



Food and Agriculture
Organization of the
United Nations



TRANSFORMING RURAL LIVELIHOODS

How South-South Cooperation with China
is improving lives in Nigeria

Author: Charlie Pye-Smith

Technical Supervision: Festus Akinnifesi

Editors: Festus Akinnifesi, Anne De Lannoy and Jessica Nabongo

Design and Layout: Aleen Toroyan

Photographs: ©FAO/Charlie Pye-Smith

The designations employed and the presentation of material in this information product do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations (FAO) concerning the legal or development status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. The mention of specific companies or products of manufacturers, whether or not these have been patented, does not imply that these have been endorsed or recommended by FAO in preference to others of a similar nature that are not mentioned.

The views expressed in this information product are those of the author(s) and do not necessarily reflect the views or policies of FAO.

© FAO, 2014

FAO encourages the use, reproduction and dissemination of material in this information product. Except where otherwise indicated, material may be copied, downloaded and printed for private study, research and teaching purposes, or for use in non-commercial products or services, provided that appropriate acknowledgement of FAO as the source and copyright holder is given and that FAO's endorsement of users' views, products or services is not implied in any way.

All requests for translation and adaptation rights, and for resale and other commercial use rights should be made via www.fao.org/contact-us/licence-request or addressed to copyright@fao.org.

FAO information products are available on the FAO website (www.fao.org/publications) and can be purchased through publications-sales@fao.org.

TRANSFORMING RURAL LIVELIHOODS

How South-South Cooperation with China
is improving lives in Nigeria

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Rome, 2014



The fish cage culture introduced by the Chinese has benefited large farms, such as Osin Farms in Osun State, as well as thousands of small-scale farmers.

CONTENTS

Foreword	ii
Acronyms	iv
Introduction: making connections	1
1. A brief history	5
2. Transforming small-scale farming	10
3. Working with larger farms	20
4. Looking to the future	28

FOREWORD

Nigeria is currently undertaking major reforms of its agricultural sector, driven by its Agricultural Transformation Agenda, which aims to increase production, reduce food imports and provide millions of new jobs for young people. The nationwide South-South Cooperation (SSC) programme, fully financed by the Government of Nigeria, is an important part of this story.

SSC is an effective driver of change that offers a unique framework for the sharing and exchange of southern development solutions that have been developed, tried and tested in countries with similar economic and environmental conditions.

As one of the first United Nations' organizations to support SSC, the Food and Agriculture Organization (FAO) has been facilitating the exchange of technical know-how and other key development solutions among countries of the Global South since 1996. So far, over 1 800 experts have been fielded in more than 60 countries in Africa, Asia and the Pacific, Latin America and the Caribbean, and the Near East.

Under the Nigeria-China SSC programme, which is facilitated by FAO, nearly 700 Chinese experts have been deployed to Nigeria since 2003, with assignments of two years or more. These experts have been introducing new technologies, exchanging best practices and sharing knowledge and experiences with their Nigerian counterparts in technical areas such as irrigation, crop production, livestock production, aquaculture and apiculture.

During the past ten years, the China-Nigeria SSC programme has touched the lives of more than a million people, by increasing food security, generating incomes for farmers and creating agricultural and off-farm employment for young people. This booklet highlights some of the remarkable stories of the SSC programme's impacts from the beneficiaries' perspective.

Jongjin Kim

Director, South-South and Resource Mobilization Division

*Nearly 700 Chinese experts
have been deployed to Nigeria
since 2003*





Charcoal smokers introduced by the South-South Cooperation (SSC) programme have significantly improved women's incomes in the Edeha fish market.

ACRONYMS

ADP	Agricultural Development Programme
ATA	Agricultural Transformation Agenda
FAO	Food and Agriculture Organization of the United Nations
NPFS	National Programme for Food Security
REMSEC	Regional Multiservice Extension Centres
SSC	South-South Cooperation
USD	United States Dollar

INTRODUCTION: MAKING CONNECTIONS

The introduction of Chinese fish smokers in Edeha village has had a dramatic impact on the welfare of local merchants. Every day, hundreds of buses and cars halt at the roadside as their passengers queue up to buy dried fish. “In the past, when we were using firewood to smoke fish, I earned around 5 000 naira [USD 30] a week,” says Isah Fatimat, a mother of eight. “Since we’ve been using the new charcoal smokers, I’ve earned 10 000 naira a week, and I now have enough money to pay school fees for my children.”

Talk to any of the merchants plying their trade on the busy road next to the Niger River and you will hear much the same story. “I’m now buying and selling more fish and I’m using the extra money to pay my own school fees,” says Hawa

Alhassan, a young woman who hopes to train as an accountant. She and her colleagues only have one complaint: the seven smokers they received in September 2013 are not enough. “We’d like some more,” says Aishat Abdulrahaman, “and we’ll happily pay for them.”

Many of the communities here are also benefiting from other technologies introduced by Chinese experts based in Lokoja, the capital of Kogi State. One of the most successful has been fish cage culture. In Koton-Karfe, members of a recently established cooperative are waiting for some 4 000 tilapia to mature in eight bamboo-and-net cages anchored with floating drums to the shore of a small lake.

“Traditionally we fish by setting nets, but we’re never sure how much we’ll catch,” explains 20-year-old Alhassan Tinjani.

“With fish cage culture, we know exactly how many fish we will harvest, and how much we will earn.” He and his friends are anticipating a significant increase in their incomes in the coming years.

The smokers and fish cages are just two of many simple, low-cost, environmentally sustainable technologies that have been introduced in Nigeria through the South-South Cooperation (SSC) programme. As a result, tens of thousands of small-scale farmers and many larger enterprises have significantly improved their productivity and incomes.

Since 1996, when the Food and Agriculture Organization of the United Nations (FAO) launched the SSC initiative, over 1 800 agricultural experts from 15 countries in the global south have been deployed in 53 developing countries, including many in sub-Saharan Africa,

a region often faced with malnutrition and low productivity.

“The programme is based on the premise that proven and tested development solutions to agricultural problems are already available in the South – they are out there somewhere,” says Festus Akinnifesi, Chief of FAO’s SSC team. “It’s all about making connections by bringing providers like China to solution-seekers and taking advantage of different countries’ comparative strengths.”

Chen Youqiang has taught women like Susan Blessing Abdu how to improve horticultural practices.



SSC involves tripartite agreements between the host and provider countries and FAO, which provides medium- to long-term technical support. The SSC initiative aims to enhance food security, increase food production, improve the skills of staff working for institutions in the host country and build partnerships within the developing world. In Nigeria, the SSC programme falls under the umbrella of the National Programme for Food Security (NPFS), and its objectives are aligned with the Government's 2011 Agricultural Transformation Agenda (ATA).

Although Nigeria has had considerable success in tackling hunger – the proportion of undernourished people fell from 16 to 6 percent between 1990/1992 and 2005/2007 – much remains to be done. Approximately two-thirds of Nigeria's 170 million people are involved in food production, with the vast majority practising small-scale farming. A significant number produce barely

enough food for their families, let alone to sell in the market.

Smallholder farmers were the main beneficiaries of the first phase of the SSC programme in Nigeria. However, during recent years the programme has also introduced new technologies and practices on larger commercial farms, and their stories are told in the following pages too. "If Nigeria is going to achieve the goal of food self-sufficiency, everyone involved in agriculture must play a role," says Gidado Bello, SSC national coordinator. "That is why the programme is now working for all Nigerian farmers, not just for poor smallholders."



Artificial
insemination
of livestock is
one of many
technologies
introduced by
the programme.

1. A BRIEF HISTORY

In 2002, during a visit to China, President Olusegun Obasanjo saw how small-scale dams were helping to increase crop production and improve the welfare of peasant farmers. “The President had a passion for agriculture and he realized that better use of our water resources would enable farmers to grow more crops during the dry season,” says Oyesola Oyebanji, Chief Technical Adviser to the NPFS.

In response to a request from President Obasanjo, the Government of China sent a delegation of experts to Nigeria to conduct a joint needs assessment. “The original plan was to set up a programme for the construction of small dams, but many of the states had other priorities,” recalls Dr Oyebanji. “So the first phase of South-South Cooperation was all embracing. It was about improving crop and livestock

production, aquaculture, horticulture and other activities, as well as building microdams for irrigation.”

Drip irrigation, seen here at a demonstration plot in Kogi State, is enabling farmers to grow crops during the dry season and significantly increase their incomes.



During the first phase, from 2003 to 2007, 496 Chinese experts and technicians were deployed in Nigeria, each spending two years in the country. The programme, which covered all 36 states as well as the Federal Capital Territory, was entirely funded by the host government.

There were some notable successes. For example, the Chinese introduced rice-fish culture in eight states. Rice plants provide shade for fish, while the fish provide nutrients for the rice. Rice-fish culture helped to almost double rice and tilapia production at some of the demonstration sites in Nigeria, and the SSC programme expanded rice-culture to 10 000 hectares, benefiting hundreds of smallholder farmers and their families.

However, the first phase of the programme had mixed results. The diversity of new technologies promoted by the programme was commendable, according to an evaluation commissioned by FAO, but inefficient planning, poor

linkages between the Chinese experts and local extension services, insufficient training of local staff and the lack of follow-up once new technologies had been introduced posed some problems.

Nevertheless, the political will to continue the SSC programme remained strong and a new phase was launched in 2009. In terms of scale, the second phase has been less ambitious than the first, operating in 15 states and the Federal Capital Territory and deploying fewer Chinese experts and technicians. It is anticipated that 190 Chinese will be deployed over a period of six years. The programme, however, has been more consistently successful. This is, in part, because it has been demand-driven: the Chinese are operating in areas where farmers and extension agencies have expressed specific needs.

To address some of the weaknesses identified during the first phase, the SSC programme established Regional

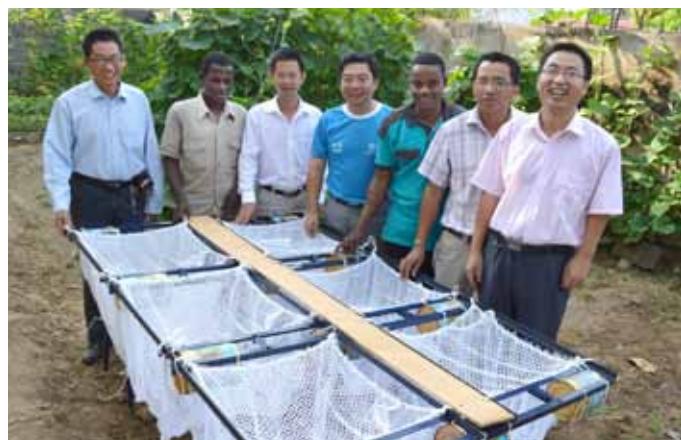
Multiservice Extension Centres (REMSEC) for training and demonstration of various technologies, one in each of the country's six geopolitical zones. The REMSECs have helped to strengthen the relationship between the programme and state and federal authorities. Five were established at agricultural colleges, and one is under the management of the local Agricultural Development Programme (ADP).

"As a result, the states are now much more involved in choosing which technologies are promoted, and the extension agencies are playing an important role in taking new technologies out to the field," says Dr Oyebanji.

Chinese experts and technicians and two of their local counterparts with fish cage models outside their living quarters in Lokoja, Kogi State.

This is one of the reasons why it is difficult to get accurate data on the project's impact: the new technologies are now being adopted far beyond the SSC programme's immediate sphere of influence.

During the first phase of the programme, many of the Chinese experts and technicians operated in areas where the authorities struggled to make the best use of them. Those deployed on their own often led a lonely existence under tough conditions. Now, the Chinese tend to be



clustered in small groups, often near the REMSECs, working closely with local extension services and local farmers.

“Even when their language skills are weak, the Chinese still manage to communicate what needs to be done, because they do teaching by doing,” says Cheikh Sarr, FAO’s Chief Technical Adviser to the NPFS. “They have proved that with the right tools and technologies, you can even revive a dying farm.”



Learning how to construct nylon fish cage nets is one of many skills passed on to Nigerian farmers by Chinese experts and technicians.



Farmers receive training on different technologies at the programme's Regional Multiservice Extension Centres (REMSECs), including fish cage culture at Lokoja.

2. TRANSFORMING SMALL-SCALE FARMING

Between 2003 and 2013, 35 Chinese experts and 539 technicians were recruited in China and posted to Nigeria. Eight of the experts and 15 technicians were deployed in Kogi, a state that has made enthusiastic use of the SSC programme. “We were very keen to take advantage of the programme,” explains Ameh Onoja, Managing Director of the state’s ADP. “We’d heard how China was feeding a rapidly growing population and we felt there was a lot we could learn from them.”

“Traditionally we fish by setting nets, but we’re never sure how much we’ll catch,” says 20-year-old Alhassan Tinjani of Koton-Karfi village. “With fish cage culture, we know exactly how many fish we will harvest and how much we will earn.”

The first phase of the programme in Kogi involved the construction of many microdams. These have had a significant impact on both the health of the local population and agricultural productivity. “In one remote village, Ickeke, the drinking water was so filthy that you wouldn’t have even wanted to clean your shoes with it,” says Dr Onoja. “So we constructed a microdam there, and this stimulated many other developments, including the building of a tarmac road to the village.”



Other major activities during the SSC's first phase involved setting up hatcheries for day-old chicks and developing aquaculture projects.

According to Dr Onoja, the creation of Kogi REMSEC, which is managed by the ADP, has taken the SSC programme to another level. "All the technologies you see here are now being adopted by smallholders across the state," he explains.

The aquaculture technologies, especially fish cage culture and integrated rice-fish farming, have been particularly successful. The Chinese experts and technicians initially helped the REMSEC staff construct a fish hatchery and three earthen fish ponds. More recently, their Nigerian counterparts, who are frontline extension staff, learned how to construct fish cages using bamboo cane, empty oil barrels and nylon nets. Each harvest from the 2x2 metre cages – the catfish take about six months to reach a kilo – is worth around 900 000 naira (USD 5 600).

"That's why we're promoting this fish cage culture across the state," says Abel Yusuf, the REMSEC manager. "Fish reared in cages are easier to manage than fish in earthen ponds, and easier to harvest."



Farmers learn how to grow a wide variety of vegetables at the programme's REMSECs.

By the end of 2013, 38 groups of ten people had received training in various aquaculture-related activities in Kogi, ranging from fish cage construction to fingerling production and from fish processing to combined rice-fish farming. Other training programmes have focused on the fabrication of farm tools, rice production, horticulture and irrigation technology. Some 40 percent of the trainees have been women.

All of this makes good economic sense, suggests Yusuf Sumakanda, an ADP extension worker in Koton-Karfe. He recently ran a training programme for 30 farmers, showing them how to set up an irrigation system using large plastic tanks and a gravity-fed network of plastic pipes. “Over half of them are now doing this, and the profits they’ve made from growing dry season crops have paid for the cost of the materials they had to buy, and given them an extra income,” he says.

MAKING THE MOST OF WATER

Traditionally, the dry season between November and March has been a time of limited activity for most farmers in Kogi State, but that’s now changing thanks to the introduction of simple drip irrigation technology. “In the past, farmers used to just sit around in their houses, chatting to one another in the dry season,” says Joseph Ogbe, ADP chief engineer. “But the introduction of drip irrigation by the SSC programme means they can now grow vegetables throughout the year.”

Better management, rather than the introduction of new technologies, has also helped small-scale farmers to improve their productivity. Take, for example, horticulture. “In the past, I used to plant my vegetables 60 centimetres apart,” explains Joy Yunusa, a young mother who lives near the REMSEC at Lokoja. “Then one of the Chinese experts showed me new ways of planting my crops and looking after them.”



Training has helped Joy Yunusa increase her vegetable yields by up to 30 percent. She has passed her recently acquired skills on to her neighbours.

Now she sows her vegetables at 30 centimetre intervals and has learned how to apply small quantities of fertilizer and control pests and diseases.

“Since I taught Joy, she’s shared her knowledge with five neighbours,” explains Chinese vegetable technician Chen Youqiang. “The women have increased their yields by 20 to 30 percent.”

RICE MATTERS

The programme has also had a dramatic influence on rice production in the state. “Before we arrived, most of the farmers who were growing rice were getting around 3 tonnes per hectare,” explains rice expert Chen Huazou. “Now, using the methods of production we’ve introduced, they can get 6 tonnes a hectare using the same local variety.” Instead of scattering seed by hand, as they did in the past, farmers now establish rice nurseries and plant seedlings at regular intervals. They have also learned the best ways of applying fertilizer and controlling pests and diseases.

In 2012, Lokoja had its worst floods in 50 years. As part of the Government’s flood recovery programme, rice seeds were distributed to farmers for use in the receding waters. Chinese experts working under the SSC helped to design the land preparation and irrigation programme, and the ADP trained some

5 000 young unemployed people on how to plant rice, control pests and diseases and apply fertilizers. They were divided into 500 groups, and each was allocated a plot of land. They are now earning a decent living.

John Audu, a member of the Ijoko – or ‘God’s Time’ – Cooperative, is one such beneficiary. “I joined the cooperative because I wanted more work,” he says. “Before, I used to farm and fish for about three months of the year, and the rest of the time I’d just hang about with my friends or play football.”

According to Chide Nafisat, an enterprising 26-year-old woman who leads the 11-member group, they expect to harvest up to 10 tonnes of rice this season, which they will sell to the Government.

“You can see what an impact the South-South Cooperation programme has had,” says Dr Onoja as he observes the groups of young men and women planting rice.



Members of the Ijoko Cooperative, seen here planting rice, are among 5 000 formerly unemployed people who are now benefiting from a rice programme in Lokoja.

“The programme has encouraged the state to allocate significant resources to this rice-growing scheme.”

Kogi is now recognized as a rice-producing state and it is helping the country to move towards self-sufficiency, one of the objectives of the ATA. The state has also allocated the equivalent of over USD 100 000 to aquaculture projects as a result of the success of the SSC fish-farming programmes.

AND MUCH MORE...

Chide Nafisat and her colleagues in the Ijoko Cooperative use an unusual implement – a long rake with tines set 20 centimetres apart – to make a grid on the ground, indicating precisely where each rice seedling should be planted. This is one of many implements developed by the Chinese for local use. Others include two sizes of fish smokers, a shoulder pole for carrying water buckets, long- and short-handled hoes, a maize sheller and a hay cutter for chopping animal fodder. “These tools are helping to take the drudgery out of farming, and they’re proving very popular with farmers,” says SSC national coordinator Gidado Bello. “Some of them are adaptations of implements which already existed here, but some are entirely new to us.”

Most of these implements and tools were developed and tested at the REMSEC or at the bungalows where the Chinese stayed in Lokoja. They identified and trained



Cutters for chopping animal fodder are among many simple tools introduced by the Chinese under the SSC programme.

Tijani Musa, a local blacksmith, and gave him the specifications for the tools. He then trained another 30 blacksmiths in the state. As a result, toolmaking has now become a profitable enterprise. By mid-2013, over 200 smallholder families had purchased a range of these tools from the blacksmiths.

Kogi State provides an example of the SSC programme at its most effective. “We’ve found that our activities have worked best in states where the Agricultural Development Programmes are supportive,” says SSC Chinese team leader Yuan Yuegui. “In Kogi, there’s a very strong political will to

help smallholder farmers improve their productivity and earn more money.”

Many other states have also made good progress and it would take hundreds of pages to describe all the successes achieved by small-scale farmers under the SSC programme. Some of the more outstanding examples were presented at a High-Level Forum on “The Achievements of the South-South Cooperation Programme in Africa”, held in Abuja in September 2013. The Forum, which was attended by Ministers of Agriculture and delegation heads from 14 countries, discussed how this model could be shared with other African countries.

Delegates heard the story of Dalha Lawal, an itinerant farmer who established a 25-member fish-farming cooperative in Katsina State after receiving training from the Chinese. With the profits he made, he built a new house, acquired more land, performed the Hajj and bought four motorcycles for commercial use. As the Minister for Agriculture and Rural Development, Akinwumi Adesina, pointed out in his speech to the Forum, Dalha Lawal is now an “agrimillionaire.”

In the same state, 31-year-old Yahaya Sani received training in apiculture under the SSC programme. Although his family had kept bees for many decades, he learned new skills, such as how to identify the queen bee and how to construct beehives. He now has 48 hives, and his profits have enabled him to buy a house, more farmland and an ox for ploughing.

Information provided by the states suggests that 3.1 million people have

been trained on the use of various technologies introduced by the SSC programme. Almost a quarter of a million have benefited in Kogi State, just under 200 000 in Gombe State and over 100 000 in six other states: Cross River, Delta, Jigawa, Kano, Ondo and Kebbi.

The programme has transformed the way small-scale farmers plant rice. Instead of scattering seed by hand, they now establish rice nurseries and plant seedlings. Their yields have doubled.



These figures include organized commodity groups of producers, processors and merchants, as well as project staff from the state Ministries of Agriculture, which have benefited from short trainings and field demonstrations of various Chinese technologies since 2003. The figures also include the beneficiaries of trainings and demonstrations directly organized by the SSC programme. In short, they represent the number of people who, in the opinion of the states, have benefited either directly or indirectly from the SSC programme.

The figures have yet to be validated by a thorough impact assessment, but there is little doubt about the SSC programme's far-reaching impact. "It has been the most successful, the most popular and the most effective of all the support programmes in terms of achieving the objectives of the National Programme for Food Security," says SSC national coordinator, Gidado Bello.



Women in Oke-Igbala Costady, Osun State, still smoke fish the traditional way, but their husbands are now benefiting from fish cage culture.

3. WORKING WITH LARGER FARMS

In 2003, when Taiwo Adesina was appointed manager of Osin Farms near Ipetumodu in Osun State, the main farm was dilapidated. The buildings, fish ponds, fields and machinery had been neglected for six years while the owner, retired General Alani Akinrinade, was in temporary exile. “The General told me he wanted to restore the farm, and over the next few years we constructed poultry houses, dug new fish ponds, weeded the old ponds and restocked the farm,” recalls Taiwo.

Fish cage culture has enabled Osin Farms to dramatically increase yields and profits.

Before long, the farm was selling day-old chicks, frozen poultry and fresh catfish. However, the biggest changes came after Taiwo and the General visited the REMSEC for the southwest geopolitical zone at Akure. They were deeply impressed by what they saw, and once they returned home, Akinrinade contacted the SSC office in Abuja. The programme agreed to allocate three Chinese experts and technicians to Osin Farms.



FARMING FISH FOR A BRIGHTER FUTURE

It is early morning in late November. Half a dozen workers from Osin Farms arrive at Owalla Dam, a large body of water about an hour's drive from the main farm. Within a short period, several hundred tilapia are harvested from one of the fish cages and swiftly loaded onto a pickup, to be driven back to the farm's storage facilities.

Alani Akinrinade, the owner of Osin Farms, with SSC coordinators Yuan Yuegui and Gidado Bello.



“The fish cage culture we learned from the Chinese is much better than the old way we had of rearing fish in earthen ponds, especially for the tilapia,” says Akinrinade. “You can feed the fish without any wastage. The fish are easier to harvest and healthier. And it's less costly.”

Fish ponds that used to hold 5 000 fish now have 15 000, thanks to the introduction of cage culture. Every month, Osin Farms harvests up to 8 tonnes of catfish and 2 tonnes of tilapia, most of which is sold fresh to markets as far away as Abuja and Lagos.

“The Chinese want to do things in the cheapest, most simple way possible, which is good for smallholder farmers,” says Taiwo. “But as a private farm, we've been able to invest in improvements to the technologies we've adopted.” For example, the farm originally used bamboo walkways between the fish cages. Walking on bamboo is a precarious business, especially with

Tilapia kept in cages are easy to feed and easy to harvest.

a heavy load of fish, so the old walkways have been replaced with more stable plastic boards.

In 2006, Osin Farms established a large poultry unit; however, five years later, many birds died as a result of poor sanitation. Poultry farming was abandoned for several years, but revived when a Chinese technician deployed to the farm introduced sanitary measures that have kept mortality levels down to 6 percent. The farm now has approximately 5 000 chickens.

Akinrinade has invested some of the profits from the fish and poultry enterprises in a bamboo processing business, under the guidance of a Chinese technician. Huang Wenqing has taught local staff how to construct quail cages out of bamboo. Now that the birds are being kept in cages, rather than on open floors, egg production has



increased by 30 percent. Bamboo slats are also being used to create a raised platform in the broiler sheds, and this has helped to improve the birds' health and welfare. Akinrinade is also thinking of using the bamboo processing machinery to manufacture toothpicks.

Shortly before he completed his two-year stint in Nigeria, Huang helped local staff to construct six bamboo cabins at Owalla Dam. These will be used as accommodation for farmers and extension workers who attend training sessions on fish cage culture. Providing training facilities is not an act of philanthropy on the part of General Akinrinade. Rather, it is expected of him. "We support private

farms on condition that smallholders can come and see what they're doing," says Cheikh Sarr, Chief Technical Adviser to the NPFS. "We want them to act as demonstration farms."

After the fish have been harvested at Owalla Dam, the General suggests a visit to the nearby village of Oke-Igbala Costady. There are 44 families in the village, many related to the chief, who has 11 wives and 28 children. Some of the men from here worked on the

construction of the fish cages belonging to Osin Farms, and they have used their recently acquired skills to construct their own fish cages.

"Using fish cage culture gives us peace of mind," says Olowo Zecharia, one of the chief's sons. "You feed the fish in their cages and you know exactly where they are. It's easier and more productive than our traditional methods of catching fish by setting nets and traps." Buying materials to construct the cages costs money, he

Commercial enterprises that benefit from the SSC programme are expected to act as demonstration sites. Osin Farms has constructed bamboo accommodation for trainees at its Owalla Dam fishery.



says, but fish cage culture is much more profitable than capturing wild fish.

This was the first time that Taiwo had visited the villagers' fish cages. "I had no idea they were using plastic boards – just like us," he says admiringly. "It shows how quickly they have taken to fish cage culture. Just imagine how this would take off if people had access to credit."

The knock-on effect: Olowo Zecharia now has four fish cages, constructed without any help from the programme.



THE POULTRY ENTREPRENEURS

In 2009, Hadiza Muhammad's uncle asked her to manage his five-acre farm at Kubwe, a town near Abuja in the Federal Capital Territory. Her uncle, Salihu Aliyu Gusau, knew about the SSC programme and sought its help. "We received three Chinese experts, and they put together a plan for the farm," recalls Hadiza. "That's when everything began to change here."

The Chinese fruit technician, Chen Huazoo, introduced a new system of orchard management, which led to a rapid increase in mango production. He also oversaw the planting of 10 000 Moringa trees, whose leaves, valued for their medicinal properties, are now earning Kubwe Integrated Farm a good income in local markets. The ten derelict fish ponds were restored and now provide regular harvests of catfish.

However, the farm's greatest success has been with poultry. Chinese livestock



“The Chinese taught us everything we needed to know about how to take care of the birds,” says Hadiza Muhammad, seen here determining the sex of a bird.

expert Hu Xiaoquan designed new farm buildings and cages, which initially housed 2 000 laying hens. These were soon performing well, and before long it was decided to shift them to the Permanent Secretary’s farm in his home state of Zamfara. The Kubwe farm then moved on to quails.

“We began with 500 baby quails, which we bought in Jos, and before long they were producing 250 eggs a day,” recalls Hadiza. “Gradually, we built up a flock of 25 000 birds.” Some of these were shifted to Zamfara and many were sold

to local farmers. At the end of 2013, the farm had 6 000 quails, producing 3 000 eggs a day. Although Hadiza has left the farm, she continues to provide advice when needed.

“The Chinese were very important, and they taught us everything we needed to know about how to take care of the birds,” she says. “I look on Mr Hu as my brother. We worked together, we ate together, we went everywhere together.” If she encounters problems she cannot solve, she often phones Mr Hu, who is now back in China, to ask his advice.



Uche Igweonu established two thriving poultry enterprises, thanks to advice and training from the SSC programme.

He'll send her texts, for example, on how to mix medicines to treat diseases.

One of several farmers to benefit from the experience at Kubwe Integrated

Farm is Uche Igweonu, an information technology expert who decided to venture into agriculture in 2010. He visited several farms in Ibadan to get information about setting up a poultry

enterprise, but they were reluctant to give advice. “But – as God would have it – I went to visit a cousin in Kubwe and I met Hadiza by chance,” he recalls. “Hadiza introduced me to Mr Hu, and he provided advice about how to set up a poultry business.”

Before he returned to China, Mr Hu frequently dropped in to see Uche when he was setting up Addyson Farms Ltd in Madalla. “Mr Hu taught me everything I know, and he made me what I am today,” says Uche. He now has 1 300 layers here, producing 700 eggs a day, and a much larger flock on another farm. He employs six staff and is running a thriving business. Other farmers in the region are also benefiting from the enterprise model established under the SSC programme at Kubwe and replicated here.

4. LOOKING TO THE FUTURE

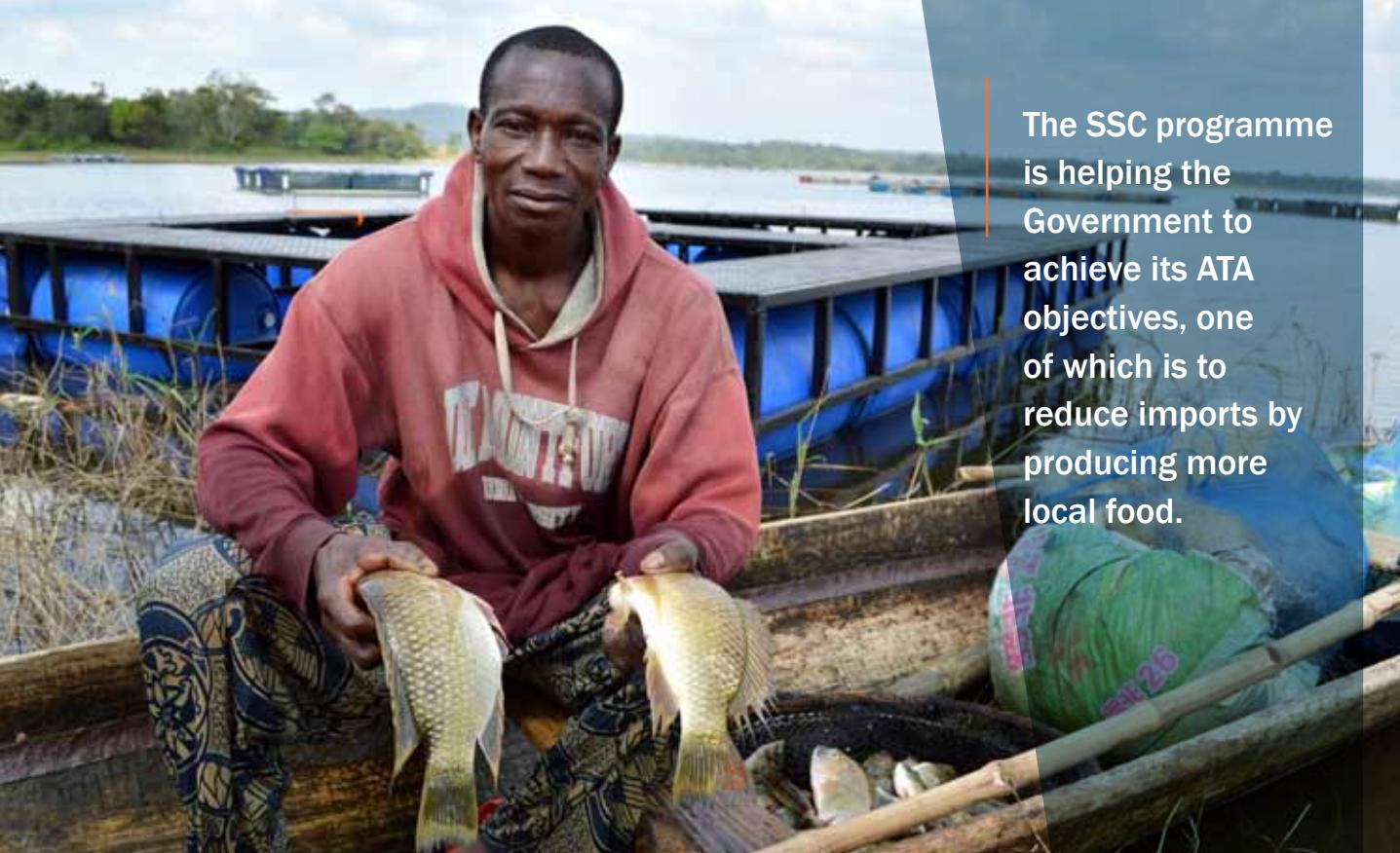
The second phase of the SSC programme resolved many of the problems experienced during the first phase. The REMSECs have brought many benefits. There is now better collaboration between the SSC programme and the states, and activities are closely aligned with Nigeria's ATA. The host states do more to prepare for the arrival of the Chinese experts and technicians than they did in the past. SSC staff from Nigeria now travel to China to interview candidates for the programme, and the latter are assessed on their language skills as well as their expertise. Study tours and training activities to China are also included in the programme.

However, there is still room for improvement. A report commissioned

by FAO, and presented at the High Level Forum in Abuja in September 2013, made a number of recommendations. Among other things, the authors argued that the programme could be strengthened through better funding.¹

The lack of adequate funds during the second phase delayed the arrival of the fourth batch of Chinese experts and technicians by almost a year. A shortage of funds has also prevented the REMSECs from buying simple agroprocessing equipment for demonstration and training purposes. Furthermore, a lack of funds has limited the states' ability to establish microprojects to effectively promote technologies introduced by the SSC programme.

¹ "Successes and impact of the South-South Cooperation (SSC) Programme: a Nigerian case study" by O Oyebanji, G. Bello and M. Adamu. FAO, Sept 2013.



The SSC programme is helping the Government to achieve its ATA objectives, one of which is to reduce imports by producing more local food.

The report recommended that the programme should increase the number of experts recruited from China, and reduce the number of technicians. The authors also suggested that a comprehensive monitoring and evaluation framework should be put in place to assess the success, or otherwise, of activities conducted under the SSC programme.

Just as important, efforts need to be made to replicate and spread the technologies introduced by the Chinese to a greater number of Nigerian farmers.

In his address to the Forum, Akinwumi Adesina, Minister for Agriculture and Rural Development, said: “In Nigeria, we are no longer interested in isolated projects.

It is clear that while good progress has been made on the SSC programme, many gaps still exist on how to successfully scale up the interventions. Therefore, greater attention should be given to the development of institutional mechanisms for scaling up successful interventions.”

The first phase of the SSC programme operated as a series of projects. In contrast, the second phase has involved an integrated programme of activities, with the REMSECs serving as an engine for advancing the Government-led ATA. A wide array of interventions along the

Dried fish seller Isah Fatimat is one of over three million Nigerians to benefit from the SSC programme over the past ten years.



value chain are demonstrated at the REMSECs, which act as training grounds for extension staff and motivated farmers.

The Minister also called for greater sharing of experiences and lessons between countries. “We should now think of using SSC in a new way: instead of focusing on just technical experts for projects, we should focus more on the development of joint business ventures between Chinese and African agribusinesses.”

None of this is to detract from the considerable achievements of the SSC programme, greatly appreciated by both the small- and large-scale farmers who have benefited from it. “For us, the programme has been a great source of encouragement,” says Alani Akinrinade.

“The Chinese don’t claim to know everything, but they adapt very well, they’re very knowledgeable, very hands-on. They’ve helped us to improve our farming systems and encouraged us to be more ambitious in what we do.”



Find out more

Jongjin Kim

Director, South-South and Resource Mobilization Division
southsouthcooperation@fao.org

www.fao.org



Food and Agriculture
Organization of the
United Nations