



South-South in Action

China-Tanzania Cooperation through Agriculture
and Poverty Reduction Partnerships



United Nations
Office for South-South Cooperation



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Abbreviations and Acronyms

| | |
|-----------------|----------------------------------------------------------------------------------------|
| AEZs | Agricultural Ecological Zones |
| AIIB | the Asian Infrastructure Investment Bank |
| ASDP | Tanzania's Agriculture Sector Development Programme |
| ATDCs | Agricultural Technology Demonstration Centers |
| BAPA | the Buenos Aires Plan of Action |
| CAADP | The Comprehensive Africa Agriculture Development Programme |
| CAAIC | China-Africa Agriculture Investment Co., Ltd. |
| CAD Fund | China-Africa Development Fund |
| CAU | China Agricultural University |
| CIAD | China-Germany Centre for Integrated Agricultural Development, CAU |
| CIDGA | College of International Development and Global Agricultural University, CAU |
| CVCs | Commodity Value Chains |
| DRC | Development Research Center of the State Council, China |
| DTR | Development to Right |
| EXIMBC | The Export Import Bank of China |
| FAO | Food and Agriculture Organization of the United Nations |
| FAW | Fall Army Worm |
| FOCAC | Forum of China-Africa Cooperation |
| GTZ | German Agency for Technical Cooperation |
| ICT4D | Information and Communication Technology for Development |
| IPRCC | International Poverty Reduction Center in China |
| ISSCAD | Institute of South-South Cooperation and Development |
| LDCs | Least developed countries |
| MDGs | Millennium Development Goals for 2015 |
| MOE | Ministry of Education, China |
| MOFCOM | Ministry of Commerce, China |
| MOST | Ministry of Science and Technology, China |
| MPMS | the Merit-Based Public Management System |
| NDB | New Development Bank |
| NEPAD | New Partnership for Africa's Development |
| OECD-DAC | Organization for Economic Cooperation and Development-Development Assistance Committee |
| PPPs | Public-Private Partnerships |
| RAS | Regional Administrative Secretariat, Morogoro Regional Council, Tanzania |
| SSCAF | South-South Cooperation Assistance Fund |
| SSTrC | South-South Cooperation and Triangular Cooperation |
| STBH | "Small Technology, Big Harvest" Project |
| TCDC | Technical Cooperation among Developing Countries |
| TDV 2025 | Tanzania Development Vision 2025 |
| UNESCO | United Nations Educational, Scientific, and Cultural Organization |
| UNOSSC | United Nations Office for South-South Cooperation |
| WFP | United Nations World Food Programme |

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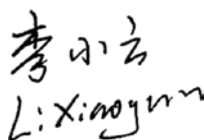
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Foreword

One of the defining features of the 21st century is the rise of the Global South. Inspired by the high spirits and momentum since the Buenos Aires Plan of Action (BAPA) in 1978 (UNOSSC/UNDP, 1978), and the Second High-level United Nations Conference on South-South Cooperation (BAPA+40) in 2019, **South-South and Triangular Cooperation (SSTrC) has been considered as the key to reaching new consensus** among diverse perspectives (UNOSSC/UNDP, 2019).

Following the outbreak of the COVID-19 pandemic, the global average SDG Index score has decreased from approximately 65.8 in 2019 to around 65.5 in 2021 (Sachs et al., 2021, vii). Representing between 71 to 115 million people, the so-called “new poor” were pushed back into extreme poverty in 2020, which was the first rise in global poverty since 1998 (World Bank, 2020: xi, 1). By 2019, the percentage of people living in extreme poverty on less than \$1.90 per day had decreased from 10% to 8.2% since the adoption of the SDGs in 2015. The formerly estimated percentage of people living in extreme poverty in 2020 was 7.7%, indicating 613.7 million people, based on the forecasts from the Global Economic Prospects (GEP). However, that percentage was projected to 8.8% in 2020, reaching 732.9 to 737.6 million people (Lakner, et al., 2020; DTE Staff, 2021). The ideal goal of reducing the extreme poverty figure to 6% by 2030 has now been set back to the level of progress of 2017 (The United Nations, 2019: 3, 6, 24). Against this backdrop, solidarity and cooperation is paramount for mankind to tackle global challenges. **Multilateralism and the SSTrC**, involving traditional members

such as the Development Assistance Committee, Organization for Economic Cooperation and Development (OECD-DAC), the newly emerging economy countries such as the BRICS (Brazil, Russia, India, China, and South Africa), and developing countries, **are playing essential and multifaceted roles** (UNOSSC/UNDP, 2021). In addition, **non-state operators**, such as the private sectors and philanthropists, **are particularly important** and will be integral in the post-COVID-19 global recovery and in the attainment of the SDGs in the 2030 Agenda of the United Nations.

In 2020, **a decade ahead of the 2030 Agenda, China has been the first country to achieve the SDG 1 of “eradicate extreme poverty, currently measured as people living on less than \$1.25 a day.”** Since its reform and opening-up in 1978, China has lifted 850 million people out of extreme poverty, contributing over 70% towards the reduction of global extreme poverty. China’s newest domestic poverty line of RMB 2,300 in annual expenses adopted in 2010, is much higher than the SDG indicator of US\$1.25 a day. If measured by the World Bank (WB) international extreme poverty line of daily consumption below US\$1.9 in 2015 (using 2011 prices), China’s newest domestic poverty line could be scaled as US\$2.3 a day, without taking into consideration the compulsory education, basis medical insurance, and safe housing policies (Xian, Wang, Wu, 2016: 8). After the breakout of COVID-19, **China was the first country in the world to recover to pre-pandemic GDP per capita**¹ (OECD, 2021: 5). Siddharth Chatterjee, the UN Coordinator in China, has praised China’s achievements as “an example of making the impossible possible” (Xinhua, 2021).

¹ According to OECD Economic Outlook No.109 (Edition 2021/1), China and Turkey were the only 2 countries that recovered to pre-pandemic GDP per capita before the end of 2020, taking about 0.5 and 1.75 years respectively.

In addition to promoting sustainable development domestically, **China also lent a helping hand within the context of South-South Cooperation (SSC)**. By establishing **the South-South Cooperation Assistance Fund (SSCAF)** in 2015,² China has been closely cooperating with more than 10 international and regional organizations and financial institutions to support over 100 sustainable livelihood projects in more than 50 developing countries, benefiting 20 million people (Wang, 2021). Working against the pandemic, **China has provided 2.39 billion doses of vaccines or undiluted vaccine solution to over 110 countries**, among which 90 million doses were donated, 1 billion doses were delivered, and 1.3 billion doses were sold (Bridge Consulting Co., Ltd., 2021). Moreover, China donated funds of US\$100 million, initiated the Belt and Road Vaccine Partnership with over 30 countries, and launched collaborative vaccine production operations with 19 developing countries (Yang Liu, 2021). These efforts have provided innovative solutions to global challenges and enhanced the momentum for SSC in the COVID-19 era.

However, large gaps still exist. The unequal distribution of finance, capacity, and knowledge leads to vulnerability across localities, calling for holistic solutions of global partnerships for the 2030 Agenda (OECD, 2020: 47). To achieve those goals, China has been **experimenting with the SSC partnership mechanisms through imaginative and original approaches**. This report contains stories that showcase and review a Chinese-style, gap-closing trajectory towards the 2030 Agenda goals.

On behalf of China Agricultural University (CAU), I am honored to **congratulate “the 2021 International Forum on South-South Cooperation and Trade in Services” that was held during “the China International Fair for Trade in Services (CIFTIS)”** in September 2021. In the past 40 years, **CAU has been one of the most active contributors to SSC in China**, establishing partnerships with 208 universities and institutes in 41 countries and regions. By using research to identify the key elements of China’s experience in agricultural

2 SSCAF was established on Sept. 26, 2015, when President Xi Jinping of China attended the UN Development Summit in New York, he announced China’s setting-up of SSCAF, providing US\$2 billion as the initial project budget to support developing countries to achieve 2030 Sustainable Development Goals, as well as forging a community of shared future for humankind. Since the first SSCAF project was launched, the Ministry of Commerce (MOFCOM) and China International Development Cooperation Agency (CIDCA) have been actively promoting its implementation. On May 14, 2017, on the opening ceremony of Belt and Road Forum for International Cooperation, President Xi again announced that China will provide 2 billion RMB yuan of emergency food aid to countries under the Belt and Road Initiative (BRI), and increase the amount of US\$1 billion to the SSCAF, including 100 projects of “happy homes”, 100 projects of “poverty alleviation”, 100 projects of “medical care”, etc. In 2017, the Government of China committed US\$17 million under the SSCAF, and together with UNDP, provided support for recovery and reconstruction efforts for half a million people in 5 affected countries: Bangladesh, Nepal, Pakistan, the Commonwealth of Dominica, and Antigua and Barbuda. In August 2019, UNDP and the Government of China signed 3 post-disaster recovery and reconstruction assistance agreements after Cyclone Idai with Zimbabwe, Malawi and Mozambique. The projects, under the SSCAF, assisted the 3 countries to reconstruct houses and public facilities, including schools, to help local people recover from the disaster. Under the agreements, the Government of China provided assistance to repair affected housing units, schools and clinics in Zimbabwe, rehabilitate schools, markets and houses in Mozambique, and repair damaged infrastructure, such as community markets, irrigation schemes, and rehabilitating potable water points, in Malawi. By 2018, SSCAF projects have been carried out in over 30 countries in Asia, Africa, and Latin America, in collaboration with international organizations including UNDP, United Nations International Children’s Fund (UNICEF), UN World Food Programme (UNWFP), United Nations High Commissioner for Refugees (UNHCR), World Health Organization (WHO), the International Committee of the Red Cross (ICRC), International Civil Aviation Organization (ICAO), etc. The assistance covers areas of health, food, women, children, humanitarian aid, education, capacity building, high risks and disasters relief, etc., and have benefited about 20 million citizens in the world. See China Aid, MOFCOM, CICETE, South-South Cooperation Assistance Fund Projects Highlights, <http://images.mofcom.gov.cn/cicete/202104/20210408101158774.pdf>.

development and poverty reduction, CAU contributed to the knowledge pool surrounding SSC for effective cooperation. In the last decade, CAU started to launch community-level poverty reduction projects with Tanzania, the first African country that President Xi Jinping visited in his presidency. On July 17, 2019, cosponsored by UNOSSC and UNDP, **CAU attended the BAPA+40 High-Level Political Forum (HLFP) side event**, “South-South Global Thinker’s Dialogue” in New York, and stressed the need to narrate more SSTRC experiences at national and regional levels in order to enhance the sharing of knowledge. **In 2020, CAU was authorized as a world center of excellence carrying out international development research, sharing new development knowledge, and cultivating global competitive talents in China.** These platforms, mainly implemented by the College of International Development and Global Agriculture

(CIDGA) of CAU, have made multiple achievements together with the Belt and Road/South-South Cooperation Agricultural Education, Science and Technology Innovation League (BRSSCAL), and 11 overseas development centers. CIDGA, which is listed as the Core Think Tank of the China International Development Cooperation Agency (CIDCA) and included in the Talents Support Plan for Country and Regional Studies of the China Scholarship Council (SCS), will further expand the domestic and international influence of CAU in edge-cutting research and practices.

In November 2020, CAU formally joined the China SSC Network. We wish to continue working together with UNOSSC and CICETE, to deepen the SSTRC through increased and improved sharing of experience, so as to make our significant contribution to the process of achieving the SDGs of the UN 2030 Agenda.

SUN Qixin
President of China Agricultural University



Introduction

Launched in 2016, South-South in Action (SSiA) is among UNOSSC's flagship reports. SSiA provides a space for all partners, including United Nations Member States, United Nations entities, intergovernmental organizations, and civil society, to share their successful South-South and triangular cooperation activities. Through this series, a repository of best practices, case studies, and lessons learnt is created, that can be shared across the South, and from the South to the North.

This latest edition developed in partnership with China Agricultural University (CAU). In 2018, CAU and UNOSSC formally joined forces through an MoU to collaborate and cooperate in the areas of research, knowledge sharing, capacity development to strengthen South-South cooperation in agriculture and rural development for achieving the SDGs and advancing the Belt and Road Initiative. Under this partnership framework, there have been multiple collaborations and close exchanges, which have led to fruitful results with the partnership of CAU to the work of UNOSSC – particularly the “Youth4South” Advanced Youth Leadership Programme, South-South Global Thinkers: The Global Coalition of Think Tank Networks for South-South Cooperation and Global South-South Development Center Project.

As the globe continues to battle with COVID-19, South-South and triangular cooperation plays a key role in the response to the pandemic. This publication is released at a very crucial moment, when the world is searching for durable solutions to respond to the challenges imposed by the

COVID-19 pandemic, particularly its negative impact on the people's livelihoods.

This edition is summarized from the ten years' efforts in Morogoro province of Tanzania and presents how the research teams localize agricultural development solutions. In 2011, the “Simple Technology Big Harvest” project was launched jointly by CAU, Tanzanian Government and Sokoine University of Agriculture in ten villages of Morogoro province, Tanzania. This project is an agricultural cooperation project, focused on increasing maize production by introducing labor intensive technologies such as rational dense planting and contributes to poverty reduction, food security and achievement of Sustainable Development Goals in Tanzania. This project has been showcased in the UN system flagship report Good Practices in South-South and Triangular Cooperation for Sustainable Development – Volume 3.

This special edition hopes to inspire development cooperation in Africa through the spirit of mutual learning and sharing and to better incorporate the successful experience with local reality and conditions.

As the focal point for promoting and facilitating South-South and triangular cooperation for development on a global and United Nations system-wide basis, UNOSSC is delighted to work together with all partners, to explore solutions to build resilient food systems and a sustainable future, through South-South and triangular partnership.

Executive Summary

In each phase of China's economic reform and development, **there has been an interdependence on SSC relations with the Global South**, especially with countries in Africa. Since the 1950s, China has been providing foreign assistance to African countries, and gradually developed the guiding principles of China's Africa policy, which features sincerity (*zhēn*), practical results (*shí*), affinity (*qīn*), and good faith (*chéng*) (Yang, 2019). **Confidence and trust have been generated** during the process of localized experience sharing, problem-solving based on field investigation, and innovation based on mutual learning. China's international development cooperation has diversified SSC resources to feature multiple solutions, including aid, loans, investment, and trading. **By strengthening cooperation with both the Global South and the Global North, China has been an innovator in the construction of SSC mechanisms, aiming to establish balanced global development partnerships.** The expansion of the scale and sectors of China's development cooperation has been pursuing **horizontal "South-South" partnerships instead of vertical "donor-recipient" relations** with the Global South.

This report introduces the evolution of China's SSC with Africa and provides cases to present how the China Agricultural University (CAU) team at has taken up action by **sharing domestic experiences with Tanzania, and how they have explored new strategies to tackle the challenges faced both in Tanzania and China.**

There are four chapters in this edition: **Chapter 1 reviews China's SSC with Africa from the perspective of mutual interdependence**, presenting the similarities between China and Africa despite their different development stages. The chapter also presents a discussion about **what is new about China's SSC**, drawing comparisons

with the traditional donors. **Chapter 2 introduces the "Small Technology, Big Harvest (STBH)" Project implemented by CAU at 10 villages in the Morogoro Region of Tanzania.** Since 2009, the CAU team has been carrying out field research in Africa, and discovered that agricultural productivity is key to curbing the severe food insecurity in Sub-Saharan Africa. The STBH Project, which was also called the "Double One Project," looks at how locally adapted technologies were selected in a tailor-made style. While these technologies were easily applicable and labor-intensive compared to large-scale modern agricultural production, they were effective in improving the small-holder farmers' livelihoods in Morogoro Region, Tanzania. With the Merit-Based Public Management System (MPMS), public and private partnerships (PPPs) were reached to encourage the motivation of local small-holder farmers to reduce poverty and increase agricultural production through SSTRC. **Chapter 3 analyzes the collaborative innovation (COIN) network of the STBH Project** by outlining the transnational PPP mechanism to examine how synergistic effects were achieved under this SSTRC project framework. **In the Conclusion, the report presents workable components to turn the possible SSTRC partnerships into practices.**

As a SSC project, the STBH Project has been nominated as a "China-UN SSC Project by Think Tanks" on the 40th Anniversary of UN SSC (BAPA+40) in 2018, and was awarded in 2019 as a Global Poverty Reduction Case of "China-Tanzania Foreign Aid: Building Self-Reliant Capacity" by the World Bank (WB), Food and Agriculture Organization of the United Nations (FAO), International Fund for Agricultural Development (IFAD), United Nations World Food Programme (WFP), Asian Development Bank (ADB), International Poverty Reduction Center in China (IPRCC), and China.org.cn. It was also included in Good Practices in SSTRC

for Sustainable Development - Volume 3 at the 75th Anniversary of UN in 2020, and was selected in 2021 as a “Good Practice” by South-South Galaxy, supported by UNOSSC, UN agencies and development partners. The case sheds light on **a holistic perspective for achieving effectiveness and sustainability** in international development cooperation projects.

Firstly, the STBH Project received state-led agricultural development support from four levels of public authority. The success of the STBH Project could not have been achieved without the support from both the Chinese and Tanzanian governments, including the Central Government of Tanzania, the Morogoro Regional Administrative Secretariat (RAS), District Councils, and 10 villages. Coordination between the RAS and District Councils was also a prerequisite for local field research and former plantation trials to be realized in the two pilot villages of Pea Pea in Kilosa District and Mtego wa Simba in Morogoro District from 2011 onwards. Together with Sokoine University of Agriculture (SUA), CAU tentatively selected technologies, like tether ranging, and mix-cropping, in a “learning by doing” approach. It was proved that such labor-intensive technologies for small farmers are effective in enhancing agricultural productivity and are aligned with the Tanzanian development situation.

Secondly, the Merit-Based Public Management System (MPMS) encouraged the demo farmers, agricultural extension workers, media, and all relevant participants to actively participate in the project. The adoption and dissemination of “small technologies” also required patience, easily adopted methods, and meticulous management, like the MPMS, to reform traditional practices. By applying training sessions, competitions, prize-awarding ceremonies, etc., suitable standards and benchmarks were set in the “best practices”

from real-life examples. Besides, information communication technology for development (ICT4D) is significant for networking effects. Multiple social media and online meeting applications, such as WeChat, Zoom, Webex, and DingTalk, have been indispensable and effective in sustaining the China-African communications.

Thirdly, collaborative innovation (COIN) networks enabled us to find locally adapted solutions, integrating both public and private operators to achieve synergistic effects. Though China has achieved rich experience in targeted poverty reduction domestically in the past decades, village-level trials of maize crop augmentation were launched for the first time in new villages in Morogoro. The expert team interacted with various stakeholders and selected the locally adapted technologies in a tailor-made manner. Chinese-style agricultural technologies are applied with voluntary pilot villagers and demo farmers as “first-movers.” With the guidance and assistance of local agricultural technology extension workers, farmers could acquire the relevant know-how and push the project process steadily toward its goals.

The China-Africa good *Rafiki* (Swahili, meaning “friendship”) **provides one possible scenario showing what a resilient community with a vision of shared future for humankind looks like.** The collaborative interdependent relationship between China and Tanzania embodies the new type of SSTRC spirit: To strengthen cooperation with between the South and the North; To conquer commonly-met challenges in the South by experimenting at home, with pertinence to the SDGs; To close the gap between the North and the South by constructing collaborative innovation networks in a holistic way, with transnational disciplinary clusters accelerating the process of knowledge R&D and sharing.

Chapter I: China's South-South Cooperation: Between Home and Abroad

China's SSC is considered different to traditional aid standards and practices (Bergamachi, Tickner, Durán, 2017: 245-270). As an emerging economy, China has been making efforts to close the gap between the Global South and the Global North. Table 1 shows the collaborative, interdependent SSC relations between China and Africa over the past decades.

I. Collaborative Interdependence

In each stage of China's economic reform and development, SSC was conducted in a collaborative and interdependent manner. China has been providing foreign assistance for Asian and African countries since the 1950s. One year after the Bandung Conference in 1955, China provided foreign aid to Africa. By reviewing China's SSC historically, we can see that the knowledge and experiences shared in China's aid practices revolve around specific themes, about which China and African countries have common concerns, such as national independence and economic development. The experiences shared with Africa by China had already been practiced domestically and were selected on the basis of mutual learning and understanding about each other as developing countries in the Global South (Xu, Li, 2020: 117-135, 159).

1. Building a Friendly South-South Cooperation Basis: 1950s-1977

In this period, China overcame its own difficulties in institutional construction, national industrialization, and three years of famine (1959-1961), and spared no effort to provide SSC assistance to other developing countries, laying a solid foundation for long-term friendship with the Global South. Since the 1950s, the Chinese

government cooperated with agriculture-related universities, private sectors, and multiple stakeholders to introduce modern agricultural technology to the vast, elevated Qinghai-Tibet Plateau in Southwest China, the world's highest and largest plateau with a sea level of over 4,500 meters, to provide paired assistance for poverty reduction for people living on "the Roof of the World." In 1956, China started to aid African countries in training talents and building infrastructure, following the "8 Principles" in Foreign Economic and Technological Aid³ proposed by Premier Zhou Enlai (Zhou Enlai, 1964), emphasizing the Chinese ideas of mutual benefits, equality, respect of sovereignty and effectiveness (Laporte, 2017: 120-121). Since the 1970s, scientific research led by the agronomist, Yuan Longping, dramatically increased agricultural produce through high-yield rice hybrids, leading to strong harvests in both Asia and Africa, and saving countless lives (Bradsher, Chu, 2021). In the 1960s, China echoed the calls to build the Tanzania-Zambia Railway (TAZARA), leading a path from Tanzania's port city of Dar es Salaam to the copper belt in central Zambia. Presidents Julius Kambarage Nyerere of Tanzania and President Kenneth David Kaunda of Zambia hoped to pave a free passage for their people and goods away from Southern Rhodesia (today Zimbabwe) and South Africa, demonstrating the friendship between China and Tanzania (Monson, 2009). In 1971, with the support of the developing countries, China resumed its legal seat in the UN, which provided opportunities for China to reconcile with the Global North, so as to play a more active role in global affairs. This also laid a solid foundation for China to establish more economic and technical cooperation with the Global South.

3 The "8 Principles" include: Equality and mutual benefits, absence of conditions or privileges, reduction of the burden for recipient countries, achievement of self-reliance and independent development, cost-effectiveness (i.e., less investment, quicker results), provision of the best-quality equipment and materials of its own manufacture, local control over technical assistance, and absence of special demands or amenities for Chinese experts.

2. Large-Scale Poverty Reduction: 1978-2000

The common concern of both China and many African countries during this period was how to reduce poverty on a large scale. After the Reform and Opening-up Policy was taken up in 1978, China's SSC extended from economic aid to mutually beneficial cooperation of various forms. Domestically, *the rural household responsibility system*⁴ motivated farmers to produce more agricultural crops, solving food security problems, and obtaining more income (Lu et al., 2012: 52-68). From 1982 to 1993, agricultural construction projects with local poverty alleviation expert groups were sent to help conquer obstacles in the development work in poverty-stricken regions of Hexi and Dingxi in Gansu Province, and Xihaigu in the Ningxia Autonomous Region, the so-called "3 Western (xi) Areas" Poverty Reduction Plan, covering 57 counties or districts and benefiting 8 million farmers. This adjusted the orientations of China's poverty reduction practices from a relief-by-remedy pattern to a self-developmental one, by making better use of the role of the market to achieve large-scale poverty reduction results. It could be summarized as a Chinese-style shift with

socialist concerns for the poor population, on the basis of which China also enlarged the scale and sectors of its foreign aid to the least developed countries (LDCs) by integrating more market elements. For example, China conducted technical and managerial cooperation in transnational partnerships with the recipient countries by managing aid projects in an optimized form of trusteeship, supported by Chinese experts, without altering the African ownership. Another method was to provide operational leases to help the local farmers identify their real needs for SSC. Setting up joint ventures was also a cooperation approach that transformed the relief pattern of aid into investment forms, so as to promote win-win development, oriented with the local African situation and needs (The State Council Information Office of China, 2011). From 1994 to 2000, the State Council issued *the National 7-Year Priority Poverty Alleviation Program*,⁵ which aimed at solving the problem of food and clothing for 80 million Chinese people living in poverty in rural areas before 2000 (The State Council of China, 1994). The "3 Western (xi) Areas" Poverty Reduction Plan and the National 7-Year Priority Poverty Alleviation Program have been considered successful in

4 Household responsibility system (HRS) was a governance mechanism innovated by farmers in Xiaogang Village, Fengli People's Commune, Fengyang County, Anhui Province in China. It emerged in late 1970s, first adopted in 1979 after the 3rd Plenary Session of the 11th Communist Party of China (CPC) Central Committee, and was officially established in 1982. HRS is a form of agricultural production responsibility system, in which farmers' family households contract land, materials, and tasks of production with the villages or sub-villages (the Collective). As the employer, the Collective provides production services for farmers, and the households submit ordered grains, reserved funds, pay the Collective and national taxes and fees according to the contract, and keep all the rest to themselves. Till early 1983, 93% of Chinese villages having been operated by HRS, and now it has become a basic economic institution for the rural areas of China. Together with preferential policies for agricultural products in China, HRS has been considered as the key driving factor for China's agricultural output structural break point toward a more stable state, by which households and farmers are held as relatively independent entities responsible for the profits and losses of agricultural production, with management mechanism like enterprises. It improved farmers's enthusiasm and later-life health, education, and labor market outcomes, and reduced human capital investment in children, making them more likely to remain in agriculture, which could explain why China could create the miracle to feed 22% of the world's population with 7% of the world's land.

5 Though the population of 80 million in 592 poverty-stricken counties accounted for only 8.87% of the total rural population in China, the task of poverty alleviation was arduous, for they were distributed in remote areas of mountains, deserts, or loess plateaus, with high incidence of endemic diseases. Most were ethnic minority areas featuring inconvenient transportation, ecological imbalance, drinking water shortage, extremely poor production, and living conditions. By implementing the National 7-Year Priority Poverty Alleviation Program, Chinese government set domestic poverty line by annual net income of 500 RMB yuan per capita, using the 1990 prices, provided 1 billion RMB yuan of work relief and 1 billion RMB yuan of poverty alleviation discount loan to achieve the goals. Where conditions permit, basic farmland of 0.5 to 1 mu with stable and high yield were to be built for each farmer; one mu of forest or economic crops were to be distributed to each household; one person each household

the unremitting efforts to reduce rural poverty in China. This is also reflected in China's SSC practices. In 1995, China diversified financing sources and methods of foreign aid by providing grants, interest-free loans, low-interest preferential loans (around 1%-3%) through the Export Import Bank of China (EXIMBC), which could be regarded as a deepening measure of using market policy tools, with financing mechanisms as a new reformation (Brautigam, 2011: 206). To make the SSC projects more sustainable, cooperation in the fields of technical training and human resources development was further strengthened. In 2000, the Forum of China-Africa Cooperation (FOCAC) was launched. The FOCAC holds a ministerial summit every three years, and have now convened seven summits. Till 2009, 45.7% of China's foreign assistance funding has been provided to Africa, including general provisions, technical cooperation, human capital development cooperation, medical and emergency humanitarian assistance, foreign aid volunteers, and debt abatement (The State Council Information Office of China, 2011). In 2021, the 8th summit will be held in the West African country of Senegal, which for many years has undertaken the enthusiastic expectations of FOCAC member countries, especially during the COVID-19 pandemic. FOCAC has been setting innovative examples for SSC in exploring the comparative

advantages of multilateral stakeholders. This has attracted India, the U.S., Brazil, Turkey, Russia, and other countries to learn from FOCAC and establish similar platforms that focus on common concerns in a mutually benefiting way (Yuan, 2020).

3. Targeted Poverty Reduction: 2001-2015

Despite different the development stages between China and African countries, the targeted poverty reduction model has been encouraged. This is a result of the experience accumulated domestically in China during the first ten years of the 21st century regarding reforms of taxes, fees, subsidies, and experiments on village-level poverty alleviation practices. From 2001 and 2011, the State Council issued *the Outline of China's Rural Poverty Alleviation and Development (2001-2010 & 2011-2020)*, which comprehensively abolished agricultural taxes, increased agricultural subsidies, and introduced compensatory poverty alleviation measures, as well as proposing to carry out targeted poverty alleviation.⁶ Turning a similar focus onto village-levels, in 2006, at the Beijing Summit of FOCAC, Chinese leaders announced the establishment of Agricultural Technology Demonstration Centers (ATDCs) and the China-Africa Development Fund (CAD Fund), as two of the Eight Pragmatic Cooperation Policies for Africa. ATDCs have been developed

were to be sent to township enterprises or the developed areas in China; one business of husbandry industry or of other sideline industries were to be developed in each household. For the pastoral area, one fenced grassland or "grass warehouse" were to be built for each household. Tangible infrastructure construction projects were carried out to solve the problem of drinking water, access to roads, electricity, telecommunication, and health facilities. Intangible infrastructure of public policies in finance, trade, personnel, education, culture, family planning, and ecological environment preservation were also launched. Paired assistance mechanisms among coastal and inland provinces were established, and policies of tax deduction or exemptions, and food subsidies were carried out. Labor unions, Chinese Communist Youth League (CCYL), the Women's Federation, Associations of Science and Technology, China Disabled Persons' Federation, and other social organizations were encouraged to play important roles in the poverty reduction causes.

- 6 Relief poverty reduction emphasizes financial aid by funding or products; poverty reduction by development, or developmental poverty reduction, focuses on investment of economic operators so as to bring industrial development for all-round better life; indemnificatory poverty alleviation prioritizes social assistance to improve education, health, and other basis public services, to prevent poverty-returning, and to build capacities in a multi-dimensional poverty governance perspective. See Xiaoyun Li, et al., "The Prospects on the China's Post-2020 Rural Poverty Reduction Strategy and Policy: Transformation from "Poverty Alleviation" to "Poverty Prevention", *Issues in Agricultural Economy*, Vol.2, 2020, pp.15-22; Li Nan, Zhang Qi, "Three Dimensions of the Evolution of China's Poverty Governance Logic in the New Stage of Development", *Shanghai Journal of Economics*, Vol.8, 2021, pp.21-36.

as a new model of China's official agricultural technological aid to Africa, featuring a combination of business operations with an aid-funded project to ensure local financial sustainability after the three-year technical cooperation period (Xu et al, 2016: 82). Launched in 2007, the CAD Fund was established as the first private equity fund with a capital amount of US\$10 billion, undertaken by China Development Bank (CDB). The capital-raising plan was open to qualified entities with an interest in making investments in Africa, encouraging private operators to participate in the African development (Zhou, 2010). With the engagement of public and private stakeholders in Africa, more potential in different industries for SSC have been detected and identified in a more localized way. Based on different stages of development between China and Africa, field research has been carried out to promote better understanding of the local African situation. In agriculture, Africa has been known for having more than 9 billion *mu* of land, with less than 25% under cultivation (Liu, 2013: 76). However, most of the uncultivated arable land belongs to four countries, namely, Democratic Republic of the Congo, Angola, Republic of the Congo, and Zambia (Leke et al., 2010: 10). African countries often lack access to an extensive and robust agricultural technology extension system and have limited financial and administrative capacity needed to make full use of foreign aid (Chen et al., 2014: 13-14). Therefore, transferring agricultural technologies and building capacity for farmers are most urgent. Non-agricultural sectors should also be strengthened to complement agriculture to reduce risks of natural disasters, guaranteeing

farmers' livelihood, and increasing income (Li et al., 2012). China started to carry out village-level poverty reduction projects in Africa starting from the 2010s. In 2011 and 2014, modernized versions of foreign aid principles in the *White Paper on China's Foreign Aid* were presented,⁷ which provided official quantitative data on foreign aid, including volume, geographical distribution, income of recipient countries, debt cancellation operations, etc., highlighting the willingness to promote social and rural development in the least developed countries (LDCs).

Until 2012, China's foreign aid totaled RMB 345.63 billion, of which 40% was grants, 24.2% was interest-free loans, and 35.7% was low-interest loans (The State Council Information Office of China, 2011, 2014). According to AidData, China's foreign aid has risen from US\$2.6 billion in 2000 to over US\$36 billion in 2014, similar to the assistance scale of the World Bank. African recipients of China's aid increased from 23 in 2000 to 42 in 2014 (Huang, 2021: 105-106). Based on the principle of Peaceful Coexistence pertaining to the "non-interference of internal affairs," China has been offering "no strings attached aid" to Africa, which provided alternative options for African countries to make decisions on their own. Studies have shown that Chinese aid has been positively related to the improvement of the quality of governance of African countries, and some Chinese-funded infrastructure projects have resulted in increased economic activities and reduced inequality (Li, 2018).

4. SDG-Oriented South-South Cooperation: 2016-present

7 These 5 principles have been regarded as a new version of the "8 principles" in Foreign Economic and Technological Aid. Firstly, unremittingly helping recipient countries build up their self-development capacity. Secondly, imposing no political conditions. China upholds the Five Principles of Peaceful Coexistence, respects recipient countries' right to independently select their own path and model of development, and believes that every country should explore a development path suitable to its actual conditions. China never uses foreign aid as a means to interfere in recipient countries' internal affairs or seek political privileges for itself. Thirdly, adhering to equality, mutual benefit and common development. Fourthly, remaining realistic while striving for the best, doing its utmost to tailor its aid to the actual needs of recipient countries. Fifthly, keeping pace with the times and paying attention to reform and innovation.

After the era of the Millennium Development Goals (MDGs), there was the opportunity to reflect on what worked and what did not during the 15-year pursuit of the eight MDGs,⁸ and the UN Member States unanimously adopted the 17 Sustainable Development Goals (SDGs) in September 2015. Two months later, 195 countries reached *the Paris Agreement* under the UN Framework Convention on Climate Change (UNFCCC). These milestones were positive indications that both the North and South had tapped into the widely held conviction that progress everywhere, especially among the poorest, enriches us all (UNDP, 2016). Accordingly, the orientation of China's domestic development was transformed on account of both international and domestic challenges related to SDGs, and China continued to make efforts towards SSC involving China and Africa.

China perceives SSC, especially SStrC, as a bridge connecting the Global North and the Global South. Domestically, the 19th National Congress of the CPC declared that the main challenge faced by China has been the increasing tension between unbalanced and inadequate development and the people's ever-growing need for a better life. Therefore, a five-dimension new development philosophy of innovative, coordinated, green, open, and shared development was put forward. The rural revitalization strategy was also highlighted as a major historical task to build a moderately prosperous society and a modern socialist country in all respects (Xi, 2017). At the 2018 Beijing Summit of the FOCAC, China planned to link the Belt and Road Initiative with the African Union (AU)'s Agenda 2063 in policies, infrastructure, trade, finance, and cultural cooperation (Bai & Liu, 2018). In December 2020, the National Development and Reform Commission (NDRC) and the African Union Commis-

sion jointly signed "the Cooperation Plan between China and AU on Jointly Promoting the Building of BRI," which aims to foster a new development paradigm with dual domestic and international circulations (Liu, 2021).

Since 2016, the focus of domestic development and China's SSC in Africa has shifted towards the UN SDGs. For example, in 2018, China and Egypt launched the *Action Agenda for the Convention of Biodiversity* (CBD) (The Secretariat of the UN CBD, the Governments of Egypt and China, 2016), which laid a solid basis for the upcoming CBD COP15 to be held in Kunming, Yunnan Province. This may leverage multiple global stakeholders to join the fight for climate action through pursuing SDGs, providing more development opportunities to both China and Africa. By 2020, as the first country to achieve the SDG 1 of "eradicate extreme poverty, currently measured as people living on less than \$1.25 a day," China saw the historic eradication of extreme poverty in the country, a decade ahead of the 2030 Agenda. On January 4, 2021, as the No.1 central document, *Opinions of the CPC Central Committee and the State Council on Consolidating and Expanding the Achievements of Poverty Alleviation and Promoting Effective Connection with Rural Revitalization* was issued (The State Council of China, 2021). One week later, China issued a *White Paper on International Development Cooperation*, indicating that China would go on implementing the new type of SSC with diverse and innovative approaches, including foreign aid, firmly standing with the Global South in order to further construct a community with a shared future for humankind. From 2013 to 2018, China has provided international development cooperation funding of RMB 270.2 billion to the Global South, among which there is RMB 127.8 billion in grants, accounting for 47.3%;

8 The 8 MDGs included: 1) To eradicate extreme poverty and hunger; 2) To achieve universal primary education; 3) To promote gender equality and empower women; 4) To reduce child mortality; 5) To improve maternal health; 6) To combat HIV/AIDS, malaria, and other diseases; 7) To ensure environmental sustainability; 8) To develop a global partnership for development.

RMB 11.3 billion in interest-free loans, accounting for 4.18%; and RMB 131.1 billion in low-interest loans, accounting for 48.52% (The State Council Information Office of China, 2021). On February 25, 2021, the China National Administration of Rural Vitalization was formally announced to be established, replacing the former State Council's Leading Group Office for Poverty Reduction (LGOP). This indicated the Chinese government's move to integrate poverty alleviation with rural vitalization by stimulating the inner motivation of local operators, followed by the establishment of local Rural Vitalization Bureaus (Ma & Wang, 2021). On July 9,

Siddharth Chatterjee, the UN Coordinator in China, sent a letter of congratulations to Mr. Luo Zhaohui, Director of China International Development Cooperation Agency (CIDCA), for the 5th Anniversary of SSSCAF and the Institute of SSC and Development (ISSCAD). He expressed that the UN would deepen its partnership with China, to share development experience, including efforts to achieve gender equality, women's empowerment, carbon peak in 2030, and carbon neutrality in 2060, as well as promoting rural vitalization as proposed in the 14th 5-year plan of China (Liu & Yu, 2021).

Table 1 Historical Review of Chinese Collaborative South-South Cooperation with Africa

| Year | Common Concerns | China's Poverty Reduction Practices | SSC Experience Sharing with Africa |
|-----------|--------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1953-1977 | Anti-Colonialism | To improve national productivity, reforms were carried out since 1953, to establish socialist systems with social security measures covering food, clothing, housing, medical care, and funerals. | China trained talents for Egypt (1956). The "8 Principles" proposed by Premier Zhou Enlai development aid has been directed to help build the Tanzania-Zambia Railway (1965-1976). |
| 1978-2000 | Large-Scale Poverty Reduction (Both market and state's roles are played) | The reform and opening-up policy in 1978 enabled market economy to be taken up in China. Household responsibility system (HRS) (See footnote no.4). In 1994, the State Council issued the National Seven-Year Priority Poverty Alleviation Program , aiming at solving the problem of food and clothing for 80 million poor people in rural areas before the year 2000 (See footnote no.5), encouraging rural poverty reduction to transform from the relief pattern of giving money and goods to the developmental pattern of industrial prosperity. | China strengthened assistance to some least developed countries (LDCs) through trusteeship operations, operational leases and joint ventures , in which management could be optimized by experts without altering ownership. Different choices of cooperation approaches have been made according to local situations and needs. In 1995, China diversified financing sources and foreign aid methods by providing low-interest preferential loans through the Export Import Bank of China (EXIMBC) , and expanded the scale of foreign aid technical training and human resources development cooperation. With the engagement of public and private stakeholders' in Africa, more potential has been detected in various sectors for a more targeted SSC. In 2000, the Forum of China-Africa Cooperation (FOCAC) was launched, setting innovative examples for SSC in exploring the comparative advantages of multilateral stakeholders, establishing positive images of African countries. |
| 2001-2015 | Targeted poverty reduction (UN MDGs) | In 2001, agricultural taxes and increased agricultural subsidies were abolished, and indemnificatory poverty alleviation measures were introduced (See footnote no.6). In 2011, targeted poverty alleviation was proposed. | Since 2006, Agricultural Technology Demonstration Centers (ATDCs) and the China-Africa Development Fund (CAD Fund) were established as two of the Eight Pragmatic Cooperation Policies for Africa, serving as the basis for China to carry out village-level and community-based poverty reduction projects in Africa since 2010s , such as the Peapea village in Tanzania. Both in 2011 and 2014, China released the <i>White Paper on China's Foreign Aid</i> . |
| 2016-now | UN SDGs (No Poverty, Zero Hunger, Global Partnerships, etc.) | In 2017, the Strategic Plan for Rural Revitalization (2018-2022) was issued to replace the former State Council's Leading Group Office for Poverty Reduction (LGOP), indicating that China will integrate poverty alleviation with rural vitalization by stimulating the inner motivations of local operators, followed by the setting-up of local Rural Vitalization Bureaus. By 2020, China's extreme poverty (about US\$2.3 a day) was eliminated historically. In 2021, <i>Opinions of the CPC Central Committee and the State Council on Consolidating and Expanding the Achievements of Poverty Alleviation and Promoting Effective Connection with Rural Revitalization</i> was issued. | In 2018, China and Egypt launched the Action Agenda for the Convention of Biodiversity (CBD) . During the COVID-19 pandemic, SSTC projects were forced to pause, but online training sessions and education programs thrived . China actively provided anti-pandemic assistance to African countries, regional organizations, and research institutions for global public good . |

Source:

1. The State Council Information Office of the People's Republic of China, *Poverty Alleviation: China's Experience and Contribution*, Beijing: Foreign Languages Press, April 6, 2021, http://www.gov.cn/zhengce/2021-04/06/content_5597952.htm.
2. Wang Yahua, Shu Quanfeng, "Policy Analysis and Practical Experience of China's Targeted Poverty Alleviation", *China Think Tanks*, Development Research Center of the State Council (DRC), March 18, 2020, <https://www.chinathinktanks.org.cn/content/detail/id/ovmc6p86>.
3. The State Council Information Office of, *China's Foreign Aid (2014)*, July 10, 2014, Beijing, <http://www.scio.gov.cn/zfbps/ndhf/2014/document/1375014/1375014.htm>.
4. The State Council Information Office of China, *China's Foreign Aid (2011)*, April 21, 2011, Beijing, <http://www.scio.gov.cn/zxbd/nd/2011/document/896900/896900.htm>.
5. Xi Jinping, "Making China's Vaccines Global Public Goods", *people.cn*, January 12, 2021, <http://world.people.com.cn/n1/2021/0112/c1002-31996994.html>.
6. Xu Huayu. "The long-term health and economic consequences of improved property rights". *Journal of Public Economics*. Vol.201, September 2021. pp.1-16.
7. Zhang Y, et al., "Technical Promotion and Poverty Reduction: A Review of China's Efforts in Africa", *Annals of Agricultural and Crop Sciences*. 2016, Vol.1, No.2, pp.01-09.

II. What's New for China's South-South Cooperation

Compared with the traditional official development assistance (ODA), **China's cooperation in international development has diversified the SSC resources to include multiple solutions, including aid, loan, investment, and trading** (Morgan, Zheng, 2019: 558-573). By setting up SSCAF, Climate Change SSC Fund, China-UN Peace and Development Fund, Capacity Development Trust Fund, China-UNESCO Trust Fund and China-FAO Trust Fund, China's government has facilitated capacity building together with financing organizations, such as the Asian Infrastructure Investment Bank (AIIB), and the New Development Bank (NDB), so as to reduce the risks of fund shortages due to heavy dependence on donors of the Global North. China determines cooperation projects in line with the needs of partners. From

2013 to 2018, China's foreign aid in agriculture, trade promotion, ecology, climate mitigation and adaptation, medical care, civil aviation, nuclear energy, and other fields amounted to RMB 270.2 billion, of which RMB 127.8 billion was free aid (47.30% of the total), RMB 11.3 billion was interest free loans (4.18% of the total), and RMB 131.1 billion was preferential loans (48.52% of the total).

China does not limit its partners to those within the Belt and Road Initiative countries, landlocked developing countries, small island developing countries, and heavily indebted poor countries. Instead, it has **also been strengthening its cooperation with developed countries and regional organizations**, such as Japan, Switzerland, the United Kingdom (UK),

France, Norway, New Zealand, and the European Union. By strengthening cooperation with both the Global South and the Global North, China is innovating SSTRC mechanisms, as well as by convening **balanced global development partnerships** in agriculture, health, education, etc. Moreover, by participating in the local social and political processes, ideas and perceptions that were previously kept private were thoroughly communicated in a process of mutual learning, allowing deeper understandings to be generated among different stakeholders under the SSTRC frameworks in order to build confidence and trust among communities in specific sectors (Xu et al., 2016: 82–91). Thus, the vertical “donor-recipient” relationship, which might demonstrate technocratic features at the very beginning, could be transformed into a horizontal “South-South” partnership (Esteves, Assunção, 2017: 89, 94, 195).

China’s new SSTRC practices are not intended to isolate the country from the OECD-DAC members, but to reexamine the former norms, institutions, and standards given for international development cooperation. By carrying out more dialog between the traditional and the emerging donors to identify the gaps existing in their respective political, economic, social, and cultural systems, more undetected or undiscovered varieties of assistance can be found to be valuable, and deemed worthwhile as feasible approaches for achieving the common goals of mankind. When South-South cooperation is in action, triangular cooperation may take place at the same time, which can explore the wisdom of both the North and the South. The cases to be introduced in this report serve to answer the question of “How SSTRC projects could be both effective and sustainable.”

Chapter II: “Small Technology, Big Harvest” Project (STBH) in Tanzania

Established in 1988, **CIAD, the predecessor of the College of International Development and Global Agriculture (CIDGA)** of CAU, was jointly established by the governments of China and Germany and brought to maturity through technical support from the German Agency for Technical Cooperation (GTZ). From 1998 to 2010, with the leadership of Prof. Li Xiaoyun, Chair Professor of CAU, Honorary Dean of CIDGA/China Institute for South-South Cooperation in Agriculture (CISSCA), the CIAD set up the Rural Regional Development and Rural Development & Management discipline for B.A., M.A., and Ph.D. degrees, granted by the Ministry of Education (MOE) of China. In 2009, a new research program was carried out by a CIAD expert team to systematically compare the agricultural development between China and Africa. It was found that there is great potential for agricultural production in Africa. Though the agricultural growth rate for the African continent has reached 5% since the beginning of the 21st century, actual agricultural productivity is still very low. African grain productivity is less than half of the world average level, and it could be seen that proportion of arable agricultural land for most African countries is only 0.4%-5% or so (See Table 2).

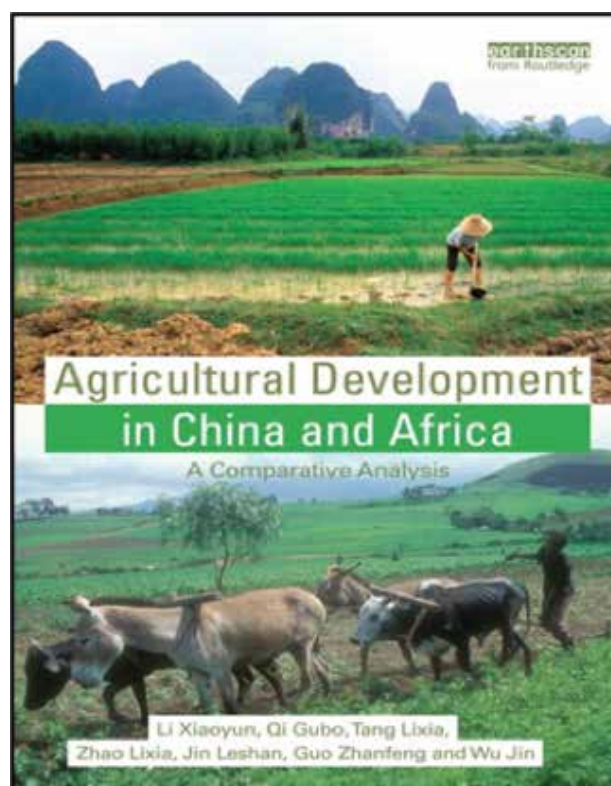


Figure 1 CAU Report of *Agricultural Development in China and Africa* (2012)

Table 2 Availability of Agricultural Land in African Countries

| Country | Non-forested Unused Land (1,000s ha) | Proportion (%) | Cumulative Proportion (%) |
|----------------------------------|--------------------------------------|----------------|---------------------------|
| Democratic Republic of the Congo | 84,824 | 46.5 | 46.5 |
| Angola | 18,889 | 10.4 | 56.9 |
| Republic of the Congo | 12,872 | 7.1 | 63.9 |
| Zambia | 10,872 | 5.9 | 69.9 |
| Cameroon | 10,834 | 5.7 | 75.6 |
| Mozambique | 8,994 | 4.9 | 80.5 |
| Central African Republic | 7,049 | 3.9 | 84.4 |
| Gabon | 6,534 | 3.6 | 88.0 |
| Sudan | 5,803 | 3.2 | 91.2 |
| Tanzania | 4,313 | 2.4 | 93.5 |

| Country | Non-forested Unused Land (1,000s ha) | Proportion (%) | Cumulative Proportion (%) |
|-----------------------|--------------------------------------|----------------|---------------------------|
| Madagascar | 2,718 | 1.5 | 95.0 |
| Zimbabwe | 2,142 | 1.2 | 96.2 |
| Chad | 1,520 | 0.8 | 97.0 |
| South Africa | 1,219 | 0.7 | 97.7 |
| Kenya | 807 | 0.4 | 98.2 |
| Mali | 800 | 0.4 | 98.6 |
| Burkina Faso | 655 | 0.4 | 99.0 |
| Ethiopia | 651 | 0.4 | 99.3 |
| Other parts of Africa | 1,259 | 0.7 | 100.0 |

Data source: T. S. Jayne, et al., "Land pressures, the evolution of farming systems, and development strategies in Africa: A synthesis", *Food Policy*, Vol.48, 2014, p.4, .

The improvement of agricultural productivity became the most urgent way out of the severe food security issue for much of Sub-Saharan Africa, with 26% of the world's 1.02 billion undernourished population. We argue that labor-intensive agricultural technology can solve the paradox between the limited availability of land and food insecurity in Africa. The synergies between agriculture and other sectors should be strengthened. However, these aspects have

been ignored during the process of national industrialization (Li et al., 2012). With the support of the International Poverty Reduction Center in China (IPRCC) and China-Africa Agriculture Investment Co., Ltd. (CAIC), the China-Germany Centre for Integrated Agricultural Development (CIAD) at CAU established a village-level poverty reduction learning center in the village of Peapea, Kilosa District, Morogoro Regional Council, Tanzania.



Figure 2 Map of Tanzania and A Hand-made Sketch Map of the "STBH Project"

Source:

1. MAFAP. *Review of Food and Agricultural Policies in the United Republic of Tanzania*. MAFAP Country Report Series, FAO, Rome, Italy: FAO, 2013, p.31.
2. Hand-made map provided by representatives from Tanzanian side under the project framework.

In 2011, Prof. Li Xiaoyun's research team from CAU conducted trials on sisal farms and maize plantations in the two pilot villages of Peapea in Kilosa District and Mtego wa Simba in Morogoro District. In 2017 and 2019, the China Institute for South-South Cooperation in Agriculture (CISSCA)/Belt and Road Institute for Agricultural Cooperation (BRIAC) and CIDGA were established. From 2018 to 2021, with the support of the Tanzanian central government, the Morogoro Regional Administrative Secretariat (RAS), and district and village stakeholders, CAU decided to scale up the maize crop increase technology to eight additional villages, including Ngayaki and Letugunya in Gairo District, Kitete in Kilosa District, Kisege in Kilombero District, Kiswago in Malinyi District, Kikundi in Morogoro District, Makuyu in Mvomero District, and Mwaya in Ulanga District. This South-South and Triangular Cooperation (SSTrC) project is called the China-Tanzania Joint Program of Scaling-up Maize Labor Intensification

System in Morogoro Region. Since it covers 10 villages, benefiting more than 1,000 households with 10,000 acres of land, the project is also referred to as the "Double One ('11') Project" (*qiān hù wàn mǔ*, hereafter "STBH Project" as a short form). As an outcome of the dense maize planting technologies, the yield increased from the former 9,850 hg/ha to around 29,851 hg/ha (Tian, 2018).

The STBH Project aims:

1. To effectively interact between four levels of governments, research institutions/universities, and target farmers to create situation-specific community development solutions;
2. To improve maize yield, productivity, income, food security, and livelihoods of farmers;
3. Sharing China's "two experiences" -- labor-intensive agricultural technology and state-led agricultural development through a Merit-Based Public Management System (MPMS).

I. Small Technology

Since the 1980s, Tanzania, a sub-Saharan and East African country, has been adjusting its economic structure for the more sustainable public livelihood and development. Since the 1990s, the

added value of its agriculture has been between 23.25%-28.74% of GDP, which is relatively high from a global perspective (See Figure 3).



Figure 3 Agricultural Value Added in Tanzania (1989-2020, Unit: % of GDP)

Data source: World Bank, Nov. 21, 2021,

[https://data.worldbank.org/indicator/NV.AGR.TOTL.ZS?end=2020&locations=TZ&start=1990&view=chart;](https://data.worldbank.org/indicator/NV.AGR.TOTL.ZS?end=2020&locations=TZ&start=1990&view=chart)

[https://data.worldbank.org/indicator/NV.AGR.TOTL.ZS?end=2020&locations=TZ&start=1990&view=map.](https://data.worldbank.org/indicator/NV.AGR.TOTL.ZS?end=2020&locations=TZ&start=1990&view=map)

From 1989 to 2020, Tanzania’s GDP growth rate at points reached 7%-8% (See Figure 4). However, 26.7% to 33.3% of the population is still living

in extreme poverty, i.e., below the international poverty line of US\$1.9 per day (The World Bank, 2021; China-DAC Research Group, 2011: 2).

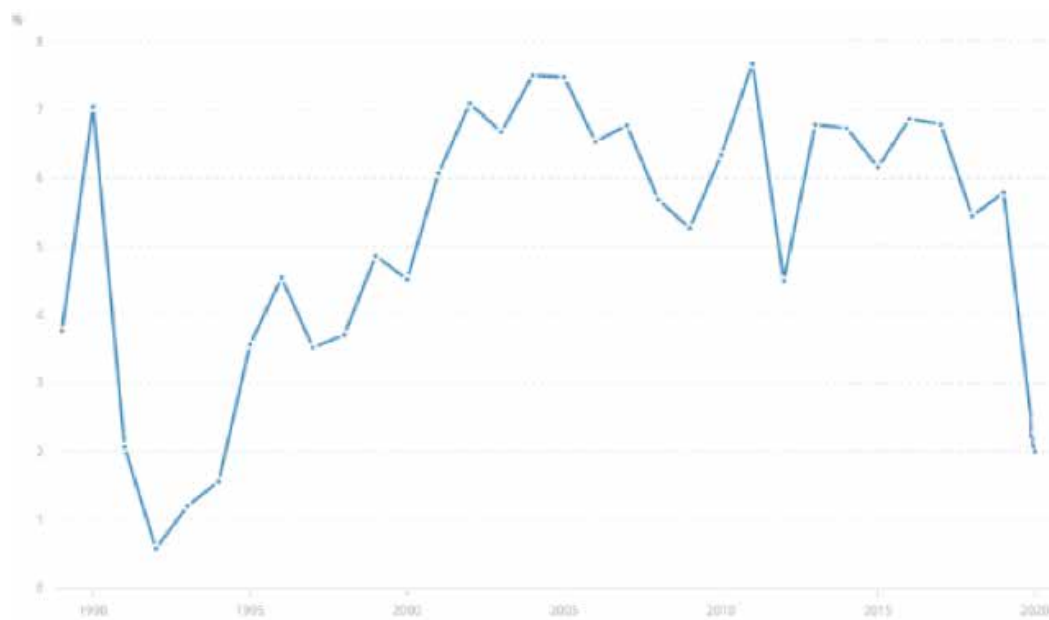


Figure 4 Tanzania GDP Growth Rate (1989-2020)

Data source: World Bank, Nov.21, 2021, [https://data.worldbank.org.cn/indicator/NY.GDP.MKTP.KD.ZG?locations=TZ.](https://data.worldbank.org.cn/indicator/NY.GDP.MKTP.KD.ZG?locations=TZ)

From 1990 to 2020, Tanzania's GDP per capita has increased from US\$173.8 to US\$1,076.5 (See

Figure 5), but the agricultural sector has been growing much slower than the other sectors.

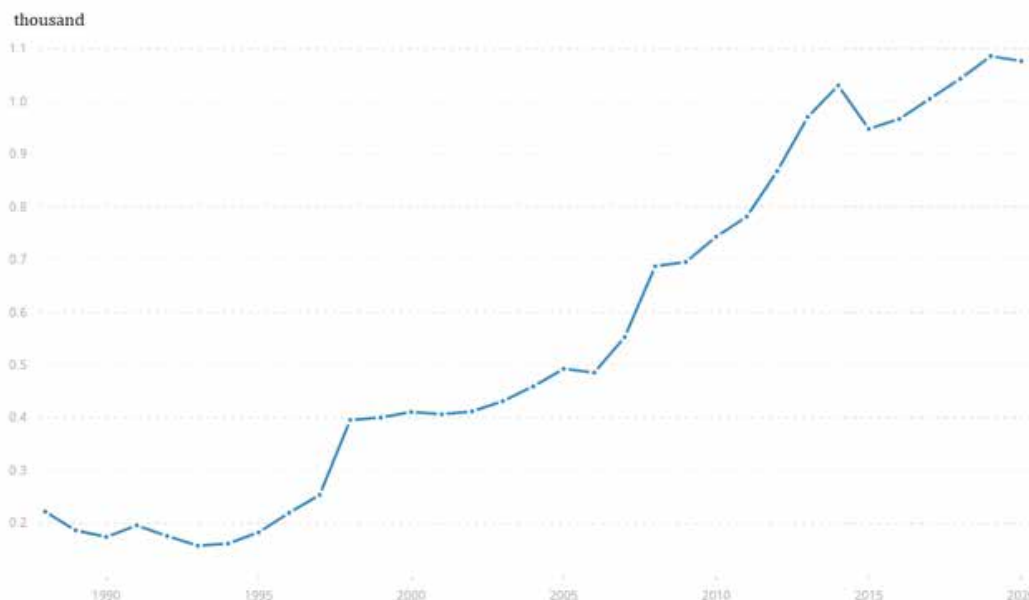


Figure 5 Tanzania GDP per capita (1989-2020, Unit: Current US Dollar)

Data source: World Bank, Nov.21, 2021, <https://data.worldbank.org.cn/indicator/NY.GDP.MKTP.KD.ZG?locations=TZ>.

As shown in Table 2, Tanzania has an area of 4.3 million ha of unused land, but only 2.4% (about 100,000 ha) is available for agriculture. Among this 100,000 ha of land, 93.5% (93,500 ha) has been utilized as the cumulative proportion of arable land. In 2014, each household had only 2.4 ha of land (about 0.1-3 hectares/person), and this was 2-3 times the level seen in 1990s (Heady, Hayne, 2014).

Around 85% of Tanzanian maize production increase has been dependent on the newly cultivated land, instead of on the maize yield per hectare (See Figure 6). In another words, compared with the main maize producers in the world, like the U.S.A. and China (See Figure 7 and 8), Tanzanian crop yield per hectare is in great need of increase and enhancement.

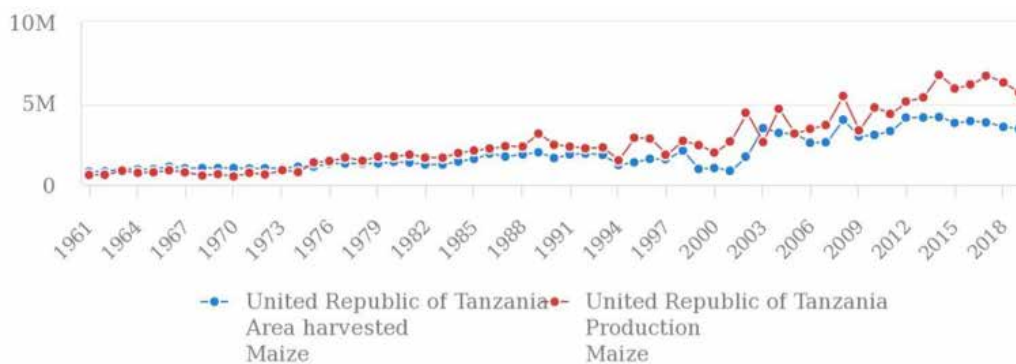


Figure 6 Tanzanian Production/Yield Quantities of Maize (1961-2019, Unit: Current US Dollar)

Source: FAOSTAT, Nov. 21, 2021, <https://www.fao.org/faostat/zh/#data/QCL/visualize>.

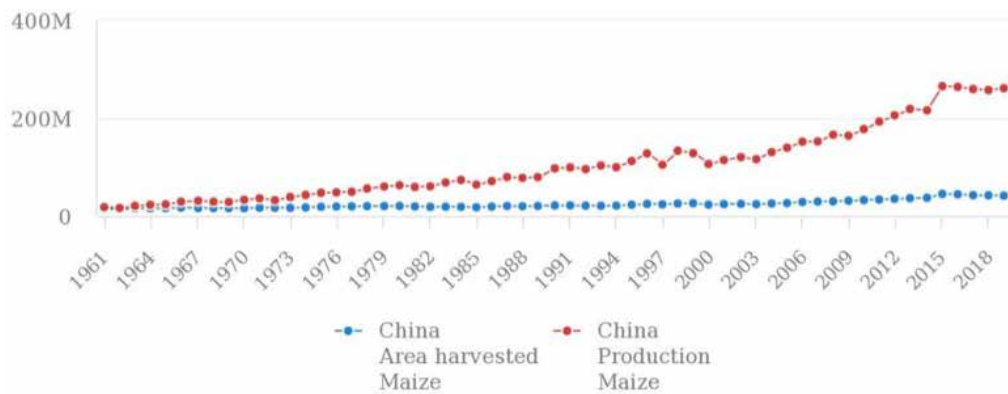


Figure 7 China's Production/Yield Quantities of Maize (1961-2019, Unit: Current US Dollar)

Source: FAOSTAT, Nov. 21, 2021, <https://www.fao.org/faostat/zh/#data/QCL/visualize>.

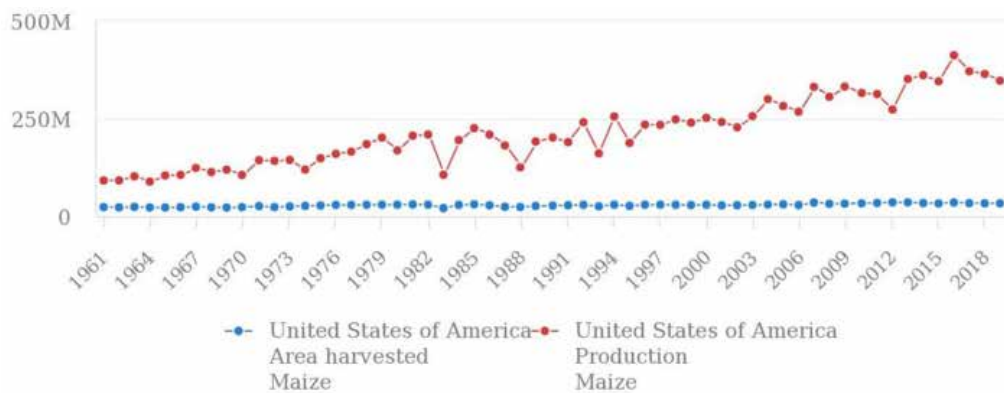


Figure 8 The US Production/Yield Quantities of Maize (1961-2019, Unit: Current US Dollar)

Source: FAOSTAT, Nov. 21, 2021, <https://www.fao.org/faostat/zh/#data/QCL/visualize>.

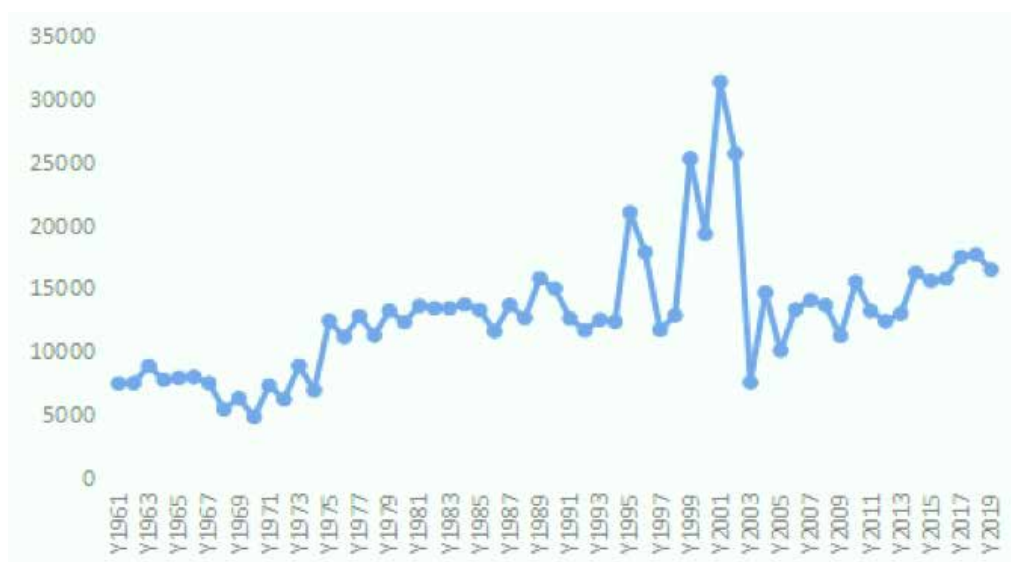


Figure 9 Tanzania Maize Yield (1961-2019, Unit: hg/ha)

Data source: FAOSTAT, Nov. 21, 2021, <https://www.fao.org/faostat/zh/#data/QCL>.

In 2011, the maize yield of Tanzania was 1.5 tonne/hectare or so (See Figure 9). From the mid-1990s to 2009, Tanzania’s agricultural investment occupied only 4.53%-6% of the total investment, far from the target of 10% in the New Partnership for Africa’s Development (NEPAD) carried out by the Organization of African Unity (OAU) (African Union Commission, 2019). Land utilization, water irrigation, fertilizer usage, high-quality seed adoption, agricultural mechanization, etc., all continued to be challenges, as well as potential areas for Tanzanian agricultural development.

The key solutions might be: 1) To increase crop yield without much investment, but involving plenty of young laborers living in the rural areas. 2) To create opportunities for local farmers to get access to productivity-enhancing technologies and services. 3) To create links into value chains and reliable markets.

In the context of slow growth, limited land, lack of financing, and shortages in agricultural technologies, Tanzanian farmers--especially young people--themselves are the most accessible resources to improve the yield of maize. Based on the observations of the project team in the field, according to the traditional planting methods of local farmers in Tanzania, household reserved seeds were sowed randomly without thinning the seedlings. The soil was prepared using hoes, with little fertilizer and weeding (Cao, 2021). Such practices were also popular in the early years after China was established. Thus, we identified low-cost/low-capital-input technologies used for six procedures in Chinese agricultural production and introduced these technologies in target villages, supported by participatory learning and farmer-centered training (See Table 3).

Table 3 Effective Technologies Selected for the Project

| | Procedures | Tanzania Traditional Methods | Chinese Methods |
|---|------------------|---------------------------------------------------|---------------------------------------------------|
| 1 | Soil Preparation | Using hoes | Using tractors |
| 2 | Crop Varieties | Household reserved seeds | Purchasing local high-quality seeds, mix-cropping |
| 3 | Seed Sowing | Random sowing | Tether ranging, thick planting, close spacing |
| 4 | Thinning | No seedlings thinning, 4-5 seedlings in each hole | Thinning, 1 seedling each |
| 5 | Fertilizing | No fertilizer | Using fertilizer in a controlled way |
| 6 | Weeding | Twice per quarter | Thrice per quarter |

Data source: Wang Rui, “Way Out for African Food Security Crisis during the COVID-19 Pandemic”, *Development Innovation Insider*, July 20, 2020, <https://mp.weixin.qq.com/s/2Du0jm9wjY4pLP6AGaA-2g>, accessed on July 10, 2021.

First, the most efficient technologies were selected in a “farm-food-cash” value chain. To enhance the confidence of individual and collective action for agricultural production, local farmer-friendly technologies were selected as the

small technologies to take effects in a value chain composed by farming harvests, food obtaining, and cash gaining. As shown in Table 3, there are gaps between the traditional Tanzanian maize-planting methods and Chinese practices in almost

all the procedures. Six procedural experiences were selected to share with the local farmers. After the first maize demonstration achieved its initial

effects, “farming crops” were seen in the harvest season. When maize crops are harvested, they could be converted into food and cash.



Figure 10 Selection of Maize-Soya bean/Pigeon pea Mixcropping after On-Spot Consultation

Photo source: Expert Team of College of International Development and Global Agriculture (CIDGA), CAU, 2020.

To add value into this chain, the market-oriented soya bean/pigeon pea were chosen as the variety to cross-plant with maize (See Figure 10). This is a good way to make full use of the limited land areas in relatively dry weather. The height difference between maize and soybean could guarantee sunshine and ventilation. Parasitoid and trichogramma wasps living on the soybeans are the natural enemies of fall army worms (FAWs) and corn borers. There is an agricultural proverb in China saying “Corn with soybeans, nine years of grains (*yùmǐ dài dàdòu, shínián jiǔ búlòu*).” It has also been proven by scientific studies that the *Rhizobium mdivor* that soybeans have in the roots may help to fix nitrogen (^{15}N) in both the soil and the fertilizer for maize, and the eco-supplement ratio of 2:1 for maize and soybeans may increase the crops by 52.95% and 30.51%, compared to single cropped maize and soybeans respectively. (Zhu, 1995). Moreover, the exudates from soybeans can expel parasites, and the secretion

of maize could promote the reproduction of the *Rhizobium mdivor*. Such co-existence between maize and soybeans is also a strategy for preventing the risks of natural disaster, crop failure, and to increase income in one planting season.

Second, locally adapted technology needs to be applied with popularizing approaches. By consulting local farmers, governments, and expert team members, local maize and soya bean/pigeon pea varieties were identified as the main growth points of food crops and cash crops. To guarantee the effectiveness of the selected technology, there should be approaches to guarantee that the farmers could master the technology in ways that are familiar or feasible to them. Therefore, the expert team invented a new method of tether ranging for sowing that was popularized and applied (See Figure 11).



Figure 11 Tether Ranging for Distance Measurement in the Field

Photo source: Expert Team of College of International Development and Global Agriculture (CIDGA), CAU.

II. Big Harvest

Harvests are not only sustained by agricultural technologies, but also encouraged or motivated

by modern management approaches, which is a characteristic both internationally and in China.



Figure 12 Size Comparison and Increased Produce of Maize Plantation

Photo source:

1. Expert Team of College of International Development and Global Agriculture (CIDGA), CAU, 2020.
2. Mr. Ernest Robert Mkongo, the Chairman of RAS Tender Board, RAS Recruitment and the Promotion Committee, in the Njombe and Morogoro Regions, Tanzania, 2021.

The Merit-Based Public Management System (MPMS) was applied to enhance the performance of local agricultural staff, motivate agricultural extension of workers, and to build the capacity of government officials from local to central levels. They established two working teams as the core leading organizations. One is a 4th-level working team (*sijí gōngzuò zǔ*) composed by about 40 officials from the Central Government of Tanzania, Morogoro Regional Council, 7 Districts, and 10 Villages. The other team is a village task force (*bāocūn gōngzuò duì*) consisting of representatives from the Regional Administrative Secretariat (RAS) in Morogoro, as well as from districts and villages. The ability of the regional government and district councils to support agricultural development in areas under their jurisdiction has been enhanced as a result of various capacity-building activities. Various operators were strengthened by training sessions and convenient communication via instant messaging applications, such as WeChat.

The number of rural households that have adopted the project planting technology increased from nine in 2012 to 1,432 in 2020. Maize yields doubled or tripled after updating the production mode. The project improved the productivity of maize-soya bean/pigeon pea, increased the nutritional intake of local people,⁹ and directly contributed to the objective achievement of Tanzania's Agriculture Sector Development Programme II (ASDP II) for maize crop. The ASDP II was developed to propel Tanzanian economic development and guide the implementation of prioritized interventions for the Tanzanian Development Vision 2025 (TDV 2025), a 10-year road map for agricultural and rural development that identifies priority areas for public and private investments in the sector to promote agricultural growth, rural development, food security and nutrition. This aims at building competitive Commodity Value Chains (CVCs) and Agricultural Ecological Zones (AEZs)(Ministry of Agriculture, Tanzania, 2017)(See Figure 12 & Table 4).

Table 4 Maize Produce Variation in the Project at Mtego wa Simba Village

(Unit: bags/acre)

| Household Code | Before Project | After Project | Increase |
|----------------|----------------|---------------|----------|
| 1 | 5 | 11 | 6 |
| 2 | 4 | 10 | 6 |
| 3 | 6 | 15 | 9 |
| 4 | 2 | 8 | 6 |
| 5 | 6 | 18 | 12 |
| 6 | 5 | 15 | 10 |
| 7 | 10 | 20 | 10 |
| 8 | 5 | 14 | 9 |
| 9 | 5 | 17 | 12 |
| 10 | 3 | 10 | 7 |
| 11 | 5 | 14 | 9 |
| 12 | 6 | 15 | 9 |
| 13 | 4 | 13 | 9 |
| 14 | 6 | 14 | 8 |
| Average | 4.79 | 13.95 | 9.16 |

Data source: Wang Rui, "Way Out for African Food Security Crisis during the COVID-19 Pandemic", Development Innovation Insider, July 20, 2020, <https://mp.weixin.qq.com/s/2Du0jm9wjY4pLP6AGaA-2g>, accessed on July 10, 2021.

⁹ According to the research of the Monitoring African Food and Agricultural Policies (MAFAP) country report of FAO, maize provides the highest share of calorie intake (24.3 kcal/kg) among local foods in Tanzania. Maize and pulses (beans) have been identified as the top two agricultural commodities for the food security of Tanzania.

Emphasizing locally available inputs, the project was embedded in local conditions.

Thanks to the effective utilization of the MPMS, the sustainability of the project’s interventions has been ensured by making effective use of existing central and local government structures, systems, and procedures, as well as ensuring that the four levels of governments fulfill their duties diligently. By precisely collecting information on small farmers’ highest-priority concerns, constraints, expectations, and anxieties inherent in their socio-

cultural environment, collaborative innovation has been achieved in an active learning manner (Gloor et al., 2003: 56-60). Such collaborative innovation is necessary among counterparts in the institutional design in order to avoid “elite capture”, meaning that the poverty alleviation resources might be disproportionately captured by the rich or the more capable in the villages (Bourdieu, 1996; Xing, 2017). This sustained the enthusiasm and enhanced ownership of the recipients, fostering compatibility between the “outsiders” and the inhabitants.

Table 5 Annual Yield of 10 Villages of “STBH Project” (2018/2019)

| | District | Village | Average Yield (kg/acre) | Dem Farmers Planning to Plant Maize (2020) | Demo Farmers Planning to Mix-crop Maize with Soya (2020) |
|------------------------------------------------------------------------------------|-----------|----------------|-------------------------|--------------------------------------------|----------------------------------------------------------|
| 1 | Gairo | Ngayaki | 510 | 85 | 10 |
| 2 | | Letugunya | 420 | 85 | 10 |
| 3 | Kilosa | Peapea | 250 | 71 | 3 |
| 4 | | Kitete | 300 | 75 | 7 |
| 5 | Kilombero | Kisegese | 660 | 68 | 10 |
| 6 | Malinyi | Kiswago | 1,260 | 10 | 2 |
| 7 | Morogoro | Mtego wa Simba | 400 | 65 | 5 |
| 8 | | Kikundi | 800 | 85 | 6 |
| 9 | Mvomero | Makuyu | 480 | 85 | 10 |
| 10 | Ulanga | Mwaya | 1,200 | 67 | 18 |
| Total Yield and Numbers of Demo Farmers Planning to Sustain the New Project | | | 6,280 | 696 | 81 |

Data source:

1. Wang Rui, “Way Out for African Food Security Crisis during the COVID-19 Pandemic”, <https://mp.weixin.qq.com/s/2Du0jm9wjY4pLP6AGaA-2g>, accessed on July 10, 2021.
2. With reference to the relevant documents of the “STBH Project”, 2020.

III. “Virtual South-South and Triangular Cooperation” Tackling COVID-19 Challenges

The “STBH Project” designers have been making efforts to achieve sustainability of the SSC since its inception. The progress and outcome have been contributing to SDG 1 “No Poverty,” and SDG 2, “Zero Hunger.” Inspired by the high yield of demo farmers, more farmers would like to join the project to become new demo farmers (See Table 5).

With the “simple” Chinese technologies being internalized from tacit knowledge into explicit knowledge by a certain number of Tanzanian farmers, publicity tactics were taken up:

First, information between demonstration farmers and non-demonstration farmers was combined during training. Based on China’s experience of experimentations and pilot zones, mutual learning among peers is the key. To facilitate the diffusion of information, training sessions (See Figure 13) were carried out. The experience shared included both the agricultural technologies and the MPMS, so as to encourage more farmers in more villages to join the project as both contributors and beneficiaries for higher yields, better income, happier lives, and to be one part of the achievement of the UN SDGs to reduce poverty and eliminate hunger.



Figure 13 Training Sessions with Keynote Speakers of Local Demo Farmers

Photo source:

1. Expert Team at the College of International Development and Global Agriculture (CIDGA), CAU, 2020.
2. Zhang Yao, Carlo John B. Arceo, “China-Africa ‘1+1’ Overseas Students Field Visits Seminar Successful

Completed: China-Tanzania Agriculture and Poverty Reduction Projects Vitalize Global Talent Nurturing”, CIDGA, July 20, 2021, https://mp.weixin.qq.com/s/vTbfXBa6o_0fjcHMM-vv3A, accessed on July 21, 2021.

Second, perceptions of pilot villages and non-pilot villages were combined through digital media. In February of 2021, the Best Extension Competition was held in Tanzania. The competition aims to grant awards to the 10 Best Agricultural Extension Workers who have shown their hard-working attitudes in villages at the grass-roots

level, serving African farmers and improving local people's livelihood in this project. Each of the 10 agricultural extension workers was given a motorcycle as a reward. Figure 14 shows the online Prize-Awarding Ceremony, which received media coverage by numerous media outlets from both China and Tanzania.





Figure 14 The Best Extension Competition Prize-Awarding Ceremony and Media Reports

Photo source:

1. Yan Dandan, 'Simple Tech, Big Harvest' Project Construction Reaches a New High: The Best Agricultural Extension Worker Prize-Awarding Ceremony Was Reported at Home and Abroad", CIDGA, January 18, 2021, https://mp.weixin.qq.com/s/uFj0_3S90Ra6ec3Kfo7ODg, accessed on July 5, 2021.
2. Hu Mingbao, "'STBH' Project Set a Typical Example for China-Africa Grass-Roots Cooperation: CAU's Practices of China-Tanzania Agricultural Cooperation", Farmers' Daily, February 2, 2021, http://szb.farmer.com.cn/2021/20210202/20210202_003/20210202_003_1.htm, accessed on March 1, 2021.

Third, China-Tanzania overseas students collaborated in research and learning. Since 1954, CAU has been welcoming overseas students to China. In 1990, CAU was granted the qualifications to admit international students under Chinese Government Scholarship Programs by the Ministry of Education of China (MOE) and the university has trained more 3,000 international students since then. In 2020, CIDGA, as a university-level multidisciplinary talent nurturing platform for "New Agricultural Disciplines" (*xīn nóngkē*), launched the China-Africa "1+1" Agricultural Cooperation Project to nurture overseas Master of Arts (M.A.) students in Rural

Development and Management. The enrollment was for all African students with bachelors' degrees from universities, most of which were grantees of the Chinese Government Scholarship, or excellent graduates recommended by CAU's strategic partners. In September 2020, 17 African students were admitted from Tanzania, Ghana, Sierra Leon, Uganda, Rwanda, and Malawi. Their supervisors were from nine agricultural-related disciplines (See Figure 15), including agronomy, engineering, resources and environment, food science, management, political science, laws, international relations, and so on, from seven colleges at CAU.



Figure 15 Diagram of Multidisciplinary Structure of the New Agricultural Discipline

Source: Drawn by the authors according disciplinary information of the New Agricultural Discipline in MOE documents.

As planned, the 1st year would be course study in Beijing, and the 2nd year would be field study in Sanya, Hainan Province. Due to the COVID-19 pandemic, the students could not leave Africa and study at the CAU campus. These obstacles were tackled by online teaching and learning communications by using DingTalk, WeChat, Zoom, or WebEx applications. Both the African students and Chinese faculty have been making great efforts to make full use of Information Communication Technology for Development (ICT4D) to enable this international education

project to proceed smoothly. They held meetings for supervisors to coordinate teaching and research affairs. Through WeChat, the faculty communicated with the African students, with their mobile phones available for 24 hours per day. Despite the unsatisfactory ICT4D infrastructure in Africa, the CIDGA faculty utilized multiple applications to get in contact with all the students. On June 5, 2021, all 17 MA candidates passed their thesis opening defenses through online meetings (See Figure 16).



Figure 16 China-Africa “1+1” Project: Supervisors Meeting and MA Theses Opening Defense

Photo source: Wu Jin, Ba Feng, “The First Grade of Overseas Students of CAU China-Africa ‘1+1’ Agricultural Cooperation Project Made it Through the Online Opening Defense of MA Theses”, CIDGA, June 6, 2021, <https://mp.weixin.qq.com/s/8kbG0S3-Qrm9nIDcaKZs5w>, accessed on June 12, 2021.

From June to August of 2021, as a compulsory course, “Practical Education” has been carried out, and the aim for this autumn semester will focus on students’ project evaluation on China-Africa cooperation cases in their respective home country. To overcome the practical difficulties for

on-the-spot field visits, CIDGA has been assisting all the 17 African students in contacting local partners to fulfill their research, which is also a practical test helping the students achieve problem-solving skills.

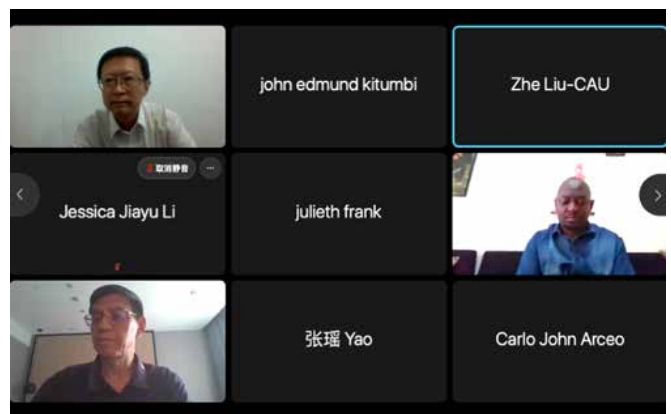


Figure 17 Tanzanian M.A. Candidates' Field Study and Online Presentation to Supervisors

Photo source: Zhang Yao, Carlo John B. Arceo, "China-Africa '1+1' Overseas Students Field Visits Seminar Successful Completed: China-Tanzania Agriculture and Poverty Reduction Projects Vitalize Global Talent Nurturing".

From July 5-9, 2021, with the coordination of the International Affairs Office and Graduate School of CAU, CIDGA invited the six Tanzanian M.A. candidates to visit the villages in the “STBH Project” as part of their field study. During the five-day study tour, the students observed the maize-soya bean/pigeon pea mixed cropping practices by themselves. As shown in Figure 17, they visited demo farmers and had face to face communications with multiple stakeholders under the project in several seminars, while sharing their M.A. thesis ideas with the front-line practitioners for SSC and agricultural and development management. On July 20, 2021, they presented their field study outcomes to their supervisors and course teachers through WebEx online meetings.

For the other 11 students from Sierra Leone, Malawi, Rwanda, Ghana, and Uganda, they

have also contacted local field research sites for domestic on-the-spot visits. The sectors covered by their projects include China-Africa poverty alleviation through agriculture, potable water & sanitation, infrastructure construction, renewable energy technology transfer, manufacturing investment, satellite TV, and other SSC areas.

Through integration with digital media, more possibilities have been tapped for South-South and Triangular cooperation actions. During the pandemic, discussion about SSTRC and the UN SDGs was also carried out under the framework of Foreign Expert Programs by using online applications. In the future, online-to-offline hybrid teaching may become more popular. New types of “Virtual SSTRC” are changing the traditional methods of cooperation and make more impossible missions possible.

Chapter III. Public-Private Partnership (PPP) Mechanism Analysis

Due to the transnational efforts being made in PPPs by the “STBH Project” for SSC, this project has been awarded as a China-UN SSC Project by Think Tanks on the 40th Anniversary of the UN, Global Poverty Reduction Case of “Foreign Aid: Building Self-Reliant Capacity” by World Bank, FAO, IFAD, WFP, ADB, IPRCC, and China.org.cn/China.com.cn in 2019, and was included in *the Good Practices in*

SSTrC for Sustainable Development - Volume 3 at the 75th Anniversary of UN in 2020, and could be downloaded from the column of “Good Practices” of South-South Galaxy (<https://www.southsouth-galaxy.org/home-page/>), a global knowledge sharing and partnership brokering platform, supported by UNOSSC, UN agencies and development partners, acting as a one-stop-shop for all partners to utilize (See Figure 18).



Figure 18 Awards Granted by International Organizations for the “STBH” Project

Photo sources:

1. Laura Quinones, "China Has Been Attaching Great Importance to South-South Cooperation: Interview of Mr. Zhang Yi, Deputy Director of China International Center for Economic and Technical Exchanges (CICETE)", March 21, 2019, <https://news.un.org/zh/story/2019/03/1030621>, accessed on August 1, 2021.
2. CIDGA, "In 2019, How We Promoted the Studies and Practices of International Development Cooperation?" December 31, 2019, <https://mp.weixin.qq.com/s/23T46O85WYtA5Mbb58F6KQ>, accessed on July 10, 2021.
3. UNOSSC, "Good Practices in South-South and Triangular Cooperation for Sustainable Development-Volume 3", New York: United Nations Office for South-South Cooperation, September 2020, <https://www.unsouthsouth.org/wp-content/uploads/2020/09/Good-Practices-in-SSTC-for-Sustainable-Development-Vol.-3-2020-Digital-Light-FINAL.pdf>, accessed on July 15, 2021.
4. Sun Fang, "Winner Lists of the Best Practice Cases for Global Poverty Reduction Release, and the 2nd Solicitation Started", f.china.com.cn/p.china.com.cn, October 16, 2019, http://f.china.com.cn/2019-10/16/content_75307447.htm, accessed on August 10, 2021.
5. Hou Yanan, "Winners of the Best Practice Cases for Global Poverty Reduction Released", October 17, 2019, <http://www.msweekly.com/show.html?id=113554>, accessed on August 2, 2021.

It can be seen from Table 6 that the "STBH Project" has been making efforts to close the gap between the Global North and the Global South through tangible agricultural farming, food, and cash crops, together with the intangible improvement of management. At the same time, the education program of China-Africa "1+1" Agricultural

Cooperation Program was a catalyst for the absorption of appropriate development knowledge for more actors in various networks. Collaborative innovation with synergistic effects has been realized in the forms of PPPs. Keys for success in this project could be summarized as follows:

Table 6 Components of the Partnership in “STBH Project” (2018-2020)

| | |
|--------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Bidding/ Implementing Entities | Domestic Public Actor (public service unit, PSU) .China Agricultural University (CAU) |
| | Transnational Public Actor .Sokoine University of Agriculture (SUA) |
| Recipient/ Beneficiaries | 1. Central-RAS-District Council-Village: 4 levels of governments, Tanzania 2. 10 villages of 7 districts, Morogoro Region, Tanzania, with an increase in number of demo farmers from 9 to 1,432, cultivating 1,667 acres (10,000 mu) |
| Other Stakeholder | The China-Africa "1+1" Agricultural Cooperation Project |
| Selected Technology | See Table 3. |
| Synergistic Effects | <ol style="list-style-type: none"> 1. Increase maize yield from the 9,850 hg/ha to about 29,851 hg/ha. 2. The crop chain approach of “farm-food-cash”. 3. Merit-based public management system (MPMS). 4. Training sessions on the relevant technology and know-how. 5. Using instant messaging and online meeting applications, such as WeChat, Zoom, WebEx, DingTalk, etc. 6. Maize Yield Increase Competitions, Best Extension Worker Competitions, and online Awards Ceremony with motorcycles as prizes. 7. Best Case Awards of CIDGA granted by the UN. 8. Nurturing overseas MA students through field study tour. 9. Tanzania’s Agriculture Sector Development Programme II (ASDP II)¹⁰ 10. SDG1: No Poverty; SDG2: Zero Hunger; SDG 17: Partnerships for the Goals. |

Data source: Analytically extracted from the case information by the authors.

In the project design stage: New types of SSC emphasize the emerging donors constructing “partnerships” with the recipients, which is bottom-up and horizontally oriented, instead of top-down, vertical relations among each other. To realize the win-win outcome, it’s very important that the leading operators value the poorest farmers’ inner motivations with empathy. Besides, agricultural technologies and management practices should

be embedded in the governance structure of Local Government Authorities (LGA), aligning with the Central Government’s planning and budget arrangements. In this case, the CIDGA/CISSCA expert team from CAU, the RAS Council leaders, and the agricultural technological extension teams in Morogoro have been demonstrating public entrepreneurship with the vision, commitment, and competency to collaborate.

¹⁰ The duration of (ASDP II) is 10 years starting from the year 2017/18 to 2027/28. The programme is to be implemented in two stages of five years each.

Those collaborative efforts are essential when constructing trust for all as well as political willingness, forming an important pillar for SSTRC (Islamic Development Bank, OECD, and UNOSSC, in 2021).

In the implementation stage: When the participatory development approach and ground theories are carried out by non-Western countries, cross-cultural communications may lead to different outcomes due to their respective experiences and memories. For instance, due to the “Great Leap Forward” movement in the 1960s, China saw national industrialization, natural disasters, hostile China-Soviet diplomatic relations, and the Great Famine during this period. Labor-intensive agricultural technology and the synergies between agriculture and non-agricultural sectors have been crucial for China’s food security. This is why the STBH project stakeholders reached a consensus to focus on small but effective technologies. Furthermore, sound coordination mechanisms with clearly defined roles, responsibilities, financing, and rules for benefit

allocation are essential for producing positive effects. A Memorandum of Understanding (MOU) between CIDGA/CISSCA and RAS, and agreed regulations in the MPMS have been playing an important role for the SSTRC pillar of performance management (Islamic Development Bank, OECD, UNOSSC, 2021).

In the inter- and post-project stages: Youth empowerment and talent cultivation are crucial to sustaining the project. The Best Extension Worker Competition stimulates young people to be more active. The “reputation effect” achieved by setting good examples and selecting best practices is another way to create benchmarks and standards for specific agricultural practices. The peer-to-peer review about who should receive awards and prizes has been a process of norm socialization and technology diffusion. New ideas for further SSC may arise with internal exchanges and external visits into the local communities, which enhances the SSTRC pillar of connected operators (Islamic Development Bank, OECD, UNOSSC, 2021).

Conclusion

With over 40 years of SSC development, a governance structure has been taking shape that incorporates both the South and the North, linking both global issues with local concerns (or “glocal”). Under SSTRC frameworks, great potentiality and aptitude exists for achieving more effective and sustainable international development cooperation by putting the following operators into SSTRC partnerships:

First, finding holistic solutions, top-down and bottom-up channels are connected to make a fast track. All stakeholders need to act up, to provide the global public goods needed for sustainable lifestyles at multiple levels, from the individual to global scale. Exaltation of any one ideology should be dismissed, while instead working to target the specific problems and find the solutions. With multiple stakeholders, operators could join networks under the frameworks of SSTRC projects. By sharing specific knowledge, skills, and capabilities, synergistic outcomes could be created. According to the experience from former projects, challenges of sustainability may arise after the projects are phased out. Therefore, long-term project design with relatively stable stakeholders should be maintained and encouraged. In the “STBH Project,” the durations of projects have been consecutive with each other, and new elements for gradual upgrading of the “farm-food-cash” crops have been added in a cumulative approach. To learn from the experience of the former projects, relevant academic research, field studies, and optimizing recommendations should be followed up. Expert-reviewed scientific research comes to serve as the solid knowledge foundation

for selecting feasible and functioning technology, leading the “farm-food-cash” crops cycle to a new high. Tacit knowledge has been transformed into explicit knowledge in an upward spiral (Nonaka, Takeuchi, 2005: 53), putting new development knowledge into practice.

Second, public entrepreneurs are in great need as first-movers in the urgent causes. Entrepreneurs might not be the leaders, or the elites in the achievement of the SDGs, but they have great potential as contributors. In every case mentioned in this report, it is evident that partnerships are often constructed randomly, without knowing who will share which kind of knowledge in what methods. However, if some preconditions are set out, entrepreneurs will play their roles in establishing partnerships with each other. Public entrepreneurs might be policy makers, scholars or researchers at universities or institutions, or the CEOs of private or social organizations. The “four-level working team” and “village task force” in the “STBH Project” in Tanzania are the leading operators pushing forward the process of experience sharing or norm socialization (Hoffman, 2021), depending on their social networks. The poverty reduction experts, pilot village registrants, demo farmers, agricultural technology extension workers, and RAS, have been genuine providers of public good, who unswervingly march toward the goals since they were set in the very beginning. If it were not for them, the progress could not have been made. Regardless of age, gender and professional background, individual identities are decided not based on family or economic status, but by the contributions the individual

makes towards the collaborative innovation network (Gloor et al, 2003). On behalf of a kind of balancing force to avoid both “the inferiority” mindset and the “elite capture,” they have to try efforts to implement justice in the processes of policy making, setting agendas, finance allocation, adopting discourse, sharing benefits, and technological diffusion, creating impartiality and fairness for all.

Third, Public-Private Partnership (PPP) mechanism might be the key to creating an equilibrium. An experience for China to share with the Global South is the innovation in PPP mechanisms, balancing the market energy with government authority and social context (Li, Chen, Hanson: 293-318). As shown in Table 5 and 6, the roles of PPPs could be exerted as flexible tools for integrating various stakeholders to focus on specific problem-solving, shelving their differences while seeking common ground. In the “STBH Project,” the MPMS is an intangible mechanism mobilizing the enthusiasm of small farmers to take action. This is quite similar to the household contract

responsibility system that instilled market economy operators into the socialist economic system (Xu, 2021). Having been affected by the pandemic, there might be some inconveniences for the partnerships implemented. However, tangible progress has been made, like the continually increasing maize crops in Morogoro. Risk prevention and control has consolidated the China-Africa partnership in agriculture and poverty reduction.

The China-Africa good Rafiki provides one possible scenario about how a resilient community with a shared future of humankind can look. The collaborative, interdependent relationship between China and Tanzania embodies the new type of SStrC spirit: To strengthen cooperation with both the South and the North; To conquer commonly-met challenges in the South by experimenting at home, with pertinence to the SDGs; To close the gap between the North and the South by constructing collaborative innovation networks in a holistic way, with transnational disciplinary clusters accelerating the process of knowledge R&D and sharing.

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