child care.

To further promote the project, DOH and JICA produced a jingle entitled *"Sa Health Center, Suportado Ka!"* sung by the mother and daughter tandem of Kuh and Isabella Ledesma. The song aims to promote expecting mothers to seek pre-natal care through regular visits to the local health center, facility-based delivery, and postpartum care with the help of Community Health Teams.

The success prompted the continuation of JICA and DOH partnership in the Cordillera through a project on "Strengthening of Local Health Systems for Effective and Efficient Delivery of MCH" in 2012, that helped lower maternal and infant mortality rates in the Philippines.

"Because of JICA's support, Biliran became a model in maternal and child health care. Before, only 10-30% of births in the province were delivered in maternal facilities, but this increased to 95% after only a year into the program."

DR. CORAZON SABULAO former Family Health Section Head, DOH Region 8

Naval Rural Health Unit Biliran, Leyte

In partnership with Japanese small and medium enterprises (SMEs), JICA facilitated partnerships with selected water service providers and Japanese SMEs. This collaboration involves water quality enhancement programs and capacity development of personnel in improving efficiency in the delivery of water services. Through the introduction of Japanese technology and experience, access to water supply and resource management is enhanced.

PHOTO BY HARVEY TAPAN

Metropolitan Cebu Water District (MCWD) and Cagayan de Oro City Water District (COWD) are recipients of such partnerships in collaboration with Yokohama Water Co., Ltd. Existing programs on non-revenue water reduction of these water assistance that will be provided through a team of experts from Japanese SMEs.

Aside from technology sharing and capacity development, JICA also provides financing assistance to the water supply and sanitation sector. JICA provided funds to the Development Bank of the Philippines (DBP) that can be used to fund water supply and sanitation projects. A pioneering funding facility was developed by

JICA in collaboration with DBP and the United States Agency for International Development (USAID).

Given the sector's huge investment requirements which ODA funds cannot cover solely, private sector participation in financing through private financial institutions (PFIs) involvement was formulated through the Philippine Water Revolving Fund (PWRF). The main objectives of the PWRF is to leverage ODA funds with funding from PFIs; offer a financing scheme that is acceptable to PFIs and at the same time, affordable to service providers; and develop a mechanism that has a revolving capacity. To encourage private sector participation, JICA's investment assistance was districts will be further enhanced with the complemented by USAID's guarantee fund for PFIs and technical assistance to service providers.

> Through PWRF, access to potable and affordable water supply services has been facilitated not only in the Metropolitan Manila but also in areas outside of Metro Manila. It has also spurred greater interest from the private sector (through PFIs) not only in financing but also in operations and maintenance.

![](_page_15_Picture_9.jpeg)

![](_page_15_Picture_10.jpeg)

CHAPTER

![](_page_16_Picture_1.jpeg)

![](_page_16_Picture_2.jpeg)

![](_page_17_Picture_0.jpeg)

# STRENGTHENING RESEARCH AND DEVELOPMENT FOR RICE SUFFICIENCY PHILIPPINE RICE RESEARCH INSTITUTE

Muñoz, Nueva Ecija

![](_page_17_Picture_5.jpeg)

![](_page_17_Picture_6.jpeg)

(All photos) Philippine Rice Research Institute (PhilRice)

JICA's assistance to the Philippine Rice Research Institute (PhilRice) included not only technical expertise but also new technologies, training, and assistance in building and maintaining a modern, well-equipped, and dependable rice research agency.

Dr. Santiago Obien, PhilRice's first Executive Director when the agency was established in 1985, said the first JICA mission in 1980 helped PhilRice in implementing the national rice self-sufficiency program. Under the five-year technical cooperation project called The PhilRice Project or TCP1 (1992-1997), the JICA program included building the research institute in Muñoz, Nueva Ecija, equipping its laboratories and training its staff.

Today, PhilRice remains at the forefront of rice research and development in the Asia-Pacific region, producing strains and varieties suited to different terrains and elevations, thereby helping achieve a nation's dream of food security and prosperity.

#### **Major JICA Contributions:**

Improved research and development (R&D), manpower capability, equipment/supplies for R&D, and training.

Six rice varieties with high-yield and excellent grain qualities approved:

- PJ2 NSIC Rc104 suited to cool elevated areas under medium elevation; being planted in Ifugao and Benguet
- PJ21 NSIC Rc134 (Tubigan 4) very early maturing variety with high yielding potential; popular in Nueva Ecija and Bulacan
- PJ25 NSIC Rc138 very early-maturing variety with wide adaptation to direct seeding in irrigated lowlands. High yielding with stable performance across wet and dry seasons
- PH7 NSIC Rc146 location-specific adaptation to favorable saline-prone areas in Cagayan, low solar radiation in the CARAGA region, and other rain-fed areas
- PJ27 NSIC Rc150 (Tubigan 9) high-yielding rice variety with 10% yield advantage, matures in109 days and has intermediate resistance to blast, bacterial leaf blight, sheath blight, and stem borer
- PJ33 NSIC Rc216 (Tubigan 17) early maturing varieties (112 days) under transplanting method and 104 days in direct wet-seeding, moderately resistant to yellow stem borer, brown planthopper, green leafhopper

A total of 18 long-term and 56 short-term Japanese experts deployed.

A total of 55 Filipinos availed short-term training and exposure on rice research and production in Japan.

"All throughout the project, our relationship was excellent. There are many things, many lessons we learned from the Japanese people, the JICA experts --the high quality of their work, the thoroughness and way of handling projects. Precision is something to appreciate about the Japanese people. We were able to make things happen because we understood what we have to do. There was mutual trust. They understood what we needed and we understood and appreciated how things should be done. And all activities under the JICA projects were completed on time."

DR. SANTIAGO OBIEN former PhilRice Executive Director

**NSIC Rc278** 

Food and Drug Testing Laboratories Alabang, Muntinlupa

### MODERN TESTING CAPABILITIES FOR **SAFE AND QUALITY FOOD AND DRUGS** IN THE MARKET FOOD AND DRUG ADMINISTRATION

![](_page_19_Picture_3.jpeg)

Food and Drug Administration (formerly Bureau of Food and Drugs) Alabang, Muntinlupa

The Food and Drug Administration (FDA) was created in 1963 with the passage of Republic Act 3720 or the Food Drug and Cosmetics Act. The FDA subsequently became a unit under the Department of Health (DOH) called Bureau of Food and Drugs (BFAD) responsible for ensuring the quality of food and drugs entering the Philippine market.

Testing and quality control of new food products and medicines took a long time, with manual tests being conducted until the early 1980s. The Philippine partnership with the Japanese government in 1984 helped construct the laboratory, provided equipment, and dispatched experts to support public health locally.

In 2009, the agency was renamed as the Food and Drug Administration (FDA) in recognition of its capabilities. Today, the FDA has become the final authority in determining safety and quality of food, drugs, and cosmetic products in the local market. It also has one of the most modern facilities in the Philippines, at par with the best in Southeast Asia.

Food and Drug Testing Laboratories in 1980s Alabang, Muntinlupa

![](_page_20_Picture_4.jpeg)

![](_page_20_Picture_5.jpeg)

![](_page_20_Picture_6.jpeg)

![](_page_20_Picture_7.jpeg)

NAZARITA TACANDONG former Deputy Director General, FDA

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![](_page_20_Picture_9.jpeg)

"The training courses in Japan enhanced the technical knowledge and skills of Food and Drug Regulation officers, bringing back with them goodwill and fond memories as well as appropriate technology and expertise to help in the task of

JAPAN

P P P

Food and Drug Administration Alabang, Muntinlupa

### SAFETYAND SECURITY ON PHILIPPINE SEA PHILIPPINE COAST GUARD

Philippine Coast Guard Headquarters Port Area, Manila City

![](_page_21_Picture_3.jpeg)

Japanese Coast Guard helps PCG in addressing the oil spill incident in Estancia, lloilo

The Philippine Coast Guard (PCG) was mandated to enforce maritime laws and promote maritime safety in the country. JICA assisted the transformation of the PCG from being a part of the Navy to its new role as a civilian entity under the Department of Transportation and Communication (DOTC). This was done through a comprehensive Human Resource Development Program in 1998 aimed at reorienting the mindset of the personnel through education and training.

Under the program, a total of 2,050 PCG personnel and 450 officers from other government and private organizations with similar mandates were trained on the various fields of maritime operations. Today, the PCG has metamorphosed into a fully civilian organization known for its sea rescue capabilities and marine resource protection. It is capable not only of patrolling coastlines and harbors, but also of maintaining and servicing lighthouses, enforcing customs laws, and protecting the marine environment.

![](_page_22_Picture_0.jpeg)

Linemen doing maintenance work Tacloban, Leyte

"The big number of individuals and organizations that we have trained during the JICA project enabled us to establish a network of safety of ficers and organizations in all the regions. These OSHC network members are now our partners in delivering safety and health services, including trainings to both government and private institutions using curricula that we have approved."

DR. MA. TERESITA S. CUCUECO OSHC Executive Director

![](_page_22_Picture_4.jpeg)

# E N S U R I N G SAFETY AND PRODUCTIVITY IN THE WORKPLACE

Occupational Safety and Health Center, Quezon City

![](_page_23_Picture_1.jpeg)

The Occupational Safety and Health Center (OSHC), an attached agency of the Department of Labor and Employment (DOLE), provides mandatory training for safety officers from the public and private sectors, as well as expertise and intervention mechanisms to improve workplace conditions in the Philippines. The center was created in 1987 with facilities and equipment provided with the help of JICA.

Today, the OSHC continues to provide 40-hour/5-day mandatory training for employees into becoming safety officers, and has added special Basic Occupational Safety and Health (BOSH) training for the maritime industry. The center also creates new training courses such as the CHANGE course (Cigarette, HIV, Alcohol, Nasal problems, Good nutrition, and Exercise), a free module developed for Business Process Outsourcing workers tailored to their peculiar lifestyles.

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NUMBER OF SAFETY TRAININGS CONDUCTED ANNUALLY

> 8,126 COMPANIES

> > -

![](_page_23_Picture_8.jpeg)

OSHC-PROVIDED TRAININGS

> 5,520 COMPANIES

17

NUMBER OF SAFETY TRAINING ORGANIZATIONS ACCREDITED

![](_page_23_Picture_11.jpeg)

PRIVATE SECTOR TRAININGS

2,606 COMPANIES

![](_page_23_Picture_14.jpeg)

38

NUMBER OF SAFETY CONSULTANTS ACCREDITED

OSHC Laboratory, Quezon City

![](_page_24_Picture_0.jpeg)

jica

RITM laboratory, Alabang, Muntinlupa

OLACUD

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### SUPPORT TO **PUBLIC PUBLIC PUBLIC PUBLIC PUBLIC PUBLIC**

![](_page_25_Picture_0.jpeg)

RITM testing laboratory Alabang, Muntinlupa

"In 1964, studies by research scientists of the Philippine-Japan Joint Commission on Cholera Research led to a better understanding of epidemiology and control of El Tor Cholera. The need for basic laboratory support was discussed and the concept of a research institute was born, enabling health authorities to fight cholera and save thousands of lives."

DR. SOCORRO P. LUPISAN Director, RITM The Research Institute for Tropical Medicine (RITM) is one of the many Philippine institutions whose very existence can be traced to the continuing cooperation between the governments of Philippines and Japan.

The facility was built in 1981 through Executive Order 674 which authorized the Department of Health to establish a research facility focused on tropical and infectious diseases. The RITM was funded by a Japanese government grant aid administered through JICA and was primarily tasked to plan and implement research programs on 69 infectious and tropical diseases. In 1989, another JICA grant enabled the establishment

![](_page_25_Picture_6.jpeg)

of the RITM Center for Training in Tropical Infectious Diseases for the expansion and integration of RITM's core facilities.

The institute's primary function is to conduct researches to prevent and control recurring tropical and other infectious diseases. It also has one of the most modern facilities in the Philippines at par with Southeast Asia. Fully equipped with modern laboratory and hospital facilities, and manned by highly trained personnel, the RITM has become the Philippines' national center for emerging and re-emerging infectious diseases.

> RITM compound in the 1980s Alabang, Muntinlupa

### CHAMPIONING THE FILIPINO SEAFARERS NATIONAL MARITIME POLYTECHNIC TRAINING CENTER

"We are natural mariners and seafarers because of our geographical makeup, being an archipelago. Many Filipinos seek seafaring jobs abroad and they definitely need training before they can be deployed and become instruments in lifting their families out of poverty and to more comfortable lives. With the Japanese government helping us in establishing NMP, the government is continuously able to respond to the needs of the industry."

ATTY. RUBEN Y. MACEDA OIC-Deputy Executive Director and Chief Administrative Officer, NMP

NMP Training Center Tacloban, Leyte The advent of globalization highlighted the importance of the maritime industry since more than 90% of all goods produced worldwide are transported by sea. Thus, the skills and training of seamen became vital to ensure the unhampered operation of commercial shipping activities around the world.

As the biggest source of seamen, the Philippines plays a vital role in the global economy. To this end, JICA strengthened the capacity of the National Maritime Polytechnic (NMP) to meet the training qualifications spelled out in the Standards of Training, Certification and Watchkeeping for Seafarers (STCW) International Convention of 1978. Built and equipped through Japan's grant aid program in 1985, the NMP Training Center is the only government-run maritime training center in the Philippines and has evolved into a research center.

At least 41 Japanese experts have since trained NMP's training staff through the JICA technical cooperation program. In turn, the NMP is able to train some 19,000 aspiring seamen every year, guaranteeing a regular and steady flow of skilled manpower that ply the world's busiest shipping lanes all year round.

![](_page_26_Picture_8.jpeg)

NMP Training Facility Tacloban, Leyte

![](_page_26_Picture_10.jpeg)

Appliance testing at the Bureau of Product Standards Department of Trade and Industry, Bicutan, Taguig City

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# A BOOST TO THE MANUFACTURING INDUSTRY

#### BUREAU OF PRODUCT STANDARDS

Part of the Philippines' push for a stronger manufacturing industry, which is the biggest job generator in the country, is to ensure the consistency of electric and electronic products with national and international standards such as the International Electrotechnical Commission (IEC). To strengthen the industry, JICA helped the Bureau of Product Standards (BPS) through the Industrial Standardization and Electrical Testing Project from 1993 to 1997 and the Project on Electrical and Electronics Appliances Testing from 1993 to 2003.

Long- and short-term experts from Japan were dispatched to facilitate training and mentorship and to build the capability of BPS staff in electric and electrical appliance testing. As a result, the projects enabled BPS to carry out its tasks, while its laboratory was able to meet the expanding demand for appliances testing.

More importantly, the improvement in appliance safety techniques helped enhance the manufacturers' safety design techniques and consequently promoted better consumer protection as manufacturers reviewed their production processes of appliances to pass the BPS safety test.

![](_page_28_Picture_0.jpeg)

![](_page_28_Picture_1.jpeg)

BPS-DTI Appliance Testing Laboratory in Bicutan, Taguig City

"In the past, many household accidents occur due to unsafe electrical appliances. Today, most products in the industry are compliant to Philippine standards, safe for users and the environment. We thank JICA for assisting us in enhancing the technical competence of the BPS Testing Center."

ANTONIO PANARA Officer in Charge, BPSTC

![](_page_29_Picture_0.jpeg)

### BRIDGING SKILLSGAP IN THE I.T. INDUSTRY UNIVERSITY OF THE PHILIPPINES INFORMATION TECHNOLOGY DEVELOPMENT CENTER

![](_page_29_Picture_2.jpeg)

The Philippines' software development industry is growing rapidly along with its electronics and business process outsourcing (BPO) industries, providing robust foreign exchange earnings for national economic growth. However, the 1997 global financial crisis affected job creation and human resource development in the Information Technology (IT) industry.

JICA thus assisted the University of the Philippines IT Human Resource Development Project from 2004 to 2009 to train college graduates and IT engineers to meet the needs of the IT industry. A key result was the regular deployment of IT engineers to the industry through government-businessacademia collaboration.

By the end of the project, the then UP IT Training Center was able to offer a one-year full time certificate course on IT as well as short term training courses. The center changed its name to UP IT Development Center in 2012 as its role evolved to include IT training, research, and industry-academe collaboration. It is the first IT training center in the Philippines to become ISO 9001-2008 certified with accreditations from American and European Accreditation Standards.

UP-ITDC, Diliman, Quezon City

# P R O M O T I N G EFFICIENT TRANSPORT S Y S T E M

UNIVERSITY OF THE PHILIPPINES NATIONAL CENTER FOR TRANSPORTATION STUDIES

![](_page_30_Picture_3.jpeg)

The National Center for Transportation Studies (NCTS) is a regular unit of the University of the Philippines (UP) and is the sole institute for transportation-related studies in the Philippines. Experts in the field of transportation are nurtured continuously to enable them to craft solutions to the country's pressing traffic and transport problems.

The Japanese government implemented two projects in the country towards efficient transportation. The first JICA technical cooperation was called the Transportation Training Center Project which was carried out with the UP Transport Training Center (TTC), NCTS' forerunner, from April 1977 to March 1984 to help alleviate the worsening traffic situation in Metro Manila. This was followed by the National Center for Transportation Studies project for seven years from 1997 to assist TTC's reorganization into NCTS, performing education and research functions in addition to training government officials on transport studies.

Quezon City, Circa 1970s

UP National Center for Transportation Studies, Diliman, Quezon City

"The UP-NCTS focuses on research and supports the academic programs of the UP College of Engineering and School of Urban Development Planning to produce graduates and specialists in transportation planning.

Today, UP-NCTS personnel sit as committee members of national transport agencies, wielding a major influence in the transportation sector such as DOTC and other agencies. They are also consulted by and sit as resource persons in Congress."

#### DR. HILARIO SEAN PALMIANO Director, UP-NCTS

There has been 58 graduates since UP started offering graduate degrees in the transportation field. Of these, 25 are employed in government, 20 in academic research organizations, and 13 in the private sector. These local experts are now serving in various capacities, mainly in the evaluation of public transportation projects that previously were the domain of outside consultants, thus fostering self-reliance and enhancing local technical capability.

# PROMOTING EQUITABLE GROWTH

![](_page_31_Picture_1.jpeg)

![](_page_31_Picture_2.jpeg)

### R E G I O N A L MASTERPLANS FOR ECONOMIC GROWTH

![](_page_32_Picture_3.jpeg)

Unknown to many, the economic development of neighboring regions of Metro Manila was covered by master plans drawn by the national government through the technical assistance from JICA.

In fact, JICA pioneered the first regional master plan in the Philippines in the early 1990s with the CALABARZON Master Development Plan which remains the region's blueprint for economic development. It is acknowledged by development planners for its pragmatic approach towards a balanced agricultural and industrial growth.

Subsequently, JICA helped formulate similar master plans for Central Luzon called the Triad Growth Corridor anchored on Metro Subic, Metro Angeles and Bulacan; and eventually in the crafting of the Cebu Integrated Regional Development Plan and the Davao Integrated Development Plan in the country's southern regions.

CANAL CREEKED

#### LIST OF MASTER PLANS

- Bohol Integrated Area Development Project
- CALABARZON Integrated Regional Development Program

A STATE OF THE OWNER

- Central Luzon Development Program
- Davao Integrated Development Plan
- Subic Bay Freeport Master Plan
- Cebu Integrated Areas Development Plan
- Roadmap Study for Sustainable Urban Development in Metro Cebu

![](_page_34_Picture_0.jpeg)

![](_page_34_Picture_1.jpeg)

Ninoy Aquino International Airport Terminal 2

"What I learned is that we can find solutions to poverty. We don't need millions to put people back to farms, to (encourage them to) farm better, to get good results, to triple the harvest. We just have to talk to them, visit and monitor their progress regularly. I think that strengthened their confidence in the project and in themselves that they can do it."

> MELITA L. LABAREJOS OIC, Cebu Provincial Planning and Development Office

![](_page_34_Picture_5.jpeg)

Municipal Training Center, Tabogon, Cebu Established through the Cebu Socio-Economic Empowerment and Development (SEED) Project

![](_page_34_Picture_7.jpeg)

Local Governance and Rural Empowerment Project Davao Intergrated Development Plan San Juanico Bridge linking Samar and Leyte

![](_page_35_Picture_1.jpeg)

"Before the bridge was built, there were too many deaths from road accidents here because it was difficult to negotiate the rough mountainside road. The area is also prone to landslides. I remember entire vehicles buried by landslides before the bridge was completed. Now, it is sa fer to travel around here."

JENNELYN LARGOZA Storekeeper in a roadside store near Agas-agas Bridge

# **BUILDING INFRASTRUCTURE** AS ECONOMIC BACKBONE

As an archipelago, the Philippines saw its development hampered by the lack of means to efficiently move people and products between and among its 7,107 islands, depriving the economy of the needed production scale, market, and manpower to enhance and sustain growth.

The Philippine-Japan Friendship Highway (PJFH) Project changed all that in 1969 with the very first Official Development Assistance (ODA) from Japan through JICA, and which continued from the 1980s to the present, with a total estimated cost of ¥127.4 billion.

The result is a 2,210km network of roads, bridges and roll-on/roll-off ports that connect major islands throughout Luzon, Visayas, and Mindanao, allowing the movement of goods, products, and people, and spurring growth along the highway's route and beyond. The PJFH remains the country's principal transport backbone—linking the island chain into one solid, united, and progressive nation.

Agas-Agas Bridge, Sogod, Southern Leyte

![](_page_36_Picture_1.jpeg)

Bued Bridge, Boundery of La Union and Pangasinan

Subic-Clark-Tarlac Expressway (SCTEX)

![](_page_36_Picture_5.jpeg)

![](_page_36_Picture_6.jpeg)

Sarrat Bridge, llocos Norte

Baroro Bridge, Bacnotan, La Union

![](_page_37_Picture_1.jpeg)

NATIONAL ROADS

CONSTRUCTED AND REHABILITATED

![](_page_37_Picture_4.jpeg)

MAJOR BRIDGES

CONSTRUCTED

SUPER 2 6

Limit

![](_page_37_Picture_9.jpeg)

Subic-Clark-Tarlac Expressway (SCTEX)

![](_page_37_Picture_11.jpeg)

"After the Philippine-Japan Friendship Highway was built, land travel from the northern tip to the south and vice versa became faster. The roads, together with the ferry terminals built along with the PJFH, truly bridged the island gaps of the nation—both economically and socially."

VIRGILIO C. CASTILLO Project Director, PJHL-PMO, DPWH

![](_page_38_Picture_0.jpeg)

# HARNESSING RENEWABLE E N E R G Y IN RURAL AREAS

![](_page_38_Picture_2.jpeg)

(All photos) Rural Electrification Project, Alumar, Bohol

JICA assisted in building and rehabilitating major Philippine geothermal power plants. JICA also supports renewable energy development such as establishing micro-hydro plants and promoting the use of solar energy.

When connecting the various power plants to a unified national grid became a big challenge, JICA likewise provided assistance in the construction and expansion of transmission lines and sub-station facilities that boosted the Philippines' rural electrification program.

The transmission lines that JICA helped build now serve as backbones for the Luzon and Visayas grids, powering the nation's march to progress.

![](_page_38_Picture_7.jpeg)

Tongonan Geothermal Field in Leyte

![](_page_38_Picture_10.jpeg)

Transmission Lines in Luzon Grid

### BETTER CONNECTIVITY, BETTER CONNECTIVITY, BETTER ECONOMIC OPPORTUNITIES

![](_page_39_Picture_3.jpeg)

EDSA-Quezon Avenue Interchange

![](_page_39_Picture_5.jpeg)

EDSA Ayala-Pasay Road Interchange

The heavy concentration of economic opportunities in Metro Manila means a continuing influx of people to the capital in search of a better life. The resulting congestion has stretched government resources and infrastructure to the limit, particularly in the fields of mass transport and traffic management.

JICA helped addressed this through a cooperation project for the Light Rail Transit (LRT) Line 1 capacity expansion in 1993 that also provided new rolling stock cars and improved facilities. This was followed by the construction of the LRT Line 2 under the JICA-assisted Metro Manila Strategic Mass Rail Transit Project in 1995.

JICA's assistance in the field of transportation also included the building of a series of road interchanges along Metro Manila's two major circumferential roads—EDSA and C-5—that transformed the traffic system in the metropolis; easing congestion and improving traffic stream, benefitting its nearly 10 million residents.

"Farm yields went up because of ARISP. Before we were averaging 60 cavans per harvest, now it is up to 150 cavans."

> NANAY BEHING first chairperson of KMPC

INC. THEFT

![](_page_40_Picture_3.jpeg)

10000000000

![](_page_40_Picture_5.jpeg)

Rectangular canal with concrete hollow block sidewalls Agusan del Norte, CARAGA

The Comprehensive Agrarian Reform Program (CARP) is perhaps the most profound social change initiated by the Philippine government in the last century by seeking to empower farmers and improve the lives of millions by redistributing farmlands to those who till them.

The enormous resources needed to ensure the success of said revolutionary program, however, were so daunting that the government sought help to support CARP beneficiaries who had to start from scratch. Farmers do not need only land but also farm inputs, irrigation, farm-to-market roads and post-harvest facilities to make the farms productive and sustainable.

![](_page_41_Picture_0.jpeg)

Caridad Sur Farmers Multi-Purpose Cooperative Llanera, Nueva Ecija

"When ARISP came and provided us with water supply system, children are never late for school, women can engage in other household and even economic activities and men can go to their farms early, all because they don't have to line up and fetch water from the communal well anymore."

ANTONIO DE GUZMAN First Treasurer, Green Valley Potable Water Service Cooperative

![](_page_41_Picture_4.jpeg)

ARISP Water Supply Project Green Valley, Llanera, Nueva Ecija

![](_page_41_Picture_6.jpeg)

Ogee Type Diversion Dam, Zamboanga del Sur

Shallow tube well irrigating 3-5 hectares of farmland Oriental Mindoro

JICA's answer is the Agrarian Reform Infrastructure Support Project (ARISP), with ARISP-1 beginning in 1995 as the first Japanese ODA loan to the agrarian reform sector. The project continues to this day with ARISP 3, helping improve lives and ease poverty in 258 agrarian reform communities throughout the country.

# P R O M O T I N G **PEACE AND DEVELOPMENT** I N M I N D A N A O

Seaweed farming in Davao Davao Industry Cluster Capacity Enhancement Project (DICCEP)

- start

![](_page_42_Picture_5.jpeg)

Prior to the signing of the Comprehensive Agreement on the Bangsamoro (CAB) between the government and the Moro Islamic Liberation Front (MILF), the Japanese government through JICA has been supporting peace and development efforts in Mindanao since 1998. JICA provided road construction equipment to municipalities within the Special Zone of Peace and Development established under the 1996 peace agreement with the Moro National Liberation Front (MNLF).

![](_page_42_Picture_7.jpeg)

Feeder port in Cotabato City

![](_page_43_Picture_0.jpeg)

*Central Mindanao Road Project, Cotabato City* 

![](_page_43_Picture_2.jpeg)

JICA-PhilRice Technical Cooperation Project 5 Malaybalay, Bukidnon

"JICA's work is systematic. They come back and make sure that projects are sustained. In the years that we worked together, it is not only about technical cooperation, we are also like families doing something that is good for the community, something that improves the lives of our people."

HADJA LYDIA MASTURA Director, AMS-ORG

Central Mindanao Road Project, Cotabato City

![](_page_43_Picture_7.jpeg)

JICA's early support to Mindanao helped build mutual trust among the parties involved in the peace process. This was further enhanced with the Support Package for Peace and Stability in Mindanao in 2002, ushering Japan's active role in poverty alleviation in the Autonomous Region in Muslim Mindanao (ARMM). Said initiative led to nine more programs, including the ongoing Training on Rice-Based Farming Systems for ARMM.

In 2006, the Japanese government launched the Japan-Bangsamoro Initiatives for Reconstruction and Development (J-BIRD) to contribute to the peace process and development in the conflict-affected areas in Mindanao and surrounding areas in ARMM. In total, the amount of assistance is approximately ¥15.1 billion.

These projects manifest Japan's long-term commitment to peace and stability not only in ARMM but also in the whole of Mindanao, benefitting its inhabitants and improving the quality of life in the region and its conflict-affected areas.

# ENHANCING RESILIENCY AGAINST NATURAL CALAMITIES

CHAPTER

Catmon Pumping Station and Floodgate, Malabon City

# Data Assistance · Cursor verlay A Map STRENGTHENIN G PREPAREDNESS PHILIPPINE ATMOSPHERIC, GEOPHYSICAL AND ASTRONOMICAL SERVICES ADMINISTRATION

![](_page_45_Picture_2.jpeg)

PAGASA-DOST Weather Radar Station in Catanduanes

30

# lat

![](_page_45_Picture_4.jpeg)

The Philippines is regularly hit by strong typhoons that spawn heavy rains and deadly floods. A modern, reliable, and accurate weather forecasting system is needed to help protect lives and properties, and Japan's Official Development Assistance (ODA) helped establish the Philippine Atmospheric, Geophysical and Astronomical Services Administration (PAGASA) in 1972.

JICA's continuing assistance transformed PAGASA into a most capable and competent weather forecasting agency particularly in the field of predicting rainfall probability. It now provides five-day weather outlook, enabling the public to take precautions during the dangerous typhoon and monsoon season.

Starting with a forecasting program for dam operations in 1973, the JICA-PAGASA collaboration eventually covered flood forecasting and warning systems starting in 2004, followed by other programs. These initiatives encouraged other international agencies to sustain PAGASA's capacity building in disaster preparedness and risk reduction.

Flooding in Metro Manila and other urban areas has been a perennial challenge, as this photo from the 1940s shows. Modern equipment and facilities acquired through JICA's ODA have greatly enhanced PAGASA's capabilities in storm forecasting and rain prediction, enabling the population to take precautions and thus saving lives and properties.

## capacity building for **EARTH MOVEMENT** MONITORING

"Since we transitioned to digital systems from analog, we were able to reduce the time of data acquisition and analysis (on earthquakes and volcanic eruptions) from almost an hour to 10 minutes. We can now deliver real-time information to the public. The state-of-the-art equipment and training courses from JICA put us at par with other advanced countries in terms of volcanology and seismology."

![](_page_46_Picture_2.jpeg)

Volcano

Taal volcano's main crater Talisay, Batangas BARTOLOME C. BAUTISTA Deputy Director, PHIVOLCS

> Monitoring Station

Observatory

![](_page_46_Picture_9.jpeg)

Information Dissemination

PHIVOLCS Main Office Data Analysis and Processing Like Japan, the Philippines lies along the Pacific Ring of Fire where volcanic eruptions and earthquakes are common occurrences. Providing timely warnings and real-time information to the public about earthquakes and volcanic eruptions is the primary mandate of the Philippine Institute of Volcanology and Seismology (PHIVOLCS).

When PHIVOLCS was established 60 years ago, however, it was confronted with lack of modern equipment and instruments, as well as scarce observatories and monitoring stations to cover some 25 active volcanoes nationwide. It was only through JICA's assistance in 1999 that the agency began upgrading observation equipment and providing cutting edge training to its personnel.

PHIVOLCS now has 69 earthquake monitoring stations from only 12 in 1972. JICA also helped strengthen PHIVOLCS' capability to generate, process, and evaluate earthquake data. Today, the partnership is working on enhancing the monitoring capability and utilization of disaster mitigation information of PHIVOLCS personnel.

![](_page_47_Picture_3.jpeg)

Director Renato Solidum (second from left) and team interview Filipino tsunami victims in Tohoku, Japan, 2011

![](_page_47_Picture_5.jpeg)

"It's very convenient that JICA was there to help us upgrade equipment and capacity so we were able to give real-time in formation to people. We deliver as it happens."

**JOEL MARILLA Resident Volcanologist** PHIVOLCS Pinatubo Monitoring Station

PHIVOLCS main office, Diliman Quezon City

![](_page_47_Picture_12.jpeg)

Shaking Table experiment, National Research Institute for Earth Science and Disaster Prevention Tsukuba, Japan.

Sabo Slit Dam in Ormoc

# e n h a n c i n g F L O O D CONTROL MANAGEMENT SYSTEMS

FLOOD CONTROL AND SABO ENGINEERING CENTER "It is a geographical fact that the Agno River flows downhill, so it floods downstream communities. Before, during rainy days, Hector Bridge becomes impassable and it disrupts economic activities since most of the motorists are farm-to-market traders. But when flood control projects started here, the level of inundation was largely mitigated."

ENGR. ROSAURO S. PERALTA Agno Flood Control Project, DPWH Region I

![](_page_48_Picture_6.jpeg)

Flood Control and Sabo Engineering Center (FCSEC) Hydraulic Laboratory, Pasig City

![](_page_49_Picture_1.jpeg)

Revetment, Lower Agusan

Flood Control in Jaro, Iloilo

Perennial flooding in the Philippines is not only due to excessive rains; the problem is exacerbated by the lack of proper drainage and flood control infrastructure as well as heavy siltation of waterways. Among the solutions to these is using modern and indigenous engineering technology suited to local conditions.

The Philippine government's partnership with JICA to address flooding began in the 1970s. In 1999, JICA helped the Department of Public Works and Highways (DPWH) establish the Flood Control and Sabo Engineering Center to act as a research and training hub and provide longterm solutions to the problem.

Sabo is the Japanese term for debris and sediment control works in upstream areas and eroding slopes. Sabo engineering enhanced DPWH capability to plan, design, and build structures that helped minimize flooding in vulnerable areas. JICA made possible the transfer of technology from Japanese experts and the provision of modern laboratory, as well as skills and equipment that helped reduce flood threats along the country's major river systems.

### HELPINGTHE METROPOLISCOPE WITH PERENNIAL FLOODS METRO MANILA FLOOD CONTROL PROJECTS

Metro Manila's topography and location, complicated by decades of lack of urban planning, have made the National Capital Region (NCR) a veritable catch basin during the typhoon season. Floods regularly disrupt businesses, offices, and schools, making large parts of the capital at a standstill.

JICA's long-running friendship with the Filipino people prompted the agency to help find ways to solve Metro Manila's perennial floods through a series of programs like the Pasig-Marikina River Channel Improvement, Effective Flood Control Operations System, Metro Manila Flood Control Project – West of Manggahan, and the KAMANAVA Flood Control and Drainage System Improvement Project.

While the problem still lingers, millions of Metro Manila residents would have suffered more without these programs that helped build dikes, river walls, pumping stations, and drainage systems. The infrastructure is the backbone of flood risk management/flood control in Metro Manila.

![](_page_50_Picture_6.jpeg)

Rosario Master Control Station (RMCS) of Effective Flood Control Operation System (EFCOS). It is the key station that supervises and controls processing and analysis of hydrological data coming from different places in Metro Manila and Rizal Province.

![](_page_50_Picture_9.jpeg)

Navotas Floodgate

#### **Grant Aid**

- Philippine Customs Intelligence System (PCIS) Project [Manila] Project for Enhancement of Communications Systems of Philippine
- Coast Guard [Manila] Mini-hydropower Development Project in the Province of Ifugao [Ifugao] 41. LRT Line 1 South Extension Project [Manila] 4. Mini-hydropower Development Project in the Province of Isabela
- [Isabela] Program Grant Aid on the Rehabilitation and Recovery from Typhoon
- Yolanda [Levte, Samar] Grant Assistance Project for Underprivileged Farmers [Leyte, Biliran]
- Improvement of Water Supply System in Metropolitan Cebu Water District [Cebu]
- Japanese Grant Aid for Human Resource Development Scholarship (JDS) 48. Arterial Road Links Development Project [Nationwide] [Nationwide]
- 9. Project for Evacuation Shelter Construction in Disaster Vulnerable Areas 50. Urgent Bridges Construction Project for Rural Development in Province of Albay [Albay]
- 10. Project for Improvement of the Meteorological Radar System [Samar, Aparril
- 11. Project for Improvement of Equipment for Disaster Risk Management (PHIVOLCS) [Manila]
- 12. Aurora Province Hospital Construction [Aurora]

#### **Technical Cooperation**

- 13. Project on Capacity Building for a Comprehensive National Competition Policy Phase II [Manila]
- 14. Enhancement of Practical Capability for Maritime Law Enforcement Project [Manila]
- 15. Training Program for PCG [Manila]
- 16. Improvement of Quality Management for Highway and Bridge
- Construction and Maintenance [Nationwide] 17. Rural Electrification Project
- 18. Enhancement of Earthquake and Volcano Monitoring and Effective Utilization of Disaster Mitigation Information [Nationwide]
- 19. Enhancing Competitiveness of Fresh and Semi Processed Agricultural Product through the Application on Appropriate and Suitable Packaging 65. Arterial Road Bypass Project [Nueva Ecija, Bulacan] Technology [CAR, Region III, Davao]
- 20. Development of Strategic Regional Network of Institutions for Integrated Coastal Ecosystem Conservation and Adaptive Management 68. Development Policy Support Program [Nationwide] Development Study in Response to Local and Global Environmental Impacts [Bolinao, Mindoro, Iloilo, Misamis Oriental, Boracay]
- Comprehensive Etiological and Epidemiological Study on Acute Respiratory Infections in Children – Providing Evidence for the Prevention and Control of Childhood Pneumonia in the Philippines [NCR, Tacloban, Biliran, Palawan]
- 22. Follow-up cooperation for Quality TB Control Programme [Leyte]
- 23. Comprehensive Capacity Development Project for the Bangsamoro [Mindanao]
- 24. Capacity Building for Community Development in Conflict-Affected Areas in Mindanao [Mindanao]
- 25. In-country Training for the Expansion of the Local Governance and Rural Empowerment Project [Davao]
- 26. Metro Cebu Water District Water Supply Business Operation and Management Technology Support Project [Cebu]
- 27. Philippine Coast Guard Education and Human Resource Management System Development Project [Manila]
- 28. Philippine National Police Enhancing the Capacity for Collection and Application of Fingerprints [Manila]
- 29. ARMM Human Capacity Development Project [ARMM]
- 30. Improvement of Quality Management for Highway and Bridge Construction and Maintenance [Nationwide]
- 31. Capacity Development on Transportation Planning and Database Management [Nationwide]
- 32. Capacity Development for Improvement of Safety and Efficiency for Air 85. Preparatory Survey on the Project for Road Improvement in Navigation System [Nationwide]
- 33. National Industrial Cluster Capacity Enhancement Project (NICCEP) [Nationwide]
- 34. Disaster Risk Reduction and Management Capacity Enhancement Project [Nationwide]
- 35. Strengthening of Flood Forecasting and Warning System for Dam Operation [Luzon]
- 36. Rice-based Farming Technology Extension Project for ARMM [ARMM]
- 37. Maternal and Child Health Services in Eastern Visayas [Eastern Visayas]
- 38. Cordillera-wide Strengthening of the Local Health System for Effective and Efficient Delivery of Maternal and Child Health [CAR]

#### Yen Loar

- 39. Project for Multi-Role Response Vessels for the Philippine Coast Guard [Manila]
- 40. LRT Line 2 East Extension Project [Manila]
- 42. Revitalization of PNR Main Line South Project [Manila]
- 43. Metro Cebu Development Project [Cebu]
- 44. Subic Bay Port Development Project [Subic]
- 45. Batangas Port Development Project [Batangas]
- 46. Second Magsaysay Bridge and Butuan City Bypass Road Project [Agusan del Sur]
- 47. Metro Manila Interchange Construction Project [Manila]
- 49. Rural Road Network Development Project [Nationwide]
- [Nationwide]
- 51. Flood Risk Management Project for Cagayan River, Tagoloan River, and Imus River (FRIMP) [Misamis Oriental and Cavite]
- 52. Post Disaster Stand-by Loan [Nationwide]
- 53. Agricultural Credit Support Program [Nationwide]
- 54. New Bohol Airport Construction and Sustainable Environment Protection Project
- 55. New CNS/ATM Systems Development Project [Nationwide]
- 56. Central Mindanao Road Project [Mindanao] 7. Pasig Marikina River Channel Improvement Project [Manila]
- 58. Pinatubo Hazard Urgent Mitigation Project [Pampanga]
- 59. Agrarian Reform Support Infrastructure Project [Nationwide]
- 60. Environmental Development Program [Nationwide]
- 61. Logistic Infrastructure Development Project [Nationwide]
- 62. Road Upgrading and Preservation Project [Nationwide]
- 63. Mindanao Sustainable Agrarian and Agriculture Development Project [Mindanao]
- 64. National Irrigation Sector Rehabilitation and Improvement Project [Nationwide]
- 66. Central Luzon Link Expressway Construction Project [Central Luzon] 67. Forestland Management Project [Nationwide]
- 69. Roadmap for Integrated Transport Infrastructure for Mega Manila [Manila]
- 70. Mega Cebu Vision 2050 [Cebu)
- 71. Data Collection Survey on Pathways to Low Carbon and Energy Efficiency in ASEAN [Nationwide]
- 72. The Master Plan and Feasibility Study on the Establishment of an
- ASEAN Roll-On/Roll-Off Shipping Network and Short Sea Shipping
- 73. Project for Developing Motor Vehicle Regulations and Certification 74. Study for Airport Strategies for the Greater Capital Region [Nationwide]
- 75. Mega Manila Region Highway Network ITS Integration Project [Manila]
- 76. Improvement of Bridges through Disaster Mitigating Measures for
- Large Scale Earthguakes [Nationwide]

#### **Preparatory Study**

- 77. Metro Manila New Mass Transit Project [Manila]
- 78. Survey of New NAIA Airport [Manila]
- 79. C-3 Missing Link Construction Project [Manila]
- 80. Southern Mindanao Economic Corridor Improvement Project [Davao]
- 81. Batangas-Manila Pipeline Project [Manila, Batangas]
- 82. Preparatory Survey for Wawa River Mini-Hydro Power Stations [Agusan Del Sur]
- 83. PPP study on Manila Water and Sewerage [Manila]
- 84. Water Supply System Improvement Project for Metro Cebu Water District [Cebu]
- Bangsamoro [Mindanao]
- 86. Detailed Design Study of New Bohol Airport Construction and Sustainable Environment Protection Project [Bohol]

#### Yen Loan Technical Assistance

- 87. Road Planning and Management Advisor
- 88. Study on Technical Assistance for the Energy Sector Reform
- 89. Study to Decongest Manila and Divert Container Traffic to Subic and Batangas Port

- 90. Development of River Database and its Utilization for FRIMP project 91. Capacity Building for Effective Utilization of Satellite Information for ASEAN Disaster Management
- 92. Malitubog-Maridagao Irrigation Project [Mindanao]
- 93. Supporting Senior High School Modeling in Selected Technical Vocational High School [NCR, Laguna, Cebu]
- 94. Topographic Mapping for Peace and Development in Mindanao [Mindanao]

#### **Pilot Survey for Japanese SMEs**

Ouezon

[Cebu]

Cebu City [Cebu]

**Grassroots Cooperation** 

[Mindanao]

[Mindanao]

Luzon]

**Research Study** 

[Occidental Mindoro]

Disasters [lloilo]

(WISH Project)

South-South Cooperation

- 95. Power meter recycling and maintenance utilizing Japanese meter [Batangas] 96. Developing Non-electrified Community by Using Micro Hydro
- Power [Mindoro]
- 97. Spread of the power supply system to the Non-Electrified Area through Solar Hybrid System [Ifugao] 98. Introduction of IT for Agricultural Products Dissemination [Nueva Ecija,

99. Photovoltaic System (Solar Panel) as Power Source for Milkfish

100. Mobile Sand Filtration Tank for Drinking Water and Rehabilitation

102. Solid Waste Management and Resource Recycling in Cebu Cuty

103. Safe Vegetables Promotion and Marketing Project with Soil/

104. Promotion of Participatory Local Autonomy Through the

GIAHS Designated site "Ifugao Rice Terraces" [Ifugao]

Forests, Human, and Ocean [Negros Occidental]

105. HR Development Program for Sustainable Development of the

106. Environmental Awareness-Raising Project for Symbiosis Among

107. Enhancing Resiliency through Community Participatory Flood

Observation System for the Laguna Lake Basin [Laguna]

108. Safe Plant and Livestock Production Technology Dissemination

109. Hiroshima Peace-building Human Resource Development

Project for the Bangsamoro Government in Mindanao

110. Saitama-Cebu Comprehensive HR Monozukuri Project [Cebu]

112. Improving Financial Access of Small Scale Farmers in Mindanao

114. Capacity Building for Child Caring Institutions' Personnel Toward

115. Establishment and Operation of the Amnay River Cooperative

and Formulation of Basis for Independent Development

117. Research for the Development of New Rice Variety for Africa

Children's Well-Being and Independence in Central Luzon [Central

111. Negros Silk Industry Support Project [Negros Occidental]

113. TB Control and Prevention in Socio-Economically

Underprivileged Areas in Metro Manila [Manila]

116. Community-Based Adaptation and Resiliency Against

118. Season-long Rice Farming Extension Training

101. Applicability of Dewatering Equipment for Septage Management in

Production [Dagupan, Pangasinan]

Resource Conservation [Benguet]

"Kominkan" Activities in Legazpi [Albav]

Project in the Philippines [Nationwide]

System for Sand Filters [Cebu]

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