



BAPA+50

Achieving rural transformation through
South-South and Triangular Cooperation



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CONTENTS

Abbreviations and acronyms	ii
Introduction	1
I: Growing demand for food and crops	4
Demographics	4
Incomes	5
Competition	6
Conclusion of Section I	7
II: Challenges to rural production	8
Low smallholder productivity	8
Climate change and global warming	8
Resource depletion	9
Urbanization and ageing	10
Food waste	10
Conclusion of Section II	11
III: Mobilizing SSTC to achieve the SDGs	12
Improving rural productivity	12
Adapting to climate change	14
Harnessing automation, digitization, information technology and artificial intelligence	15
Organizing farmers	16
Conclusion of Section III	17
IV: Towards BAPA+50: SSTC for rural transformation	18
SSTC and multilateral organizations	18
Evolving thematic focus	19
Evolving SSTC modalities	20
Conclusion	23
References	24
Bibliography	24
List of Figures	28

ABBREVIATIONS AND ACRONYMS

BAPA	Buenos Aires Plan of Action
BRICS	Brazil, Russia, India, China and South Africa
E7	Emerging 7 (economies)
FAO	Food and Agriculture Organization of the United Nations
IFAD	International Fund for Agricultural Development
IFI	international financial institution
LDCs	least developed countries
MICs	middle-income countries
OECD	Organisation for Economic Co-operation and Development
RBAs	the United Nations Rome-based agencies
SDG	sustainable development goal
SSTC	South-South and Triangular Cooperation
UN	United Nations
UNDAF	UN Development Assistance Framework
WFP	United Nations World Food Programme

INTRODUCTION

This paper¹ is a contribution to the celebration of the fortieth anniversary of the Buenos Aires Plan of Action for Promoting and Implementing Technical Cooperation among Developing Countries (TCDC) (UN, 1978), which gave birth to what is known today, in the UN system and beyond, as "South-South and Triangular Cooperation" (SSTC). The "BAPA", adopted when International Fund for Agricultural Development (IFAD) was just a year old, initiated major changes in the approach to development cooperation by putting much greater emphasis than hitherto on the national and collective self-reliance of developing countries, thereby laying the foundations for a new international economic order. And indeed, a new economic order is emerging: in 1978, the seven largest economies of the globe (those that formed the G7 group) contributed 62 per cent to the world's GDP of then US\$8.5 trillion; in 2017, the global GDP had grown to US\$80.7 trillion, while the share of the G7 member-countries had fallen to 45 per cent (World Bank, 2019). By 2040, the combined GDP of the "emerging 7"² (E7) could reach double of that of the G7.

The steady rise of the Global South³ since 1978 in terms of population size, economic outputs and political weight has triggered a proportionate increase in the importance of SSTC. The traditional, unidirectional North-South development cooperation model, often motivated by philanthropy, paternalism and guilt, is increasingly being complemented by reciprocal South-South partnerships grounded in the quest for solidarity and mutuality. Many erstwhile beneficiary countries of development assistance have become "donors", sometimes establishing their own development cooperation agencies. And while the E7 are most active in the field of SSTC, every single country of the Global South, including the least developed countries (LDCs), has something unique to offer in terms of knowledge, expertise and experience. The simplistic classification of the countries of the world into "North" and "South", "rich" and "poor", "developed" and "developing" no longer reflects contemporary reality.

A variety of global economic, social and environmental trends and developments have had a profound impact on agriculture, nutrition and rural development. Ten years from now, benefitting from rising incomes and mounting expectations, the growing and youthful population of the Global South will demand not just "zero hunger", but more and better food. Rural production, rural transformation and environmental sustainability will become ever more central to the development discourse. This will trigger an increasing demand for SSTC in the areas of agriculture and rural development, taking advantage of the fact that the countries of the Global South feature similar climatic and environmental challenges, rural production patterns and sociological characteristics. Rural innovations and solutions developed in the South can be adapted to other countries of the South much more easily and appropriately than those designed in the

¹ This paper has been prepared under the leadership of Ashwani K. Muthoo, Director of the Global Engagement and Multilateral Relations (GEM) of IFAD. The principal author is Jürgen Schwettmann, Senior South-South and Triangular Cooperation (SSTC) Advisor at IFAD. The paper has benefitted from contributions of the SSTC Unit in GEM (Ama Brandford-Arthur, Senior Technical Specialist and SSTC Unit Head; Maurizio Navarra, Elena Bertusi and Alessia di Genova, SSTC Specialists; and Yizhou Liu, SSTC intern), and inputs from the Sustainable Production, Markets and Institutions Division (PMI – Marco Marzano De Marinis, Special Advisor) and the Programme Management Department (PMD – Claus Reiner, Country Director and Head, Brazil SSTC and Knowledge Centre).

² The E7 (short for "Emerging 7") are the seven countries China, India, Brazil, Mexico, Russia, Indonesia and Turkey, grouped together because of their major emerging economies.

³ The term South (or Global South) does not necessarily refer to the Southern hemisphere, but rather to member states of the Group of 77 (G-77), which was established in June 1964 by 77 developing countries. Although the number of Member States has increased to 134, the name "G-77" was retained for historic reasons.

North and for the North. SSTC is frequently used in agriculture due to comparable environmental, agricultural and economic conditions shared by the countries of the Global South. Many of those are located in tropical and subtropical regions, or in arid and semi-arid areas that feature similar climatic and environmental challenges, grow the same agricultural crops, raise the same domestic animals, and apply similar rural production patterns and technologies. For example, maize, the staple food of Southern Africa (a region located around the Tropic of Capricorn) originates from Mexico, which is situated on the Tropic of Cancer, and which has similar climatic conditions. Coffee, originally grown in Ethiopia, is now being produced in almost all tropical and subtropical countries around the world. Cassava, a starchy tuberous root, appears to have originated in Brazil and Paraguay, spreading from there throughout tropical areas to become one of the world's most important food crops. These similarities of environment and of climatic conditions make it easier and appropriate to replicate and adapt agricultural innovations among such countries than those designed in the North and for the North.

The United Nations (UN) will have to respond to these emerging developments by strengthening, expanding and diversifying its SSTC portfolio. IFAD in particular should, while continuing its lending operations, become a broker of South-South partnerships, including investment, and a multiplier of rural solutions pioneered in the South. SSTC, which is already an important element of IFAD's business model, will most certainly graduate into the Fund's preferred development cooperation modality. It must be noted, however, that SSTC is not an objective in itself, but a means to achieving the overarching goals of the 2030 Agenda for Sustainable Development whose ultimate pledge is to leave no one behind. As also clearly stated in the final outcome declaration of BAPA+40, "South-South cooperation is not a substitute for, but rather a complement to, North-South cooperation."

SSTC can be mobilized by the countries of the Global South and the UN system as a means to strengthening multilateralism, which is under threat from different corners. In an increasingly interconnected world, inter-governmental cooperation and collaboration are all the more crucial as the global community works towards the achievement of the 2030 Agenda. To fulfil this vision, a multilateral approach to agriculture and rural development is more crucial than ever, and this is the approach symbolized strongly by SSTC, in which developing countries work together across a range of programmes and platforms with a view to strengthening capacity, adapting and adopting best practices that would benefit all citizens (The Jakarta Post, 2018). As some countries from the North question the benefits of multilateralism, the nations of the Global South are establishing their own multilateral platforms, such as BRICS, IBSA, NEPAD⁴ and many others. They play a much more assertive role in the United Nations System – not least justified by their increasing financial contributions: during the last twenty years, the share of the E7 in the UN regular budget has grown from 5.8 to 21.4 per cent, whereas the share of the G7 has shrunk from 74.6 to 57.1 per cent (UN Secretariat, 1998/2018).

In this context, the present paper seeks to examine and extrapolate the evolution of the principal global trends of SSTC programmes related to agricultural, nutrition and rural development in four sections:

- *Growing demand for food and crops*: the demographic and economic factors that will drive the growth in demand for food, crops and agricultural products;
- *Challenges to rural production*: an analysis of the impact on food and crop production emanating from climate change, resource depletion and urbanization;
- *Mobilizing SSTC to achieve the SDGs*: a review of the strategies available to achieve SDG 2 despite the contradictory trends discussed in the preceding section, complemented by an assessment of the potential role of SSTC in implementing and disseminating these strategies; and

⁴ BRICS: Brazil, Russia, India, China and South Africa; IBSA: India, Brazil, South Africa; NEPAD: New Partnership for Africa's Development

- *SSTC in support of rural transformation towards BAPA+50*: A speculation about the nature, scope, thematic areas and implementation modalities of rural-centred South-South cooperation programme in ten years from now.

In the present paper the term "BAPA + 50" is being used pragmatically, covering a target period from 2028 (50 years after BAPA) and 2030 (the end of the 2030 Agenda).

I: GROWING DEMAND FOR FOOD AND CROPS

Ten years from now, the world will demand more and “better” food, both plant-based and animal-based, as well as non-food crops and agricultural products such as stimulants, fibres, industrial raw material, biofuels etc. Three factors will drive the projected increase in demand for agricultural products: (i) Demographics; (ii) Incomes and (iii) Competition.

Demographics

According to the [World Population Clock](#) (WorldoMeters, n.d.) there are currently about 7.7 billion people living on Earth; by 2028, the world population will have reached 8.4 billion (an increase of 9 per cent compared to 2019).

Population growth is unevenly spread between regions and continents, causing considerable changes in the demographic weight of the five continents. Africa is projected to see the largest relative increase in the size of its population over the coming years: the median projection of 1.68 billion people in 2030 is 42 per cent larger than the 2015 population of 1.19 billion (UN DESA, 2015). This means that in 2030, Africa

will have to feed almost half a billion people more than in 2015. During the same period of time (2015 – 2030, the duration of the 2030 Agenda) the world’s population will grow by 1.2 billion persons, and increase by 16 per cent, requiring a commensurate increase in food production.

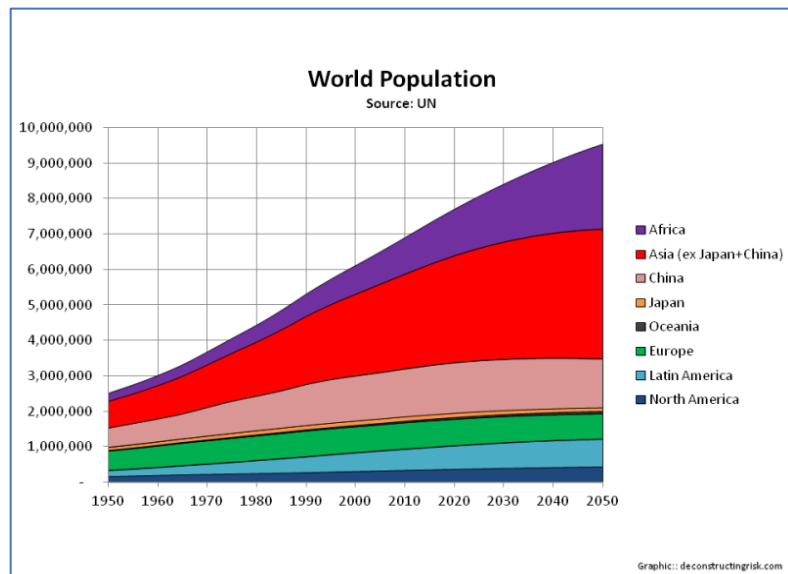


Figure 1 – Africa is projected to see the largest relative increase in the size of its population by 2050, and in 2030 it will have to feed almost half a billion people more than in 2015. Source: United Nations.

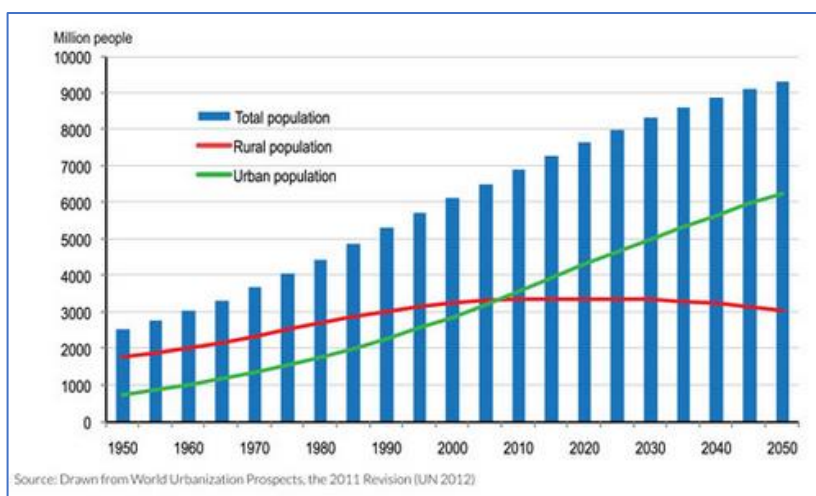


Figure 2 – World population keeps increasing since 1950, but at a slower pace than in the past. Source: World Urbanization Project, 2011.

At the same time, more and more people are leaving rural areas to settle in towns. Since 2008, the proportion of people living in cities has overtaken the size of the rural population. Moreover, as from 1980, the economically active population employed in industry and services has exceeded that employed in the primary sector (agriculture, forestry, mining and fishing); and around 1940, the economic value generated by industry and services exceeded that generated by the primary

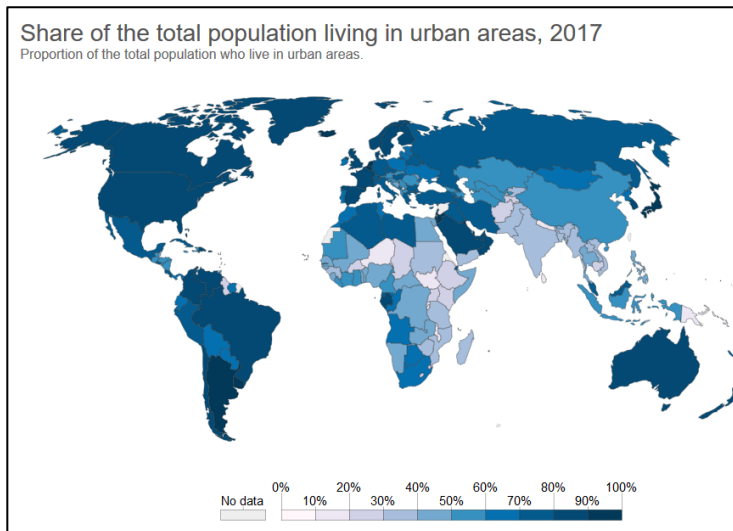


Figure 3 – Share of total population living in urban areas, 2017.
Source: www.OurWorldInData.org.

sector (Satterthwaite, 2010). It is predicted that by 2050 about 64 per cent of the developing world and 86 per cent of the developed world will be urbanized. The map in Figure 2 shows the current rate of urbanization across the world (Ritchie & Roser, 2018).

Urbanization brings major changes in demand for agricultural products both from increases in urban populations and from changes in their diets and demands. It would be expected that nations with successful economies and rapid urbanization will witness rising demands for meat, dairy

products, vegetable oils and 'luxury' foods; this implies a more energy-intensive production and, for many nations, more imports. Urbanization is also associated with dietary shifts towards more processed and pre-prepared foods, in part in response to long working hours (Satterthwaite, 2010). The process of urbanization may not necessarily entail an increase in the overall demand for food in a country, but it will change the type and nature of food in demand, and it means that the erstwhile rural (food) producers will become urban (food) consumers. This could eventually translate into a rise in food prices, affecting primarily the urban poor.

Incomes

It is projected that the current GDP per capita (2018, world average) of US\$18,089 in terms of purchasing power parity (PPP)⁵ will have grown to US\$22,562 in 2023 (Statistics Times, 2018). When extrapolating this trend, GDP per capita should reach US\$28.135 on average by 2028. The global average masks of course enormous differences from one country to another: it ranges from US\$706 GDP/capita (PPP) in the Central African Republic to US\$128,703 GDP/capita in Qatar in 2018; but in almost all countries on Earth, the GDP per capita is expected to rise. Several LDCs, including Ethiopia, Tanzania and Nepal, are expected to enter into the World Bank's "Middle Income Country" (MIC) category⁶, whereas several of today's MICs, including, for example, Brazil, China and Malaysia, will have become high-income countries by 2028. Bill Gates predicts that there will be "almost no poor countries left by 2035" (Quartz, 2014). The "global middle class"⁷ is expected to swell from 1.8 billion persons in 2009 to 4.9 billion in 2030 (Kharas, 2010).

Rising incomes will have a considerable impact on food demand. As income increases, households' demand for goods - including food - increases, although it has been documented by empirical studies that food demand increases *less* than proportionally with income. Economic growth, urbanization and rising affluence are increasingly bringing with them higher demand for convenient, processed foods, for meat, and for

⁵ Purchasing power parities (PPPs) are the rates of currency conversion that equalize the purchasing power of different currencies by eliminating the differences in price levels between countries.

⁶ Defined as having a per capita gross national income of US\$1,026 to US\$12,475 (World Bank, 2019).

⁷ Persons earning a daily income between 10 and 100 US dollars in PPP terms.

dairy products – in short, a more western diet. This change in demand has significant environmental consequences. Feeding livestock is much less resource-efficient than growing cereals for human consumption. Already, one-third of the world's cereal harvest and more than nine-tenths of the world's soya is used for animal feed. The production of 1kg of beef uses 12 times the amount of water needed to produce 1kg of wheat, and more than five times the amount of land (King, 2011). Per capita consumption of meat and milk has increased in both developing and developed countries in recent decades. However, the increase among developing countries has occurred more rapidly. There is room for additional large increases in per capita animal product consumption in developing countries before it catches up to the developed countries (Hofstrand, 2014). Some of this additional demand could be met through sustainable pro-poor livestock production, i.e. pastoral systems that are far less detrimental to the environment than commercial livestock production.

In other words: the achievement of SDG 1 (end poverty in all its forms everywhere) as well as SDG 8 (notably target 8.1., GDP growth of 7 per cent annually in developing countries) could jeopardize the achievement of SDG 2 (end hunger, achieve food security and improved nutrition and promote sustainable agriculture).

Competition

The Organisation for Economic Co-operation and Development (OECD, 2013) defines the term "agricultural land" as land including:

- arable land (or cropland): here redefined to refer to land producing crops requiring annual replanting, or fallow-land, or pasture used for such crops within any five-year period;
- permanent cropland": land producing crops which do not require annual replanting; and
- permanent pastures: natural or artificial grasslands and shrub lands able to be used for grazing livestock.

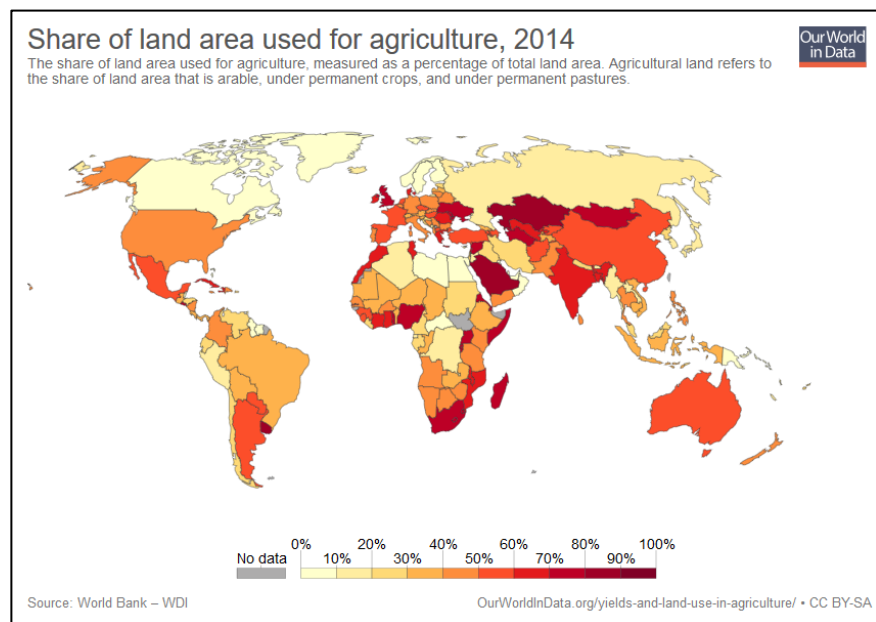


Figure 4 – Share of land area used for agriculture, 2014.
 Source: World Bank – WDI.

The term "agricultural land", whose global area was estimated by the FAO at a total of 4,924 million hectares in the year 2013, thus includes a great deal of land not devoted to agricultural use, and the latter grows more than just food crops. Food crop production competes with the cultivation of numerous other crops, such as:

- *stimulants*, including 9.4 million tons of coffee, 4.5 million tons of cocoa, 5.3 million tons of tea and 6.7 million tons of tobacco (compared to, for example, 700 million tons of rice production per year);
- *cotton*: the annual planted area is 33 million hectares of cotton, producing about 26 million tons of lint per year (Cotton Australia, 2018);

- *floriculture* (bedding plants, potted plants, cut flowers), whose total value is projected to reach a value of US\$ 103.9 Bn in 2026 (MarketResearch.biz, 2018); two million hectares of agricultural land are believed to be used for floriculture;
- *livestock*, which is the world's largest user of land resources, with grazing land and cropland dedicated to the production of feed representing almost 80 per cent of all agricultural land. Feed crops are grown in one-third of total cropland, while the total land area occupied by pasture is equivalent to 26 per cent of the ice-free terrestrial surface (FAO, 2018); and
- *biofuels*, including sugar- and starch-based ethanol, and oil-crop biodiesel and hydro treated vegetable oil, which amounted to 140 billion litres of oil equivalent in 2017, with average production growth of around 3 per cent a year anticipated over the next five years (International Energy Agency, 2018)⁸. The FAO estimates that the projected growth in biofuel production to 2030 could require between 35 and 54 million hectares of land (2.5 to 3.8 percent of available arable land), depending on the policy scenario (FAO, 2008).

The bulk of the world's stimulants, biofuels, cotton and flowers are grown in developing countries; and in many of the world's poorest countries, rural households eke out a meagre living from extensive pastoralism. The global population growth and the evolving dietary changes will entail an increase in the consumption of stimulants, animal products and cotton; the demand for biofuels may increase drastically if the prices for fossil oil go up. These developments may reduce the land available to food production in the narrow sense (staple foods such as grains and starch), and lead to rising food prices.

Conclusion of Section I

A growing world population, greater daily calorie intake, diets shifting towards animal products and processed food, increasing demand for stimulants, fibres and biofuels, and the unabated process of urbanization will inevitably entail a growing demand for food and other agricultural products. The overall demand for agricultural products is expected to grow at a rate of 1.1 percent per year until 2050 (Alexandratos & Bruinsma, 2012). In 2028, when the world will celebrate BAPA+50, the demand for agricultural products will have grown by about 14 per cent compared to today. At the same time, everything must be done to improve the lives of those 815 million people (10.7 per cent of the world's population) who, in 2016, were suffering from chronic undernourishment (Lam, 2018). Otherwise, the achievement of SDG 2 will remain a distant dream.

⁸ According to the IEA's "sustainable development scenario" (which is aligned with the 2030 Agenda), the use of biofuels needs to triple until 2030, which would require a commensurate increase in the share of agricultural land devoted to biofuels.

II: CHALLENGES TO RURAL PRODUCTION

Low smallholder productivity

The FAO estimates that 72 percent of the roughly 570 million farms worldwide operate on less than one hectare and an additional 12 percent on less than two hectares. Yet, these farms cover only 12 percent of total farmland. By far most smallholder farms are in Asia (75 percent), while 9 percent of the world total are in Sub-Saharan Africa, 7 percent in Europe and Central Asia, 4 percent in Latin America and the Caribbean 4 percent, and 3 percent in the Middle East and North Africa. Family farms (including most smallholders) produce over 80 percent of the food

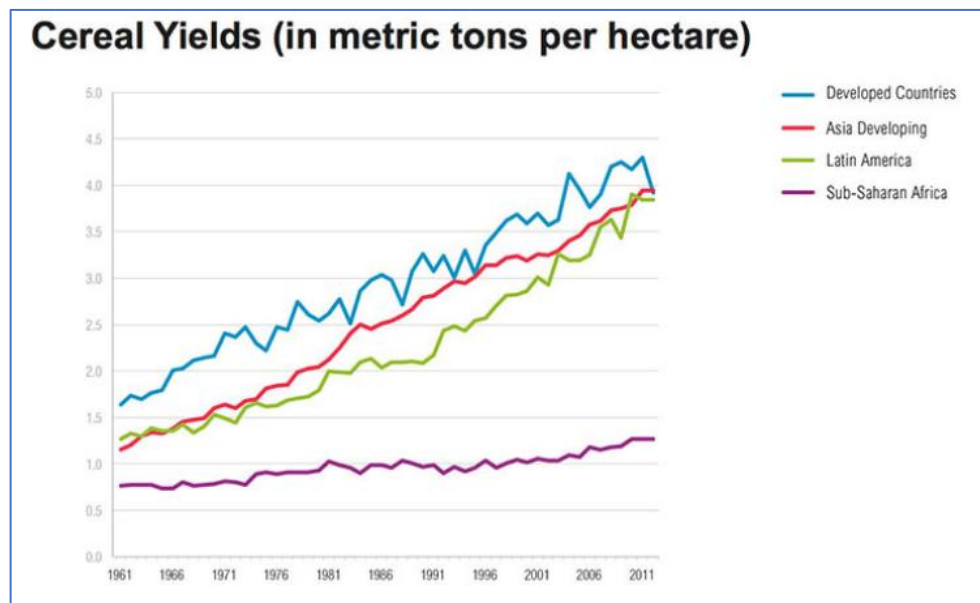


Figure 5 – Cereal yield in metric tons per hectare (Ranganathan, 2013).

consumed by the developing world (Mikecz & Vos, 2016). Productivity on smallholder plots in sub-Saharan Africa and South Asia is extremely low compared to the rest of the world, in terms of both yield and labour. Figure 5 shows that smallholder productivity is particularly low in sub-Saharan Africa.

Climate change and global warming

Climate change is largely attributed to the increased levels of atmospheric carbon dioxide produced by the use of fossil fuels. Global warming is one of the most significant symptoms of climate change; it is likely to reach 1.5°C between 2030 and 2052, if it continues to increase at the current rate (IPCC, 2018). Climate change will have significant implications for agriculture and food

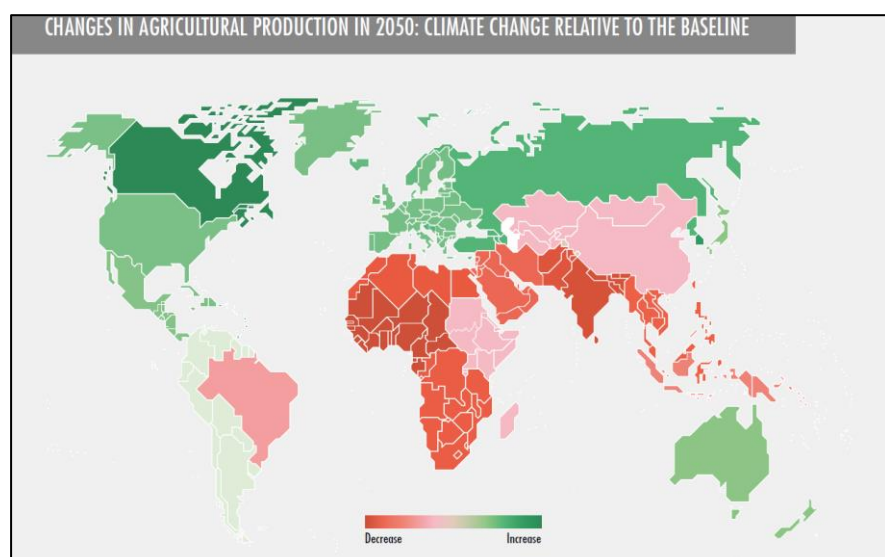


Figure 6 – Changes in agricultural production in 2050: Climate change relative to the baseline.

Source: FAO, 2018.

security. By the middle of this century, higher average temperatures, changes in precipitation, rising sea levels, an increase in the frequency and intensity of extreme weather events, as well as the possibility of an increase in damage from pests and disease, are expected to affect crop and livestock production, as well as fisheries and aquaculture.

This impact will be uneven across regions and countries. In low-latitude regions, where most developing and least developed countries are located, agriculture is already being adversely affected by climate change, specifically, by a higher frequency of droughts and floods. For developing countries, climate change could exacerbate the food security challenges they already experience (FAO, 2018). As shown in the map in Figure 6 (extracted from (FAO, 2018)), the majority of the countries of the Global South will experience a decline in agricultural production due to climate change, whereas the North is likely to *benefit* from global warming, thereby widening the gap between rich and poor, contrary to the aspiration of SDG 10 (reduce inequality within and among countries).

Moreover, while a rise in global temperature up to 3° C is expected to have an overall *positive* effect on *global* agricultural production, its negative impact on much of the Global South would mean that many developing countries would have to begin importing agricultural products, thus reducing the amounts available for other critical imports, such as machinery and industrial equipment. It is estimated that by 2030, the cost of climate change and air pollution combined will rise to 3.2 per cent of global GDP, with the world's least developed countries forecast to bear the brunt, suffering losses of up to 11 per cent of their GDP (The Guardian, 2012).

A study conducted in 2016 (Burns, 2016) found that climate-induced changes to ocean temperature, salinity, oxygen and sea ice levels will push certain marine species into new environs, and may also cause many of the fish to become smaller. Developing countries most dependent on fisheries for food and revenue will be hardest hit, because the warmer oceans of the South will be more affected by global warming than the cooler waters of the North. Overall, fish production is expected to decline by 7 per cent to 10 per cent until 2050, as a result of climate change.

Resource depletion

Resource depletion was among the alarming factors that caused the [Club of Rome](#) in 1972 to call for a "limit to growth". Yet, since then, global GDP has quadrupled while GDP per capita has more than doubled (in constant 2005 US dollars terms). While economic growth has made it possible to significantly reduce poverty, a growing middle-class, mainly in Asia, will put a further strain on natural resources, and may accelerate global warming. And while demand for resources from an exploding and wealthier population soars, finding and extracting new sources of supply is becoming increasingly difficult and expensive. Figure 7, extracted from the report

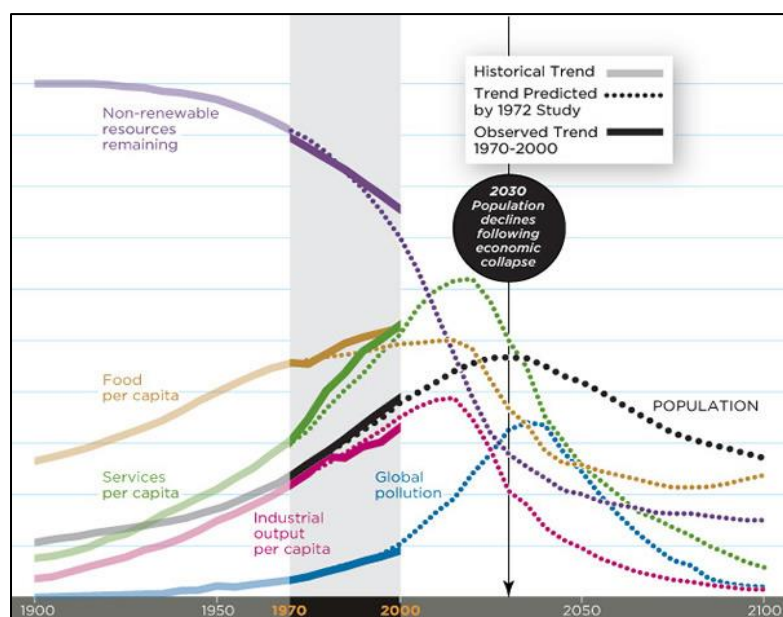


Figure 7 – The decline in the availability of natural resources will reduce the amount of food available per capita in 2028 to the level of the 1950s.

Source: Club of Rome.

"The Limits to Growth: The Thirty-Year Update" (Donella H. Meadows, 2004) shows how resource depletion will affect industrial output, the availability of food, and pollution, predicting that the sharply declining availability of natural resources will reduce the amount of food available per capita in 2028 to the level of the 1950s.

With regard to agriculture, water is certainly the most important natural resource. Agriculture (including irrigation, livestock and aquaculture) is by far the largest water consumer, accounting for 69 per cent of annual water withdrawals globally. Industry (including power generation) accounts for 19 per cent and households for 12 per cent. (Water, 2018). The global demand for water has been increasing at a rate of about 1 per cent per year over the past decades as a function of population growth, economic development and changing consumption patterns, among other factors, and it will continue to grow significantly over the foreseeable future (UN Water, 2018).

Urbanization and ageing

Rural poverty, food insecurity, lack of employment opportunities and access to social protection, natural resource depletion and deterioration in rural livelihoods are important drivers of rural-urban migration. In absolute terms, global urbanization to 2050 could lead to a net addition of 2.4 billion people to towns and cities, which is more than the total global population increment of 2.2 billion people. This means that the *world's rural areas* may see, despite the growth in total world population, a *net reduction of nearly 200 million people* (FAO, 2017), meaning that a declining rural population must feed a growing urban society.

Moreover, farmer populations are ageing rapidly. Worldwide, the average age of farmers is about 60, including in developing countries, and many amongst them are women and poorly educated (Vos, 2014). Rural ageing has major implications for the composition of the rural labour force, patterns of agricultural production, land tenure, social organization within rural communities, and socioeconomic development in general. Agricultural innovations, such as the diffusion of new agricultural technologies and the introduction of improved seeds and tools, often bypass older farmers, as many have neither the financial resources to buy additional inputs, nor the skills (e.g. literacy) nor energy to invest in adopting new practices.

Food waste

One-third of food produced for human consumption is lost or wasted globally, which amounts to about 1.3 billion tons per year. Food is lost or wasted throughout the supply chain, from initial agricultural production down to final household consumption. Food losses represent a waste of resources used in production such as land, water, energy and inputs, increasing the green gas emissions in vain. On a per-capita basis, much more food is

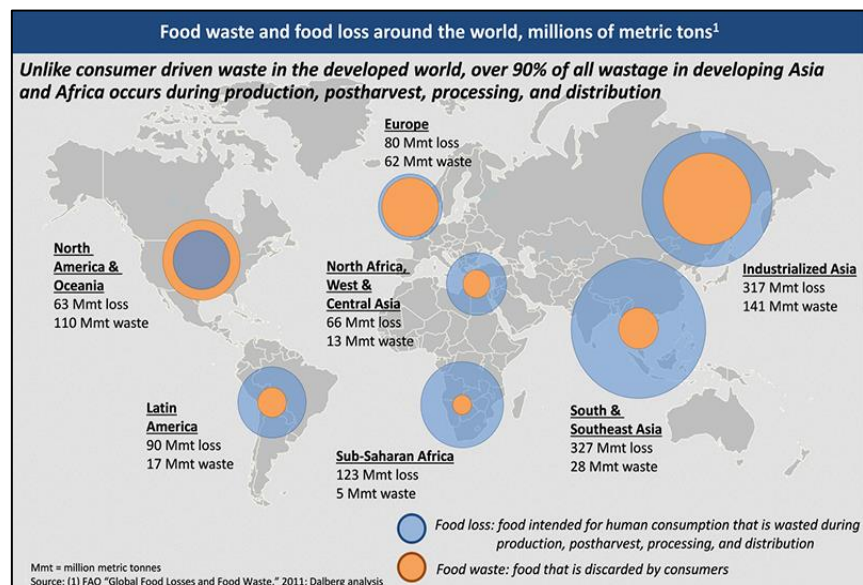


Figure 8 – Food waste and food loss.
Source: FAO "Global losses and food waste", 2011, Dalberg Analysis.

wasted in the industrialized world than in developing countries. Figure 8 (Lemmon, 2014) shows that food losses in the Global South occur primarily during production, postharvest, processing and distribution, whereas in the North, they are mostly due to food being discarded by consumers. A study carried out in 2018 (Hegnsholt & et.al., 2018) projected that the volume and dollar-value of food loss and waste would rise by 1.9 per cent respectively 1.8 per cent annually from 2015 to 2030, and that by 2030, annual food loss and waste will hit 2.1 billion tons, worth US\$1.5 trillion. This is in stark contrast to SDG target 12.3, which seeks “by 2030 to *halve* per capita global food waste at the retail and consumer level and reduce food losses along production and supply chains including post-harvest losses”.

Conclusion of Section II

The world’s poorest countries are least responsible for CO₂ emissions and least well equipped with coping ability, but they will be affected most by climate change (Center for Global Development, 2015). Agricultural production and fisheries are expected to shift away from the poorer tropics toward the richer poles in coming decades. Much of the Global South will be affected by resource depletion, in particular shortages of fresh water. The rural-urban migration and ageing will continue in all developing nations, creating a dilemma whereby fewer rural producers must feed ever more urban consumers. And finally, food loss and waste are expected to increase in most regions around the world, in particular in the emerging economies of the Global South. All these developments will make it difficult to “to end hunger in all its forms by 2030 and to achieve food security” (SDG 2) – but solutions do exist.

III: MOBILIZING SSTC TO ACHIEVE THE SDGS

The coming ten years will witness a growing demand for food and agricultural products, while several demographic and ecological factors pose a challenge to rural production, in particular in the Global South. This situation calls for profound changes in the global food and agriculture systems for the world to be able to nourish the 815 million people who are hungry today, as well as the additional 2 billion people who are at risk to be undernourished by 2050.

Investments in agriculture are crucial to increasing the capacity for agricultural productivity and sustainable food production systems are necessary to help alleviate the perils of hunger, and achieve SDGs 1 and 2. If done right, agriculture, forestry and fisheries can provide nutritious food for all and generate decent incomes, while supporting people-centred rural development and protecting the environment (UN, 2019).

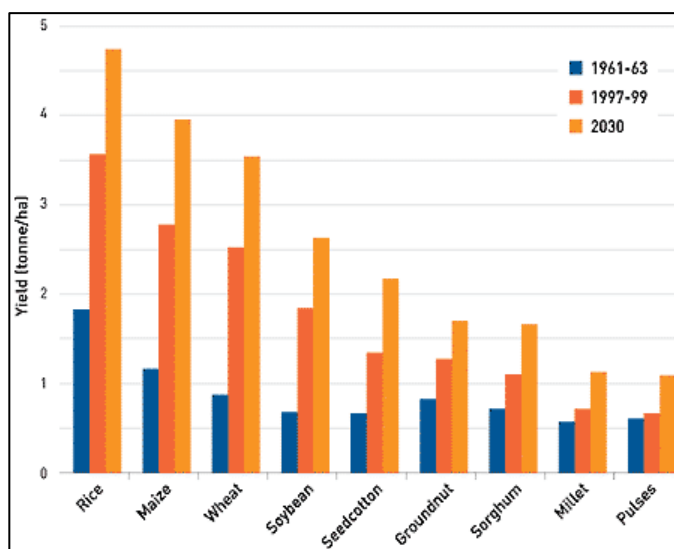


Figure 9 – World agriculture towards 2015/2030 - Summary Report.
Source: FAO, 2002.

The present paper proposes three avenues to close the gap between agricultural supply and demand:

- Enhancing rural productivity (SDG 2 target 3)/food loss reduction;
- Adapting to climate change (SDG 2 target 4 and SDG 13);
- Harnessing new technologies (SDG 17 targets 6, 7 and 8).

These measures have been selected because (a) they address directly the factors that are likely to jeopardize agricultural production during the coming ten years and (b) they have the greatest potential to benefit from SSTC partnerships and investments. Indeed, many developing countries have achieved considerable progress in boosting agricultural production, fostering rural transformation and improving food security through innovative economic, social and societal interventions which, although tailored to the needs, characteristics and capacity of a particular country, can be quite easily adapted to, and assimilated by, other developing nations.

A fourth avenue, i.e. organizing small farmers, is proposed as a supportive measure that could facilitate the implementation of the other three intervention areas.

Improving rural productivity

Production growth in agriculture can come from taking more land into production, or from increasing the output per unit of land. Since 1960, global agricultural land is estimated to have increased by around 10 per cent, with most of this increase occurring before 1990 and relative stability since. At a global level, this relative stability is expected to continue over the coming decade⁹ (OECD-FAO, 2017). Consequently, the

⁹ According to FAO projections, the total amount of arable land will increase from 1.58 billion hectares in 2017 to 1.65 billion hectares in 2030, a growth of 4.4 per cent in 14 years (FAO, 2017).

increase in agricultural production required to feed the growing world population must come from enhanced *agricultural productivity*¹⁰.

This observation underlines the centrality of SDG target 2.3, which commits the international community to “(by 2030) double the agricultural productivity and the incomes of small-scale food producers”. The current rate of expected productivity growth (Figure 9, extracted from (FAO, 2002)) does not suffice to reach SDG target 2.3.

Crop Yields					
	Highest		Lowest		Aver.
	Country	T/ha	Country	Tons	T/ha
Cassava	Laos	32.6	Maldives	1.1	11.8
Sugar cane	Guatemala	129.0	Central African R.	5.6	70.6
Wheat	Ireland	9.5	Somalia	0.4	3.4
Maize	Jordan	40.4	Cape Verde	0.2	5.6
Groundnuts	Palestine	5.3	Mozambique	0.2	1.6
Cocoa	Thailand	3.0	Suriname	0.04	0.4
Coffee	China	2.8	Suriname	0.03	0.8
Cotton	Uruguay	6.3	Indonesia	0.1	2.1
Food Production Index					
	Laos	211	St Kitts & Nevis	39	126

Table based on data supplied by the [FactFish](#) website, which uses primary data from FAO, the World Bank and others. Most entries are from 2016.

Moreover, agricultural productivity is spread unevenly between regions and countries. Agricultural growth in Africa lags behind overall economic growth, and Africa’s agricultural performance falls below that of other developing regions of the world, particularly those associated with [Asia’s Green Revolution](#).

The table to the left provides the highest and lowest yields of some of the crops that are of key importance to the Global South; the fact that the highest *and* the lowest yields of most crops are recorded by countries of the Global South, indicates a considerable potential for South-South cooperation in raising agricultural productivity.

The [Global Harvest Initiative](#)¹¹, which publishes the annual *Global Agricultural Productivity Report* (GAP Report), calculated in 2010 that the global agricultural productivity (as measured by Total Factor Productivity, or "TFP") would have to grow by an average rate of 1.75 percent annually to double agricultural output through productivity growth by 2050. In real terms, however, since 2010, TFP growth has been rising by an average annual rate of only 1.51 percent. Even more disturbing is the fact that TFP growth *in low-income countries* (mostly sub-Saharan Africa) was only 0.96 percent. Farmers in low-income, food-deficit countries (where population growth is rapidly rising) will use more land and water to increase their output, straining a natural resource base already threatened by extreme weather and climate change. Many low-income countries will need to import food, but lack sufficient income to purchase enough to meet the needs of their

Agriculture has been an island of success in terms of productivity growth in the last decades compared to other sectors of the **Brazilian** economy and compared to other country’s agriculture sector. Agriculture productivity growth in recent decades in Brazil has been mainly driven by investments in agriculture innovation, facilitation of sector financing, and trade liberalization. Trade liberalization has shown to be an important factor in the growth of agriculture productivity in recent decades (Arias, 2017).

¹⁰ Productivity defined as “total factor productivity” (TFP), i.e. the ratio of agricultural outputs (gross crop and livestock output) to inputs (land, labour, fertilizer, feed, machinery and livestock). TFP measures changes in the efficiency with which these inputs are transformed into outputs.

¹¹ A private sector association whose members are from the agro-industrial sectors (mostly from the United States).

citizens (Steensland & Zeigler, 2018).

A steady growth in agricultural productivity is clearly key to achieving SDGs 1 and 2. South-South cooperation can play an important role in this regard, for example by:

- sharing appropriate technologies and innovative farming methods;
- developing and trading affordable agricultural machinery that is adapted to the conditions of the Global South;
- introducing drought and pest-resistant crops;
- improving the nutritional value of traditional crops through biofortification¹²
- establishing joint ventures for agricultural research and development;
- making fertilizer available to small farmers¹³.

Of particular importance in this context is the [Alliance for a Green Revolution in Africa](#) (AGRA) which seeks to replicate the successful Asian green revolution on the African continent.

Moreover, as stated in the [Brasilia Declaration and Action Agenda](#), to improve rural productivity, international organizations, through lending and grant financing activities, must act as an intermediary to facilitate SSTC arrangements in the areas of agriculture, rural development and inclusive rural transformation, by promoting knowledge-based technical cooperation, peer-to-peer exchanges of knowledge, sharing of best practices, technology and know-how.

Adapting to climate change

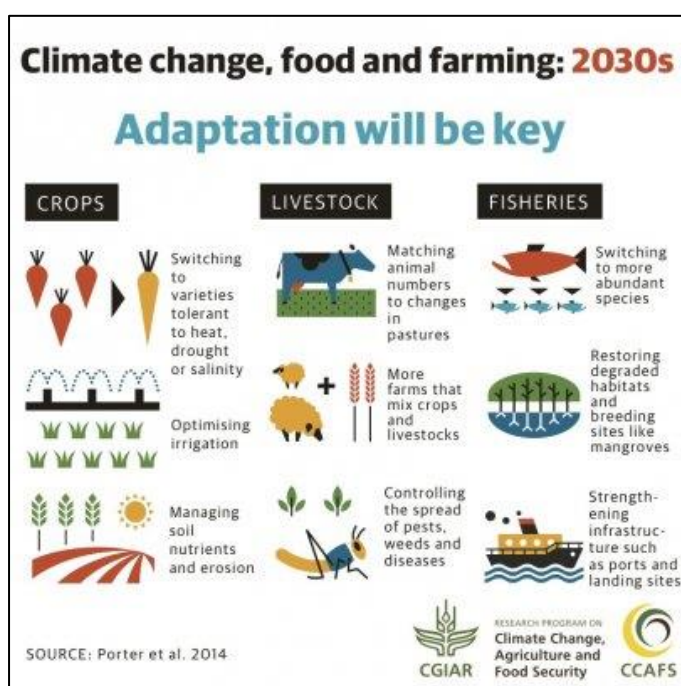


Figure 10 – Adaptation will be key.
Source: Porter et al., 2014.

Not only is agriculture one of the main drivers of climate change, it is also its most significant victim. Agriculture will be directly affected by all manifestations of climate change, such as droughts and floods, storms and tornados, rising sea levels, salinization of groundwater, more frequent and extreme weather events, increasing species extinction and the spread of old and new diseases (Global Agriculture, n.d.). Climate change adaption is central to achieving SDGs 13 and 15. South Asia and Southern Africa are two regions that without adaptation might undergo greatest yield declines among important crops. The infographic in Figure 10, extracted from (Vermeulen, 2014) presents in a nutshell the adaptation strategies available to small scale farmers, herders and fisher folk in developing countries. Rural producers in many countries have already begun

¹² Biofortification seeks to increase their nutritional value of crops through conventional selective breeding, so that they contain a higher degree of nutritious substances (for example zinc, iron, vitamins), and/or are more resistant to diseases, pests and climate changes. An example is the orange sweet potato which in Mozambique significantly improved the vitamin A supply to children (Malabo Montpellier Panel, 2017).

¹³ An example is the [Indian Farmers Fertilizer Cooperative Limited](#) (IFFCO) which has established joint ventures in Senegal, Dubai, Oman, Jordan and Canada.

applying those strategies. Similar conditions and languages, and geopolitical, historic and socioeconomic relationships between countries of the Global South contribute to their ability to work together, so that South-South exchanges and partnerships around climate change adaptation hold a considerable potential. For example, in 2014, China announced a US\$3.1 billion South-South Climate Change Fund to assist developing countries in addressing climate change challenges through South-South cooperation within the framework of the 2030 Agenda¹⁴. China was also a co-host of the [High-Level Forum on South-South Cooperation on Climate Change](#) that was organized at the margins of the UN Climate Conference in Marrakech (November 2016).

Mexico has allocated the amount of US\$4.3 million - over the next five years - to FAO to create a climate change adaptation fund that will work with the Caribbean Community (CARICOM) and with Mesoamerican nations. A recent document by the UN Framework Convention on Climate Change (UNFCCC, 2017) has compiled a wealth of successful SSTC initiatives in the area of climate change adaptation in rural areas. Of particular importance in this area is the establishment of [global and regional adaptation networks](#) and online knowledge management platforms managed by the Global South, as well as the adoption of a bottom-up approach that takes local practices and indigenous knowledge as a starting point for designing adaptation technology related interventions through SSTC.

Harnessing automation, digitization, information technology and artificial intelligence

This topic covers a very wide range of interrelated processes and technologies, including, for example:

- Agricultural robots that can perform tasks ranging from planting and watering, to harvesting and sorting, to weeding and crop maintenance, but also milking robots;
- Remote-controlled devices (drones for imaging, planting, spraying etc, as well as self-driving cars and tractors, and similar devices);
- Automatic watering and irrigation systems;
- Sensors attached to cattle to collect biometric data on the health and wellbeing of the animal;
- The rapid expansion of mobile phones and Internet connectivity in the Global South¹⁵, which has greatly facilitated information sharing, market intelligence and mobile banking;
- The “Internet of Things” (IoT) which allows robots, drones and sensors to connect, interact and exchange data, thereby building a “smart farm” and enabling the formation of agricultural robot swarms;

Self-driving tractors and agricultural robots co-ordinate with data from satellites, sensors and scouting drones that provide the farmer with real-time information about every square centimetre of earth to propose what seed, fertilizer, fungicide or pesticide ought to be applied exactly where and exactly when to maximize yield (Thomas, 2017).

¹⁴ The Fund would finance as from 2016 10 low-carbon demonstration projects, 100 climate change adaptation and mitigation projects, and 1,000 training places in developing nations (the “10-100-1000” plan).

¹⁵ In developing countries, 45 per cent of individuals were using the Internet in 2018, but only 20 per cent in the 47 LDCs. Active mobile-broadband subscriptions have increased from 4.0 subscriptions per 100 inhabitants in 2007 to 69.3 in 2018 (ITU, 2018).

- The application of artificial intelligence¹⁶ to agriculture, for example in the domain of “predictive analytics”, i.e. the use of sensors and soil sampling to gather data to more efficiently irrigate, fertilize and control pests; and
- The adoption of precision agriculture, defined as an approach to farm management that uses information technology to ensure that the crops and soil receive exactly what they need for optimum health and productivity.

In general terms, the use of modern technology in agriculture has the potential of increasing yield, improving total factor productivity and enhancing the efficiency in the use of land, soil, water, fertilizer, chemicals, feed etc. Besides robots, drones and artificial intelligence agriculture in developing countries can benefit from complementary innovations, such as urban farming, a variety of vertical farming methods¹⁷, soil-less agriculture and, of course, the use of not uncontroversial genetically modified crops and organisms.

Aerobotics is a **South African** data analytics company, which uses drones, aerial imagery and machine learning algorithms to optimise crop performance for farmers around the world through its cloud-based web app Aeroview. It is setting the standard for crop analytics globally (Booyesen, 2018).

While modern agricultural technology is more widespread in the richer countries of the North it is gaining ground in the Global South as well, in particular in emerging middle-income countries. China and India are striving to become world leaders in artificial intelligence; Brazil, South Africa

and other countries are developing and manufacturing agricultural robots; several countries in the Middle East are experimenting with aquaponic farming; Kenya has pioneered the use of mobile money (“M-PESA”) whereas neighbouring Rwanda has recently opened a pan-African software development hub. For smallholder farmers, relevant IT solutions involve minimal investments and are often based on mobile phones, which are already widespread even among the poorest population groups. With an urbanized, wealthier and ageing population, and therefore rising labour costs, many developing nations may increasingly adopt modern farming technologies in the years to come. South-South cooperation in exchanging and disseminating such techniques and technologies will grow in importance during the coming decade.

Organizing farmers

Few of the measures proposed above (improving productivity, adapting to climate change, introducing new technologies) can be implemented by individual farmers, especially the rural poor, by securing land tenure, capacity building, as well as access to credit, market, education, innovation, natural resources. Governments, on the other hand do not have the resources to reach out to hundreds of thousands of small farmers individually and simultaneously. To solve this dilemma, small farmers around the world have formed self-help groups, associations and cooperatives. The [International Cooperative Alliance](#) (ICA) estimates that 12 per cent of all people on Earth are member of a cooperative, and around half of those are engaged in agriculture.), while the [World Council of Credit Unions](#) represents 260 million credit union members, most of whom live in rural areas. In addition, millions of small farmers around the world are organized in informal groups and associations, which are not registered, but provide important pre- and post-production services.

Cooperatives and similar organizations provide essential services to rural households, including market access, agricultural supply, marketing and exports, transport, storage,

¹⁶ AI an umbrella term to describe the use of computer technologies to perform tasks that are associated with human intelligence. For example, facial recognition or the ability to translate one language into another.

¹⁷ Vertical farming is the practice of producing food and medicine in vertically stacked layers, vertically inclined surfaces and/or integrated in other structures (such as in a skyscraper, used warehouse, or shipping container).

appropriate financial intermediation, joint production, mutual risk coverage, affordable housing, appropriate technology, and many others. In addition, cooperatives play, beyond their economic function, an important role in extending social protection and in facilitating popular participation, thereby fostering social cohesion and strengthening civil society. Farmers' organizations play a triple, social, economic and societal role and therefore simultaneously create opportunities, enhance protection and provide empowerment – the key elements of any poverty reduction strategy (Schwettmann, Jürgen, 2018). Such organizations can also play a very useful role in reducing agricultural waste, for example through the formation of self-managed grain banks (as they exist in the Sahel), through improved storage facilities, or through responsible business practices applied in consumer cooperatives.

Farmers' organizations exist in all countries of the world but are particularly widespread and powerful in the Global South. And yet, despite the fact that regional and global organizations exist, South-South cooperation, including trade, between and among cooperatives from different countries remains limited and could be greatly enhanced. Some initiatives, such as the [Farmers' Forum](#), established by IFAD in 2005, have the potential to build an effective platform for engaging in SSTC. The Forum, in particular, aims to strengthen effective partnerships and collaboration between IFAD and farmer organization in country programmes and investment projects, and builds farmer organizations' capacity in engaging in policy dialogue initiatives.

The coming [UN Decade of Family Farming](#) (2019-2028), adopted by the UN General Assembly at its 72nd session in 2017 will be an extraordinary opportunity to advance public policies that allow the development of family farming and progress towards the Sustainable Development Goals.

Conclusion of Section III

Section I of this report presented the factors that will lead to a growing demand for food and agricultural products by 2028/30; section II summarized the challenges that impede the growth of rural production worldwide, particularly in the Global South. Against this background, section III proposed ways to achieve the SDGs, in particular SDG 2 named "zero hunger". As most of the growth in food demand will materialize in the Global South, where the future threats to agricultural production are greatest, South-South cooperation is likely to emerge as a key instrument to increase rural production and enhance rural productivity in the countries of the Global South. In addition, it will be necessary to address the issue of food losses that occur mainly in the Global South. If the figures published in a [2011 World Bank report](#) paint an accurate portrait, eliminating grain losses in sub-Saharan Africa alone could provide the annual calorie requirement for around 48 million people. And this increase would not be detrimental to the environment, as it would require no extra resources (water, land and energy) to grow the food that would otherwise go wasted (Cini, 2018).

IV: TOWARDS BAPA+50: SSTC FOR RURAL TRANSFORMATION

Considering the increasing economic and political importance of the Global South, taking into account the expected graduation of several large, emerging economies to high-income status by 2028/2030, and bearing in mind the trends and tendencies discussed in sections I and II of this paper, the thrust, thematic focus and implementation modalities of SSTC need to evolve – in particular in relation to agriculture and rural development. Four changes are required:

1. The *amount* of resources mobilized through SSTC from all sources (public and private) should grow proportionate to the growing economic weight of the Global South; this increase however must not be used by the North as a pretext to diminish their own share of development assistance. The contributions of the South should rather increase the overall envelope of resources available for development.
2. The *focus* of SSTC should shift increasingly towards agriculture, nutrition and rural development in line with the factors discussed in this paper.
3. The range of *actors* involved in SSTC should widen to include more private sector and civil society participants.
4. The *modalities* of SSTC should evolve, building on the current foundation of knowledge exchange to increasingly embrace South-South investment and trade.

These points are discussed in greater detail in the paragraphs below; they should also have an impact on the future involvement in SSTC of multilateral organizations, including the UN system.

SSTC and multilateral organizations

The SDG targets 17.6 and 17.9 call for enhanced South-South cooperation, particularly in the areas of technology exchange and capacity-building. Both SDG targets underline that South-South Cooperation is a complementary modality that co-exist with North-South and Triangular cooperation modalities. The Addis Ababa Action Agenda (UN-DESA, 2015) also recalls that “South-South cooperation is an important element of international cooperation for development as a complement, not a substitute, to North-South cooperation.” SSTC does not stand alone in the development arena, but its importance will increase as a result of the growing economic power and political weight of the Global South. SSTC should adopt a pragmatic approach that incorporates knowledge, experiences and resources from the North when appropriate.

Multilateral organizations – including UN agencies – have responded to the growing prominence of SSTC in development by increasingly integrating and mainstreaming South-South cooperation into the policy frameworks and strategies of the various funds, programmes and agencies. Close to 30 UN entities embrace South-South cooperation as an effective modality to provide technical assistance, forge collaborative alliances, mobilize development finance and garner in-kind contributions for socioeconomic progress. In this regard, many organizations have established and/or strengthened specialized units and set up programmes with dedicated human and financial resources to promote South-South cooperation (UN, 2018).

The three Rome-based agencies (RBAs), FAO, IFAD and the World Food Programme (WFP), are particularly active in applying and promoting SSTC in agriculture and rural development. The UN Secretary-General noted in 2018 that “to improve inter-agency coordination and coherence, three UN Rome-based organizations, FAO, IFAD and WFP, leverage SSTC both individually and as a team in order to deliver on their shared mandate to improve access to an adequate supply of nutritious food” (UN, 2018). Moreover, “FAO, IFAD and WFP, have adopted a collaborative approach to the

monitoring and evaluation of SSTC initiatives based on their common vision and complementary approaches for delivering on the SDGs”.

IFAD’s *current* SSTC programme, for example (i) is mostly grant-funded (national, regional or global grants in the range of US\$0.5 to 1.5 million); (ii) focuses primarily on knowledge sharing and dissemination; and (iii) targets traditional thematic areas such as agricultural development, rural enterprises, rural finance, environmental activities and community development (IFAD, 2017). In 2018, IFAD and China have launched the China-IFAD SSTC Facility, a funding facility focusing on smallholder agriculture and rural development, with the main goal of exchanging expertise, knowledge and resources, and promoting business-to-business links and investments across developing countries, with the broad aim of enhancing agricultural productivity and the livelihoods of poor people living in rural areas.

In 2028-2030 (the BAPA+50 perspective), developing countries, in particular the emerging economies, are likely to approach IFAD and other International Financial Institutions (IFIs) not only as borrowers of funds, but as clients and partners in search of knowledge, technical assistance and investments; it is therefore highly probable that during the next decade, SSTC will become a key IFI *non-lending* instrument of much greater significance. Moreover, the IFIs, including IFAD, should play a strong role in brokering joint ventures and mutual investments between developing countries. This process should be accompanied by the UN specialized agencies through technical assistance. To this end, and to increase the focus of SSTC initiatives at the regional level, IFAD has recently established three SSTC and Knowledge Centres (in Addis Ababa, Beijing and Brasilia), specifically devoted to promoting South-South exchanges in areas where the Fund operates.

Some countries, in partnership with international institutions or organizations of the UN system, have established financing facilities to finance SSTC projects and boost their support to SSTC. For instance, the [India-UN Development Partnership Fund](#), established in 2017, is a dedicated facility within the United Nations Fund for South-South Cooperation, supported and led by the Government of India and managed by the United Nations Office for South-South Cooperation that supports Southern-owned sustainable development projects across the world, with a focus on LDCs and small island developing states.

The proposed implementation modalities are consistent with the objectives of the [UN reform agenda](#), which comprises three interlinked tracks i.e.: (i) restructuring of the UN’s peace and security architecture; (ii) UN management reform; and (iii) the repositioning of the UN development system (UNDS) to facilitate support to countries in the implementation of the 2030 Agenda. The development pillar of the reform seeks to generate UN system-wide, shared results at the country level through a new generation of UN Development Assistance Frameworks (UNDAF), joint implementation and joint resource mobilization through “funding dialogues”, as well as a revamped focus on regional approaches. The strengthening of SSTC implementation modalities is in line with the reform process, and is also in compliance with the latest UN Quadrennial Comprehensive Policy Review (QCPR) (UN, 2016), which “reiterates that the United Nations development system should mainstream and enhance its support to South-South and triangular cooperation”, while affirming “the need to move towards integrated action in response to the integrated and indivisible nature of the 2030 Agenda.”

Evolving thematic focus

The thematic focus of future SSTC initiatives of multilateral organizations in the areas of agriculture and rural development n should be aligned with the strategic elements outlined in section III, namely:

- *Promoting rural productivity*: How can the UN, the RBAs and the IFIs initiate and accompany the transfer and adaptation of rural productivity improvements engineered in the Global South to other developing countries? Would it be

possible to replicate, through a joint RBA SSTC programme, the Asian [green revolution](#) in sub-Saharan Africa? Can the UN and IFIs play a role in bringing together producers, practitioners and researchers from Southern countries that achieve the highest [crop yields](#) with those that record the lowest? What role could the UN and the IFIs play in facilitating productivity-enhancing joint ventures and investments between developing countries (for example agricultural machinery, fertilizer production, research and development)?

- *Adapting to climate change*: How can the UN system and multilateral organizations facilitate the exchange of successful climate-change-adaptation strategies and technologies between developing countries (for example, water and resource saving techniques, drought resistant and/or salt-tolerant crops, climate-smart agriculture)? Would it be possible to initiate sub-regional climate change adaptation networks (involving countries that share common characteristics, for example the Pacific islands, the Sahel region, the tropical areas of South Asia)?
- *Introducing new technologies*: How can the RBAs, the wider UN, IFIs, multilateral organizations and other networks such as the CGIAR, initiate and support the spread of innovative, resource-saving and productivity-enhancing technologies generated in the Global South, such as robots, drones, IT, artificial intelligence, precision agriculture, Internet of Things, etc.? Could the IFIs provide financial support for the establishment of South-South rural technology centres (in line with SDG 17 target 6)?
- *Strengthening farmers' organizations*: Would it be possible establish a platform for exchange and cooperation between national, regional and global farmers' organizations¹⁸? Can the UN, the IFIs and global cooperative organizations initiate, facilitate and accompany trade and investments partnerships between national agricultural cooperative movements within and between sub-regions of the Global South? Could they play a role in developing a social media platform dedicated to rural producers from the Global South, as a means to exchange knowledge and experiences, and promote agricultural trade?

All these activities would contribute to the overall goal of driving inclusive and sustainable rural transformation, defined by IFAD as "a process in which rising agricultural productivity, increasing marketable surpluses, expanded off-farm employment opportunities, better access to services and infrastructure, and capacity to influence policy all lead to improved rural livelihoods and inclusive growth" (IFAD, 2016). The concept of inclusive rural transformation is indeed IFAD's unique proposition to the 2030 Agenda and to BAPA+50.

Evolving SSTC modalities

The SSTC knowledge-sharing activities of multilateral organizations, including the UN system, will certainly continue, for example through IFAD's [Rural Solutions Portal](#), through the [Global South-South Expos](#), and through the organization of SSTC-related conferences, meetings, events, and study tours. However, the UN, in particular the RBAs should, in addition, adopt and/or expand complementary SSTC implementation modalities in response to the evolving needs, aspirations and capacities of the developing world. They should put greater emphasis on facilitating *operational partnerships* between two or more countries from the Global South, such as the exchange of experts, joint research and development, joint infrastructure and climate adaptation projects, and joint business ventures. The UN system could also play a

¹⁸ A nucleus of such a platform exists already: the Committee for the Promotion and Advancement of Cooperatives ([COPAC](#)), which was formed in 1971 by FAO, UN-DESA, ILO, ICA and the World Farmers' Organization.

greater role in boosting *agricultural trade*¹⁹ (SDG target 17.11) between countries from the Global South, for example through the provision of market intelligence, twinning arrangements and commercial partnerships. In the same vein, the UN system and the IFIs could more actively promote South-South rural and *agricultural investments*, both by public and private investors, by providing seed funds, brokering partnerships, ensuring due diligence with regard to environmental, social and human rights issues, and facilitating co-financing by international partners, including development banks. This modality would benefit from enhanced SSTC-related *cooperation between the Rome-based Agencies and the International Financial Institutions and the regional and global Development Banks*.

Moreover, SSTC at the *regional level* deserves more attention; this would call for a more intense cooperation between the UN and *regional bodies*, such as MERCOSUR, ASEAN and the African Union, sub-regional entities such as [Mekong River Commission](#) (MRC), the [Nile Basin Initiative](#), and the various regional economic communities, and the [UN Regional Commissions](#). All these organizations are, by nature and definition, involved in various forms of SSTC, including in areas related to agriculture, livestock, fisheries and rural development, and address issues that cannot be dealt with at the national level.

Multilateral development organizations could explore the feasibility of *jointly formulating the SSTC narrative of country programmes* of two or more countries from the South. For example, two governments and the respective IFAD offices may decide to work together in drafting SSTC section of their IFAD's country strategic opportunities programmes (COSOPs), thereby agreeing on joint SSTC activities during the implementation period; this process could be initiated and accompanied by IFAD headquarters.

The amount of development cooperation funding from the South is growing, and several emerging economies have established development cooperation agencies. Such funding can be accessed by countries and multilateral organizations alike. For multilateral organizations to access these *resources*, they must convincingly demonstrate that they possess a unique value proposition and value-added as implementers of SSTC projects. The same holds true for *triangular arrangements*, i.e. the technical and/or financial support from a country of the North channelled through a multilateral organization in support of South-South partnerships related to agriculture and rural development.

Finally, the SSTC programmes of UN agencies would benefit from SSTC-specific monitoring and evaluation methods. An attempt is currently being made by the three RBAs to develop an SSTC-specific evaluation methodology, which would enable the

A South-South Agricultural Project in the DR Congo

The "[parc agro-industriel de Bukango-Lonzo](#)" is the first in a series of seven ambitious agricultural projects in the DRC. The estate covers an area of 80.000 hectares delimited by two rivers. When completed the estate shall produce maize (as animal feed for poultry and pork farms) and vegetables. The project includes silos, pivotal irrigation systems covering 10,000 hectares, a pump station with a capacity of 4 million litres/hour, a power transformation station, an airstrip and two aircraft for the spraying of herbicides and insecticides, plus numerous vehicles, tractors and agricultural machinery. The project is being implemented by the South African company "Africom Commodities" which also holds equity and is in charge of developing the production sites while government provided the necessary infrastructure. The first phase of the project is budgeted at 83 million \$, financed by the Government, the World Bank and the AfDB. The project will employ up to 3,000 workers when fully developed. A major problem is the nature of the soil, which is very sandy and poor in nutrients. To achieve satisfactory yields the company would have to spread massive doses of fertilizer (which would be produced on-site) (Schwettmann, 2016).

¹⁹ South-South agricultural trade has grown from US\$80 bn in 2004 to US\$340 bn in 2014 (US Department of Agriculture, 2015).

agencies to better understand what works and what does not, to assess and quantify the particular contribution of SSTC to development results, and to scale up successful experiences.

CONCLUSION

Forty years after the first Buenos Aires conference, the progress made in addressing poverty has shown on many occasions how effective SSTC can be, as a cooperation modality, in improving development. Countries of the Global South have employed SSTC in support of a variety of national growth strategies, establishing bilateral cooperation agreements, exchanging knowledge and technical resources, and mobilizing financial flows. The coming decade will witness new challenges, including a substantial growth in the demand for food and agricultural products, and a shift in dietary regimes towards animal products and processed food. Much of this growth in demand will occur in the Global South as a result of demographics and rising incomes. At the same time, agricultural

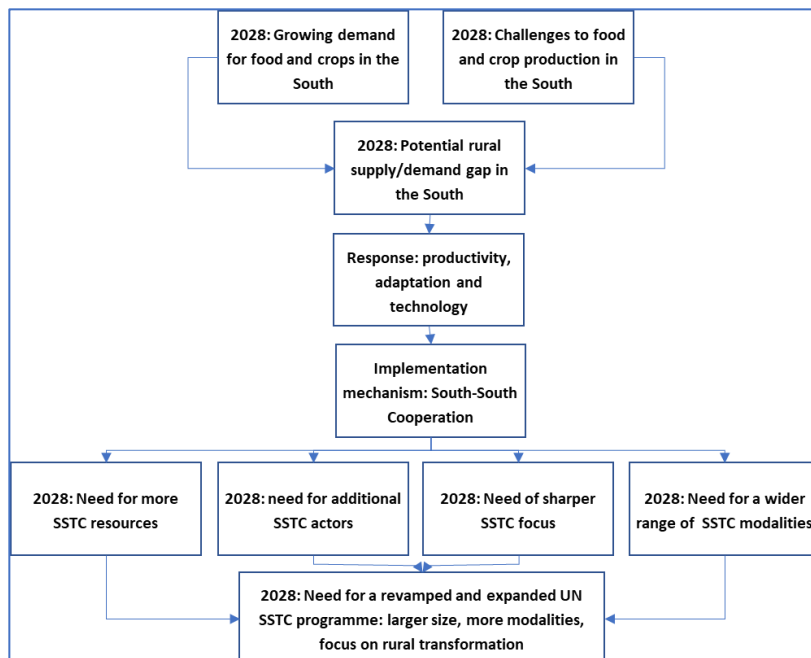


Figure 11 – BAPA+50 in a nutshell.

production and output in the Global South will be increasingly threatened by climate change, resource depletion, urbanization, an ageing population, and food losses.

To address this predicament, the nations of the Global South must enhance rural productivity, adapt to climate change, harness the power of new technologies and support the establishment of farmers' organizations and networks. South-South cooperation appears as the most efficient mechanism to achieve this, including because the nations of the South feature similar climatic, environmental, economic and social conditions, so that their rural solutions are more suitable and affordable than those imported from the North. The growing importance of SSTC in agriculture calls for more SSTC resources, additional SSTC actors, a sharper SSTC focus, and additional SSTC modalities. These requirements must be reflected in the evolving approach of multilateral development organizations – including in UN system– in support of the 2030 Agenda, and towards BAPA+50.

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List of Figures






Figure 1 – Africa is projected to see the largest relative increase in the size of its population by 2050, and in 2030 it will have to feed almost half a billion people more than in 2015. Source: United Nations.	4
Figure 2 – World population keeps increasing since 1950, but at a slower pace than in the past. Source: World Urbanization Project, 2011.	4
Figure 3 – Share of total population living in urban areas, 2017. Source: www.OurWorldInData.org.	5
Figure 4 – Share of land area used for agriculture, 2014. Source: World Bank – WDI.	6
Figure 5 – Cereal yield in metric tons per hectare (Ranganathan, 2013).	8
Figure 6 – Changes in agricultural production in 2050: Climate change relative to the baseline. Source: FAO, 2018.	8
Figure 7 – The decline in the availability of natural resources will reduce the amount of food available per capita in 2028 to the level of the 1950s. Source: Club of Rome.	9
Figure 8 – Food waste and food loss. Source: FAO "Global losses and food waste", 2011, Dalberg Analysis.	10
Figure 9 – World agriculture towards 2015/2030 - Summary Report. Source: FAO, 2002.	12
Figure 10 – Adaptation will be key. Source: Porter et al., 2014.	14
Figure 11 – BAPA+50 in a nutshell.	23



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