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Special Reports



In 2008, the world witnessed change beyond expectation. The year began with rising grain prices and food shortages. In July, the G8 summit saw commitment to environmental sustainability and economic growth, but as 2009 approached, a financial crisis swept the globe. Many events in 2008 were a cause of deep alarm for the international community, and as the world continues to face new shocks and challenges, the TaiwanICDF continues to track contemporary trends in cooperation and development. The organization is investing resources and time toward the introduction of new technologies in its partner countries, and is establishing new training systems to strengthen human resources, assisting those partners to become more competitive than ever.



Everyone Has the Right to Food

The food crisis of 2007-8 compelled the world to reconsider the role of agriculture, and to recognize its importance in relation to the labor force, raw materials, natural resources and social stability. In 2007, World Bank economists issued a research report entitled “Down to Earth,” which stated that investment in agriculture could help more people to emerge from poverty. The report added that the reduction in poverty generated by economic growth in the agricultural sector far exceeds that of other sectors. In the discussion of development issues, agriculture is – once again – emerging as an engine with which to drive the economy.

In 1996, the World Food Summit pledged to reduce the number of people facing hunger by half, by 2015. Yet after setting this goal, the number of people going hungry in the world did not fall, but rather rose by four million, annually. In 2000, the UN made the eradication of extreme hunger one of its eight MDGs. Since then, climate change, an unrelenting rise in global grain prices, increasing demand among emerging nations, and the use of grains to create biofuels have triggered food shortages, in some cases leading to unrest. This has pushed the issue of food security back to the forefront of international attention.

The Food Crisis: Grain Shortages and High Prices

According to data from the FAO, the food commodity price index rose 24% in 2007, and soared a further 53% in the first three months of 2008. Grain prices directly impact the lives of people. While consumers in developed nations may be able to absorb the price hikes, a rise in the

cost of food for the millions of people in poverty in developing nations is a life and death situation, considering that some 50-60% of their income is used to buy grain. A rise in grain prices limits their ability to buy other necessities, which has a crowding-out effect in other markets. During this period, the World Bank estimated that about 30 million people in Africa would face the threat of hunger due to soaring grain prices. In July 2008, the IDB said high food and energy prices were dealing a double-blow to the Caribbean, and that the impact to these countries was far greater than to other nations in the Western Hemisphere; similarly, UN statistics indicated that at that point, the number of people in the world going hungry was about 960 million, with two-thirds of those people living in Asia. In the second and third quarter of 2008, food shortages in a number of African and Caribbean nations triggered demonstrations and social unrest. A number of less-developed nations that relied on imports of food to meet their needs decided to return to investing in agriculture, in order to produce more food locally.



Case Study

Grain Yield Enhancement Contingency Project in The Gambia

A number of reasons can be cited for the sharp rise in global grain prices in 2007 and 2008, including a reduction in irrigation water due to climate change, a decline in the amount of farming land available in developing countries (despite rising demand for food in these nations), the increasing popularity of biofuels as a replacement for gasoline, and tariffs on the trade of agricultural products.

Given these imbalances between supply and demand on the global grain market, the Gambian government understood the need to raise the nation's level of agricultural technology and becoming self-sufficient in grain output, in order to avoid any further damage brought on by global grain shortages. In 2007, and in response to the agricultural needs of The Gambia, the technical mission introduced the Doubling Rice Yield Within Five Years Project. In 2008, the Grain Yield Enhancement Contingency Project was implemented to further accelerate the ongoing increase in grain production. This project aimed to boost production by targeting the main factors that had previously limited an increase in rice output in The Gambia.

This contingency plan was designed to operate in parallel with other grain production assistance projects carried out by development organizations in The Gambia over recent years. The technical mission provided high-yield rice seed to increase production, while also helping to establish a farming machinery service center. It also provided financial access for farmers to purchase fertilizer, and worked to strengthen production and sales teams. These measures are expected to form the basis of a sustainable operating model for rice production in the country.

This initiative to boost rice production was carried out in tandem with the Gambian government's own projects to boost crop yields, and included cooperation with the Gambian

public sector, the National Agricultural Development Agency, and foreign NGOs such as Catholic Relief Services and the US Peace Corps. Cooperating agencies were particularly pleased with the seed stock and seedlings provided by the technical mission. As of the end of December 2008, the mission had provided high-yield rice seed to cultivate 3,000 hectares of land, which generated about 6,000 tons of rice valued at US\$1.65 million.

Statistics from the Gambian Ministry of Agriculture indicate that 13,403 hectares of land was used to grow upland rice in 2008, an increase of 25% from 2007. The yield from each hectare stands at 950 kilograms, an average rise of 33.2% from 2007, while total rice production increased by 92.7%, to 14,732 tons. This demonstrates that the rice seed provided by the technical mission was successful in boosting upland rice output in the nation.

Despite these successful results, seed provided by the technical mission is presently used on a relatively small proportion of land cultivated in The Gambia. In future, the mission intends to extend the supply of this seed, providing more farmers with an opportunity to increase yield per unit of land by using the better source of seed. At the same time, the mission will encourage rice cultivation among farmers who currently grow other crops, thereby increasing the area of land used to grow staple food. With the cooperation of the Gambian government, and by applying supplementary measures such as the use of a machinery service team to prepare land and the supply of reasonably priced fertilizer, the country's rice output is sure to continue to rise. In these times of high grain prices, The Gambia has been given an opportunity to increase rice output significantly, and gradually reduce its reliance on imported grains.

Boosting Grain Output: The Objectives and Achievements of Overseas Technical Missions

The TaiwanICDF operates and manages 30 overseas technical missions (not including medical missions) in 28 countries, most of which are located between latitudes 20 degrees north and south of the equator. The primary grain crops for these nations are rice and corn, while other traditional crops include potatoes, cassava, and rootstock vegetables. One of the main objectives of every mission is to improve food self-sufficiency in partner countries. Technicians not only need to understand which crops are suitable for growth in each country, but also provide field management training and cultivation techniques. They also instruct local farmers and agricultural officials in quality management concepts, thereby assisting to boost yields of high quality produce and foster agricultural transition and upgrading.

In light of the food shortages facing the world, the TaiwanICDF convened a decision-making meeting in May, to settle plans for overseas missions to assist in boosting grain output in partner countries. It was decided that efforts would be centered on the five diplomatic allies that were facing the most serious food shortages. Each country had its own local factors that had influenced food agricultural output, yet ultimately, all five countries were suffering the same fate: an insufficient supply of food. Accordingly, the overseas missions looked to tackle the issue at its core, utilizing existing manpower, expertise and resources; and providing technology and policy planning that would assist local farmers to boost grain output from the following quarter. These emergency plans were in sync with calls made by the FAO in June, asking that countries facing shortages of foodstuffs be helped to increase their grain output and productivity.

Alleviating the crisis in grain shortages requires short-, medium- and long-term planning, which the TaiwanICDF set out through the following contingency strategies:

- Short-term: To increase the agricultural labor force and expand the coverage of land being farmed; to improve crop yields on farmed land (by using high quality seed, strengthening cultivation methods, and employing appropriate production management); to provide capital; and to increase agricultural investment.
- Medium- and Long-term: To improve crop production

and storage technology; to create effective farming organizations; to strengthen irrigation infrastructure; to improve conditions for agricultural production; to strengthen agricultural financial services; to assist in drafting comprehensive grain policies and agricultural development strategies; and to continue to promote sustainable agricultural development.

Overseas missions have long worked hand-in-hand with farmers and agricultural officials and agencies in partner countries, thereby accumulating a wealth of knowledge about the agricultural production environment of partner countries, and learning lessons about the various development obstacles that must be faced. With this in mind, each overseas mission mapped out appropriate plans to increase grain output, which were instigated in the second half of the year.

The Gambia

The Gambia has long faced the problem of insufficient grain output. As the most recent grain crisis developed, the country received a relatively large amount of assistance from international organizations. Even so, the Technical Mission in The Gambia took the opportunity to bolster its cooperation with the local government and development partners to boost grain production. The technical mission is providing development organizations with high-yield seeds for distribution to farmers, and has also offered assistance in establishing a farming machinery service center. It is also offering fair-priced fertilizer and helping to establish production and sales teams. Technicians are working on improving productivity in tidal paddies, and are also extending cultivation technology to upland rice farms. This is setting the foundation for sustainable production and increased output, thereby helping The Gambia to reduce imports and alleviate the impact of rising global grain prices.

Project outputs (as of December 2008)

The mission has provided 150 tons of stock seed and expanded rice cultivation to 3,000 hectares, enabling output to exceed 6,000 tons, for one production season. It has also conducted four workshops instructing farmers on cultivation techniques, and has trained 15 local operators in mechanical farming services.



Case Study

Agricultural Science Information System Assistance Project in Swaziland

In recent years, amid changes to trends in international assistance, Taiwan has become increasingly active in supporting partner countries' attempts to introduce information and communications technologies. The creation of an "e-friendly" environment helps to achieve the policy objective of reducing the digital divide, and increases opportunities for interaction between rural and urban areas, as well as between countries. ICT is the foundation for the creation of a knowledge-based society.

In 2008, the Technical Mission in Swaziland initiated the Agricultural Science Information System Assistance Project. This project exploits Taiwan's comparative advantages in establishing information systems, which, together with its analytical experience, have assisted Swaziland to collect the agricultural data it needs to analyze demand and plan a course of action. Through this process, local farmers can adjust their production plan and supply as required, helping to avoid the losses associated with the falling prices that follow market surpluses, and equally enabling Swaziland to boost exports.

During a previous project, the FAO had provided Swazi agricultural officers with computers. Adding to this, the TaiwanICDF provided crop and livestock officials with 10 personal computers, set up servers in Swaziland's Government Computer Center, strengthened hardware capacity, and provided software to enhance central management. This comprehensive system is a means to collate information, interrogate data, and produce regular analytical reports.

Initially, the technical mission used existing data formatting for agricultural areas to assist the Swazi Ministry of Agriculture and Cooperatives (MAC) to establish an agricultural information collection management system. Weather reports, historical data on farm and livestock production, and information on imports of agricultural products were then used to establish a new analytical model for processing agricultural information. The new system provides a means for marketing officers to cross-reference weather data against previous market prices; it can also perform regression or time-series analysis, offering forecasts for demand in agricultural produce or livestock across Swaziland. Recommendations on suitable production volumes can then be communicated to regions, which helps to maintain a balance in supply and demand. The system also enables the Swazi MAC to release regular estimates of market demand for various products over the Internet, providing an early-warning system.

The applications used by this system set a foundation for digital communication between farmers in remote areas. They will be able to tap into real-time production and sales information, boosting their competitiveness. Moreover, a willingness to use the applications – and engage with information systems, in general – will allow rural communities to keep in step with broader social trends. After establishing a preliminary framework for e-government, future projects will focus on the development of e-commerce, aiming to maximize the benefits of integrating agriculture and technology.

Burkina Faso

Recently, annual demand for rice in Burkina Faso has been increasing by 5.6%, which is higher than the nation's population growth of 2.8-3.0%. The annual demand for rice is about 200,000 tons, 70% of which must be imported. In an effort to boost grain self-sufficiency, the Technical Mission in Burkina Faso has been surveying land on the banks of the Bagré River since 1994, digging canals to support irrigation systems. To date, a total of 1,800 hectares of farmland has been developed on the right and left banks. Superior varieties of paddy rice have been introduced, while cultivation methods used in Taiwan have been launched and extended to Burkinabé farmers. The mission also introduced the Tai-Sen 2 variety of rice during the first sowing of 2008 to make up for a decrease in seed-setting seeds, and provided priority assistance to farmers whose farms were well located, where conditions confirmed that cultivation would be a success. In order to diversify output, the mission is strengthening the extension and technical assistance given toward growing corn, one of Burkina Faso's four major staples. These efforts are expected to enhance output and contribute to the market supply.

Project outputs (as of December 2008)

Additional rice output has reached 2,213 tons; while corn output has been raised by an additional 516 tons. 1,842 households in 16 villages around Bagré have received consultation and assistance, with a total of 16,120 beneficiaries.

Swaziland

Corn is Swaziland's main staple, and the nation has only one harvest per year. A changing climate has led to many years of drought in Swaziland, causing a sharp decline in annual yields, and over the past seven years, food self-sufficiency has fallen to under 60%. Amid the industrial and commercial development of recent years, demand for rice has increased significantly. As a result, the Technical Mission in Swaziland has made it a primary objective to increase the output of a substitute staple, and encourage the planting of rice varieties that thrive in drier conditions. In March, the FAO introduced the cultivation of potatoes as a "future staple food." Meanwhile, in light of rising demand for rice, the technical mission is assisting the Swazi government to reclaim paddy land that is

currently lying fallow. Efforts are being made to increase yields of sweet potatoes and rice per unit of land, as well as to train farmers growing either crop, which is helping to strengthen technical capacity, and knowledge of crop management.

Project outputs (as of December 2008)

Assistance is being provided to 157 farming households in four areas. A total of 98.25 hectares of land is being used to grow rice, maize and sweet potatoes, with each hectare of land yielding at least six tons of produce.

Nicaragua

Nicaraguan farmers rely primarily on seasonal rainfall to support their rice farming. Most farmers involved in upland rice farming are impoverished, short of capital to purchase rice seed, and lack technology to cultivate their land. Poor field management often stunts the growth of rice stalks, and damage from insects is severe. Furthermore, many areas lack satisfactory road networks and transport conditions are poor, so that moving goods becomes a challenge in itself. As a consequence of these factors, Nicaragua has faced a shortage of grains. The Technical Mission in Nicaragua set an objective to increase the amount of land used to grow rice, and improve yields per unit of land. The mission is cooperating with the Nicaraguan Ministry of Agriculture, providing assistance to agricultural agencies in order to expand production of rice seed, and deliver it to farmers. Furthermore, seed instructors in upland rice are being trained and demonstrations are being held for farmers. This is enabling rice farmers to have a better understanding of cultivation and management techniques.

Project outputs (as of December 2008)

Completed the growth of breeder seed for 2.8 hectares, foundation seed for 14 hectares and well-bred seed for 44.87 hectares. In addition, farmers were instructed on the technology used to produce breeder seed for cultivation, and field demonstrations were conducted. More than 80 Nicaraguan farmers and agricultural officials participated in these initiatives.

Haiti

Rice is Haiti's main staple food; however, the nation relies on imports to meet one-third of demand. Some 80% of Haiti's population earns less than US\$2 per day, and when the price of rice recently doubled, and nearly tripled, many people were unable to buy food. In April, when the public staged demonstrations to protest at high prices, events descended into rioting, which attracted the attention of the international community. Amid the inflow of international assistance, the Haitian government hopes to integrate its resources to solve core problems by constructing irrigation infrastructure, stabilizing fertilizer prices, and increasing output by expanding the amount of land used for rice cultivation. The Technical Mission in Haiti is cooperating with other international aid organizations to meet these objectives. Efforts are being made to improve the purity of foundation seed, increase rice cultivation in Haiti's Artibonite region, and increase the capacity of farming machinery to plow the land.

Project outputs (as of December 2008)

Machinery is now being used to plow 109 hectares of land, while rice seedlings have been transplanted into 99 hectares of land, benefiting 223 farmers. The second harvest of 2008 is expected to show increased yields of 2,000 kg/hectare, which amounts to an increased output of 260 tons, overall.

The first stage of these Grain Yield Enhancement Contingency Projects ran from July 1, 2008 to June 30, 2009. It is expected that annually, the projects will help these five nations increase the output of rice seed by 1,500 tons, unhusked rice by 26,130 tons, corn by 400 tons and sweet potato by 1,120 tons. The success of international development and cooperation work rests on strong technology and the ability to execute projects, and the technical missions take advantage of their in-depth knowledge of their respective partner countries to undertake detailed and appropriate planning. The results of these efforts are being seen in bumper harvests, which have won the overseas missions attention and applause from the international community.

Adding Resources to the Agricultural Sector

Improving the agricultural sector is not only a means to address poverty and hunger: it can also provide an enormous number of job opportunities through on-farm or off-farm services. Along with ensuring ample supplies of food and providing for the basic needs of populations, this factor serves as an important element in fostering social stability. Addressing food shortages is more than simply a matter of working to boost the output of grains in critical regions. Efforts must be broader, with long-term initiatives aiming to enhance production technology, stimulate trade in agricultural output, foster technical assistance relating to grain production, boost agricultural investment, gain access to global markets, and emphasize sustainable development.

In June 2008, the World Food Summit was held to address the food crisis and the subsequent impact affecting many parts of the world. The international community reached the consensus that although humanitarian assistance must be provided in the short term, longer-term strategies must be implemented concurrently, taking measures to increase farmers' production capacity, and particularly to boost the output of small farmholders. Parties gathered at the summit also concluded that assistance should be provided to enable developing countries and their farmers to be integrated into relevant free trade mechanisms, so that they could sell their products throughout the world.

Since its establishment, the TaiwanICDF has consistently emphasized the project model in carrying out its development operations. Supplementary projects are initiated when results from preliminary projects have proven the success of an initiative, which fosters synergy throughout the organization's activities. The TaiwanICDF has introduced outstanding crop varieties to aid the growth and development of the agricultural sector in partner countries, and also carries out research to determine the most suitable crops for a given environment, after which extension work and technical assistance is directed toward maximizing production. The organization also began to implement small farmholders' financing schemes in 1997, offering microfinancing services, along



Case Study

Workshop on Agribusiness Strategy and Value Chain Management

In recent years, developing countries have endeavored to transform their economic base from agriculture to industry and commerce, with some even seeking to leapfrog directly into the high-tech. Taiwan's experience is that agriculture provided the foundation from which its economic take-off and industrialization took root. Ultimately, it was the agricultural sector that provided the sources of labor, capital and land for industry and commerce to develop, and which led to the economic miracle that serves as a reference for Taiwan's partners.

The gradual upgrading of agricultural technology, trade liberalization and the formation of regional trading blocs have triggered a desire among many countries reliant on agriculture to foster the development of agribusiness, and engage in agricultural transformation. This has aimed at strengthening exports of agricultural products, boosting their ability to engage in food processing, and, ultimately, in boosting economic development. Taiwan has long emphasized the importance of quality, variety and brand names in the development of its agricultural sector. Efforts have focused on "adding value" into processes, creating high quality products, and establishing new brands in order to broaden market-share. Moreover, Taiwan has combined agribusiness with modern management models, clearly differentiated between domestic and export markets, and focused on expanding export markets. This kind of development experience is extremely well suited to sharing with partner countries. Accordingly, the Workshop on Agriculture Policy and Rural Development conducted by the TaiwanICDF has proven so popular in recent years that it now

includes a module on agribusiness management that highlights a number of case studies. In 2008, the TaiwanICDF introduced a new curriculum: the Workshop on Agribusiness Strategy and Value Chain Management. The course focuses on the operation of agricultural enterprises, and assists participants from partner countries to understand the process through which Taiwan drafts its agricultural policies, as well as covering the various considerations made in the course of implementing these policies.

One of the features of this workshop is the study of experiences during the development of Taiwanese agribusinesses. This enables participants to better understand how to draw up a framework for their nation's agricultural development policies, while also establishing an international niche for the country. Coursework covers discussion of strategic considerations relevant to the transformation of a developing country's agricultural sector, the role that analysis has to play in agricultural production, and how measures taken to add value can enhance the production chain; in turn, these practices can create a competitive niche for a country in the international marketplace. Other discussions focus on the key principles that drive the operation and management of modern agribusiness. In addition, officials from Taiwan explain what measures the nation took to adapt to the World Trade Organization (WTO) framework so that participants can judge Taiwan's success, and seek to replicate what Taiwan did right. Participants also discuss the impact that WTO rules and regulations have had on the agricultural sector in their respective countries, and what measures have been taken in response.



Case Study

Small Farmholders' Financing Scheme—Agua Azul Project in El Salvador

The main economic activities of the residents around Ilopango Lake in El Salvador's Cuscatlan province concentrate on cultivating staple crops, fishing, and aquaculture. Many residents have unstable incomes, however, and most need to perform extra work in separate locations to boost their household earnings. The Technical Mission in El Salvador began working with local NGOs in 2004, assisting fishermen's associations to use cage culture techniques to raise tilapia, and educating fishermen in disease prevention technology. The aim has been to increase fish yields in order to increase the stability of fishermen's incomes.

Over the past two years, the assistance provided by the technical mission has helped fishermen to raise their annual harvests by 20%, bringing a welcome boost in earnings for delighted fishermen. To expand the scope of this initiative, the technical mission provided the Agua Azul Fishermen's Association with US\$68,000 in loans from the Small Farmholders' Financing Scheme, so that the practice of tilapia cage culture could be extended to even more fishermen.

Under the loan program, members of the fishermen's association can apply for microcredit over periods of four to 40 months based on their individual needs, buying fish fry, feed and cage equipment in installments. The fishermen's association also acquired a second-hand van, making it easier to transport equipment and catches. In addition to providing production technology and capital, the technical mission also helps the organization in product grading and sales strategies to target the right markets. The higher-grade is sold to commercial markets and restaurants, while villagers sell the lower-grade stock in traditional markets. The project is designed to have both direct and indirect benefits to the villagers, so as to improve living standards in the area.

The Agua Azul Fishermen's Association does not have the benefit of access to a transportation network or large markets. However, funding provided via the Small Farmholders' Financing Scheme during 2008 enabled fishermen to install 10 fish cages in just one and a half months. The fish were raised for four to five months before being harvested in October, with each cage yielding 1,200-1,400 pounds, on average. After deducting costs, earnings before interest amounted to about US\$460 per cage. Of this, 50% was distributed to members as income, while 45% was used to repay loans and interest associated with purchasing the equipment. The remaining 5% went into a fund at the fishermen's association, to be used for future operating expenses. As of early December 2008, 19 loan applications had been approved by the fishermen's association and over US\$30,000 of funds had been disbursed. Each loan averaged US\$1,672. To date, five loans have been paid off, amounting to about US\$7,000. Forecasts indicate that by the harvesting of the seventh batch of tilapia in roughly four years' time, the fishermen's association will have fully repaid all of its outstanding loans; and that within five years, the 5% of income that has been deposited into the association's own fund will be sufficient to support its financial independence.

The TaiwanICDF will continue to monitor the income and loan repayments of the fishermen's association, and initiate the second stage of the initiative at a suitable point in future, by expanding the number of cages. This will help the association to become financially and operationally independent within the space of five years, and encourage it to transform into a corporate entity capable of engaging in sustainable operations. Ultimately, the project will achieve its goal of raising incomes and lowering levels of poverty in the area.

with knowledge-transfer activities relating to agricultural technology. As agricultural production projects approach their goals, farmers can apply for funding through the TaiwanICDF to expand their operations. In addition, the workshops on agricultural policy and rural development that have been held by the TaiwanICDF over the years are beginning to offer courses that emphasize the operation of modern agribusinesses. In this information-oriented era, technical missions similarly work with cooperative partners in establishing information systems for agricultural markets. These systems collect, analyze and predict supply and demand, and have proven to be crucial in adjusting the output and subsequent sale of agricultural produce. Meanwhile, technical missions are providing assistance to establish sanitary and phytosanitary (SPS) mechanisms, which are a necessary first-step toward developing export markets for the products that farmers grow in the countryside. The introduction of technology to monitor chemical residues assists partner countries to guarantee food safety, and ensures that agricultural produce meets basic consumer safety standards.

The technical missions are mandated to emphasize the contribution that agricultural production makes to economic and social stability, to strengthen assistance given to – and investment in – small farmholders. The missions also enable farmers and fishermen to expand their incomes by securing capital through appropriate banking mechanisms. This raises farmers' living standards and supports rural development. Collectively, these measures are fundamental to reducing the recent gap between the supply and demand of grain in the world.

Strengthening Agricultural Development and Upgrading after the Crisis

Although world grain prices fell considerably in the second half of 2008, they still remain at their highest levels for a decade. Regardless of how much supply and demand oscillates in the years ahead, it is likely that global food output – including that of grains, oilseeds, food crops, and livestock – will plateau within 30 years. According to statistics tabulated by the Organization for Economic Co-operation and Development, today's

traditional agriculture accounts for about 12% of global GDP, down from over 30% in the 1980s, which indicates that the agricultural sector is gradually moving toward the formation of integrated agricultural enterprises. In light of this trend, and given their objective to foster the development of the agricultural sector in partner countries, TaiwanICDF technical missions have begun to incorporate changes into their development and cooperation strategies.

Presently, agricultural projects account for about 64% of the operations carried out by these missions. Agronomy primarily focuses on rice and corn, while horticulture centers on vegetables and tropical fruit trees. Animal husbandry projects emphasize hog-raising and the rearing of poultry, while aquaculture projects concentrate on the cultivation of tilapia and a number of saltwater fish species. Meanwhile, missions also supply agricultural enterprises with the technology necessary for boosting output, while also offering both operational and managerial advisory services. Regardless of being based in Africa, Latin America or Asia and the Pacific, all missions operate according to the basic philosophy that each person has the right to food. In addition to the basic goal of boosting the output of grains, the assistance in agricultural development provided by the missions takes a cue from the development of Taiwan's own high-tech industries, where competitive advantages have driven further innovations in outstanding bio- and agricultural technology. These initiatives have helped to generate new possibilities for agricultural expansion in partner countries, be it through the exploitation of technology, or the production of high quality farming products, or by enhancing transport and sales networks. The provision of grassroots technical assistance alongside education and demonstrations in the field has helped to foster farmers' ability to realize creative solutions. Technical missions have demonstrated a common desire to foster the transition and upgrading of farming enterprises in partner countries, admirably endeavoring to establish the means for these countries to be self-sufficient in grain production, which will serve as the bedrock for stable economic development, in turn.



Sustainable Development is a Common Future for Humanity

Climate change and global warming are seen as the biggest challenges facing humanity. As this climate crisis unfolds, sustainable development is emerging as a crucial issue within the international community, and is at the forefront of work in international development and cooperation. Environmental sustainability is also one of the goals that the international community targeted in 2000 through the UN's Millennium Development Goals. The UN Framework Convention on Climate Change, the Kyoto Protocol and the post-Kyoto roadmap demonstrate the world's continuing commitment to cooperation in the promotion of sustainable development. Likewise, the TaiwanICDF will work in tandem with its partners to promote conservation and related practices throughout its development projects. These initiatives will focus on how the efficient use of resources can achieve the double objectives of environmental sustainability and economic development, which will create opportunities for sustainable growth, in turn.

Short-sighted concerns over economic growth bare the largest responsibility for the overdevelopment of natural resources in the past. The pursuit of economic growth led to environmental imbalances, and the rapid pace with which natural resources were depleted overwhelmed our ability to renew these resources. The world has gradually realized that economic development is only one of many considerations relating to the improvement of living standards; it is not the only objective. In 1987, the UN and the World Commission on Environment and Development formally defined sustainable development as "meeting the needs of the present without compromising the ability of future generations to meet their own needs." As more and more international conferences are being devoted to the topic, the concept of sustainable living is gradually becoming a common goal for humanity.

The Impact of Climate Change on Life and Productivity

Across the world, the messages expressed by respected experts and the collective messages represented by various multilateral summits have repeatedly urged people to start facing the reality that climate change is impacting the lives of humans, and impacting food output.

These issues became particularly evident during 2008. The negative effects of climate change include rising sea levels, leading to shoreline salification and paludification; imbalances in the distribution and frequency of rainfall, triggering concerns over water resource management; an increase in irregular weather patterns, resulting in a higher probability of unmanageable natural disasters; a decline in biodiversity, leading to higher levels of crop damage from insects; and desertification, causing a reduction in the proper functioning of ecosystems, and a long-term downturn in productivity. Worldwide, all of these factors will reduce the level of habitable land, restrict the availability of land dedicated to agricultural activities, and cause a reduction in output. These effects are being felt especially in low-latitude developing nations, and in areas with fragile ecosystems, resulting in an increased threat of famine. Grain shortages were observed in many locations, highlighting the climate's capacity for producing economic instability, once again. This comes at a time when the structure of the grain trade is poised to change, with developing countries increasing their imports and becoming more reliant on foods grown in other countries.



Case Study

Workshop on GIS Application to Natural Disaster Management

Using GIS/RS technology is an effective means to monitor and survey land, oceans, forests, crops, and rivers and streams. This process helps developing countries to advance carefully and selectively, while also ensuring sustainability by promoting maximum efficiency in the use of natural resources.

GIS can be used in assisting partner countries to prepare pre-disaster contingency plans, to analyze information, and to orchestrate post-disaster restoration in the event of major environmental damage caused by storms, floods, landslides or damage from pests. The information derived from GIS can also serve as a powerful tool for fostering environmental sustainability.

Since beginning to advocate GIS as an area of technological assistance in 2006, the TaiwanICDF has held a Workshop on the Application of GIS for Land Development Planning, and a Workshop on Environmental Monitoring and Natural Disaster Management. These workshops proved to be extremely popular among the governments of partner nations, especially the sections covering disaster prevention. Partner nations in Central America and the Caribbean are frequently hit by hurricanes. In addition, the building of canals, dams and other large infrastructure works is largely carried out in water catchment areas that are in desperate need of environmental conservation. Consequently, GIS technology can provide help in environmental monitoring and managing disaster prevention.

In 2008, the TaiwanICDF conducted a Workshop on GIS Application to Natural Disaster Management. The themes of

this workshop centered on how Taiwan has successfully used GIS technology and integrated data systems to monitor the environment and manage natural disasters, and how related technology is used throughout the disaster management cycle in Taiwan. The workshop examined the development experience of the Taiwanese GIS industry, explained Taiwan's policies on the long-term development of GIS, its applications, models for cooperation between the public, industrial, and academic sectors; and the processes involved in executing GIS-related projects. This enabled students to understand how GIS applications are used to monitor environmental change, and to appreciate the practical methods used to control risks.

In addition to possessing advanced GIS technology, Taiwan has the Formosa-2 satellite at its disposal, the orbit of which has potential applications for partner countries. As a result, the TaiwanICDF has been commissioned by MOFA to form a delegation of experts to travel to key countries in Central America to engage in GIS-related field studies, and draft preliminary action plans for cooperation on the subject. These plans will serve as a reference for cooperative environmental protection projects designed by the TaiwanICDF in future. The organization will also use scholarship projects, specialized workshops, and short- and long-term human resource training projects to continue assisting partner nations while they cultivate the manpower required to exploit GIS to its fullest extent. Finally, the organization will also promote the broad applications of GIS in the field of environmentally sustainable development, and draft possible international cooperation projects focused on GIS.

Common Concern for the Environment and for Development

Several decades ago, multilateral development organizations began assessing the environmental sustainability of their development projects, in order to avoid realizing short-term economic growth at the expense of an inappropriate use of developing nations' resources. Just as the international community has increasingly focused on environmental protection and sustainable development, the number of projects and mechanisms that major international development organizations have devoted toward environmentally sustainable development has expanded rapidly. Their aim is to pursue sustainable development during the course of assisting developing countries to achieve economic growth. These programs emphasize environmental management, ensuring that countries receiving assistance will continue to develop over the long term.

Although the primary purpose of development projects carried out by the TaiwanICDF is to stimulate economic activity in its partner countries, the organization is assimilating concepts associated with resource sustainability into its projects with increasing regularity, to ensure that its efforts strike the correct balance. Projects seek to promote improvements in living standards for people in partner countries; in doing so, they incorporate economic, financial, social and environmental considerations during the course of their design.

Shortly after its establishment, the TaiwanICDF instigated a Bamboo Cultivation Project in Haiti, in order to protect vulnerable landscape against landslides and erosion; and also carried out a project to ferment methane from pig waste to produce organic compost. By providing loan funding and working in cooperation with other

international organizations, the organization also sought to reduce environmental pollution in critical areas, as well as to develop and manage water resources. In 2004, the TaiwanICDF and the National Central University began to offer an International Master's Program in International Environmentally Sustainable Development, to train persons from partner nations on energy sources and environmental management, and GIS/RS. The organization is actively involved in a number of other environmental protection initiatives: It supplies partner countries with technology related to environmental sustainability, helps to cultivate human resources, and also provides financial assistance.

No single country can solve the world's environmental problems on its own; international cooperation is vital. In addition to dispatching representatives to attend international environmental conferences and forums – in order to remain abreast of mainstream topics and understand trends and developments with regards to assistance – the TaiwanICDF has also begun to develop bilateral and multilateral carbon financing and technical assistance projects. The organization has discussed directions and frameworks for future cooperation projects on the EBRD's Sustainable Energy Initiative, for example. The TaiwanICDF also invites experts from other institutions to assist in performing preliminary research, whose results are incorporated into the design of various development projects emphasizing the strategies of mitigation and adaptation, both concepts at the leading-edge of international trends. These projects will highlight the relationship between populations, resources, the environment and development. Limited resources will be utilized to their fullest, helping to generate maximum synergy between development projects and environmental sustainability.



Case Study

Assisting Island Nations to Manage Natural Resources

Nauru is a tiny island, deeply isolated from neighboring countries. Its soil is largely composed of a shallow layer of sand. These factors make it difficult for Nauru to tackle environmental problems. The island is easily impacted by climate change, which magnifies the effects of disasters and renders permanent recovery virtually impossible. Nauru lacks for organic material, and over the years, phosphate mining has seriously eroded the island's topsoil, leaving land infertile. It is also facing rising sea levels brought about by global warming and droughts caused by El Niño. The country has received little precipitation in recent years, causing serious salinization of the land and water supplies, making it extremely difficult to grow vegetables. Taking all of these conditions into consideration, the objective of the TaiwanICDF Technical Mission in Nauru is to promote horticultural development, in order to boost the output and variety of crops, and improve the nutritional intake of Nauruans.

Organic resources are difficult to come by in Nauru, and in response, the technical mission has designed a way to dig for alluvial soil on the banks of Buada Lagoon. Animal waste is also

used to create compost, and little by little, the soil is being made more fertile and arable. A reclaimed demonstration field with four terraces was created on sloping land, proving effective in making the best use of water and fertilizer resources, as well as providing a more convenient environment in plowing the land. In addition, topsoil has been screened for rocks and pebbles in areas that had previously been mined. Work was carried out to prepare and improve soil for the introduction of vegetables, and silt was cleared from the banks of Buada Lagoon; alluvial soil was then extracted and combined with weeds, wood chips, and detritus, which began to form compost. Technicians instructed farmers to mix in an additional 15-20% of waste generated by their livestock; the mixture was then left to ferment, creating organic fertilizer. This boosted the level of nutrients in the fertilizer that islanders use for vegetable cultivation. Conducting agricultural and animal husbandry projects simultaneously has a mutually beneficial effect. In combination, all of these measures are helping to resolve Nauru's problems regarding infertile soil, and creating a better and more effective environment in which to grow crops.

Looking After the Economy and the Environment

In 2008, the issues of climate change, global warming, high energy prices and food security emerged in close succession. In order to collaborate with the rest of the world in tackling these challenges, the TaiwanICDF engaged in a round of medium- and long-term strategic planning, which set out a series of social and economic objectives associated with the eradication of poverty, the provision of universal health care, the fulfillment of environmental protection objectives in forest conservation, the promotion of rural development, and the protection of biodiversity. Furthermore, the organization plans to strengthen the training of specialists and officials who work in areas relating to environmental sustainability, and aims to stimulate capacity building and promote good governance in partner countries, all of which reflect its long-term objective of supporting sustainable development.

Since issues in environmental conservation and sustainable development are often closely related to the agricultural sector, the TaiwanICDF educates farmers in the various principles of land management during the course of any project directed toward agricultural production or boosting productivity. The organization is also reducing the pollution associated with certain chemical fertilizers by providing instruction on composting, helps to strengthen the irrigation systems used by small farmholders, and has worked to increase the coverage of vegetation in barren areas of land. It will seek to preserve organic life and the integrity of soil-based food chains, both of which prevent soil from losing its fertility. This

will increase the ability of soils to adapt to climate change. Meanwhile, technical missions will become increasingly involved in forest conservation projects. At present, bamboo afforestation projects are being carried out in Panama, Guatemala, Ecuador and Haiti; and the TaiwanICDF is also dispatching officials to assist partner countries in afforestation projects that plant trees of high economic value. These projects also include initiatives such as forest resource surveys, which are conducted alongside monitoring and management activities. Finally, the TaiwanICDF also works in harmony with the environmental development policies of partner countries, introducing technology and practices that have been successfully used in Taiwan, such as recycling and waste reduction schemes, and solar power generation. The organization has introduced a number of pilot projects using these technologies.

In 2008, the TaiwanICDF extended its existing projects in environmental protection. Agricultural projects have incorporated the use and extension of organic fertilizer, the protection of soil and the preservation of high-quality farmland, conservation of forest resources, and water resource management. Projects in other sectors have covered refuse processing and waste management, renewable energy applications, the use and extension of GIS, and human resources training on environmental issues. The successes of projects carried out in 2008 will be fed back into the TaiwanICDF's core projects over the coming three years. Many of these initiatives will be expanded and enhanced through existing projects, and the accumulation of these experiences will be central to establishing Taiwan as a key promoter of assistance projects relating to worldwide environmental protection.

Assisting Small Island Nations to Utilize Resources More Effectively

The TaiwanICDF's partner countries are spread throughout the world. The UN defines about half of these countries as small island nations (where a nation's territory consists of one or many islands, including small island and low-lying coastal countries). These nations present unique environmental protection challenges due to their small landmass, limited natural resources and manpower, and environmental fragility. Accordingly, the TaiwanICDF has introduced special projects in agricultural production and environmental sustainability tailored for these nations, focusing on animal husbandry and agriculture, maximizing the return on all goods and products, and the reduction of chemical fertilizers, all of which aim at protecting land resources. The organization has also provided training in organic farming methods to preserve biodiversity and ensure the safety of agricultural practices. These methods boost the safety and diversity of food resources, while also exploiting limited natural resources in the most appropriate manner.

Small island nations have fragile ecosystems and lack natural resources. Since Taiwan ranks third globally in its rate of both waste reduction and recycling, the TaiwanICDF is taking advantage of Taiwan's experience to help partner countries reduce their volumes of solid waste and plastic products, which can pollute coastal ecosystems and affect fishing catches. The organization has also introduced solar power systems into a number of these islands, where sunlight is consistently strong. These projects have boosted citizens' understanding of solar energy, while also helping partner countries to develop applications for renewable energy. The experiences picked up during the course of these pilot projects will allow the TaiwanICDF to expand the number of projects directed toward environmental protection and renewable energy in these small island nations, in future.

Responding to Climate Change Through Sustainable Development

Three-quarters of the world's one billion poorest people reside in rural communities in developing countries. It is these people who are facing poor harvests and losing livestock with increasing regularity. At the UN Conference on Climate Change in December 2007, three UN agencies associated with agriculture urged action to prevent climate change from exacerbating the problems of hunger and poverty. Throughout the course of these endeavors, the most important issue is to strengthen the ability of residents of rural communities to adapt to the changing situation.

In line with this international consensus, the TaiwanICDF is incorporating environmental protection measures into its core operations; and following a course of action that will reduce carbon emissions, and help to develop sources of clean energy. In 2008, the organization began to boost the assistance it gives to government agencies and farmers in partner countries as they adapt to new climatic conditions. Initiatives have included the drafting of adaptation strategies grounded in specialized research, and the establishment of early warning systems through the use of GIS, including specialized human resources training that boosts its effectiveness. Other projects have been dedicated to reducing hunger through better grain production, and in future, the TaiwanICDF will continue to extend its agricultural program toward various other factors in sustainable development, such as soil fertility, desertification, water resource management, and environmental sustainability on small islands. In addition, the organization will continue to respond to global trends in environmental protection, and align its operations with environmental protection mechanisms endorsed by the international community. In this way, the TaiwanICDF will be able to further the cause of sustainable development throughout the world, and make a contribution to reducing poverty and preserving the environment.



Case Study

Funafuti Household Solid Waste Reduction Technical Assistance Project in Tuvalu

Sustainable development must be adaptable to the local conditions of every country. This so-called "localized" form of sustainability starts with the use of sustainable materials and ends by recycling or disposing of them in a proper manner. As small island nations have pursued economic growth, the issue of resource sustainability has become ever more urgent because of the limited amount of space that can be given over to landfill. However, the proper processing of refuse can provide developing countries with an opportunity to enhance the nutrient cycle of their ecosystems, and reduce environmental pressures. The Funafuti Household Solid Waste Reduction Technical Assistance Project being carried out in Tuvalu is a reflection of principles that emphasize this approach toward sustainable development.

The project focuses on reducing the volume of solid waste from households in Funafuti. Over the years, Tuvalu has faced a number of problems regarding waste processing, and experts were dispatched to Tuvalu to carry out field evaluations. One key issue was a lack of clear lines of authority among government agencies involved in tackling the issue, so that despite considerable efforts, few positive effects were being seen. Tuvalu lacked a system for sorting waste into categories, making it difficult to achieve the goal of reducing the amount of garbage, and the country did not have any means to recycle, which was putting too high a burden onto landfills. The landfills themselves were poorly planned, which was reducing the effective lifespan of each dumping site. Tuvalu also suffered from a lack of education, and public awareness on waste management issues was low, which had limited the benefits of assistance previously provided by other countries.

In response to this host of problems, the TaiwanICDF dispatched experts to Tuvalu on short-term assignments to assist in the drafting of a regulatory framework for environmental protection, and to aid in establishing a refuse sorting system. In addition to setting reasonable targets over the reduction of the volume of garbage, strategies focused on sorting garden refuse into categories. This created an opportunity to produce compost, which would be re-used in home gardens across the island. The project also provided assistance to establish a recycling system for metallic items, plastics and paper. Small-scale incineration equipment is used to handle waste items that cannot be separated or recycled, which will extend the life of dumping sites. The TaiwanICDF has also dispatched volunteers to Tuvalu to work on this project. They will instruct citizens on refuse sorting techniques, and provide legal consultation services to strengthen the capacity of government agencies that deal with waste processing.

The goal of this project is to reduce the volume of garbage on Funafuti by 75%, with the ultimate goal being to reduce the daily volume of waste produced by each household on Funafuti by 85%. In beautifying the island, the project will help Tuvalu to attract more tourists; moreover, recycling various goods will result in extra income and extend the life of dumping sites. The TaiwanICDF will also benefit from this pilot project, by accumulating valuable experience on how to promote environmental protection in small island nations.



Raising Competitiveness to Preserve Achievements in Development

The 2008 financial crisis was a wake-up call, telling us that the world's economic fortunes cannot go beyond the limits of real production. Growth based on untenable levels of debt is unsustainable, and progress will falter when that same growth relies on financial derivatives whose values are wholly unrealistic. Given the economic uncertainties forecast for 2009, it has become imperative to maintain the results of development seen over the past decade, which were stimulated by both the growth of emerging countries and the collective efforts of the international community. Equally importantly, any further shocks to global markets must be absorbed, in order to prevent further contraction and depression. The TaiwanICDF believes that the solution is to continue to strengthen private sector competitiveness in its partner countries; this can be done by improving business environments and attracting investors, strengthening trade-related infrastructure, and by injecting liquidity into trade financing.

Private sector development has always played a vital role in the economic growth of developing countries, creating job opportunities and alleviating poverty. Over the years, international bilateral and multilateral development agencies have employed a range of traditional and innovative financing tools to create an environment that is advantageous to investment, generates business opportunities, and leverages private capital resources as a catalyst for private sector development.

Strengthening Competitiveness to Prevent Further Downturn

The global financial crisis emerged in wealthy countries in 2008; its impact has since trickled downwards, forcing several steep, new challenges onto developing nations: a drop in foreign direct investment, a contraction in global trade, tightening liquidity, higher unemployment, and a rapid fall in remittances from overseas nationals. According to information published in the IMF's World Economic Outlook in November, worldwide economic

growth is deteriorating due to a tightening of credit by the banking sector in recent months, and due to a sharp downturn in consumer and industrial confidence. Consequently, the IMF slashed its economic growth forecast for 2009 to 2.2%. In its report on Global Economic Prospects 2009, meanwhile, the World Bank said that the previously strong growth posted by developing nations is in jeopardy, estimating that 20 million more people are forced into poverty for every 1% reduction in the volume of global investment and trade. International institutions are unveiling a variety of measures to counteract the global financial crisis, of which strengthening private sector development plays a significant role. Where necessary, large amounts of capital will be injected into financial institutions, helping the private sector through support for trade finance, and infrastructure projects; and assisting MSMEs in particular by creating the appropriate business and regulatory environments. In this way, developing countries will have the right resources to stimulate job creation and reduce poverty.



Case Study

Best Practice in SPS-related Technical Cooperation

SPS means sanitary (in humans and animals) and phytosanitary (in plants), and therefore concerns hygienic practices and their related safeguards. In practice, SPS measures can take the form of quarantine restrictions, obligations to attain certification and quality assurances, packaging and labeling regulations, the sampling and testing of specimens, and transport directives relating, for example, to issues of food survival and spoilage during transit.

SPS and Aid for Trade are intrinsically linked: There is no point in a developing nation building up its infrastructure, growing human resource, and working to ease trade restrictions, only to be left with a final product that cannot be exported for profit because it is considered – in legal and regulatory terms – “unsafe.” TaiwanICDF projects aim to make SPS measures an integral part of the process, integrating these important issues within a wider push to improve partners’ trading capabilities, and improve their opportunities to expand outward.

Papaya Export Promotion in Guatemala

In 2007, specialists from the TaiwanICDF identified Petén province as an area free of the fruit fly, and therefore suitable for the introduction of a major project to boost growth in the area. The papaya was then approved as being suitable for the region’s cooler climate, and introduced for cultivation and export.

The project goal was to assist farmers to increase the agricultural productivity of Petén province by increasing yields and controlling pests, and create a fully integrated system of processing and marketing to maximize the earning potential of the new crop. Since Petén is one of the poorest regions of Guatemala, the high-level aim for the project was to create a range of stable, long-term job opportunities, and thereby reduce poverty.

On-site specialists from the technical mission trained producers in the relevant cultivation and processing techniques. They also provided supplementary assistance in marketing, and helped to obtain certification proving that products meet all the necessary legal safety standards required for export. The first crop of papayas was successfully exported to Guatemala’s neighbors in Central America in October 2007. All cultivation, harvesting, grading and shipping procedures conform to the quarantine requirements of the target market (the US), and expansion of both the farm and packing plant to meet future capacity is currently at a planning stage. Furthermore, the project took a value-chain approach to design, meaning that all parts of the process – from cultivation through to export – received the appropriate attention and resources, particularly in terms of specialist consultation. This ensured that every step in the project was exploited to its maximum potential, thereby maximizing potential profit. Finally, and in terms of specific



WTO/ SPS-related goals, the project was able to maintain a high and consistent standard of plant health, and meet quarantine regulations required for export.

Pesticide Residue Testing and Training in Panama

As new technologies for fruit and vegetable cultivation are introduced throughout a globalizing world, residues from the misuse and abuse of chemical pesticides have become an increasingly important issue for environmental and human health. The presence of unacceptable levels of pesticides not only poses an immediate safety issue, but also prohibits export opportunities and access to wider markets.

Since pesticide technologies and related processes are highly specialized, an initial review was carried out to establish the best testing methodologies suitable for adoption in Panama. Following this review, the use of Rapid Bioassay of Pesticide Residues (RBPR) technology was recommended, as this has a more economical, rapid and accurate screening process than other methods of chemical analysis. The project goal was to establish a standardized testing system for chemical pesticides in fruit and vegetables, to ensure a regulated and objective standard of food safety.

The project established a national residues monitoring system, comprising three bioassay laboratories. The pilot laboratory was based at the Central Agricultural Market in Panama City, and performed an initial evaluation of pesticide contamination levels, reporting on high-risk areas, from which two further laboratories were set up. The first laboratory continues to stand as the main training center for analysts, extension workers, producers and dealers. Importantly, work at the market and laboratories was complemented by parallel work in the field, where farmers have been trained in methods of spraying or applying pesticides which reduce the overall threat of serious contamination.

Projects involving highly technical elements require an extensive planning period, to ensure success later down the line. As such, the review and validation of testing methodologies during the design stage of the project has been highlighted as an effective and efficient model for managing limited resources. Furthermore, the project helped to minimize recurring SPS-related problems, and benefits producers and consumers, who can be assured that a product is safe for consumption. The successful implementation of this project creates a platform for Panama’s potential expansion into export markets.

Supporting Private Sector Growth Through the Diversification of Financial Instruments

The TaiwanICDF has used a range of financial instruments to support the private sector in partner countries. Loans have been provided to local commercial banks or non-banking financial institutions for re-lending to MSMEs. By supporting the sustainability of these financial institutions, the TaiwanICDF has helped improve MSMEs' limited access to finance. Over one-third of the TaiwanICDF's lending projects have been devoted to boosting private sector development, and at the same time, the organization has continued to embrace the investment fund model when engaging in cooperative activities with other international organizations and strategic investors. Loans, subordinated loans and equity investments are some of the tools used to provide assistance to countries, depending on their respective financial environments and differing levels of development. By supporting a broader and more innovative range of financial services, the TaiwanICDF is committed to fostering the development of MSMEs and market economies.

Private sector development is crucial for efforts to help developing countries maintain stable growth during the global financial crisis. The TaiwanICDF is committed to deepening its involvement in private sector development in future, particularly through cooperation with other international development organizations, and will continue to promote projects that enhance development impact.

Aid for Trade: Re-tooling Export Competitiveness

Trade has been the primary engine driving global economic growth in past decades. Trade helps to integrate the global flow of capital and goods, covering not only the exchange of goods and services, but also the transfer and diffusion of knowledge and technology. With time and support behind them, developing partners have been able to increase their exports, join global production chains, and attract foreign direct investment. On average, developing countries posted nearly 8% growth in 2007, attracting a record \$1 trillion in net private capital flows^[1]. Successful models have highlighted the extent to which trade can be a vehicle for stimulating economic growth.

The conclusions of the WTO Hong Kong Ministerial Conference in 2005 defined and clarified working guidelines on Aid for Trade, stating that the practice "should aim to help developing countries, particularly LDCs [Least Developed Countries], to build the supply-side capacity and trade-related infrastructure that they need to assist them to implement and benefit from WTO Agreements and broadly to expand their trade." This marked a shift in worldwide thinking on the incorporation of trade-related issues into development strategies. Taiwan recognizes that Aid for Trade is regarded as an integral part of every country's development strategy – either as a donor, or as a partner – and the TaiwanICDF is committed to this new trend in development assistance.



Case Study

Workshop on WTO Trade Facilitation/ Aid for Trade Seminar

The issue of trade facilitation was first discussed at the inaugural WTO Ministerial Conference in Singapore, in December 1996. After a lengthy period of negotiation and evolution, the matter was formally included under the negotiation framework of the Doha Rounds in July 2004, and has been a subject of vocal debate during subsequent Doha Rounds, demonstrating its importance to the development of the global trading system.

Given trends in global development, the modernization of customs and excise processes has become a key factor in addressing and improving the efficiency of developing countries' supply chains, and in removing bottlenecks that would otherwise stifle competitiveness. Taiwan's achievements in automating trade clearance, paper-free processes and single-window processes are impressive, and have helped to spark vibrant economic and trade development here. Taiwan also has a wealth of experience in scaling-up trade facilitation activities, and has developed processes that can serve as a valuable reference for partner countries.

In 2008, the TaiwanICDF conducted a workshop on WTO Trade Facilitation, which was attended by 22 participants from

19 nations. The workshop drew on Taiwan's own trade facilitation experience, highlighting key factors and development processes, and sharing the experience of promoting trade facilitation measures in the industrial, government and academic sectors. Workshop participants were invited to attend the "Aid for Trade Seminar," a cooperative venture between the TaiwanICDF and AITIC, which covered the principles underpinning Aid for Trade projects. The successful seminar helped participants to better understand the endeavors of the ROC government in promoting trade in partner countries.

The workshop also gave participants a picture of how Taiwan highlights trade facilitation as a focus for development, and how it could be utilized to strengthen economic interaction between countries. Participants have an opportunity to apply their new knowledge after returning to their home countries, which helps to foster economic growth and development in partner nations. In this way, the TaiwanICDF's efforts to promote Taiwan's experiences are amplifying the benefits of international cooperation and strengthening bilateral relationships between Taiwan and its partners.



Case Study

Trade Facilitation Programme

About 90% of global trade is carried out through trade financing instruments such as letters of credit (L/Cs), overdrafts, bank drafts, and bankers' acceptances. In countries where the EBRD maintains operations, L/Cs are the most common means of payment among importers. In July 1999, the EBRD introduced the TFP, which assists these transitioning countries to advance the understanding and proper use of trade financing instruments, in order to facilitate an increase in transactions throughout free market economies. The project also assists issuing banks to build a reputation for credit worthiness with their corresponding confirming bank. With funding from a number of donor countries, the TFP also hires specialists in trade financing – including Taiwanese specialists – to provide consultation services to banks in the EBRD's countries of operation. In this way, the project can serve as a platform for interaction between various financial institutions.

In 2006, the TaiwanICDF increased its support to the TFP by contributing to the donors' risk sharing funds, which has strengthened cooperation with the EBRD, and promoted cooperative economic, trade and diplomatic relations with Eastern and Central European and Central Asian nations. In this way, the TaiwanICDF has joined the international community in its effort to provide guarantees to international confirming banks, taking on the political and commercial risks generated by transactions undertaken by issuing banks in the countries where the EBRD operates, and helping banks to obtain access to international finance. The EBRD has also added factoring as a new product to

the TFP, which supports the transfer of innovative trade finance solutions and know-how to its countries of operations, as well as providing financing in local currencies in a number of countries.

From 1999 to the end of 2008, the project has involved 117 issuing banks in 19 developing nations throughout the EBRD's region of operations, and over 650 confirming banks worldwide. In total, the TFP has covered more than 7,850 trade deals, worth €890 million. As of December 2008, 14 banks from Taiwan were participating in the program. In 2008, Taiwanese companies were the beneficiaries of 11 transactions valued at €5.8 million. Countries qualifying for inclusion in the FIISF –TFP include Russia, Azerbaijan and Ukraine; and at the end of 2008, the total risk exposure to these nations stood at €3.76 million.

The EBRD promotes the TFP as a means of supporting domestic and intra- and extra-regional trade among its partner countries, hoping to strengthen the development of private enterprises in its regions of operation. In the wake of the global financial crisis in 2008, the EBRD believes that maintaining open lines of credit to small and medium enterprises involved in trade is more important than ever; otherwise, we might witness further deterioration in the state of the global economy. The EBRD will increase commitments under the TFP from €800 million to €1.5 billion, exhibiting a commitment to preserving a stable flow of trade during this time of crisis.

The TaiwanICDF's Aid for Trade experience is strong in two specific areas. Firstly, the organization assists partners not only in the production of "basic" or "staple" goods throughout its agriculture and aquaculture projects, but also assists on primary product exports; that is, the production and export of processed, canned and packaged foods. Assistance is given to partners on technical issues such as the control and regulation of pesticide residues, and on screening processes for contaminants, which allow partners to meet standard international legal requirements, such as SPS measures and so-called Technical Barriers to Trade (TBT). By meeting internationally established conditions, partners are able to maximize the reach of their export markets.

Secondly, the TaiwanICDF assists partner countries regarding regulations and practices on customs and export processes. In particular, the organization has focused on trade facilitation measures, advising partners on customs automation and single window processes. Expeditious shipping and delivery of exported goods will allow the TaiwanICDF's partners to become more competitive, and ensure that export-driven growth is not impaired. In September and October 2008, the WTO Committee on Sanitary and Phytosanitary Measures held a series of workshops in Geneva, Switzerland, on Good Practice in SPS-Related Technical Cooperation.

During the workshops, two TaiwanICDF projects were nominated as models for best practice in this area: papaya export promotion in Guatemala, and pesticide residue testing and training in Panama. All TaiwanICDF projects across Africa, Latin America, and Asia-Pacific

profit from specialist experience and knowledge, where the safety of agribusiness products – and therefore the health of the consumer – is always the first and last concern. Recently, for example, projects that combine Aid for Trade with SPS-related agricultural best practices have been implemented in Belize, by seeding pest-resistant varieties of rice; in St. Lucia, by constructing a tissue culture laboratory; and in São Tomé and Príncipe, by installing modern ICT equipment throughout the government's quarantine department.

At home, meanwhile, the TaiwanICDF regularly hosts workshops on a wide range of subjects in international human resource development. Working on a specialist-to-specialist basis, the organization recruits groups of candidates working in the field in partner countries, and invites them to exchange ideas in seminars and workshops led by Taiwan's leading experts. In the past five years, 179 participants from 61 different countries have been invited to Taiwan to have take part in workshops relating to market access and liberalization; five workshops have been held on WTO trade facilitation, and three on SPS measures. Similarly, the TaiwanICDF sponsored an April 2008 regional seminar on trade facilitation. Held in Guatemala, the seminar was co-hosted with AITIC, and enabled 54 participants – representing 12 nations or organizations – to work together on relevant issues affecting Central America. In future, Aid for Trade-related assistance will continue to be an important theme in the TaiwanICDF's technical cooperation and human resource development projects.

Maintaining Trade Financing During an Economic Slowdown

Recently, the World Bank and other international economic and trade institutions began to release forecasts warning that world trade in 2009 could decline for the first time since 1982^[2]. This will deal a blow to economic growth and trigger a series of negative impacts, such as a rise in unemployment and an increase in poverty.

The world economy is slowing and trade is decreasing. In addition to warning of receding demand from developed nations, the WTO and international financial organizations are also concerned about the deteriorating trade finance situation, seeing the liquidity gap widening and trade-related credit squeezed. If this problem is not tackled well, problems will be exacerbated, and the situation risks falling into a downward spiral. This is not the first time that the multilateral trading system has faced a financial crisis: During crises in Asia and Eastern Europe between 1997 and 1999, international trade and financial organizations began to address the need to keep markets open, so that countries could recover through trade. This time round, it is an equally urgent priority for all parties engaged – including export credit agencies – to inject more liquidity into trade, and support the trade finance and insurance programs run by international financial institutions. Furthermore, regional development banks, the World Bank and the International Finance Corporation have also pledged to extend their existing trade facilitation programs, ensuring that there will be no lack of trade-related finance, and to strengthen political or commercial risk coverage in developing countries. This point will help to assist private enterprises maintain an uninterrupted flow of transactions.

The TaiwanICDF has joined international organizations in their trade facilitation efforts by providing credit guarantees for transactions, which help to stimulate trade

deals between the countries, secure the integrity of the operations and financial tools utilized by banks in partner countries, and forge trade links between private enterprises engaging in both intra- and extra-regional trade. In addition to this injection of funding, the TaiwanICDF dispatches experts to partner countries to provide industrial consultation and advise on technical matters. Furthermore, the organization invites officials and private sector delegates to Taiwan to take part in workshops relating to industrial development. Sharing knowledge is a valuable process through which to stimulate international trade, and encourages long-term development.

Pragmatic Regeneration for the Changing World

Over the past five decades, Taiwan has experienced the process of economic growth first-hand, and has transformed its economic policies, banking systems, trade activities, human resources and core technologies. At a time when the world is facing an economic slowdown, the TaiwanICDF will continue to promote cooperation and development, sharing Taiwan's core strengths, and communicating the new ways of thinking that emerged in the course of its own economic development. In these challenging times, Taiwan and its partner countries will pool their efforts to create a momentum that carries over into real change, and engenders further development.

¹ World Bank, *Global Economic Prospects 2009: World trade*; December 2008.

² *Ibid.*



Case Study

India BTS Private Equity Fund

After experiencing a foreign exchange crisis in 1991, India adopted a number of measures directed toward economic liberalization and reform, such as the privatization of state-owned enterprises, support for the development of private enterprises, and a drive to attract direct foreign investment and introduce technological innovation from overseas. Research by Dun & Bradstreet indicates that from 2001 to 2006, net profits among small companies with net turnovers between Rs10 million and Rs500 million grew by 701%. Over the same time period, net profits among companies with net turnovers in excess of Rs10 billion grew by just 169%. This demonstrates that the profitability and development potential of SMEs is far greater than that of larger companies. In 2007, private equity funds invested nearly US\$700 million in India, the largest source of direct foreign investment in the country, with investment portfolios primarily covering real estate, infrastructure and financial services.

After evaluating the relative maturity and risk in developing countries, the TaiwanICDF participated with other international multilateral and bilateral development organizations – including the ADB, the Swiss Investment Fund for Emerging Markets, the Belgian Investment Company for Developing Countries, and the UK CDC Group – in the development of the Indian private sector, by jointly investing in the BTS Private Equity Fund. The fund has approved investments in firms specializing in pharmaceuticals, communications, automobile components, and infrastructure. These are all competitive

industries in India, and considered areas ripe for growth. The BTS Fund follows strict investment screening procedures. Business plans are thoroughly vetted prior to investment, ensuring that a company displays development potential and market competitiveness within its industry, and has implemented proper internal controls. During the investment stage, BTS will secure a position on a company board or participate in a firm's corporate governance processes directly. By gaining access to the management team, BTS is able to strengthen fiscal transparency and ensure that a company's operations are being carried out in accordance with its original commitments.

According to an internal report by the ADB, a lack of long-term and stable source of funding is an obstacle to the development of SMEs in developing countries. Statistics provided by the World Bank show that domestic credit provided by the banking sector in India in 2006 comprised just 63.4% of GDP, which is significantly low in comparison to the 100% provided in economies of a similar scale. This is indicative of the lack of development in India's banking system and underscores the limited opportunities that enterprises have to access bank funding. The TaiwanICDF and other international development organizations are cooperating in providing long-term investment in developing countries through locally established, specialized investment organizations. This is helping to nurture Indian SMEs, which, in turn, is creating jobs and promoting industrial and economic growth.