2 Special Reports

Operational Priorities

"Strengthen international cooperation and enhance foreign relations through the promotion of economic development, social progress, and the welfare of all mankind" — this is the TaiwanICDF's mission and responsibility, stipulated in Article I of the Act for the Establishment of the International Cooperation and Development Fund, and Article II of the organization's act of endowment, and is the fundamental principle followed by the TaiwanICDF in pushing forward with its work. To respond to the changing and increasingly complex development needs of the international community, we have mapped out our all-encompassing Vision 2022 and clearly outlined our long-term goals and direction for the next decade. We have also initiated reform and transformed projects, introducing innovative ideas to our work, such as an approach to project management involving managing for results, also raising project management capabilities in order to break through existing resource constraints, and creating unique advantages and strengths in our aid work, increasing aid efficiency.

To implement the principle of managing for results, the TaiwanICDF has formulated two core strategies for carrying out its aid work: (1) Respond to international development trends, drawing on Taiwan's comparative advantages; and (2) integrate public and private sector resources, and strengthen cooperative partnerships. In addition, we have made a number of Taiwan's comparative advantages – agriculture, public health and medicine, education, ICT and environmental protection – operational priorities, allocating resources and giving priority to projects relevant to such areas.

Our operational priorities make the best use of limited resources, as the TaiwanICDF cannot respond to all of the needs of its partner countries. We have identified these priorities based on our capacities and advantages, and contribute reasonable resources accordingly, sufficient to meet the standards required for aid effectiveness.

As such, the TaiwanICDF also acts in accordance with the cooperative themes set by the International Cooperation and Development Act, putting an emphasis on the infrastructure and sustainable development of primary sectors first. We also abide by the main indicators set out in the MDGs, together with the priority needs of partner countries, establishing operational priorities for our projects based on comparative advantages, and focusing resources according to an annual work plan.

All of the key components of TaiwanICDF projects abide by our core strategies and priority areas in drawing up the corresponding financial resources, enhancing the budgeting operations of work plans and improving the overall effectiveness with which capital is utilized. We regularly inspect the progress of every project, gradually adjusting the scope of priority areas for the benefit of long-term planning and resource utilization in order to achieve project goals and vision as effectively as possible, as well as to maintain an appropriate flexibility. If a particular project does not fall within the scope of our priority areas, its rationale will be reviewed before a final decision is made.

In the remainder of this chapter we look at the specific goals and action plans of our various priority areas, as well as operations and projects that tally with the Sustainable Development Goals (SDGs), such as poverty reduction, ending hunger, education, health, environmental sustainability, economics and job security, and governance and global partner relationships.

To really support the principle of ownership and achieve sustainable development, personnel with the Rice Seed Production Capacity Enhancement Project in Haiti explain field planning work to local farmers responsible for seed production.

Agriculture

Agricultural projects have been an important category of foreign aid for Taiwan ever since 1959, when Taiwan dispatched its first agricultural technical team to Vietnam. With previous agricultural projects responding to the first MDG, the eradication of extreme poverty and hunger, agricultural projects currently make up some 65 percent of all TaiwanICDF projects, and primarily focus on production. In recent years, in response to global initiatives on the impact of climate change and the post-2015 SDGs, our approach toward agricultural projects has not only involved raising partner countries' production, distribution and sales capacity, but has also become oriented toward needs driven increasingly by regional characteristics and phased development, providing appropriate solutions and deepening cooperative relationships with professional international institutions.

Projects Commensurate with Development Needs

After many years of practical experience, the TaiwanICDF's agricultural projects, which have mainly focused on assisting local people, have amassed rich experience for our organization. We are presently expanding on past successes, and, in accordance with the crop production and marketing process, progressing from assistance by expanding distribution, toward seedling production, and downstream, toward agricultural product transportation and sales. Taking seedling production as an example, our Rice Seed Production Capacity Enhancement Project in Haiti builds on the depths of the Taiwan Technical Mission's previous success in local agriculture extension, linking up Taiwan's experience of producing healthy seedlings and providing healthy rice seeds and professional capacity building, deepening and increasing the impact of the project.

Additionally, as partner countries become more developed, their needs relating to agricultural projects also change. In the past, partner countries were looking to increase the production of staple crops, but at their current stage many are increasingly concerned with the quality and nutritional value of their crops. In terms of improving crop quality, our Vegetable, Fruit and Upland Crop Quality and Safety Improvement Project in St. Kitts and Nevis, for example, has introduced Taiwanese systems for the rapid detection of pesticide residues, providing assurances in terms of the production of agricultural produce. Elsewhere, the climate of Pacific island nations is not wholly appropriate for large-scale commercial production, and so the TaiwanICDF has introduced the concept of a balanced diet linked to local lifestyles. Our Horticulture Project in Kiribati, for example, has been successfully promoted, in depth, having blended with local living patterns. The project has also trained local seedling staff, increasing revenues and reducing dependence on imported foodstuffs.

The TaiwanICDF's cooperation with professional international organizations has also tended toward diversification and closer ties; combining existing international resource networks and Taiwan's areas of expertise can help partner countries in engaging in sustainable agricultural production. For instance, the Regional Lending Program for Coffee Rust in Central America, a cooperative project being implemented with the Central American Bank for Economic Integration (CABEI), is using the region's current banking resources network and Taiwan's experience in plant diseases and pest management, re-lending capital to small-scale farmers so that they can replace coffee plants and prevent disease and insect pests, and thereby reduce the impact of coffee rust on the local coffee industry.

1 To reduce the coffee rust epidemic in Central America, the TaiwanICDF has been visiting plantations to confirm the site of outbreaks and to propose possible interventions.

2 The establishment of a seedling nursery in Kiribati has supported self-sufficiency and generated income.

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Case Study 1

Vegetable, Fruit and Upland Crop Quality and Safety Improvement Project, St. Kitts and Nevis

A partner country situated in the Caribbean Sea, St. Kitts and Nevis relied on sugar production as the backbone of its economy in the 1970s. However, the industry's offshore migration was followed by a wave of factory closings, and the government gradually wound up the country's sugar industry, carrying out a number of land release measures, as well as devoting effort toward the establishment of non-sugar-based agriculture by way of crop diversification.

Nevertheless, the previous agricultural structure, essentially limited to a single crop, meant that farmers lack knowledge about soil fertility and rely on a small selection of expensive, imported fertilizers. The dearth of local fertilizers and pesticides and the lack of concepts and techniques for their safe use, combined with a lack of monitoring during harvest time and the absence of a system for detecting pesticide residues before produce reaches the market, have all led to a need to import agricultural produce worth more than US$40 million every year in order to meet the demands of tourist hotels and supermarket chains.

To solve this long-standing problem, the government of St. Kitts and Nevis proposed this project in hopes that it could help raise the quantity and quality of agricultural crops, and thereby also improve the agricultural production environment and reduce the foreign exchange losses caused by importing agricultural produce.

Agricultural technical cooperation between Taiwan and St. Kitts and Nevis commenced as early as 1982, but in a change from the past, when the cooperative model was largely based around traditional modes of thought regarding production, the approach toward the current project is based around a project management system. The initiative looks at soil improvement, composting, fertilizing, plant protection and pesticide residues as it progresses toward quality agriculture characterized by virus-free or "healthy" farming.

Raising Techniques, Moving Toward Quality Agriculture

Initially, both countries contributed funding, with St. Kitts and Nevis being responsible for implementation and with Taiwan providing assistance, guidance and consultation, thereby putting the principle of ownership into practice so that the project will remain sustainable once it is phased over in the future. Next, in coordination with the development of the St. Kitts and Nevis tourism industry and the need to guarantee the quality of crops and the safety of produce, planning for a rapid pesticide residue detection system was carried out, and residue detection stations are being built to help the relevant personnel develop technical and detection capacity, and to gradually promote the concept of good agricultural practices (GAP). At the same time, a soil fertility analysis service station and compost demonstration farm is being established to foster analytic and manufacturing capacity, which will be coordinated with the manufacture and application of compost to improve soil quality. A variety of professional training workshops are also being held to instill in farmers the correct and safe use of pesticides, and the rational application of fertilizer, as well as to foster crop disease prevention, soil management and fertilization techniques.

10 %

Rise in average per unit yield for farmers who receive guidance

This project will take place over a three-year period. Since March 2014, when project implementation got under way, the detection stations and the renovation and construction of the pesticide residue laboratory have both been completed, while pesticide residue detection services have also been extended. Multiple training workshops on plant diseases and insect pest prevention, and the collection of basic data on soil analysis, farmer production and marketing operations, are also under way. On this basis, it is estimated that as a result of the implementation of this project, the average per unit yield of fruits, vegetables and upland crops for farmers due to receive guidance will rise by 10 percent, and that in terms of pesticide residue detection, some 30 percent of locally produced fruits, vegetables and upland crops will be screened for pesticides before such produce reaches the market.

Case Study 2

Rice Seed Production Capacity Enhancement Project, Haiti

Rice is the main staple of the Haitian diet, with some 60,000 hectares of rice under cultivation. However, rice seed production only amounts to 600 tons, barely meeting 14 percent of national requirements. Farmers cannot acquire sufficient quantities of quality seed rice, which means it has been impossible to raise production yields.

Because the basic maintenance of a rice industry rests on the breeding and propagation of high-quality varieties, rice produced in Taiwan has long retained its advantages, with the quality and genetic characteristics of high-quality varieties safeguarded by a "three-step propagation system." Farmers have access to high-quality seeds, and there is a continuous investment in cultivation techniques, the improvement of varieties, post-harvest processing and rice seed propagation.

Having observed Taiwan's abundant experience, the government of Haiti proposed this cooperation project so as to raise its own seed rice production capacity. Commissioned by the Ministry of Foreign Affairs (MOFA), the TaiwanICDF will thus send, between 2014 and 2018, project management and specialized technical personnel to cooperate in technical assistance and capacity building with the Haitian Ministry of Agriculture, Natural Resources and Rural Development (MARNDR), the Organization for the Development of the Artibonite Valley (ODVA) and the Direction Département de l'Artibonite (DDA), jointly raising Haiti's capacity to produce high-quality rice seed.

Strengthening Inspection Systems For High-quality Rice Seed, Improving Institutional Functions

The MARNDR will oversee project implementation, while Taiwanese specialists will play a guiding role. In addition to providing professional technical training courses at the appropriate time and making suggestions on planning paddy layouts, Taiwanese and Haitian project managers will hold regular meetings to coordinate on-farm work and resource allocation, and to ensure that both sides reach consensus on implementation in the expectation of gradually enhancing the professional capacity of Haiti's technical staff.

45 %

Forecasted utilization of high-quality, locally produced rice seed

Technical improvements in the cultivation of paddy rice and the production of rice seed form the foundation of any rice industrial chain, and so to advance the development of Haiti's rice industry, it will be necessary to establish a national-level trial and research center, carrying out research on paddy rice breeding, the production and maintenance of breeder seed, germplasm collection and the demonstration of paddy rice cultivation. An annual budget was allocated, beginning in the very first year, for the purpose of renovating the offices at Haiti's original experimental farm and maintaining irrigation facilities. The project will also assist Haiti in establishing a rice seed laboratory, including all necessary seed inspection equipment and seed testing operations manuals. Four rice seed inspectors recommended by Haitian authorities will also visit Taiwan to complete a round of professional, specialized training in rice seed testing, and will be responsible for holding training classes and helping with rice seed field inspections following their return to Haiti.

In addition, Taiwan will send short-term specialists to help Haiti's national commission for seed production to draft regulations on seed production and supply, formulating rice seed inspection laws and regulations with reference to those in Taiwan, responding to Haiti's current situation and requirements in keeping with the principle of ownership. The project's ultimate goal is to nurture 800 seed farmers over five years, generating the capacity to produce high-quality rice seed so that annual production reaches 2,000 tons of seed, and thereby raising Haiti's utilization of high-quality, locally produced seed from the current 14 percent to 45 percent.

Case Study 3

Horticulture Project, Kiribati

According to surveys and data collected by public health and medical agencies in Kiribati, the prevalence of chronic diseases, such as diabetes, cardiovascular disease, and strokes, is 69 percent. The fatality rate for diabetes alone is the highest among all South Pacific island nations.

To help I-Kiribati people adjust their dietary habits and to promote the consumption of fruits and vegetables, the TaiwanICDF began carrying out a Horticulture Project in 2004. Improving farmers' fruit and vegetable production techniques and promoting the concept of vegetable consumption as an effective means of preventing chronic illnesses, the project has progressed in leaps and bounds over the years.

Two Phases: Changing Habits, from Supply to Consumption

The project was divided into two phases. Phase I, with an objective of creating a demand for cultivation, took place from 2004 to 2011. Demonstration farms were built, seedlings were distributed free of charge, and cooking classes were held to popularize the consumption of vegetables. Phase II, running from 2011 to 2014, saw the gradual transfer of relevant techniques to farmers, so that they could become self-sufficient. Help was also provided in building three nurseries and eight production and marketing centers, while access roads to restaurants and supermarkets were opened, and a complete fruit and vegetable production, marketing and supply chain was established.

Following Phase II of the project, it is now much easier for I-Kiribati consumers to obtain fresh, inexpensive vegetables, and to develop the habit of eating such produce. Farmers operating the nurseries and production and marketing centers have been generating annual revenues of around AUS$85,000 (about NT$2.5 million), with yearly growth of such activities running at 30 percent. As such, the project has captured the attention of a number of international organizations, and particularly the UN's International Fund for Agricultural Development (IFAD), which previously led a fact-finding delegation to learn about the venture, and which now plans to replicate the same operating model on four of Kiribati's outer islands, thus continuing to promote the project's influence.

Sixfold

Increase in annual sales of fruit and vegetables from 2012 to 2014

Exploring the reasons behind the success of this project, in terms of supply-side considerations, assistance in setting up nurseries has stabilized sources of vegetable seeds and the selection of a variety of crops suited to the short planting season of South Pacific island nations, while organic farming based on crop rotation has lowered the risk of disease and insect pest damage and encouraged a more diversified, balanced diet. At the consumer end, the promotion of cooking classes, the training of seed teachers, the design of cookbooks promoting specific crops and invitations to I-Kiribati women to take part in cooking classes has allowed the Taiwan Technical Mission to increase acceptance of the project among I-Kiribati citizens.

To address dietary education from the roots, the project will come to an end this year, with 2015 seeing the launch of a six-year Nutrition Enhancement Project. Through the increased production of fruit and vegetables, the promotion of on-campus nutrition classes, the improvement of on-campus cafeteria environments, the design of menus and the creation of a nutrition monitoring mechanism, middle school students will have access to nutritional lunches and learn about healthy eating concepts, thus helping the I-Kiribati government to more thoroughly and comprehensively improve the health of its people.

Case Study 4

Regional Lending Program for Coffee Rust in Central America

Coffee has always been the most important industry in Central America. In recent years, climate change has led to an increase in outbreaks of coffee rust, and so the TaiwanICDF has proposed to its local development partners in the region – including the Central American Bank for Economic Integration (CABEI), and the International Regional Organization for Plant and Animal Health (OIRSA) – the concept of combining prevention technologies with financial services, in the hope of integrating the key strengths of different development organizations and jointly promoting a regional development project that can reduce the damaging effects of coffee rust.

In 2013, we dispatched inspection teams on two occasions, visiting – alongside the relevant CABEI and OIRSA officials – local agriculture departments, coffee associations, farmers' organizations and individual farmers in El Salvador, Guatemala, Honduras and Nicaragua so as to get an idea of the scale of local coffee industries and the level of damage they were suffering. Through field studies in different coffee growing areas, we made a definitive diagnosis on the epidemic from a technical perspective and suggested effective countermeasures that could be introduced. Next, in order to create a consensus among stakeholders throughout the coffee industry, we invited domestic and foreign experts of plant pathology to visit Honduras at the end of the year, holding a seminar in conjunction with the OIRSA. The event brought together producers, government representatives, academics and farmers from countries suffering from coffee rust so that they could exchange views on different themes and discuss the problems and requirements involved in the management of the industrial chain. A further round of field surveys was conducted after the seminar, with the attending specialists and participants carrying out joint analysis, collated from their various points of view, in order to understand the constraints faced by each country in terms of field management techniques. From there, improved, integrated policies and a regional-level promotional strategy were drawn up to serve as a foundation for the promotion of long-term technical assistance projects.

Elsewhere, to support the development of a coffee industry value chain, the TaiwanICDF has been actively discussing such matters with CABEI, which is responsible for private sector development, and in particular discussing the provision of agricultural loans to small-scale coffee farmers, who are most vulnerable to the twin pressures of international market supply and demand, and the production and marketing systems used for their own crops.

20,600

Coffee farmers expected to receive lending assistance

Small-scale Farmers First to Benefit From Increased Lending Assistance

After much discussion and consultation, the TaiwanICDF and CABEI will jointly promote a Regional Lending Program for Coffee Rust in Central America, based on the key strengths and advantages of each organization and providing loans and technical assistance grants. It is anticipated that the program will formally get under way after the signing of the loan agreement next year. Countries needing assistance will be able to apply to CABEI for a sovereign loan, with such funding then being loaned out to small-scale coffee farmers via coffee associations or organizations.

Although issues with coffee rust have been around for some time, this time small-, medium- and large-scale producers alike are all suffering because of the severe epidemic brought on by a warming climate and excessive rain. Epidemics no know borders, so the TaiwanICDF and CABEI have raised their commitments to co-finance this regional program, with prevention and plant health management. The most vulnerable small-scale farmers have been selected as initial target recipients in the hope of generating positive feedback, spurring other international organizations and the private sector to invest more resources, and together help the local coffee industry return to the scale it was before being so badly damaged by the coffee rust epidemic.

Public Health and Medicine

Public health and medicine has long been a developmental focus of international aid. Among the eight MDGs announced by the UN in 2000, three relate to public health and medicine: reducing child mortality; improving maternal health; and combating HIV/AIDS, malaria and other diseases. According to the UN's 2014 Millennium Development Goals Report, these three goals have shown a high degree of success; by May 2012, for instance, the mortality rate for children aged five and under was reduced by approximately half from its 1990 baseline; in 2013 the mortality rate among pregnant women had fallen from 380 to 210 per 100,000; and the use of anti-malarial drugs had saved 3 million lives between 2000 and 2012.

As for the prevention of HIV/AIDS, World Bank indicators reveal that sub-Saharan Africa remains a center of the epidemic, and that although the proportion of adult HIV/AIDS sufferers has started to fall, about 58 percent of adult HIV/AIDS sufferers in Africa are female, increasing the risk of direct mother-to-baby transmission.

The UN's post-2015 Sustainable Development Goals (SDGs) cover 17 major items, including ending hunger; achieving food security and improved nutrition and promoting sustainable agriculture; ensuring healthy lives and promoting well-being for all at all ages; and ensuring the availability and sustainable management of water and sanitation for all. With such content and indicators, the SDGs are more diverse than the MDGs, and more inclusive, and can be pursued through strategies of a more interdisciplinary nature.

The development of health care in Taiwan has yielded a range of specializations, including public policy formulation, public health advocacy, the development of community healthcare systems, and the monitoring and management of epidemics, all of which have borne successful experiences that can serve as a reference to partner countries. Thus, in terms of medium- and long-term public health and medical development strategies, besides focusing on Taiwan's priority areas and the needs of partner countries, we are also well placed to respond to international trends in development assistance, promoting programs to help pregnant women and supporting the prevention of chronic diseases as we continue to pursue the MDGs and SDGs.

To take our Capacity Building Project for the Prevention and Control of Chronic Renal Failure in Belize as one example, this project relies upon Taiwan's own efforts in the prevention of chronic diseases, and especially its expertise and experience of preventing renal diseases. Through the integration of the resources present among Taiwanese medical organizations, the TaiwanICDF is assisting Belize to build a basic system to prevent chronic renal diseases and metabolic syndrome, including by strengthening public health promotion and education capabilities, building capacity in the care of chronic diseases, and by establishing case management and tracking systems. Our Healthcare Personnel Training Program and the dispatch of experts will also help us to build the capacity of partner countries, strengthening public health financing systems, basic equipment, health information systems, health personnel and research capacity, and thereby generating a more positive impact among such partners.

1 As part of the Healthcare Personnel Training Program, Mishella Moveni Tutua, a dentistry manager from the Solomon Islands, observes students simulating operations at Kaohsiung Medical University's College of Dental Medicine.

2 To improve maternal health and child mortality rates, an identification mission visits Swaziland for the Maternal and Child Health Improvement Project.

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Case Study 1

Capacity Building Project for the Prevention and Control of Chronic Renal Failure, Belize

According to the World Health Organization, non-communicable diseases (NCDs) are the leading cause of death in Belize, followed by diabetes, coronary heart disease, strokes, hypertension, liver diseases and kidney diseases. Belize's Ministry of Health has also found that over 60 percent of the country's population is obese, and that the prevalence of chronic diseases such as adult hypertension and diabetes exceeds 30 percent, creating daunting health problems. Since these demographic groups are a high risk for chronic kidney diseases, then if Belize is unable to control such diseases effectively, patients in these high-risk groups will face the possibility of needing dialysis at relatively early ages. The high medical costs involved are a serious burden to Belize.

Helping to Build a Basic Prevention And Control System Focusing on Prevention and Capacity Building

In light of Taiwan's ample experience in preventing chronic diseases, in August 2013 Belizean authorities submitted a related request, and the TaiwanICDF and Far Eastern Memorial Hospital dispatched a joint identification mission to Belize. Subsequently, a fact-finding and appraisal mission was also dispatched to Belize in April 2014.

As part of this process, it was found that there is room for improvement in Belize in terms of both front-end disease prevention and back-end treatment services. In particular, there is insufficient experience of preventing or raising awareness of chronic diseases. Lacking the full picture on epidemiological information, Belizean authorities are unable to take effective preventative measures against diseases, resulting in a continuing increase in the number of patients suffering from end-stage renal disease, which in time may prove to be a heavy economic burden. Based on the findings of their investigation and drawing on Taiwan's own experience, the TaiwanICDF and Far Eastern Memorial Hospital then designed the Capacity Building Project for the Prevention and Control of Chronic Renal Failure in Belize, marshaling domestic experts in chronic disease – particularly chronic kidney disease – to help Belize in building a basic prevention system.

In terms of project goals, the TaiwanICDF and Belizean authorities have reached a consensus that the project's resources focus on disease prevention, and with capacity building based around treatment. By strengthening public health education and promotion capabilities regarding chronic diseases, by building specialized medical capacity for chronic diseases, by establishing a case management and tracking system, by providing epidemiological statistical analysis reports and by providing recommendations on optimizing the economic value of dialysis operations, this project will help Belizean personnel to develop prevention programs suited to local conditions. From March to May 2014, Belizean physicians were invited to Taiwan to undergo specialized training in renal medicine and familiarize themselves with Taiwan's prevention model. The TaiwanICDF will dispatch a project manager to implement the project once the relevant cooperation agreement is concluded.

80 %

Medical institutions capable of screening for high-risk cases of chronic renal failure

Chronic disease prevention and control is not only an important issue for Belize; it is also a pressing regional issue facing the governments of Latin America and the Caribbean. Thus, if this prevention and control system can be built effectively, it will be able to serve as a reference for chronic disease prevention and control for all countries in the region.

Education

The accumulation of human resources lies at the very root of a country, no matter what the status of its economic development, and the application of educational resources and the expansion of opportunities are keys to the development of a country's economy, society and environment. In terms of the call of the MDGs to "achieve universal primary education" and to "eliminate gender disparity in [...] all levels of education," the goal of gender equality has been partially achieved as part of efforts to provide educational opportunities at a primary level in the most underdeveloped countries. Expanding on this, a primary goal of the upcoming international development agenda will be to "ensure inclusive and equitable quality education and promote life-long learning opportunities for all."

Building Capacity through Scholarships, Workshops and Vocational Training

The TaiwanICDF implements its International Higher Education Scholarship Program, and international workshops and vocational training, to assist partner countries in building human capital and cultivating skilled labor, with the scholarship program offering degree programs in academic disciplines such as agriculture, ICT, public health and medicine, the environment and education through cooperation with prestigious public and private universities in Taiwan.

Starting in 1998, the TaiwanICDF has been applying Taiwan's own strengths to address partner countries' national development needs, by providing scholarships for overseas students to undertake high-level education, by offering a variety of courses in core fields such as agriculture and public health, and by helping partner countries in establishing local vocational training systems. As part of our Vocational Training Technical Assistance Project in Burkina Faso, for example, we are working in line with the country's human resources development policy by training vocational seed teachers, strengthening partnerships among production, education and vocational training systems, and creating the technicians needed for long-term economic development, boosting the benefits of the project through the horizontal integration of components.

Promoting Mandarin-Language Education

Since 2014 we have been offering Mandarin-taught programs as part of the curricula of our undergraduate scholarships, deepening the living and learning experience of scholarship recipients studying in Taiwan. This option has been added to undergraduate programs alongside the existing all-English option for undergraduate and postgraduate programs, with cooperating institutions carrying out such operations on a trial basis over a two-year period. 2014 also saw the TaiwanICDF bolster the government's efforts to promote Mandarin-language education by dispatching Mandarin teachers overseas to join with partner institutions in training seed teachers and aiding the successful development of Mandarin-language education.

In response to the SDGs and appeals for the development of vocational and higher education, the TaiwanICDF will continue to increase its scholarships and the number of recipients of Taiwan's vocational and higher education systems, as well as focus on the TaiwanICDF's operational priorities, fostering the professionals needed in the job markets in partner countries.

Meeting Partners' Development Strategies by Training Professionals Skilled In Emerging Specialties

To help cultivate the human resources needed for long-term development in developing small-island and African countries, the TaiwanICDF is actively looking to provide effective programs linked to the relevant educational and employment programs in partner countries. Such efforts will help in preventing problems such as the inability to effectively accumulate human capital and the presence of labor forces that lack the skill to adapt to market changes, often as result of risks such as a country's size, internal political factors or other global crises. This is especially the case with young people, women, minorities and other underutilized human resources, and limits a country's economic growth, industrial development and ability to solve long-standing issues of poverty.

In terms of cultivating talent in highly specialized fields,the TaiwanICDF will increase access to health care, engineering and environmental curricula, complementing partner countries' national development strategies to reinforce investment in emerging local industries, and providing higher education resources in areas such as ICT, mechanical engineering and the sciences, thereby adding leverage to aid efforts.

Case Study 1

Overseas Professional Mandarin Teacher Dispatching Project

Responding to the global upsurge in people studying Mandarin and in compliance with Taiwan's goal of promoting Mandarin-language education, in 2014 the TaiwanICDF transformed its long-standing program of Mandarin-language teaching volunteers into a program involving the dispatch of professional Mandarin-language teachers to partner countries, providing the outside world with access to more professional and higher quality Mandarin teaching programs. The aim is to accelerate Taiwan's policy of exporting Mandarin and to strengthen cultural exchanges between Taiwan and its partner countries.

Elevating Teaching Quality through Specialization and Differentiation

The Overseas Professional Mandarin Teacher Dispatching Project, launched by the TaiwanICDF, sends professional Mandarin teachers – either certified by the Ministry of Education or graduated from a Mandarin-language teaching program in Taiwan – to serve in Taiwan's partner countries.

Unlike the previous program, which involved Mandarin-teaching volunteers, the newer program features teachers who not only hold Mandarin-language teaching certificates or associated diplomas, but who have also already gained professional knowledge and practical experience in teaching, and are capable of teaching and designing curricula for students of different age groups and educational background in line with their abilities. This way, they can help to fuel the interest of local people in studying Mandarin and Taiwanese culture.

To enhance the visibility and impact of this project, Taiwanese embassies and representative offices have assigned professional Mandarin teachers to a number of official organizations in our partner countries, including diplomatic academies, civil service training centers and national vocational training bureaus. To satisfy the demands of academic institutions, instructors have also been placed in partner countries' higher education institutions, offering Mandarin courses to students.

8

Countries receiving accredited Mandarin teachers

In terms of the project's approach to cooperation, the TaiwanICDF is responsible for selecting qualified Mandarin teachers and for providing their salaries, while the partner organizations hosting such teachers offer a classroom, facilities and related administrative support. To control teaching quality, teachers are required to produce annual teaching plans, maintain a record of student attendance and learning, and deliver to the relevant Taiwanese embassy or representative office quarterly reports, which will be reviewed and annotated before being submitted to the TaiwanICDF.

In addition to having the necessary teaching skills and a passion for their profession, the teachers selected for the program must also display a sense of purpose in promoting Taiwan as an exporter of Mandarin, and be eager to use teaching as a means of sharing and exchanging culture with the citizens of our partner countries.

The TaiwanICDF hopes that this specialized and differentiated Mandarin teacher dispatching program will elevate the quality of the output of Taiwan's Mandarin-language teaching, in turn helping to build Taiwan's global reputation for Mandarin-language education. In 2014, we sent 11 professional Mandarin teachers to serve in Panama, Nicaragua, El Salvador, Paraguay, St. Vincent and the Grenadines, the Solomon Islands, Palau and Jordan.

Information and Communications Technology

According to recommendations by the UN Economic and Social Council and the International Telecommunication Union, the introduction of e-government into the world of aid would help the governments of developing countries in improving government efficiency, boosting the transparency of governance, strengthening social ties with citizens and increasing public satisfaction with the service quality of government agencies.

Taiwan has been proficient in developing associated e-government technologies. Through online cash flow, e-signature technologies and applications, and other online government services, the public can easily file taxes, process vehicle registrations and driver's licenses, and much more. Moreover, hospital visits require nothing more than the presentation of a single National Health Insurance card for health care personnel to access medical history, records of pharmaceutical use and other such medical data. Similarly, when traveling abroad, citizens can save time queuing for passport inspection by using an automated clearance system known as an e-gate.

Focusing on Ownership and Capacity Building to Develop E-government

With the rapid advancement of ICT, the rapid dissemination of new skills and knowledge has become commonplace thanks to the Internet, and the governments of many partner countries now wish to introduce many of the pragmatic e-government measures developed by Taiwan so as to satisfy the need for more efficiency and convenience in the lives of their citizens. Responding to the expectations of such partners and given ample experience in implementing e-government programs, the TaiwanICDF has been prudent enough to appraise local conditions and take the concepts of ownership and capacity building into consideration, implementing the following specific measures:

1. Address any problems in terms of basic inadequacies in a government's network infrastructure during project inception.
2. Involve executive agencies in the joint commitment of resources and participation in system development and installation.
3. Have executive agencies jointly responsible for project implementation, monitoring and coordination with the TaiwanICDF.
4. Assist partner countries in building capacity in information security management via the national ICT centers already established by Taiwan.
5. Work with partner countries in building the required capacity among local personnel, boosting the abilities of local technicians through project implementation.

Since 2013, the TaiwanICDF has been assisting Belize in establishing an online system that provides auditing services for the import and export of goods on the same basis as these principles, introducing Taiwan's experience of trade automation and enabling Belizean importers and exporters to obtain government-issued trade certificates through this online platform of services. This is greatly reducing procedural costs and time, supporting the speedy response to international market demands and reducing non-tariff barriers, in turn improving Belize's investment environment.

Improving Partners' Use of Applications and Cross-Cutting Utilization of Data

Besides improving the abilities of partner countries, we are also working hard on ensuring that information literacy becomes more deeply rooted. For example, through the power of schools and community, an ICT-based education program which commenced in Honduras in 2007 has enabled students and instructors to use centralized computer equipment and stable, Internet-connected facilities to communicate with the world, bridging the digital divide.

With the support that ICT can bring to education, the empowerment of women and government accountability and transparency, the TaiwanICDF will continue to apply its experience in implementing e-government programs by assisting the government of Swaziland in building its capacity to manage electronic documents and files, while also implementing cross-cutting utilizations of data in public health projects, such as the Capacity Building Project for the Prevention and Control of Chronic Renal Failure in Belize, and the Health Information Management Efficiency Enhancement Project in Paraguay, thereby enabling citizens in partner countries to enjoy the results of Taiwan's ICT-related resources in the field of health care.

Case Study 1

ICT Technical Cooperation Project, Belize

According to 2013 Central Bank of Belize data, the country's volume of imports and exports has been increasing year by year, with total annual trade amounting to US$1.49 billion. Belize's chief trading partners are other Central American countries and the United States. Its main exports are fresh agricultural produce, ready-made garments and edible oils, while its main imports include mechanical equipment, chemicals and fuel oil. As a member of the WTO, Belize has a great need for trade facilitation, but its import-export system has been hindered by the lack of complete information, and the introduction of proper ICT tools is urgently needed.

Taiwan's achievements in ICT development and associated operations are well known to all, with Taiwan having surpassed expectations in numerous areas of hardware manufacture, software design and telecoms applications. Promoting Taiwan's ICT capabilities through international cooperation projects can not only boost the position of its technological products and patents at a global level, but also better highlight the benefits of international cooperation, strengthening Taiwan's influence in international affairs.

Integrating the Systems of Separate Agencies to Enhance Effectiveness

In 2013, the TaiwanICDF and Belize joined forces on a four-year ICT Technical Cooperation Project designed to assist the government of Belize in boosting the efficiency of its existing import-export licensing and permit issuing processes. Technical assistance and the development of ICT systems led to the design of the Belize Electronic Licenses and Permits System (BELAPS), which provides an online signature function. The license application and issuing procedures of Belize's Fisheries Department, Forestry Department, the Belize Bureau of Standards, the Belize Agricultural Health Authority and the Ministry of Natural Resources and Agriculture have also been integrated, providing individuals and businesses with a one-stop service using online media, and thereby reducing the time and fees involved in processing the relevant licenses.

5,000

Beneficiaries expected to benefit from customs clearance support

The introduction of BELAPS will also assist Belizean authorities in linking Belize's own Automated System for Customs Data (ASYCUDA) with the United Nations Conference on Trade and Development (UNCTAD), integrating multiple functions including inspection, customs, cash flow, data integration and data analysis, enabling Belize's electronic customs system to comply with international standards and increasing the accuracy of data and the effectiveness of its use. This will boost the volume of Belizean imports and exports, boosting the country's trade facilitation in turn.

During systems development, the project has focused on building the capacity of cooperating units. In addition to equipping the Belizean government with the capacity to operate and secure its systems through technology transfer and training, the project will also enhance the ICT capacity of Belizean personnel. In 2014, for instance, two Belizean seed instructors came to Taiwan, undertaking Java programming training and acquiring their Oracle Certified Professional Java SE Programmer qualifications. By sharing their experiences in comprehensive professional training and systems development, they can help cooperating units and the government as a whole in building the capacity to develop systems independently, which will have the effect of making this case of international cooperation all the more sustainable.

Case Study 2

Information Technology School Project, Honduras

To enhance the computer skills of Honduran elementary and junior high school students so they can better understand the world, gain new knowledge and benefit from enhanced competitiveness, the government of Honduras proposed a program requesting that Taiwan assist in creating or improving computer classrooms in each of the nation's 2,250 public schools, fitting each with equipment and facilities including air conditioning, electricity, lighting, school desks, 15 desktop computers, a server and online communications equipment, as well as cultivating trained computer instructors. The estimated total cost for this program was about US$77 million.

To marshal Taiwan's superior development strengths, at the end of 2007 the TaiwanICDF echoed trends in international development, responding to the Honduran government's commitment to educational development by signing for an Information Technology School Project that would provide a loan of US$5 million. The project came to a successful conclusion in 2014.

Enhancing the Overall ICT Environment through Software and Hardware

Looking back at the course of the project, once the TaiwanICDF's funding was in place, the management of the project passed to the Honduras Council of Science and Technology under a unified equipment procurement scheme. All personal computers were required to include wireless network cards, for example, while in order to stimulate elementary school students' interest in studying Spanish and mathematics, computer-aided teaching software and general office software such as Microsoft Word, Excel and PowerPoint were also included.

A TaiwanICDF mission dispatched in November 2014 concluded that the installation of ICT equipment and corresponding software has elevated the academic advancement rate of students who have completed elementary and junior high school, and has also exposed community residents to the Internet, helping to increase the stability of local society.

1,189

Computer classrooms established in participating schools

However, monitoring activities also found that in addition to the hardware considerations that come with this type of project, associated software and personnel are also very important. Since the goal is to boost the computer skills of elementary and junior high school students, it is necessary to pay attention to the needs of students at different stages of learning when appraising which software to install, as teaching software aimed at elementary school students is not always applicable for junior high school students. Further, file size constraints can affect the overall performance of computers — although fortunately, in the case of this project, professional computer training for instructors had raised their ability to adapt, and in the event that software becomes inconsistent with users' needs, it will be possible to switch to other, more suitable software fairly rapidly.

As for computer systems, to address the obstacles affecting network connectivity, schools need to be asked about Internet use in advance, in order to prevent a situation in which equipment is purchased en masse but does not conform to their needs, while it is also necessary for systems to comply with telecom regulations. The Honduran government is confronting the issue of barriers to connectivity head on by revising telecom regulations, and has tasked the National Communications Commission with the ongoing management of the project, utilizing communications funds managed by the commission to continue to set up wireless communications networks in Honduran schools and public spaces, so that the ICT hardware provided by different sources can be used to maximum effectiveness.

Environmental Protection

Climate change has become an environmental phenomenon that humans may be unable to reverse, and as such it is necessary to deal with the challenges it creates. At the UN's conferences on climate change, signatory countries have been urged to redirect aid to help the world's least developed countries (LDCs) in adapting to the impacts brought on by climate change. The Nairobi Work Programme, for instance, is currently putting words into action, and asking that industrialized nations take the initiative to help LDCs in building the capacity to cope with climate change, with key tasks including climate and environmental risk assessment and prevention.

Strengthening Capacity to Adapt to Climate Change, Developing Renewable Energy and Greenhouse Gas Reduction Projects

The TaiwanICDF launched its Capability Enhancement in Using Geographic Information Systems in Central America—Nicaragua in 2010 in order to assist its partner country in building disaster prevention, relief and recovery capabilities. The project integrates advanced space and remote sensing, geographic information systems (GIS) and global positioning system (GPS) technologies from Taiwan, helping Nicaragua to carry out advanced monitoring of the weather and natural environment. In times of disaster, such technologies have been used to monitor large-scale environmental destruction, complementing everyday functions that have helped the Nicaraguan government in maintaining an effective handle on land use and change, and serving as an important tool with which to monitor the environment, conserve forests, manage changes in land use and support disaster prevention.

Among the UN's post-2015 Sustainable Development Goals (SDGs), environmental sustainability targets remain an important theme for international cooperation and development. As part of this, the recommended tasks and indicators are becoming more finely specialized, requiring enterprises to shoulder greater responsibility for environmental sustainability. There is also a need to develop partnerships between society and government in order to address everything from regional and domestic environmental protection to global-scale environmental issues. In the future, cooperation between the public and private sectors should become the norm.

The Green Energy Special Fund (GESF) established between the TaiwanICDF and the European Bank for Reconstruction and Development (EBRD) defines a number of investment priorities based around municipal and environmental infrastructure, with funding for sub-projects involving LED street lights, solar energy and energy-saving public transportation. In addition to providing leverage to elevate Taiwan's visibility in Eastern Europe and Central Asia, this can also help Taiwan to expand its markets in industries in which it is strong, such as ICT, solar photovoltaic technologies and LED-based energy-saving lighting. To respond to the SDGs' recommendations regarding the promotion of environmental sustainability via public and private sector cooperation, the project's implementation framework is based around tripartite cooperation among financial institutions, development assistance organizations and partner country governments.

The TaiwanICDF will continue to assist partner countries in building the capacity to adapt to climate change. Providing technical know-how on conservation, we will continue to develop assistance programs relating to renewable energy and greenhouse gas emissions. Regarding the serious problems caused by climate change, including food crises and the depletion of water resources, and given the fact that a number of our partner countries are environmentally fragile island nations or lack self-sufficiency in food production, the design of future agricultural projects will list climate change as an important risk, and we will marshal Taiwan's advanced ICT, water resource management and renewable energy technologies to design programs suited to local circumstances, helping partner countries adapt to changes brought on by climate change and seizing this opportunity to develop sustainable agriculture.

The TaiwanICDF has sent GIS instructors to Nicaragua to assist in training professionals and building analytical capacity.

Case Study 1

Capability Enhancement in Using Geographic Information Systems in Central America—Nicaragua

Countries in Central America suffer from frequent natural disasters and lack for effective management and planning across broad swathes of land. As such, they require the technical tools to carry out prevention strategies, manage changes to land use, and utilize natural resources sustainably.

To this end, Nicaragua, one of our partner countries in the region, noted Taiwan's advanced capacity in satellite technology and signed a technical cooperation agreement with us in 2010, hoping to introduce GIS in order to improve the government's administrative capacity.

The implementation of the project is based on the TaiwanICDF's project design and implementation model. A special team was assembled by the Resource Satellite Receiving Station based at National Central University's National Space Organization and the Center for Space and Remote Sensing Research, making use of Taiwan's FORMOSAT-2 satellite to carry out a multi-phase land monitoring mission and thereby assisting Nicaragua in understanding land use at key nature reserves, and providing recommendations on disaster response.

Applying Taiwan's Advantages to Realize Environmentally Sustainable Development

During 2014, the project helped Nicaragua to monitor 27 nature reserves, reporting on any changes detected and conducting on-site surveys and revitalization work with partner organizations. For example, the Ministry of the Environment and Natural Resources assembled an on-site survey team, making use of change point data provided by the project to successfully stop coffee farmers from using land illegally in Serranía Dipilto-Jalapa, levying fines of 600,000 córdoba (about US$24,600). This was a key result as part of the ministry's work during the year, helping to publicize the project and having a positive effect on its efforts with regard to environmental sustainability.

77,000 km²

Environmental and ecological areas monitored

In 2014, three major natural disasters occurred in Nicaragua: an earthquake in the Lake Managua area in April, a landslide in El Ayote in June, and a landslide at El Concepcion Volcano in September. After receiving equipment designed for disaster photography, in each of these cases the project team provided the Nicaraguan Institute for Territorial Studies (INETER) with pertinent satellite imaging and disaster assessment reports within two weeks, helping disaster relief teams to ascertain the severity and extent of the disasters, and to plan the resources needed for on-site survey work more effectively. INETER's disaster analysis reports will also serve as a reference for future disaster contingency strategies.

To respond to the recent needs of Central American countries suffering the effects of global warming and climate change, the project has also helped Nicaragua to monitor over 77,000 km² of key nature reserves each year, as well as provided 14 emergency disaster image and analysis reports, 10 GIS training sessions, and training for more than 250 specialized personnel. Valued by partner countries, the agencies that the project has partnered with have appointed ministry-level personnel to take part in the management of the project, and department-level personnel to serve as communication channels. The use of Taiwan's satellite imaging and GIS technology as part of this cooperation program has also been mentioned at UN climate change conferences and other international conferences, successfully boosting the publicity of results.

Case Study 2

EBRD Green Energy Special Fund

To provide financial investments that spur the development of emerging industrial nations, since 2011 the TaiwanICDF has been cooperating on the Green Energy Special Fund (GESF), established with the European Bank for Reconstruction and Development (EBRD), in hopes of encouraging the EBRD's countries of operation in Eastern Europe, Central Asia and North Africa to invest in municipal infrastructure by applying the best available technologies that could achieve significant levels of CO_2 savings via preferential funding.

Cooperation with EBRD Leveraging Multiplier Effect of Inputs

The goal of the GESF is to address the affordability gap faced by the EBRD's countries of operation in boosting their efficiency of energy use. The program provides loans to municipal governments in developing countries in Central Europe, Eastern Europe and Central Asia, promoting their investment in energy efficient technologies. GESF sub-projects are financed by loans, with the principal and interest to be returned to the TaiwanICDF in accordance with the agreement with the EBRD and the TaiwanICDF.

The GESF's contributions in boosting the energy saving and energy efficiency of these regions' public services have received widespread attention during 2014 thanks to the signing and implementation of water resource, solid waste management and smart transportation projects in Eastern Europe, as well as LED street lighting projects in Central Asia and North Africa. Three sub-projects have been signed for since the fund was established: an LED street lighting project in Almaty, Kazakhstan; an urban roads project in Chișinău, Moldova; and a water supply and wastewater project in Vâlcea, Romania.

At the signing ceremony for the LED street lighting project in Almaty, Kazakhstan, on June 10, 2014, EBRD president Sir Suma Chakrabarti made a point of thanking Taiwan for its technical assistance and funding support toward the GESF. The bank's Twitter page also took on a dedicated theme – "Taiwan government helps Almaty shine even brighter!" – to highlight the contributions of Taiwan's development experience toward improving municipal infrastructure in Almaty. The project is expected to yield a 70 percent reduction in energy use by Almaty's street lighting system. The project has gained widespread attention from many countries, and more than 10 countries are currently in talks with the EBRD regarding similar lighting projects.

70 %

Reduction in energy use by street lighting system in Almaty, Kazakhstan

In addition to the LED street lighting project, the GESF has also subsidized an LED street light project in the Moldovan capital of Chișinău and a water resource management project in the southern Romanian city of Vâlcea, receiving widespread acclaim from local governments and the European Union.

The project is the first program of cooperation between the TaiwanICDF and the EBRD to focus on energy saving and carbon reduction. We hope that marshaling Taiwan's advantages in environmental protection technologies can broaden the scope of projects through cooperation with the EBRD and the GESF, assisting partner countries in pursuing environmentally sustainable development despite resource constraints, and thereby achieving a synergistic, leveraging effect.

Case Study 3

Energy Efficiency and Solar System Project, Marshall Islands

The Marshall Islands, one of the TaiwanICDF's partner countries in the South Pacific, is constrained by limited natural resources and has to import fossil fuels from overseas to support its needs in terms of transportation and power generation. As a low-lying country, the nation is also threatened by rising sea levels. Faced with the double jeopardy of climate change and severely fluctuating international oil prices, the Marshall Islands needs to adopt development measures as quickly as possible so as to adapt to this increasingly severe environmental challenge.

Promoting Solar Energy to Provide Energy and Alleviate Pressure

The photovoltaic technology used in generating solar energy is user-friendly and scalable, and can serve the needs of homes and small-scale power distribution stations. Such technology is better than diesel in terms of power transmission costs and unfavorable energy losses, but is easily affected by weather, resulting in an unstable power supply unsuitable for serving as a base load power source. It can, however, serve as an auxiliary energy source, and thus solar photovoltaic systems are appropriate for an island nation that is generally reliant on diesel generators, but which also needs to generate power for home use in rural areas isolated from the main power grid.

14 %

Forecasted reduction of fossil fuel consumption in the household sector

With solar photovoltaic power generation able to solve the predicament faced by the Marshall Islands, the Marshalls Energy Company proposed a project to the TaiwanICDF in hopes that we would provide funding to support the installation of grid-connected solar photovoltaic systems and replacement of energy-saving home appliances, which, in addition to increasing energy efficiency, could also reduce the country's fossil fuel consumption.

The TaiwanICDF subsequently dispatched personnel to the Marshall Islands to conduct on-site inspections and visit the relevant stakeholders, learning more about their needs and views. We also drafted in consultants and experts from the Ministry of Economic Affairs' Bureau of Energy and the Industrial Technology Research Institute's Green Energy and Environment Research Laboratories to preliminarily establish the feasibility of the project, to ensure that the Marshall Islands' climate and environment are suitable for the development of solar power, to confirm that the Marshalls Energy Company possesses the ability to maintain operations, and to gain a better understanding of stakeholders' needs and views, as well as to continue to help the Marshalls Energy Company in strengthening the project's sustainability at the design stage.

The TaiwanICDF succeeded in incorporating Marshall Islands government agencies such as the Ministry of Finance, the Ministry of Resources and Development and the Marshall Islands Development Bank, to jointly participate in the promotion of the project, making its implementation arrangement all the more rigorous. In total, the TaiwanICDF will provide US$4 million in loans for the benefit of around 350 households, with Marshall Islands authorities forecasting the reduction of fossil fuel consumption in the household sector by 14 percent. We believe that this will ease the environmental pressures faced by the Marshall Islands and consolidate the close ties between Taiwan and this partner country.