

# Analysis: Impact of aBi Green Growth Interventions on the Coffee Value Chain

**TECHNICAL BRIEF** | By Richard Mwesigwa, Geoffrey Okidi, Florence Anobe

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**BACKGROUND:** The Uganda Green Growth Development Strategy (UGGDS 2017/18 –2029/30) aims to ensure that the goals of the Uganda Vision 2040 and the NDPII 2015/16-2019/20 are attained sustainably. Although there is no standard global definition of green growth, in Uganda's context, green growth is defined as an inclusive low-emissions economic growth process that emphasises effective and efficient use of the country's natural, human, and physical capital while ensuring that natural assets continue to provide for present and future generations.



Macroeconomic sector modelling indicates that full implementation of the UGGDS interventions (green growth scenario) will enhance national GDP by 10 per cent beyond the business as usual (BAU) target, deliver an additional four million green jobs and reduce greenhouse gas emissions by 28 per cent relative to the conventional growth pathway.

Cognizant that Uganda's agriculture sector is highly dependent on natural capital and vulnerable to environmental and climate changes. The industry faces deteriorating natural resources and is experiencing increased seasonal changes, including higher temperatures, dry spells, and more erratic rainfall patterns. In alignment with the Rio markers on biodiversity, climate change mitigation and desertification were introduced in 1998, and climate change adaptation was applied from 2010 onwards.

**INITIATIVE:** aBi is implementing a green growth strategy to increase agriculture and agribusiness sector resilience to environmental and climate change shocks; minimise carbon footprint and waste by promoting efficient and sustainable utilisation of natural resources and waste management; and green technology financing through the availability of long-term finance.

Increasing sector resilience to environmental and climate change shocks: Through its partnerships, aBi has facilitated the application of Climate-Smart Agricultural (CSA) practices by promoting agroforestry for coffee shade, wind brakes, fuelwood and other environmental benefits. Further, aBi has worked with the Ankole Coffee Producers Cooperatives Union (ACPCU) and Bukonzo Organic Cooperatives Union (BOCU) to enhance 300 farmers' capacity to utilise organic substances such as animal waste, compost, mixtures/formulations of different plants, crops and animal substances.

While in circumstances where organic manure sources are limited, especially among farmers without livestock, the Implementing Partners (IPs) and farmers have developed innovative ways of formulating manure to apply on their farms. For instance, ACPCU is promoting an organic manure formula – which mixes water from soaked rice, milk and sugar molasses in appropriate portions to make organic manure. Farmers have been trained in this formulation, and adoption is increasing. While through aBi support, BOCU enables farmers to make compost manure from chicken residues, goat dung, cassava peelings, and waste from wet coffee pulping in the Rwenzori region.

aBi is also advancing mulching in mixed coffee-banana planting systems. The practice minimises soil erosion and reduces soil temperature, subsequently protecting the soil surface from the impact of falling rain, retaining soil moisture, and increasing mineral nutrients and organic matter levels in the soil and production. Coffee farms' most common organic mulches are cut grass, sorghum, maize trash, and coffee husks. However, only some coffee farmers in the Eastern and Southwestern Uganda regions practice contour ploughing as a soil and water conservation measure to maximise gains.

Contour trenches, locally called "*Fanya juu* and *Fanya Chini* ", are usually supported by planting grass, commonly elephant, Napier, Setaria, and Kikuyu grass, to stabilise them. Grass also supplements mulching and fodder for livestock. Protecting fragile ecosystems promotes certification to ensure product quality and international niche market access. Organic, Fairtrade and Rainforest Alliance are the certification bodies working with aBi Implementing Partners (IPs) and farmers. Certified IPs and farmers must preserve fragile ecosystems such as forests, rivers, and other natural resources. For example, according to the Rainforest Alliance standard, farmers are restricted from carrying out any activities near the river/stream banks or opening forests or wetlands for agricultural activities.

In addition, through aBi support, farmers in the Rwenzori region were trained to observe catchment guidelines to operationalise the observance of the 30 metres for small and 100 metres for large water bodies.

Green growth with less carbon footprint: aBi has supported IPs to adopt industrial solar systems and replace generators to limit greenhouse gas emissions and minimise costs from grid electricity. For example, the National Union of Coffee Agribusinesses and Farm Enterprises (NUCAFE) and Uganda Coffee Exporters and Processors (UGACOF) have established industrial solar power plants and demonstrated a significant shift towards efficient and clean coffee processing.

Green growth interventions enhance agricultural production, productivity, and profitability while maintaining the ecosystem (sustainably). For example, coffee farmers commonly use climate-smart approaches such as mulching to minimise soil erosion, reduce soil temperature, and protect the soil surface from the impact of falling rain.

**RESULTS:** At the coffee farmer level, over 542,000 trees were planted. IPs - ACPCU and KAWACOM increased their organic product certification. At the same time, ACPCU constructed an underground water tank of over 100,000 litres to harvest rooftop water for supply to the coffee processing facility. Further, 300 youths were trained in organic manure formulation for application in coffee.

And at the coffee process level, the NUCAFE and UGACOF established industrial solar power plants of 172Kwp<sup>3</sup> and 100kwp, respectively, with funding from aBi. Also, NUCAFE reduced its carbon emissions by 241 tons of CO<sub>2</sub> emissions annually and reduced energy costs by 56 per cent from Ushs5 million to nearly Ushs3 million per month.

**LESSONS LEARNED:** Integration of green growth practices in value chain development enhances environmental conservation efforts minimises climate change effects on agricultural production and productivity.

Promotion of green growth through innovative approaches such as the Green Challenge Fund as a way of scaling up green interventions across actors in the coffee and other value- chains is critical for the attainment of sound climate change practices, social inclusion, and governance.

Strategic partnerships and linkages with the line ministries, development partners, the private sector, and agricultural service/product providers such as input suppliers, clean energy suppliers, and carbon markets service providers are necessary for sustainable coffee production.

Green growth initiatives have faced challenges from the scarcity of biomass required for mulching, limited awareness about the importance of mulching, the high cost of establishing CSA structures (e.g., contours and trenches), coupled with high costs of energy-efficient machinery, and clean technologies such as solar for productive use.

**CONCLUSION:** Partnerships and collaboration with public and private entities toward a massive awareness and capacity building on CSA and good agronomic practices will enhance smallholder farmers and agribusiness resilience to climate change. aBi is addressing climate concerns through the green challenge fund. These include the promotion of tree planting, stabilised contours, and regular maintenance to regulate the speed of running water, among others, effectively. Additionally, private provider partnerships have been established with the solar industry association and Uganda Bureau of Standards to promote solar for productive use and regularly monitor solar products on the market, especially those used by farmers.

Further, establishing a rewards system to enhance scale-up and adoption of CSA for sustainable coffee production is critical. Implementation of the reward system is best advanced on attaining agreed CSA milestones. For example, the system could be piloted in the Mt. Elgon and Rwenzori regions. Lastly, enhancing access to quality solar technologies by promoting innovative business models such as 'pay as you go', guarantee facilities, and grants, in addition to direct purchases that end-users can afford, will be vital to advancing technology adoption to mitigate climate shocks and boost sector resilience.

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The Agricultural Business Initiative (aBi) is a major player in facilitating agricultural sector growth in Uganda. aBi acts as a vehicle for channeling technical and financial support to smallholder farmers through its Implementing Partner (IP) agribusinesses across the country. aBi aims to build a strong and competitive agriculture sector. The initiative consists of two companies -aBi Development and aBi Finance.

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