Increasing Productivity

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Agribusiness plays a vital role in economic development. In countries with low per capita income levels, the agricultural sector often accounts for more than half of GDP and 60 to 80 percent of total employment. Agribusiness is a priority for IFC because of its strong role in poverty reduction and potential for broad development impact. IFC combines investments and advisory services to help the sector address higher demand and escalating food prices in an environmentally sustainable and socially inclusive way. IFC supports initiatives for sustainable production of agricultural commodities.

The key objective of IFC’s agribusiness work in South Asia is to:

- Promote food security
- Enhance economic development and inclusion in the sector
- Make environmental and social sustainability a business driver
- Create jobs at farm and non-farm levels

IFC builds the **skills of farmers** and links them with required finance, increasing their access to weather-based insurance to protect against losses due to environmental factors. It helps farmers **improve productivity**, provides climate-resilient seeds, and ensures a safe space for storage of grains and agricultural produce through modern warehousing that is built and operated by private sector clients. IFC also helps companies become more resource efficient and reduce water footprint.

IFC builds supply chain linkages, and infrastructure and **facilitates market development of local supply** by helping farms meet quality and quantity requirements.

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*According to the Food and Agriculture Organization, agriculture employs about 60 percent of the poor and rural workforce in South Asia, of which 35 percent are women. Over 80 percent of the world’s small and marginal farmers belong to this region.*
Top and Bottom: Farmers in India and Bangladesh taking their produce to market.
Right: Charting new paths in farmer training in India. IFC works with private sector clients to boost productivity, improve skills, and increase incomes.
Agriculture is the world’s biggest employer. According to Food and Agriculture Organization, agriculture, employs about 60 percent of the poor and rural workforce in South Asia, of which 35 percent are women. Over 80 percent of the world’s small and marginal farmers belong to this region. In recent years, agricultural growth in South Asia has been less than three percent, far below growth rates of other economic sectors. Low productivity, inefficient markets, lack of finance, and unpredictable weather conditions hold farmers back, keeping their hard work from leading to significant increases in income. Some challenges that the sector faces are:

**Post-Harvest Losses**
The Food and Agricultural Organization ranks South Asia as the most malnourished and food insecure region in the world.

Despite being a large producer, most food grains go to waste due to poor storage and transport conditions.

**Low Productivity**
South Asia is also a region where the per hectare productivity of agriculture is much lower than in other regions. This translates into lower incomes for farmers and disproportionate use of cultivable land. Due to limited research and development capacity of the public and private sectors in developing climate- resilient and high-yielding seed varieties, farmers depend on traditional varieties that negatively impact agricultural productivity.

**Lack of Quality Standards**
In several South Asian countries, overuse of fertilizers and over extraction of groundwater are major issues. Further, the absence and poor implementation of internationally recognized standards and certification systems results in high rejection rates in international markets.

**Vulnerability to Climate Change**
According to Maplecroft’s Climate Change Vulnerability Index 2014, three of six countries in South Asia - Bangladesh, India and Nepal - are facing extreme risks from the impacts of climate change.
Solutions
Productivity, Access, and Sustainability

Agricultural development has the potential to enhance food security, create opportunities, and raise incomes for the world’s poor, many of whom live in rural farm communities. Sustainability in agriculture is a business driver for IFC’s clients and partners. IFC is achieving this through:

**Promoting Sustainability**
- Increasing production using fewer resources and reducing impact on the environment
- Improving energy and water efficiency

**Increasing Productivity**
- Building skills and providing better seeds and inputs
- Helping farmers adopt modern agricultural practices

**Enabling Access to Finance**
- Facilitating development and availability of appropriate financial products such as weather-based insurance to cover risks
- Building capacity of financial institutions to cater to the needs of small farmers

**Facilitating Access to Markets**
- Helping farmers meet the quantity and quality requirements of larger markets
- Strengthening storage and warehousing infrastructure to reduce field-to-market losses.
Increasing Productivity

- IFC’s farmer training inputs to investee-client DCM Shriram Consolidated Limited (DSCL) led to a productivity increase of about 80 percent among sugarcane farmers in the state of Uttar Pradesh, India.

- In Bangladesh, IFC is helping the private sector to increase production and promote use of new climate-resilient seeds that make farmers less vulnerable to climatic events, such as salinity increase in coastal areas.

- IFC is advising the government of Bangladesh to simplify the process of accessing high-yield seed varieties for farmers.

Facilitating Access to Markets

- IFC offered a unique public private partnership solution to India for storing the country’s food reserves through the creation of modern grain storage silos. With IFC’s advice, the government is setting up silos in ten states. Modern silos retain nutrition, reduce field-to-market losses, and protect grains from environmental damages.

- IFC is also advising the governments of Bangladesh and Odisha, a low-income state in India, to facilitate investments in food processing, improve cold chain capacity, and warehouse facilities.
Enabling Access to Finance

- IFC is working with a state-level agricultural cooperative in India and Rabo Bank to improve access to credit and non-credit financial services for small and marginal farmers. This is IFC’s first large agri-finance project in South Asia.

- In Sri Lanka, IFC and micro insurance company SANASA, an investee client, are working to develop affordable weather-based agricultural insurance products to help farmers minimize the impact of crop losses due to floods or droughts.

Promoting Sustainability

- IFC worked with Jain Irrigation Systems to conduct a water footprint assessment for the first time in India. IFC has conducted similar assessments in countries that face water scarcity.

- IFC also conducted a similar assessment for Tata group of companies in India.

- IFC is scaling up efforts to improve agricultural resilience to climate change by adopting responsible methods and practices.
Increasing Productivity

South Asia has millions of high potential farmers. However, many rely on traditional farming methods which may not always be the most productive.

IFC identifies larger firms and through their extension services, trains farmers to adopt farming techniques that lead to higher productivity.

IFC supports DSCL through investment and advisory services with improved practices to increase productivity and incomes.
Sweet Success: Increasing Sugarcane Productivity

Sugarcane farmers in India’s low-income state of Uttar Pradesh are seeing an increase in sugarcane productivity as a result of IFC’s agribusiness advisory project *Meetha Sona*, or sweet gold. In India, over 50 million farmers depend on sugarcane cultivation for their livelihood. But while some states in India have yields of more than 100 tons per hectare, farmers in Uttar Pradesh produce only around 50-55 tons per hectare resulting in lower incomes from sugarcane cultivation.

IFC is working with DSCL to create a model for replication for the sugar sector in Uttar Pradesh. The project supports IFC’s South Asia strategy of inclusive economic growth by promoting economic activities at the base of the pyramid. It also strengthens IFC’s footprint in one of India’s low income states.

The project works at three levels:

a) **Farmer Level:** To enhance productivity of sugarcane growers/ suppliers through improved training materials and modified package of practices.

b) **Company Level:** To provide advice and capacity building to DSCL to enhance competencies of sugarcane extension workers who engage directly with farmers. Higher productivity will result in greater output and profits for the company.

c) **Stakeholders/institutions:** To build institutional capacity within DSCL to organize results sharing workshops with major stakeholders, develop benchmarks for the sugar sector, and document best practices.

**Impact**

In the second year of the project itself, trained farmers recorded a productivity increase of 86 percent from baseline levels, while farmers in control groups, who did not receive any training, recorded an increase of only 19 percent. The program reached over 17,000 farmers translating into improved quality of life for nearly 85,000 people taking the average family size as five.

Based on the success of this initiative, IFC has now scaled up the project to work with four sugar companies and increase the productivity of farmers in their supply chains.
Climate change poses a serious challenge to agricultural output in Bangladesh. As a low-lying country with large areas situated on a delta, it can expect increased flooding, saltwater intrusion, drought, and other natural disasters. Rising salinity levels in coastal regions are reducing productivity of many seed varieties traditionally used by farmers.

IFC is actively promoting climate-resilient agricultural practices, working with both private and public sector partners to build greater efficiencies in the use of resources. These partners are four of the country’s largest private seed companies (Energypac Agro-G, Supreme Seed, ACI, and Lal Teer Ltd.), the Bangladesh Rice Research Institute, and the International Rice Research Institute.

With advisory support from IFC, this partnership is promoting stress-tolerant rice seeds that can withstand extreme weather conditions. Simultaneously, IFC is developing contract farming and building farmers’ overall capacity.
Impact

The project has achieved the following results:

Farmers trained

- Over 67 percent adopted project-recommended practices
- 44,000 reported improved performance, including better productivity and business outcomes
- 26,000 implemented changes related to climate change adaptation
- 19,200 adopted new practices related to productivity improvements
- 1,200 women become micro-entrepreneurs by growing and selling seeds

Regulatory Environment

Eight new stress-tolerant seed varieties were launched by the government of Bangladesh to the private sector for production and multiplication.

Market Linkage

One lead firm and three additional buyers sourcing seeds from established seed growers.

Good harvest brings smiles of prosperity to women farmers in Bangladesh.
IFC’s contribution to the challenge of agricultural development in rural areas focuses on strengthening the supply chain between farmers and markets in terms of knowledge, technology, and finance.

It is expanding its work with new clients in agricultural products such as fruits, vegetables, and dairy.

For maximum impact, IFC identifies larger local firms that have an interest in efficient and productive supply chains in agribusiness, and works with them to deliver reach, inclusion, and impact.
Ensuring Food Security: Punjab Grain Silos Project

In 2009, the Indian state of Punjab asked IFC to advise on public private partnership (PPP) basis to develop state-of-the-art, long-term storage grain silos to store 7.1 million tons of wheat for below poverty line families.

The pilot project was implemented in April 2011. Following competitive bidding, the government selected LT Foods Limited, a mid-size grain trading company, to build and operate a 50,000 metric ton storage facility.

The new silos ensure that, annually 500,000 of India’s poorest will receive better nutrition and adequate grains.

This pilot had a positive effect for linkages in the supply chain and can be replicated throughout India and in other markets.

The project was named the “Best Pathfinder Project” at the Partnership Awards 2012 in London. The project was also featured in Euromoney’s Project Finance Yearbook and was ranked first in East Asia, Pacific and South Asia region by “Emerging Partnerships”, IFC’s global publication of top 40 PPPs in emerging markets.

IFC’s experience with the Punjab Grain Silos project was featured as a case study in Economist Intelligence Unit’s recent report titled ‘A healthy Future for All: Improving Food Quality for Asia.’

Impact

Building on the pilot’s success, the government of India is planning a roll-out program across 10 states to create 2 million metric tons of capacity on PPP basis. IFC is assisting the Food Corporation of India in this strategic initiative which is at the core of India’s food security. As part of the national level initiative, IFC expects to facilitate more than 40 PPP contracts for setting up silo facilities, mobilize $400 million in private investment, help provide more nutritious wheat for 20 million of India’s poorest, implement better procurement practices and reduce waiting time for 266,000 farmers.
Quality Standards: Making Farmers Globally Competitive

A major constraint faced by Indian exporters is the lack of food safety standards demanded by the major importing countries. IFC helped a private sector company to develop and adopt quality standards in its operations.

Jain Irrigation Systems Ltd., an IFC investee, is the world’s largest mango puree producer and the second largest dehydrated onion producer.

Jain Irrigation began noting increased interest from its international buyers for better farm-level practices (4,000 farmers are direct suppliers) including worker health and safety.

Since the company is into food processing, its buyers did not request compliance to GLOBAL G.A.P. standards (which is for fresh produce). However, Jain Irrigation wanted to set a standard for farmers, and assure buyers about the use of good agricultural practices at the farm level. More importantly, without increasing the cost of compliance for farmers and the company itself.

IFC supported the development and pilot of a standard the farmers in the Jain supply chain could adopt. This standard is known as ‘JAIN G.A.P.’ and is a modified version of the global standard, and uses 74 of 256 compliance criteria.

Impact

The project trained 79 Jain extension associates on the JAIN G.A.P. standard. They have in turn trained 4,162 of its farmers to adopt these practices. In addition, company auditors were trained to measure farm-level compliance. Due to outreach and ongoing compliance monitoring, 1,340 farmers adopted these standards to cultivate 5,573 acres of land. GLOBAL G.A.P. recognizes the JAIN G.A.P. standard as a “Primary Farm Assurance” standard. Jain Irrigation is now scaling up the standard to its other direct farm suppliers.
IFC worked with Jain Irrigation, one of the largest producers of dehydrated onions in India, to carry out a water footprint assessment of its onion supply chain.

Ravindra Mahajan shows the onion production in his farm after adoption of Jain G.A.P. quality standards.
Creating the Right Investment Climate for Agribusiness

In Bangladesh, any significant improvement in agricultural productivity levels will immediately improve millions of lives.

IFC’s investment climate project will improve potential of the agricultural sector benefitting a population of 160 million in Bangladesh.

Despite being one of the country’s priority sectors, the agribusiness sector in Bangladesh is yet to fulfill its potential for growth. Low productivity, high post-harvest losses, and low export growth are critical challenges that pose a threat to food security for a growing population of 160 million in Bangladesh.
IFC has designed a project to improve the investment climate of the agribusiness sector to attract private sector investments.

IFC is working to streamline regulatory frameworks in agribusiness. The project will address regulatory and policy constraints hindering growth of the sector. It also seeks to:

- Improve the input market (e.g., seeds)
- Develop cold storage capacity;
- Modernize food safety and product certification systems
- Develop a formal contract farming framework.

IFC is working with the Ministry of Agriculture, Ministry of Industries, private sector associations, and market players to achieve this.

The other part of the project is to strengthen investment facilitation support. The project will support the Board of Investment in Bangladesh to develop a value proposition for key agri products and help implement a proactive investment facilitation plan to targeted investors.

**Impact**

The project will reduce regulatory burdens for firms across the agribusiness value chain by reducing time and costs to comply with regulations. Moreover, the project will facilitate investments in the sector through targeted investment promotion support.
A major problem is that only a limited number of farmers in South Asia have been able to afford the improved seeds, fertilizers, micronutrients, and equipment they need to get ahead.

IFC works with banks and microfinance institutions to increase access to finance for small agribusinesses and farmers.

IFC works with financial institutions to develop affordable and flexible financial services that can help address environmental and market volatility to drive productivity and increase access to markets.

Finance is critical for entrepreneurs and small farmers. IFC helps farmers, including women, access finance.
Mitigating Risks: Weather Index Insurance for Farmers

According to a survey carried out by Sri Lanka’s central bank, 61 percent of entrepreneurs said that borrowing from banks is difficult because they cannot provide guarantees. Also, small farmers in rural areas are subject to crop damage caused by a variety of adverse weather conditions and due to lack of insurance, are unable to access diverse financing options.

Insurance is important to facilitate access to finance by mitigating ‘business risks’ for small farmers. Index-based insurance can cover farmers’ exposure to weather-related risks and facilitate access to credit to purchase inputs.

IFC’s Global Index Insurance Facility Program partnered with microinsurance company SANASA Insurance to develop flexible, affordable, weather-based agricultural insurance products to minimize the impact of crop losses due to floods or droughts.

Index-based insurance products pay out benefits calculated using a pre-assigned value for losses arising from weather or catastrophic events. Such products eliminate the need for insurance companies to verify claims individually, reducing transaction costs and making it easier and faster to serve rural communities.

The project also educates farmers on risk management. IFC and SANASA Insurance have improved farmers’ access to finance by providing protection against losses due to adverse weather conditions.

As Sri Lanka recovers from three decades of conflict, there is renewed hope. The economy is growing at a steady pace; agriculture employs 33 percent of the labor force; and new lands in north and east Sri Lanka are opening up for agriculture.

Impact

With this project, IFC has helped SANASA Insurance expand access to insurance for small farmers by offering protection against weather-related risks and natural disasters. The project will also raise awareness among farmers on the availability and benefits of these index-based insurance products.
Improving Banking Services for Farmers

According to the National Bank for Agriculture and Rural Development, approximately 50 percent of farmers in India have limited or no access to formal financial services. As a result, agricultural growth has stagnated at around one percent annually over the last five years.

IFC is helping Andhra Pradesh State Cooperative Bank design and offer new products for small farmers in Andhra Pradesh, India’s fourth largest state.

The state cooperative bank serves 4.3 million small and marginal farmers through a network of district cooperative central banks and primary agricultural cooperative credit societies.

With IFC’s support, the state cooperative bank is designing new credit and non-credit products, including loans, savings, insurance, remittances, and other offerings for farmers.

IFC is assisting the bank by developing a robust risk management system to promote responsible finance and check over-indebtedness, which is leading to stronger business operations.

The project also includes training on responsible finance for bank staff and member institutions of the bank.

As a part of this project, the state cooperative bank and IFC are working with Rabo Bank International Advisory Services, which has expertise in the cooperative and financial sector.
Impact

The project aims to increase access to agri-finance for farmers in Andhra Pradesh. It will also expand financial offerings by developing at least three new financial products, that meet customers needs. Finally, the project will advise the state cooperative bank on how to improve overall strategy, governance, human resource management, risk management, and operations to ensure sustainability and engage in responsible finance practices both in terms of staff training and financial awareness for its customers.
Promoting Sustainability

Key Business Driver

In all of IFC’s work in agribusiness, sustainability is a business driver for the clients and partners. IFC has worked on developing and supporting the implementation of innovative projects to deal with the challenges of reducing water tables and other environmental vulnerabilities in South Asia.

The focus is specifically around tackling water scarcity and climate change impacts while also supporting companies to meet market challenges by adopting higher food standards.

Improved irrigation practices in farmlands is enabling farmers to tackle water scarcity.
Addressing Water Security in Agriculture

By 2025, two-thirds of the world’s population will live in water-stressed conditions.

Water footprint assessments help companies reduce water-related risks, improve water efficiency, and mitigate social and environmental impact.

IFC worked with Jain Irrigation Systems to conduct a water footprint assessment. This was the first time that a business conducted such an assessment in a developing country, paving the way for similar assessments for IFC clients in other water-scarce countries.

Jain Irrigation Systems, an India-based IFC client is the world’s largest manufacturer of drip irrigation systems and operates in an area where water scarcity is a major issue. It is also the world’s largest producer of mango pulp, puree, and concentrate, and the second largest producer of dehydrated onions.

The assessment focused on water consumption in the production of dehydrated onions and the manufacturing of its micro-irrigation systems. The assessment revealed that onions grown under drip irrigation have 42 percent smaller water footprint than those grown using traditional irrigation methods.

IFC partnered with Tata Steel, Tata Power, Tata Motors, and Tata Chemicals to conduct water footprint assessments and develop a sustainability framework for these Tata group of companies. IFC used Water Footprint Network’s globally acknowledged water footprint methodology.

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*Water footprinting is similar to carbon footprinting. It determines how much water a company uses in its operations as well as in its supply chain.*
Building Climate Resilient Communities

According to Maplecroft’s Climate Change Vulnerability Index 2014, three of six countries in South Asia - Bangladesh, India and Nepal - are facing extreme risks from the impacts of climate change.

Farmers in Nepal face increased climate variability and significant water-related stress. IFC is helping change this by building climate-resilient communities.

Nepal produces only 0.025 percent of global greenhouse-gas emissions but its 20 million farmers, of whom 96 percent are smallholders, are likely to face increased climate variability and significant water-related stresses.

A climate risk assessment carried out at the community level identified water and food security as the most critical risks.

Nepal’s agriculture sector contributes 35 percent of its gross domestic product and employs 66 percent of the population. However, high dependence on rain, poor farming practices, and limited access to finance constrains productivity.

IFC, in partnership with the World Bank and the Asian Development Bank, has designed a project...
to address key climate-induced risks and other productivity constraints faced by farmers and to provide potential solutions.

The project will work with agribusiness lead firms to promote improved agricultural and water management practices. It will introduce new technologies to help small farmers who produce rice, maize, and sugarcane adapt to climate change.

The project will promote improved seed varieties and modern agriculture and water practices. These inputs will improve farmers’ climate change resilience and productivity.

The project will also work with a financial institution to increase lending to farmers and other value chain members.

IFC helps companies improve water efficiency in their supply chains.
Promoting Water-Efficient Agricultural Production

India is a leading exporter and a primary producer of basmati rice, with over 43 million hectares under rice cultivation.

The sector provides livelihood opportunities for small landholders. Agriculture in India accounts for 85 percent consumption of the country’s water resources. of this, rice is a major water consumer.

Rough estimates of water usage in the sector are pegged at 3,000-5,000 liters per kilogram.

Groundwater extraction for irrigation is leading to alarming depletion rates that places future agricultural production in states like Haryana at a higher risk. In this scenario, there is a strong case for efficient in the use of existing water resources.

IFC is working with private sector rice companies to introduce water use-efficiency practices and technologies in their basmati rice supply chain in the state of Haryana, India. Technologies like direct seeded rice, which do not have to be transplanted, have demonstrated substantial water saving potential by eliminating the need for standing water for seed germination.

Mechanized operations are also time and labor-efficient when compared to traditional practices. Similarly, laser leveling technology to prepare land to near-flatness has reduced water use and has led to higher yields.

This project has helped IFC develop innovative delivery models by creating rural entrepreneurs who provide farmers access to technologies on a custom-hire basis. These rural entrepreneurs advise farmers on good agriculture and water management practices, and help overcome financial and knowledge barriers to technology uptake.

Impact

The program has currently reached over 1,100 farmers in water stressed areas of Haryana with estimated water savings of 6.3 million cubic meters. Planned interventions over the next four years will benefit more farmers in the state.
Top: Laser land leveling improves crop production efficiency and reduces irrigation water requirement by around 20 percent.

Bottom: Direct seeded rice reduces irrigation water requirements by about 60 percent.
Agribusiness is a high priority for IFC. Our future strategy will:

- **Continue to advice and provide training to increase productivity**

- **Increase storage and warehousing for food grain and agricultural produce**

- **Build capacity of financial sector on value-chain financing, pre and post-harvest financing**

- **Enhance competitiveness of agribusiness sector and improve investment climate.**

IFC South Asia has been working on developing and supporting innovative projects to deal with sector challenges, specifically around key themes of water and climate change while also supporting companies to meet market challenges by adopting food standards in South Asia.

IFC will continue to improve the regulatory framework on food safety and standards by upgrading and harmonizing standards. IFC will also introduce modern food safety process certification systems, and eliminate barriers for internationally recognized certification companies to certify agricultural products in the region.

Our work has shown the positive impacts of working with lead firms to increase productivity of farmers
in their supply chains in sectors such as poultry and sugar.

As IFC moves forward, it will explore new sectors and expand its work around input supply which includes seeds, raw materials, and farmer training aimed at increasing productivity.

IFC will also design financial products and increase storage and warehousing thereby reducing losses and wastage.

IFC’s advisory team will continue to build capacities of financial institutions and non-bank financial companies through product innovation and portfolio management for agricultural clients.

Going forward, IFC will help them strategize and segment potential agricultural customers and serve them through value chain financing, as well as pre- and post-harvest financing.

IFC will scale up existing work to improve agricultural resilience to climate change and reduce the impact of agriculture on the water table in water scarce areas.
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About IFC

IFC, a member of the World Bank Group, is the largest global development institution focused exclusively on the private sector in developing countries. Established in 1956, IFC is owned by 184 member countries, a group that collectively determines our policies. Working with private enterprises in more than 100 countries, we use our capital, expertise, and influence to help eliminate extreme poverty and promote shared prosperity. IFC leverages the power of the private sector to create jobs and tackle the world’s most pressing development challenges. IFC’s vision is that people should have the opportunity to escape poverty and improve their lives.