

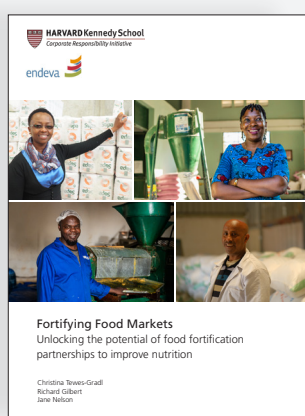
# Fortifying Food Markets

Unlocking the potential of food fortification partnerships to improve nutrition



## PARTNERSHIP PROFILE

### Africa Improved Foods (AIF)



Fortifying commonly consumed staple foods and condiments with essential micronutrients, such as minerals and vitamins, offers untapped potential to help scale up access to nourishing diets for millions of people affected by malnutrition.

There is growing recognition among governments, donors and large corporations that the local millers and food processors who are responsible for fortifying staple foods in most countries play a crucial role in reducing malnutrition, and that more needs to be done to support and unlock their vital contribution.

A new report: "Fortifying Food Markets", developed by the Corporate Responsibility Initiative, Harvard Kennedy School and Endeava, identifies six opportunities to remove barriers that prevent millers from achieving the scale, quality and reliability that are needed for successful food fortification.

The report is informed by a series of profiles that identify learnings and good practices from existing food fortification partnerships engaged in building the capacity of millers. We thank the Bill and Melinda Gates Foundation for supporting this research.

### Introduction to the initiative

Africa Improved Foods (AIF) Rwanda Limited is a joint-venture enterprise, established in 2016, to help people in Rwanda and the wider region achieve their full potential through improved access to nutritious, locally sourced foods. With a focus on driving improvements in the country's food system, AIF's operations encompass the entire food value chain, including local and regional sourcing of agricultural inputs, the production of Fortified Blended Foods (FBF), such as micronutrient rich cereals and porridge, and the marketing and distribution of fortified food products among local populations.<sup>1</sup> AIF manufactures in Rwanda and its products are distributed in Rwanda, Tanzania, Kenya, Uganda and South Sudan.<sup>2</sup> AIF aims to both reduce undernutrition in populations at risk, including pregnant and breastfeeding women and children, and to provide jobs and livelihoods.

AIF is a public-private partnership between Royal DSM, the International Finance Corporation (IFC), the Dutch development bank FMO, and the Government of Rwanda.<sup>3</sup> Other partners include the Clinton Foundation (Clinton Health

Access Initiative (CHAI)),<sup>4</sup> World Vision,<sup>5</sup> the Ministry of Agriculture and Animal Resources (MINAGRI), and the milling equipment supplier Bühler,<sup>6</sup> among others.

AIF's product range encompasses institutional products (relief) and commercial products (mass market). The relief products are for institutional buyers such as the government of Rwanda and the World Food Programme (WFP) for use in public distribution programs for populations in vulnerable health, social, environmental and financial situations. For example, in partnership with the government of Rwanda, AIF distributes its Shisha Kibondo range, a nutritious complementary porridge, free-of-charge to Rwandan mothers and infants.<sup>7</sup>

- 1 Africa Improved Foods (n.d.) Nutrition. Website. Available at [africaimprovedfoods.com/nutrition-2/](http://africaimprovedfoods.com/nutrition-2/) (accessed 21.06.2022).
- 2 WBCSD (2020). Africa Improved Foods (DSM). Website. Available at [www.wbcscd.org/Report-Case-studies/Africa-Improved-Foods-DSM](http://www.wbcscd.org/Report-Case-studies/Africa-Improved-Foods-DSM) (accessed 21.06.2022).
- 3 Africa Improved Foods (n.d.). FAQs. Website. Available at [africaimprovedfoods.com/faqs/](http://africaimprovedfoods.com/faqs/) (accessed 21.06.2022).
- 4 Clinton Foundation (2020). Clinton Foundation and Africa Improved Foods Boost Malawi Farmers' Incomes Amidst COVID-19. Website. Available at [www.clintonfoundation.org/press-and-news/clinton-development-initiative/clinton-foundation-and-africa-improved-foods-boost-malawi-farmers-incomes-amidst/#:~:text=NEW%20YORK%2C%20NY%20%E2%80%93%20The%20Clinton,and%20strengthening%20local%20agricultural%20economies](http://www.clintonfoundation.org/press-and-news/clinton-development-initiative/clinton-foundation-and-africa-improved-foods-boost-malawi-farmers-incomes-amidst/#:~:text=NEW%20YORK%2C%20NY%20%E2%80%93%20The%20Clinton,and%20strengthening%20local%20agricultural%20economies). (Accessed 23.06.2022).
- 5 World Vision (n.d.). Joining Forces for Last Mile Nutrition. Website. Available at [www.wvi.org/our-partners/joining-forces-last-mile-nutrition](http://www.wvi.org/our-partners/joining-forces-last-mile-nutrition) (Accessed 23.06.2022).
- 6 Netherlands for the World Bank (2015). IFC investment in Dutch Africa Improved Foods (Holding) (AIFH) in Rwanda. Website. Available at [nl4worldbank.org/2015/08/21/ifc-investment-in-dutch-africa-improved-foods-holding-aifh-in-rwanda/](http://nl4worldbank.org/2015/08/21/ifc-investment-in-dutch-africa-improved-foods-holding-aifh-in-rwanda/) (accessed 23.06.2022).
- 7 Africa Improved Foods (2021). Africa Improved Foods Celebrates One Year. Website. Available at [africaimprovedfoods.com/africa-improved-foods-celebrates-one-year/](http://africaimprovedfoods.com/africa-improved-foods-celebrates-one-year/) (Accessed 23.06.2022).

# Africa Improved Foods

AIF is the world leading producer of Super Cereal Plus series, a WFP certified cereal made from pre-cooked grains, which is distributed by the WFP to vulnerable communities in Kenya, Uganda, Somalia, South Sudan and Ethiopia.<sup>8</sup>

In May 2023, AIF introduced a new, redesigned commercial portfolio of fortified cereals, the Nootri range. This new line includes Nootri Baby, specifically designed for infants aged 6 to 36 months, and Nootri All'Family, for kids and family. Initially launched in Rwanda and Kenya, AIF plans to expand its market presence to Ethiopia and the EAC. By introducing Nootri, AIF aims to connect with a wider consumer base, offering them access to high-quality, nutritious food options at affordable prices. The product is packaged in small sachets to ensure affordability for households with low to medium incomes.

To date, AIF reaches 1.6 million consumers daily with fortified foods. At the end of 2022, AIF generated revenues of \$77.3 million, with a production capacity of 60,000 metric tons. 85% of raw materials – maize and soya – are sourced locally in Rwanda and from neighboring countries. AIF directly employs more than 500 employees, with 7,000+ direct jobs created across its value chain. The joint venture sources the majority of its maize and soya locally, currently engaging about 90,000 smallholder farmers in Kenya, Tanzania, DRC, and Malawi (out of which 45,000 are in Rwanda).<sup>9</sup> By 2030, AIF plans to expand the model across 10 African countries.<sup>10</sup>

### Key facts

**Partners:** Government of Rwanda, Royal DSM, Dutch development bank (FMO), International Finance Corporation (IFC), Bühler Group, World Vision, Clinton Health Access Initiative (CHAI), World Food Programme (WFP)

**Timeline:** 2016 - present

**Countries:** Based in Rwanda; institutional products (relief) distributed in Tanzania, Kenya, Uganda, South Sudan, Ethiopia; commercial products (mass market) distributed in Rwanda, Kenya

**Investment to date:** Over \$60 million

**Vehicle:** Grains

### Box 1 AIF Partners in Rwanda

Sector	Government	Investors	Businesses	Development organizations
Partners	Government of Rwanda / Ministry of Agriculture and Animal Resources	FMO IFC Royal DSM	Royal DSM Bühler Group	World Food Programme (WFP) Clinton Health Access Initiative (CHAI) World Vision
Role	Shareholder and distributor of AIF's products and technical support to farmers	Investors in AIF	DSM provides micronutrient premixes, management and technical training on fortification as well as management support  Bühler built the AIF factory and provided trainings to operate the mill equipment.	WFP plays the role of distributor of AIF's FBF  CHAI and World Vision provide support and agriculture knowledge-transfer to increase farmers' productivity.

### Building local capacity with the private sector

AIF was established in response to several challenges relating to food and nutrition security and smallholder livelihoods in Rwanda. Nearly 37 percent of children under five in Rwanda are affected by stunting while the prevalence of stunting among children 18-23 months declined by 12 percentage points (from 47% in 2017 to 35% in 2021).<sup>11</sup> According to the Comprehensive Food Security Analysis 2015, 50 percent of Rwandan households said that they faced difficulties accessing foods at some point.<sup>12</sup> Furthermore, the livelihoods of many Rwandans largely depend on agriculture. The sector is the backbone of the Rwandan economy, accounting for about 31 percent of GDP and employing 58 percent of the labor force, especially in rural areas.<sup>13</sup> Many smallholder farmers struggled to make a living, due to difficulties accessing markets, including an unstable market for maize, and a lack of resources including modern harvesting, processing and storage equipment.<sup>14,15</sup>

A significant challenge has also been the lack of qualified technical and management personnel to operate food processing equipment safely and effectively and to ensure foods are fortified to correct standards.

To help address these challenges, AIF partnered with two international companies: Royal DSM and the Bühler Group. Each company has contributed their expertise and resources to build local capacity to manufacture and distribute affordable, safe and nutritious foods among the local population.

11 FMO Study (CHAI evaluation)  
 12 World Food Programme (2016). Rwanda: Comprehensive Food Security & Vulnerability Analysis 2015. 2018. Data collected in April-May 2015.  
 13 World Food Programme (2018). Rwanda: Comprehensive Food Security & Vulnerability Analysis 2018. Data collected in March-April 2018.  
 14 Bühler Group (2017). Driving the Future. Annual Report 2017.  
 15 World Vision (2020). Transforming smallholder farmers' livelihoods through providing access to market. Website. Available at [www.wvi.org/stories/rwanda/transforming-smallholder-farmers-livelihoods-through-providing-access-market](http://www.wvi.org/stories/rwanda/transforming-smallholder-farmers-livelihoods-through-providing-access-market) (Accessed 18.05.2022).

8 Africa Improved Foods (2021). Africa Improved Foods Celebrates One Year. Website. Available at [africaimprovedfoods.com/africa-improved-foods-celebrates-one-year/](http://africaimprovedfoods.com/africa-improved-foods-celebrates-one-year/) (Accessed 23.06.2022).  
 9 Africa Improved Foods (n.d.). Local Sourcing. Website. Available at <https://africaimprovedfoods.com/local-sourcing-2/> (Accessed 05.05.2022).  
 10 DSM (n.d.). Working in Partnerships. Website. Available at [www.dsm.com/corporate/markets/dietary-supplements/improving-nutrition-for-all.html](http://www.dsm.com/corporate/markets/dietary-supplements/improving-nutrition-for-all.html) (Accessed 05.05.2022).

## Africa Improved Foods



DSM, a leading global micronutrient and premix producer, has played a pivotal role in the establishment of AIF and continues to have a prominent role in the ongoing development of the business. The company has invested directly into the AIF joint-venture and has contributed in a range of ways to strengthen the capacity of AIF to fortify its foods:

- **Technical capacity support:** From the beginning, DSM has offered technical support to integrate micronutrient fortification into AIF's food production and food quality testing systems. DSM has provided in-house food safety, food processing and operator trainings to AIF personnel. AIF staff have also been trained in DSM facilities to develop knowledge about product testing and quality assurance. Today, AIF has established the capacity and knowledge to conduct its product safety testing in-house. For example, WFP, which has stringent quality standards, now uses AIF lab analysis as data input and no longer requires additional testing because they have full confidence in AIF safety data. AIF uses European quality criteria and has quality systems such as GMP (Good Manufacturing Practices) and HACCP (Hazard Analysis Critical Control Point).<sup>16</sup> AIF's quality management systems are certified ISO22000 and FSSC22000, while its internal laboratory is certified ISO 17025.<sup>17</sup>

Furthermore, DSM has worked with smallholder farmers in Rwanda to help them improve their harvesting and storage techniques, and to ensure they meet the right quality standards. For example, historically much of the harvest has been lost due to mold or aflatoxin in crops, which not only has negatively affected farmers' incomes but also posed a serious health threat to humans and livestock.<sup>18</sup> DSM and other partners supported farmers by proposing new ways of drying and selling the maize to reduce these threats.<sup>19</sup>

16 Africa Improved Foods (n.d.). FAQs. Website. Available at [africaimprovedfoods.com/faqs/](http://africaimprovedfoods.com/faqs/) (Accessed 18.05.2022).

17 Africa Improved Foods (n.d.). Economic and Private Sector Development. Website. Available at [africaimprovedfoods.com/economic-and-private-sector-development-2/](http://africaimprovedfoods.com/economic-and-private-sector-development-2/) (Accessed 18.05.2022).

18 Buhler Group (2017). Driving the Future. Annual Report 2017.

- **Provision of management know-how:** As a multinational operating in the field of health, nutrition and bioscience, the company has put its wealth of knowledge and experience into practice by building local management capacity and capabilities. DSM personnel has provided management expertise and best practices across AIF operations and the value chain. AIF places importance on hiring local talent and promoting their development to build a pipeline of local leadership and management. AIF also partners with universities and career platforms.

- **Provision of premix:** DSM has provided high-quality premix at a commercial rate.

Alongside DSM, The Bühler Group has been a partner of AIF since its inception. AIF chose to partner with the Bühler Group due to its capabilities on the ground and reputation for building high quality factories in challenging environments. Within almost a year, Bühler built AIF's fully functional US\$62 million (CHF 60 million) plant in Kigali, which allowed AIF to start manufacturing fortified foods in late 2016. Building the plant created 15,000 local jobs during construction.<sup>20</sup> Furthermore, Bühler helped solve the challenges of finding qualified people to operate the mills by building local capacity. The company operates the African Milling School in Nairobi which offers comprehensive training courses on grain milling. As part of the partnership, the Bühler Group trained AIF mill operators on how to effectively and safely operate the factory equipment.<sup>21,22</sup>

19 Government of the Netherlands (2021). Smart partnership fights malnutrition in Rwanda. Website. Available at [www.government.nl/latest/news/2021/07/27/smart-partnership-fights-malnutrition-in-rwanda](http://www.government.nl/latest/news/2021/07/27/smart-partnership-fights-malnutrition-in-rwanda) (Accessed 24.06.2022).

20 Africa Improved Foods (n.d.). Employment. Website. Available at [africaimprovedfoods.com/employment-2/](http://africaimprovedfoods.com/employment-2/) (Accessed 24.06.2022).

21 Buhler Group (2017). Driving the Future. Annual Report 2017.

22 Buhler Group (2018). Africa Improved Foods receives first SDG Award for sustainable consumption. Website. Available at [www.buhlergroup.com/content/buhlergroup/global/es/media/media-releases/africa\\_improved\\_foodsreceivesfirstsdgawardforsustainableconsumpt.html](http://www.buhlergroup.com/content/buhlergroup/global/es/media/media-releases/africa_improved_foodsreceivesfirstsdgawardforsustainableconsumpt.html) (Accessed 24.06.2022).

## Africa Improved Foods

### INSTITUTIONAL

ABOUT 1.6 MILLION NUTRITIOUS PORRIDGE MEALS PRODUCED BY AIF ARE CONSUMED BY UNDERSERVED BENEFICIARIES AND CONSUMERS ACROSS EAST AFRICA EVERYDAY.

### MASS CONSUMER

AFFORDABLE HIGH QUALITY NUTRITIOUS AND FORTIFIED INSTANT CEREALS, WHICH CONTRIBUTE TO HEALTHY GROWTH. AVAILABLE IN ALL STORES.

### Results

To date, AIF has provided fortified food to 1.6 million consumers and beneficiaries daily across the region,<sup>23</sup> including more than 90,000 children over six months and pregnant and lactating women in Rwanda.<sup>24</sup>

From an economic perspective, AIF has created \$1 billion in net incremental value added across the East Africa region and created more than 500 direct jobs. Additionally, AIF sources from a total of 90,000 smallholder farmers and hence contributes to improved livelihoods.<sup>25</sup>

AIF's overall investment in Rwanda's food supply chain amounts to over US\$60 million, creating the largest factory of its kind in East Africa with an annual production capacity of 60,000 metric tons.<sup>26</sup>

### Insights

<sup>23</sup> DSM (2021). Bold Actions for Large Scale Food Fortification to achieve Zero Hunger by 2030.

<sup>24</sup> Africa Improved Foods (n.d.). Nutrition. Website. Available at [africaimprovedfoods.com/nutrition-2/](http://africaimprovedfoods.com/nutrition-2/) (accessed 21.06.2022).

<sup>25</sup> DSM (2021). Bold Actions for Large Scale Food Fortification to achieve Zero Hunger by 2030.

<sup>26</sup> Africa Improved Foods (n.d.). Economic And Private Sector Development. Website. Available at [africaimprovedfoods.com/economic-and-private-sector-development-2/](http://africaimprovedfoods.com/economic-and-private-sector-development-2/) (accessed 24.06.2022).

Since its beginnings in 2016, AIF has been able to leverage some key success factors along the way:

- **Collaboration is key:** Multi-stakeholder collaboration involving both the private and the public sector has been key to achieving impact at scale by combining and leveraging the strengths, resources and knowledge of each partner.
- **Securing anchor customers upfront:** AIF has benefited from securing strong anchor customers such as WFP and the government of Rwanda, who made upfront commitments to buy AIF products, helping to de-risk the project. Moreover, they offered significant distribution channels that also enabled the initiative to reach those populations in need.
- **Taking a holistic, integrated approach:** AIF's focus on addressing constraints and integrating solutions from "farm to fork" has ensured a well-functioning, fully integrated value chain. This ranges from a stable, more sustainable source of local food supply and cheaper agricultural inputs to ensuring consumer demand for AIF products. In the process, the initiative has unlocked wider impacts beyond nutrition, generating economic impact, prosperity and project sustainability.
- **Building local capacity to ensure long term sustainability:** Investing in building local management and technical capacity has been key to ensuring the long-term sustainability of the business.

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