

Africa



Photograph by Lin Ting-chu

Introduction

Economic Overview

Registering a relatively strong economic growth rate of 4.2 percent in 2001, Africa's economic progression stalled in 2002 when growth slowed to 3.1 percent, with per capita GNP growth down to just 0.8 percent—less than half that of the previous year. The United Nations Economic Commission for Africa (UNECA)'s *Economic Report on Africa 2003*, published in July 2003, noted that the decline in Africa's economic growth reflected the slowing global economy, a fall in agricultural product prices, and abnormal weather patterns throughout the continent. On a positive note, the report forecast an economic growth rate of 4.2 percent for 2003. The global economic recovery, a significant rise in commodities prices, and regional stability and peace were named as significant factors in this expected improvement.

Agriculture accounts for 24 percent of Africa's GDP, 70 percent of its employment, and 40 percent of its foreign exchange earnings. Although agriculture is at the very heart of African life, the continent is home to the world's highest concentration of food insecurity, with approximately one in three Africans lacking secure access to adequate nutrition. In fact, Africa is the only continent in the world where the number of hungry people is projected to grow over the coming decade. Agricultural output in African countries saw impressive increases during the 1990s, an average growth of 3.9 percent per annum for the decade. However, abnormal weather patterns since 2000 have caused crop yields to reverse course. In 2001, agricultural output grew by just 0.8 percent. Since the growth in agricultural output has failed to keep pace with the region's soaring population, Africa has been unable to achieve food production security.

Private enterprise plays a major role in economic development in both developed and developing

countries. Africa is no exception and, in recent years, African nations have encouraged private investment and hastened the pace of privatization of state-run enterprises. The growth of the African private sector can help alleviate poverty by spurring economic growth, increasing employment opportunities, and raising income levels. MSME development, supporting both new and established industries, is key to economic expansion and diversification. However, a shortage of entrepreneurial and technical skills, insufficient management, lack of adequate equipment and facilities, limited access to market information, and restricted access to credit and finance are all factors which have, to date, marginalized African MSMEs and largely excluded them from participating in the global markets.

Social Overview

Despite its long term potential, Africa continues to face some of the world's greatest developmental challenges. World Bank statistics indicate that 80 percent of the world's low-income countries, typified by high rates of population growth, low incomes, low literacy, and low life expectancy, are in Africa. The 60 percent adult literacy rate in sub-Saharan Africa falls well below the worldwide developing country average of 73 percent. The life expectancy at birth of 48 years is also well below the average of 60 years for other developing countries.

Poverty reduction has consistently been the main focus of social and economic development in Africa and the challenge to meet the UN's goal of reducing global poverty in half by 2015 is daunting. According to the UN's Millennium Development Goals (MDGs), African countries must post annual economic growth of seven percent to begin reducing poverty. In 2002, only five of Africa's 53 countries achieved this goal.

Poverty in sub-Saharan Africa is on the rise and is



particularly great in rural areas, where the majority of the population lives. Poverty is also starkly divided along gender lines. Some 70 percent of Africans living in poverty are women.

One of the most visible results of poverty is hunger. Up to one-third of Africa's population continue to be malnourished. While healthy populations are critical to Africa's ability to grow and compete globally, over half of Africa's population is without safe drinking water and two-thirds lack access to adequate sanitation. Africa, with about 12 percent of the world's population, accounts for 80 percent of the world's AIDS deaths and almost 90 percent of the world's deaths due to malaria. Infectious diseases constitute not only a major health crisis, but also an exceptional threat to Africa's development, social cohesion, and food security. Africa sees over four million new cases of HIV every year. Other diseases such as malaria and tuberculosis are prevalent as a result of insufficient medical resources and treatment programs.

Poverty reduction also depends on an educated workforce capable of taking advantage of economic opportunities. Africa lags far behind the rest of the world in terms of investment in the human resources essential to achieve such growth. Skills development and human resource training is seen by many African governments as an increasingly important factor in the multi-pronged drive to enhance productivity, stimulate economic competitiveness and raise people out of poverty. To have a dynamic workforce, Africa must also boost the number of children enrolled in schools, the percentage of the population that receives a basic education, and the adult literacy rate. A shortage of financial resources limits educational infrastructure improvement in the region. The currently low level of education provides a major obstacle to the implementation of social and economic reform and is a serious concern as the region attempts to develop in today's knowledge-based economic era.

The Chad Rice Yield Increase Project

Project Goals

This project (2002-2004) is expected to increase crops in the "Bongor Casier-B Rice Production Zone" covering 500 hectares and will prepare another 2,000 hectares of land for rice cultivation. Irrigation systems, drainage ditches, and farm roads will be established. Local technicians will be trained and assistance will be provided in rice breeding and cultivation technology. A special fund, used on a revolving basis, has been established to provide fertilizer and pesticides. All measures are aimed at creating self-sufficiency and sustainable operations.

State of Implementation

Through 2003, the technical mission in Chad has already prepared 1,400 hectares of land for rice cultivation and built up various irrigation construction. In addition, with the assistance of local government

authorities in Chad, the ICDF has provided farmers and farming organizations with guidance on the operations of rice production and sales.

The mission has established rice seed propagation fields, provided superior rice seed to produce higher-yielding crops, and established a farm machinery repair center. The mission also provides farm machinery assistance and repair services. It has strengthened the training of local technicians and will provide technology transfers on an ongoing basis. It has established a base farm and carried out trial cultivations and comparisons on paddy rice with various breeds, cultivation methods, and types of fertilizers. It has improved the quality of rice in the region and boosted output per unit, reducing production costs in the process.



Challenges and Opportunities

Africa's limited economic development has caused it to fall into a vicious cycle of poverty. Insufficient economic growth makes it difficult for people to climb out of hardship. In addition, the lack of a healthy and skilled workforce is an obstacle to economic development. Therefore, agricultural and educational assistance are vital to help the region achieve self-sufficiency.

Sustained growth in agricultural productivity is critical to improvements in food security for two reasons. First, growth in agricultural productivity translates into increased food supplies and lower food prices for consumers. And second, growth in agricultural productivity means higher incomes, and thus improved ability to purchase food and other basic necessities for many food insecure people who earn their livelihoods through agricultural production. Most changes in agricultural productivity over time can be attributed to differences in the quantity of resources used in agricultural production, such as land, labor, and

fertilizer. These changes will raise the incomes of people living in the countryside and will reduce poverty. Furthermore, agricultural products can provide the raw materials needed for industrial development.

The Comprehensive Africa Agriculture Development Program (CAADP) drafted jointly by the UN and the World Bank stated that agriculture must power African economic development. CAADP experts have urged regional governments to strengthen transportation and telecommunications infrastructure in farming areas to increase the willingness of farmers to boost output, introduce scientific and systematic production technology, and overcome the limitations and dangers of the natural environment.

Investment in education is the most effective means by which to promote economic development. It also provides the foundation for establishing a well-rounded, civilized society. Statistics show that the majority of financial assistance provided to Africa by the Development Assistance Committee under the

Project Benefits

1. Increasing Agricultural Output in Cultivated Areas

The abundant flow of water from the Logone River between June and October is being used to irrigate fields. The average yield of rice is now up to four tons per hectare, which is 2.5 times that of traditional methods associated with upland rice.

2. Creating Economic Opportunities for Local Farmers

A total of 1,400 hectares came under cultivation during the first two years of the project, with each hectare yielding four tons of rice. Based on a market price of 150,000 Central African francs per ton, the output of the fields are valued at about 84 million CA francs (about US\$1.53 million). This has undoubtedly improved the lifestyle of farmers, increased commercial activity, and brought prosperity. In addition, the 1,400 hectares of land provides jobs for

2,800 farming families. Estimating an average family size of five, this project has directly benefited about 14,000 people.

3. Establishing a Reserve of Professional Technicians

During the preparation of the land and irrigation construction, a total of seven technicians were trained in various specialties to serve in future projects.

4. Cementing Relationships

The project has progressed smoothly and increased farmer incomes, boosting the economic state of rural farming villages. Furthermore, some products are being exported to Cameroon, boosting Chad's foreign exchange income. Government official and farmers in Chad often express their appreciation to Taiwan. The project has made a significant contribution to promoting relations between Taiwan and Chad.



Organization for Economic Cooperation and Development has been in the area of education, which is aimed at nurturing a talented workforce. In addition, UNESCO initiated the “Education for All” program, which aims to provide a basic education to all school-aged children by 2015.

Long relegated to a peripheral position in world development, Africa’s overall development has lagged in part due to the burden of its history. To be sure, the region in recent years has been the recipient of considerable foreign assistance. However, stronger relationships with international organizations, more systematization in planning domestic policies and the strengthening of administration will increase foreign assistance in Africa and also lead to sustained economic growth on the continent.

Regional Strategic Goals

In 1961, the ICDF sent agricultural technicians to Liberia, marking the beginning of agricultural technical cooperation with friendly and allied countries in the region. The ICDF now has 42 years of experience in Africa and has missions stationed in seven allied countries including Burkina Faso, Chad, Senegal, The

Gambia, Malawi, Swaziland and São Tomé and Príncipe. Before the severing of diplomatic relations with Liberia, the technical mission in that country relocated to neighboring Côte d’Ivoire due to civil war. The missions assist the people of these countries to boost output of staple foods and improve farming, livestock, horticulture and fisheries techniques. In addition, based on the economic development of each nation, the ICDF provides investment and lending and international human resource training.

Food security comprises three elements: availability of high-quality food products, household access to these products, and adequate nutritional content. Many rural farmers do not have access to credit, seeds, technical training, or other support that could help them improve production. African farmers require technology and market-based strategies to produce sufficient food to feed their families as well as to sell products locally, regionally, and globally. Since food security is the most fundamental and urgent problem facing the region, the ICDF’s core technical cooperation, investment and lending operations, and international human resource development programs promote agricultural development in some way. They also aim to utilize the

The Gambia Paddy Rice Yield Increase and Agricultural Machinery Center Project

Project Goals

It is anticipated that within five years, 400 hectares of paddy rice fields will be developed through tidal irrigation reclamation. In addition, paddy rice cultivation will be expanded to some 3,000 hectares. Superior rice varieties will be introduced to assist The Gambia in the production of 15,000 tons of rice annually. The mission will also help agricultural authorities in The Gambia design a rice yield increase mechanism, create a rice extension service system and develop sustainable operations.

State of Implementation

1. The ICDF Technical Mission in The Gambia and the UK’s Action Aid have jointly provided funds to carry out the engineering required in preparing tidal

irrigation rice paddies. Both organizations have also cooperated to expand and improve the region’s rice mills to reduce losses in post-harvest processing and increase the ratio of edible rice.

2. By the end of 2003, 2,000 hectares of paddy and upland rice fields were prepared for cultivation.
3. The technical mission has provided 90 tons of superior rice seed for existing farmers as well as new farmers brought into the project. It is instructing farmers on establishing a seed grading and supply system, which boosts yields.
4. The mission is providing training in rice cultivation techniques, organic fertilizers and production management. Mission members have given



advantages of the “Taiwan experience” and complement international cooperation development trends. Through the formulation and adoption of the following three strategic goals, cooperating nations can utilize their workforces and natural resources to achieve sustainable development. These goals include: (1) Providing assistance to achieve self-sufficiency in staple foods and raising agricultural management abilities; (2) Providing human resource development training in the agricultural sector; and (3) Helping micro-enterprises establish local commercial operations and spark economic development in the region.

Implementation of Development Cooperation

In order to achieve regional strategic goals effectively, the ICDF provides recipient countries with technical cooperation, investment and lending, and international human resource training. The following is a description of each:

Technical Cooperation

• Assistance to Boost Agricultural Productivity

The ICDF’s technical missions abroad introduce

lectures on rice quality improvement methods, machinery operations, and production by contract. Courses on equipment repair have also been held.

Project Benefits

1. Improving Cultivation and Processing Methods

The project selects superior rice varieties and has established a seed grading and supply system to ensure that farmers obtain higher yield rice varieties. It also has provided assistance to strengthen post-harvest processing, reduce damage and increase the ratio of edible rice. It has solved rice supply problems and is further boosting rice quality, thus strengthening the market competitiveness of Gambian rice and boosting farmer incomes.

high-yield varieties of crops and employ highly efficient farming management methods to raise agricultural productivity throughout the region. Participating small farms are able to at least become self-sufficient and in many cases have surplus crops to sell, which helps boost local economic activity. In addition, the ICDF utilizes low-cost methods for land reclamation. This includes providing basic production equipment and technical training to the local farmers. This strategy benefits the local rural communities and increases productivity helping the host country meet its staple food requirements.

• Helping Farmers Establish Organizational Production Systems

To expand output effectively and guarantee that farmers participating in the project are able to reach self-sufficiency, the ICDF assists farmers in creating organizational production systems. Village elders, local leaders and community farming organizations are included in the production systems, which create a revolving fund for the farmers, raw material procurement channels, and an overall supervisory mechanism. These efforts are hoped to bolster sustainable operations.

2. Training People Capable of Sustaining Operations

Technology transfer as well as education in the use and maintenance of farming machinery creates a farming workforce that has an understanding of cultivation technology.

3. Establishing Successful Models of Cooperation

The ICDF has cooperated with Action Aid in staging engineering work regarding tidal irrigation, using low land development costs to secure the greatest returns. This indirectly increases the impact of Taiwan’s international technical cooperation. With the development of tidal irrigated paddies, the scale of Gambian rice fields and their yields have increased significantly.



• **Assisting in Private Sector Development**

Once sufficient staple foods are produced and a revolving regional farmers' organizational mechanism is in place, it is time to provide technology and assistance for agricultural processing and to introduce the concept of micro-enterprise operations in the local communities. Increased knowledge and technology along with organizational power assists farmers to progress from producing only for themselves to an economic model in which cash income is created. This process ultimately raises living standards.

• **Vocational Training**

The ultimate goal of ICDF agricultural technical cooperation is to enable the people of host nations to carry out production, operations and management tasks on their own. To meet this challenge, the ICDF actively carries out vocational training programs in urban and rural areas. Based on the specific industrial development needs of a country, the ICDF assists in training seed instructors in the government or related agencies and also provides technical and knowledge transfers

that gradually raise the standard of farmers. At appropriate times, the ICDF also introduces projects and provides technical assistance that helps low-tech industries get started. This type of initiative promotes industrial development and economic growth.

Investment and Lending Operations

• **Strengthening Technical Education to Develop Human Resources**

The ICDF is promoting several vocational education projects in the region, while strengthening the facilities needed to deliver education to those in need. This type of endeavor will provide the quality and quantity of labor required for industrial development, and will also create employment opportunities within the region. These programs boost the long-term economic growth potential for host countries.

• **Reducing Poverty Through Rural Development**

Africa has abundant natural resources but they are unevenly distributed. Too many places in rural Africa suffer from abject poverty. Delays in rural development

Lower Usuthu Smallholder Irrigation Project in Swaziland

Project Goals

Wealth differentials in Swaziland are substantial. About 75 percent of the farming population lives on barren land, and their output accounts for only 15 percent of the GDP. In 2003, the ICDF and the Government of Swaziland signed an agreement to carry out the "Lower Usuthu Smallholder Irrigation Project," which is helping small farmholders by providing irrigation infrastructure to permit the intensification and diversification of high value crops. The project is also addressing environmental degradation in the region. The project calls for the construction of reservoir and irrigation canals, agricultural commercialization, environmental improvement, and project coordination and manage-

ment. The project is expected to cover development of 11,500 hectares of irrigated fields as well as the 46-meter tall Mhlanthuzane Dam, to be built to last for 50 years. The project will improve the conditions for farming and boost the overall value and productivity of farms. It will also promote a more sanitary living environment and raise overall living standards.

State of Implementation

1. The ICDF has provided US\$5 million in financing and is jointly funding the construction of the dam with the DBSA. The three year period of construction will begin in the third year of the project.
2. This project is quite large and touches on many areas. Other portions of the project will be carried out with financing from six international organizations,



limit the success of a nation's economic development. The ICDF works to increase agricultural irrigation and various water management operations in the countryside. In addition, financial assistance for needy farmers and farming village development projects enhance industrial diversity and market competitiveness in the countryside. This strategy relieves the large population outflow from farming villages and helps to balance economic growth and incomes in comparison with urban areas. This will enable local people to derive better livelihoods from agriculture and rural development.

• Sustainable Transport and Economic Development

Sustainable transportation systems are a catalyst to national development in Africa. African traders need lower transport costs if they are to compete in global markets and attract investors. The ICDF seeks to link important economic areas by assisting in the construction of roads. Such projects hasten the delivery and marketing of raw materials and goods. A better

transportation infrastructure also supports development of the tourism sector and growth in agricultural output, and can indirectly reduce the cost of transport and the frequency of repairs for vehicles.

• Injecting Capital for Private Sector Development

The core of ICDF investment and lending operations are aimed at enabling participating countries to share in Taiwan's experience of successfully developing SMEs. The ICDF is helping to strengthen SMEs in Africa by providing short-, medium-, and long term financing to enhance economic activity in the private sector. In recent years, the ICDF is also cooperating with local financial organizations to boost financing opportunities for small businesses and individuals in Africa through its micro-credit and re-lending projects. Such programs reach people who normally would not qualify or even know about traditional financial services. This strategy boosts employment and investment opportunities. It also strengthens the financial organizations that administer

including the DBSA and IFAD. The ICDF and other cooperating financing organizations will hold regular meetings to evaluate the status of implementation to ensure that project implementation runs smoothly.

Project Benefits

1. Expansion of Arable Land

It is expected that 11,500 hectares of irrigated land will be made available upon the completion of the reservoir and its irrigation channels. This development will significantly increase the amount of arable land, raising the output of agricultural products.

2. Economic Benefits for Local Communities

The construction of an irrigation system assists small- and medium-sized farmers to diversify their output and commercialize production, raising the

economic value of crops and creating employment opportunities.

3. Higher Incomes for Locals

The project will increase the purchasing power of local farmers. By utilizing their own arable plots of 2.5 hectares, average incomes in the community could be raised from the current 1,700 to upwards of 21,000 Lilangeni, reducing poverty and improving living standards in the region.

4. Social Benefits

This project also assists in social development by creating indirect and direct employment opportunities, by improving food security and nutrition, and by establishing community based health care services.



the loans by expanding the scope and targets of financing, helping relieve poverty and achieve sustainable development.

International Human Resource Development

• Extending Agricultural Technical Cooperation Through a Skilled Workforce

Since the core of the ICDF's cooperation development work is in the agricultural sector, the ICDF each year regularly holds short-term training seminars in a variety of areas. It invites government officials and experts from various countries to Taiwan for training. This process enables direct interaction and discussion with experts in Taiwan on how to solve various agricultural development problems. From a long-term perspective, such human resource training assists in the design and development of agricultural policies for African allies and in nurturing experts within those fields. Furthermore, under the auspices of ESAIC, the ICDF also co-sponsors graduate and postgraduate scholarships to provide advanced educational opportunities for outstanding individuals from allied countries.

• Bridging the Digital Divide

The ICDF is cooperating with World Links to fund and support greater Internet penetration in participating nations. This program is introducing the Internet to the people in an effort to improve lifestyles, boost knowledge and bridge the digital divide in our increasingly interconnected global society. In addition, the Internet provides a window by which to conduct educational activities online to help overcome the lack of qualified local teachers.

• Promoting and Replicating the "Taiwan Experience"

Taiwan is a prime example of a developing nation that has successfully developed into an industrialized country. In particular, Taiwan's experience in using agriculture as a catalyst for broad industrial development is exactly what other developing nations need. As a result, the ICDF holds courses on the "Taiwan experience" every year. These courses provide guidance to cooperating countries on ways to promote industrial growth, upgrading and transformation and to increase the chances of success.

Micro-Credit Project in Malawi

Project Goals

Roughly 65 percent of Malawi's population lives below the poverty line. To reduce this problem, the Government of Malawi, with international assistance, is putting a high priority on poverty reduction and sustainable economic development. Accelerating private sector development, whether micro-, small- or medium-sized companies, is an important part of economic reform. To complement these policies, the ICDF will provide a credit facility to local financial institutions, which will provide the private sector with much needed capital. It is expected that this strategy will spark MSE activity, boosting Malawi's economy in the process.

State of Implementation

1. The project has been approved by the ICDF board, and an agreement will soon be signed with the Government of Malawi.
2. Malawi covers an expansive area. To ensure that MSEs throughout each region of the country are able to obtain financing, the project includes both urban and rural areas. The project will target all types of MSEs as well as on the needy who require financing. Institutions extending the financing will include financial institutions with sustainable operations and NGOs that are involved in assistance work at the rural level.



ICDF Projects in the Region

Burkina Faso

• Bagré Right Bank Farmland Reclamation Project

This project is developing 1,200 hectares of land through reclamation and irrigation engineering on the right bank of the Nakambe river. The ICDF Technical Mission has also provided assistance in farmer training, in rice cultivation and extension, and in creating core production and marketing teams.

• Upland Rice Cultivation Extension Project

The ICDF Technical Mission is developing 1,800 hectares of farmland. In cooperation with the Burkina Faso Ministry of Agriculture, upland rice cultivation is now being extended to 4,200 hectares.

• Clothing Industry Vocational Training Project

This project is assisting in garment-related vocational training and in planning technical education coursework. The ICDF Technical Mission carries out technical transfers and industry consultation services, raising the overall technical standards of the industry.

• Food Processing Technical Assistance Project

The ICDF is assisting in the development of the food processing industry by providing technology to improve processing, extend the shelf life of agricultural products and increase the added value of farm goods.

• Biomass Application Research and Demonstration Project

This project is helping farmers utilize green manure and biomass (plant materials and animal waste), reduce production costs, raise output and achieve environmental sustainability.

• Rural Credit Project

The ICDF is providing loans to farmers and women to improve business activities, increase local employment and reduce rural poverty.

• Medical Assistance Project

The ICDF Medical Mission is providing medical services at CHR de Koudougou L'Hopital de l'Amitie

3. The project will be executed by the Reserve Bank of Malawi, who will then assist and supervise local financial institutions in project implementation.

Project Benefits

1. Assisting Financial Institutions in Establishing a Micro-credit Model

Micro-credit has become an important tool in reducing poverty and encouraging sustainable development. The main goal of micro-credit programs is to compensate for the inadequacies of regular financial institutions by providing small loans in non-traditional economic sectors. The project in Malawi also prevents the needy from falling into a

vicious cycle of debt repayment. The project utilizes local financial institutions to carry out the loans. This approach increases sustainable avenues for the MSEs to obtain development financing.

2. Strengthening Financial Institutions

Malawi's most reliable financial institutions will be selected by the Reserve Bank of Malawi to participate in this program. It is anticipated that the program will spark competition within Malawi's financial system and will upgrade the quality of financial services.



in Koudougou, offering knowledge and technology transfers to boost the medical standards of the hospital.

• **The Vincent Kabore Medical Treatment Project**

The ICDF, in cooperation with the Noordhoff Craniofacial Foundation, E-Charity Foundation, Chang Gung Memorial Hospital, EVA Airways and other domestic NGOs, helped bring 15-year-old Vincent Kabore to Taiwan for facial reconstruction surgery.

• **Taiwan Youth Overseas Service**

The ICDF provided eight servicemen this year for assistance in the areas of medicine, agricultural technology, computers, hydraulic engineering, and horticulture.



Chad

• **Rice Yield Increase Project**

This project is improving irrigation systems and roads in farming regions, is training local specialists and is

transferring technology. The ICDF Technical Mission has assisted in establishing a production machinery fund to help encourage independent farming activities on newly established farmland.

• **Vegetable Production Marketing Team Project**

The ICDF Technical Mission is establishing production marketing teams for this project on 20-hectare vegetable plots near the capital of N'Djamena. The project is also providing assistance in fruit and vegetable production and market sales.

• **Medical Assistance Project**

The ICDF Medical Mission provides medical services at the L'Hopital de la Liberte in the capital. It also offers guidance in the hospital's surgical and gynecological departments, raising medical standards.

• **Taiwan Youth Overseas Service**

The ICDF provided three servicemen this year for assistance in the areas of medicine and hydraulic engineering.

National Pingtung University of Science and Technology's Scholarship Program for Foreign Agriculturists Pursuing Graduate and Postgraduate Degrees

Project Goals

This project is designed to improve international human resource development capabilities in allied countries and was the first of its kind in Taiwan. In 1998, the ICDF launched a program in cooperation with the National Pingtung University of Science and Technology to offer English-language graduate and postgraduate coursework to students from allied countries. Since Taiwan is relatively strong in agricultural research and development, the ICDF identified a pilot program in agricultural science. Since then, the ICDF has provided two-year full scholarships on an annual basis for six to eight qualified candidates from allied countries to pursue masters degrees. The ICDF hopes this long-term

development program will enhance agricultural human resources in our allied countries and lead ultimately to the improved exchange of agricultural technologies. In 2001, the program was expanded to include Ph.D. studies.

State of Implementation

1. This project has been in operation for five years, and to date, 46 students have enrolled in the masters or Ph.D. programs. Nearly half of the students are from the African allies of Senegal, The Gambia, Burkina Faso, Chad, Liberia, Malawi, and Swaziland. Presently, 16 pupils are enrolled in the masters program and five are in the Ph.D. program.
2. As of August 2003, 12 students from the first four



The Gambia

• Paddy Rice Yield Increase and Agricultural Machinery Center Project

This project increases paddy rice yields by introducing improved seeds and farming technology. The ICDF Technical Mission is assisting the Gambian government in designing and implementing rice yield increase projects and creating a rice extension service system.

• Vegetable Yield Increase Project

The ICDF Technical Mission is developing vegetable plots, providing farming technology and offering consultations on the operation of production and marketing teams.

• Food Processing Technical Assistance Project

The ICDF assists in the development of the food-processing sector by providing technology to improve processing, extend the shelf life of agricultural products and increase the added value of farm goods.

• Medical Assistance Project

The ICDF is cooperating with the Taiwan Root Medical Peace Corps in providing free medical care.

• Taiwan Youth Overseas Service

The ICDF provided two servicemen for assistance in the areas of hydraulic engineering and administration.



Liberia

• Rice and Vegetable Extension Project

The ICDF Technical Mission is assisting in improving farming technology and establishing a formal technical training mechanism in agriculture to increase rice and vegetable yields.



Malawi

• Grain Development and Extension Project

The ICDF Technical Mission is assisting farmers in growing maize and paddy rice, in breeding superior varieties of these commodities and in expanding their overall output.

graduating classes in the masters program have come from Africa. The performance of two students, from Senegal and The Gambia, was so outstanding that they were accepted directly into the university's Ph.D. program. The other students have already returned to their home nations to work.

Project Benefits

1. Helping to Train Government Management Personnel

After returning home from their academic experience in Taiwan, many degree recipients have taken work at government agencies in their home countries. For example, Gambian student Momodou D. Jabang is now a researcher at Gambia's National Agricultural

Research Institute. Senegalese student Ndiaye is the section head at Senegal's Agricultural Pesticide Laboratory.

2. Promoting the Internationalization of Taiwan's Universities

The National Pingtung University of Science and Technology has worked to become more international and is gradually building a good reputation overseas. In addition to the current cooperation project with the ICDF, the university has also established scholarships for students from Thailand, Vietnam and Indonesia to study in Taiwan.



- **Horticulture Development and Extension Project**

This project is establishing horticulture promotion centers and developing base farms. Technical mission members are also carrying out trial cultivation and comparisons on growing crops with various fertilizers. Specialists are also training local technicians for agricultural development and are providing guidance in seed extraction and cultivating technology.

- **Vocational Training Cooperation Project**

The ICDF Technical Mission is cooperating with Lilongwe Technical College by helping to produce instructional materials and supply equipment to support education in computer applications, automobile repair, carpentry and machinery maintenance. It is also providing instructional demonstrations and training for teachers.

- **Feasibility Research–SME Technical Assistance Project**

This project is commissioning specialized agencies to design and implement feasibility assessments. The results will be used for future reference. Assessments are conducted based on the conditions for SME development in Malawi including government policies and regulations, consulting systems, and other various developmental mechanisms.

- **Taiwan Overseas Volunteers**

The ICDF provided one volunteer for assistance this year in the computer and information technology sector.

- **Taiwan Youth Overseas Service**

There are currently eight servicemen assisting in the areas of medicine, agricultural technology, computers, hydraulic engineering and horticulture.



São Tomé and Príncipe

- **Vegetable Yield Increase Project**

The ICDF Technical Mission is assisting farmers in identifying new commercial crops with export potential, and is promoting the formation of production and marketing teams to increase vegetable yields. It is also undertaking fruit and vegetable cultivation diversification to reduce risks of imbalanced production while increasing crop options for farmers.

- **Livestock Development Project**

The project is assisting in establishing chicken farms so that São Tomé and Príncipe can gradually become self-sufficient in poultry and egg production. This approach also increases the intake of animal protein

Workshop on Food Processing

Project Goals

This project provides the gradual transfer of Taiwan's food processing technology to friendly and allied nations, assisting them to establish a comprehensive technical database of processes and procedures. This strategy facilitates the development of new applications and technology, promoting industrial upgrading.

State of Implementation

1. In March 2003, the ICDF held a "Workshop on Food Processing." Twenty-four people from 20 countries participated in the training, including two from

Senegal and one from The Gambia.

2. Since the food processing industry in Africa is in its infancy, and each participant in the workshop had different needs, the workshop not only focused on general food processing, but also on several sub-themes. Vacuum frying and fruit juice processing were selected as sub-themes in 2003 based on the wide-ranging application of these areas.
3. The workshop was also tailored to focus on using agricultural raw materials currently available in participating countries as well as items of processing



for residents and saves foreign exchange. The project also trains animal husbandry specialists.

- **Medical Assistance Project**

The ICDF Medical Mission is assisting São Tomé and Príncipe in improving its medical and health sector by introducing a variety of medical technology services and through the adoption of new management practices.

- **Malaria Eradication Project**

The ICDF is assisting in establishing a control and therapy mechanism to help reduce the spread of malaria and the number of deaths caused by the disease. Work focuses on creating a malaria-carrying mosquito control model, carrying out large-scale eradication and monitoring of malaria-carrying mosquitoes, assisting in the establishment of an appropriate diagnosis and therapy model, surveys and evaluations on the prevalence, contraction and death rate of malaria, workforce training, and dissemination of sanitation measures.

- **Taiwan Overseas Volunteers**

The ICDF has provided one volunteer for service this year in the field of medicine.

- **Taiwan Youth Overseas Service**

There are currently four servicemen assisting in the areas of medicine, medical technology and horticulture.



Senegal

- **Rice Extension Project**

This project is extending rice cultivation, improving cultivation technology, and increasing output. The ICDF Technical Mission is introducing new rice varieties and is providing guidance in deep-water rice cultivation technology. It is also improving post-harvest processing, raising the overall quality of the rice.

- **Vegetable Extension Project**

The ICDF Technical Mission is providing production and operational guidance in vegetable production zones, is developing new rotation systems and sales plans, and is advising farmers on smallholder loan utilization. In addition, the project is developing new products such as asparagus and tea, and is looking at the possibility of introducing other crops. This project is also increasing the scale of banana farming and is improving cultivation technology, thus reducing the need for imports.

technology best suited to local conditions. This approach increased the practical value of the course. The workshop covered packaging technology, pressed food products, meat product processing and production of health foods.

Project Benefits

1. Increasing the Number of Technicians in Cooperating Nations

In addition to classroom instruction, the workshop provided opportunities for students to visit factories. It also included significant practical coursework, which

created a balance between practice and theory. Upon completion of training, the students could immediately be employed as technicians.

2. Promoting Interaction Between Students and Local Communities

The workshop arranged for students to participate in various cultural and recreational activities during weekend breaks. These activities enabled the students to gain a better understanding of Taiwanese society and culture during their stay on the island.



- **Aquaculture Project**

The ICDF Technical Mission is providing guidance in oyster farming and is helping to reduce environmental damage in the aquaculture sector. The mission is also selecting superior fresh-water fish species for farming and extension, which is reducing costs within the industry and helping to improve the local diet.

- **Food Processing Technical Assistance Project**

The ICDF is assisting in the development of the food processing industry by helping to improve processing technology. This is extending the shelf life of agricultural products and increasing the added value of farm goods.

- **Biomass Application Research and Demonstration Project**

This project is helping farmers utilize green manure and biomass (plant materials and animal waste), reduce production costs, raise output and achieve environmental sustainability.

- **SME Re-lending Project**

This project is providing loans to SMEs to complement Senegal's own economic development policies. This strategy strengthens loan operations to small and medium enterprises by financial institutions, improves the financial environment and increases economic productivity.

- **Taiwan Youth Overseas Service**

The ICDF has provided two servicemen this year for assistance in the fields of agricultural technology and horticulture.



Swaziland

- **Small Farmer Corn and Sweet Potato Project**

The ICDF Technical Mission is assisting smallholders

to expand corn and sweet potato production on public land and, gradually, also to introduce and cultivate other staple foods to raise self-sufficiency and boost farmer incomes.

- **Royal Project**

This project is assisting the Royal Family Tisuka Organization Farm in introducing new crops, in improving cultivation technology, and in conducting field demonstrations and exhibitions. The project also trains farm and husbandry specialists, creates operational management models and promotes the commercialization of farms.

- **Handicrafts Training Project**

The ICDF Technical Mission is training young people in various skills to provide employment and business opportunities. The mission has established elementary, medium- and advanced-level vocational training courses. In addition, classes outside of school are offered to boost the knowledge and abilities of students.

- **Lower Usuthu Smallholder Irrigation Project**

The project is assisting in the construction of agricultural infrastructure and in the commercialization of agricultural activities. The overall objective is the reduction of poverty and improvement in living standards for the population in the Lower Usuthu Basin.

- **Swaziland International Highway Expansion Project**

The ICDF provides financing through the AfDB to establish and maintain roads in and around industrial zones, tourist areas and important economic areas.

- **Taiwan Youth Overseas Service**

The ICDF has provided three servicemen for



assistance in the fields of agricultural technology, computers and information technology, and horticulture.



African Region

• Food Processing Workshop

This workshop transfers a wide variety of Taiwan's food processing technology to diplomatic allies and assists these nations to create a comprehensive technical database of processes and procedures. This facilitates the use of various technologies in each stage of development and promotes upgrading of the region's industrial infrastructure.

• Micro-Credit Experience in Taiwan Seminar

This seminar introduces participants to Taiwan's micro-credit policies, institutions, and private and public sector experiences in strengthening micro-credit and its delivery systems. Agricultural economics, financial systems, the role of women in developing countries, and other relevant issues are covered.

• Workshop on Agricultural Policy and Rural Development

This workshop aims at complementing the ICDF's cooperation strategies in the region and expanding the agricultural vision of officials in friendly countries. Taiwan's own experience in agricultural development are used to raise the specialization of agricultural officials in cooperating countries and to assist developing countries in nurturing future policy planners and managers in the agricultural sector.



①The Senegal Vegetable Extension Project ②The Chad Rice Yield Enhancement Project ③Vocational education during the Swaziland Handicrafts Training Project ④A surgical team at the Medical Mission in Chad