

Kellogg Company

2015 Year-End Sustainability Milestones

December 15th 2015

Kellogg cares about our foods. We are working hard to help farmers thrive, protect the land where our foods are grown and made, and address hunger today and for generations to come. And our consumers care too. People want real food. They care about where it comes from, the people who grow and make it, and that there's enough for everyone.

As a company, and as individuals, we are passionate about enriching and delighting the world with foods and brands that matter. We understand people care about how the foods they eat are grown and made. Therefore, environmentally sustainable practices are a crucial part of ensuring our brands remain relevant with consumers. At the heart of our sustainability efforts is a desire to create a better tomorrow. We do this by helping communities and families thrive and by enriching the environment.

Kellogg has long been committed to doing what's right for the environment and society. We are working on multiple fronts to further reduce our greenhouse gas (GHG) emissions, waste, energy and water use.

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Natural Resource Conservation Commitments

In 2008, Kellogg committed to reducing our normalized energy usage, greenhouse gas (GHG) emissions, water usage, and waste to landfill 15-20% by 2015 (from a 2005 baseline). By the end of 2009, we had exceeded the waste to landfill goal (with a 41.5% reduction from the 2005 baseline), so we revised the goal. We plan to decrease waste to landfill by an additional 20% from 2009 to 2015.

In 2014, Kellogg built on our 2008 sustainability commitments with new goals in two areas: Responsible Sourcing and Natural Resource Conservation.

Our Global Natural Resource Conservation Commitments include:

- Reduce energy and GHG emissions by an additional 15% (per metric ton of food produced) by 2020 from our 2015 performance.
- Expand the use of low-carbon energy in our plants by 50% by 2020.
- Implement water reuse projects in 25% of our plants by 2020.
- Reduce our water use by an additional 15% (per metric ton of food produced) by 2020 from our 2015 performance.
- Continue watershed quality support
- Ensure 30% of our plants send zero waste to landfill by 2016.

Energy Use and Greenhouse Gas Emissions

We recognize that upstream agriculture and our manufacturing are the largest sources of greenhouse gas (GHG) emissions in our value chain and will focus our efforts on achieving emissions reductions in these two areas.

Kellogg has already reduced GHG emissions from our manufacturing plants by approximately 12% since 2008. We continue to work to deliver against our commitment to reduce normalized energy usage and greenhouse gas (GHG) emissions 15-20% by 2015 (from a 2005 baseline). We have decrease our energy use per metric tonne of food produced by 2.4% in 2014 and 7.4% since 2005. While our performance is currently trending in the right direction, it appears we will not achieve our 2015 energy use and GHG emission reduction goals. This is due largely to changes in our product and manufacturing mix, in particular the inclusion of our Pringles plants for the first time in 2013.

In August 2014, we renewed our commitment to reducing our manufacturing GHG emissions by an additional 15 percent (per metric tonne of food produced) from our 2015 performance¹. At this time, we also committed to setting additional GHG emission reduction targets, aligned to current climate science so that we consider the global impact of climate change, including the consequences for the most vulnerable people around the world. The science presented in this assessment is clear: human-caused

¹ https://www.kelloggcompany.com/en_US/corporate-responsibility/environment.html

greenhouse gas emissions are impacting our climate and significant emissions reductions are needed to limit global warming to 2°C above pre-industrial levels in order to avoid permanently altering the atmosphere and negatively impacting the environmental, social, and economic systems that sustain us.

As global food leaders, we are proud to commit to **deliver a 65% reduction in absolute Scope 1 & 2 emissions**, including manufacturing, offices and distribution, by 2050 from our 2015 baseline. These science-based targets are aligned to the leading methodologies² on the subject and benchmarked with peer members of We Mean Business.

We will for the first time engage all material direct suppliers³, including those who supply our



Corn field in Crete Nebraska

ingredients, to **reduce absolute Scope 3 emissions by 50% by 2050** from the 2015 baseline. We will gather data through the Carbon Disclosure Project (CDP) Supply Chain and publically disclose progress on our Scope 1, 2 & 3 on a regular basis. We will engage 75% of our tier 1 suppliers to annually report on carbon activities to reduce emissions through CDP Supply Chain by 2020. We will continue to measure continuous improvement on GHG emissions for our priority ingredients⁴ at a farm level⁵.

In our own Facilities

We continue to have individual plants making big progress to reduce their energy usage and GHG emissions, and supporting the energy needs of their local communities through both capital projects and employee engagement programs, including the following examples:

- At our facility in San Jose, California, where Eggo® waffles are made, we installed on-site fuel cell technology that generates 1 megawatt of electricity. This Bloom Box, as it is known, converts natural gas into electricity using an extremely efficient electromechanical reaction. The Bloom Box provides half of the electricity needed to run the plant and will reduce our total system carbon dioxide (CO₂) emissions by an estimated 980 metric tonnes annually. We plan to expand the use of this technology at another Eggo® waffle facility in Blue Anchor, NJ, in 2016.

² Sector Decarbonization Approach and 3% Solution – see methodology appendix

³ Suppliers in scope include all suppliers that represent 80% of total spend, including all ingredient suppliers for our priority continuous improvement ingredients.

⁴ See 2020 Commitments, https://www.kelloggcompany.com/en_US/corporate-responsibility/environment.html

⁵ See 2020 Commitments, https://www.kelloggcompany.com/en_US/corporate-responsibility/environment.html

- In India, we installed biomass-fueled boilers at our facilities in Taloja and SriCity that provide some of the energy needed at the facilities. The solid biofuel— which is derived from agricultural waste—is considered “carbon neutral,” since the CO2 emitted when this plant material is burned is offset by the CO2 that was absorbed while it was growing. Also, the biomass generates only a negligible amount of sulfur dioxide when burned, and it is less expensive than the furnace oil we previously used. The ash generated during the process is recycled and sold for brickmaking.
- Our facility in Toluca, Mexico, installed energy-efficient LED lighting throughout the facility in early 2015 and expects to see nearly a 3% reduction in annual electricity usage from this project alone.
- Our facility in Wrexham, UK, is sending food waste that cannot be used for animal feed to an anaerobic digester at a farm located only 1 mile away from the facility. The biogas from the digester goes to a combined heat and power (CHP) plant that generates all of the heating and electricity requirements for the farmhouse, engineering workshops and other shops on site before surplus electricity is put back into the grid. The digester also generates high quality liquid & solid fertilizers which are spread onto the adjacent farmland & thus reduces reliance on use of chemical fertilizers. The Wrexham facility continues to look for ways to minimize the waste generated onsite, but in the meantime is happy to be providing energy to the local community.
- In late 2015, Kellogg joined the Corporate Renewable Energy Buyers' Principles to open up new opportunities for collaboration with utilities and energy suppliers to increase our understanding and ability to buy renewable energy globally.

For more information about our climate policy and methodology used to develop the science-based targets can be found at www.kelloggcompany.com. A final summary of our progress against the 2015 Sustainability Commitments will be provided in our 2015 Corporate Responsibility Report, which will also be available at www.kelloggcompany.com in April 2016.

In our own Supply Chain

Kellogg is committed to supporting agriculture that is smart for our climate and smart for our farmers. Our commitment will increase resilience to the effects of extreme weather and market shocks while supporting improved productivity and reduction of greenhouse gas emissions. As part of our Global 2020 Sustainability Commitments and our subsequent science-based target, Kellogg is working across our supply chain to reduce our indirect or “Scope 3 emissions”. Kellogg supports the United Nations framework called Climate Smart Agriculture (CSA) which addresses farmer resilience, productivity and mitigation of greenhouse gases from agriculture.

The three elements of CSA are:

- Productivity at farm level to assure economic livelihoods;
- Resilience and adaptation at the farm level to climate change to assure social livelihoods;
- Greenhouse gas mitigation in sustainable agricultural practices.

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In 2015, Kellogg co-led the World Business Council for Sustainable Development (WBCSD) work stream on Climate Smart Agriculture (CSA) to help address the role business and agriculture can play in achieving a low carbon economy. On December 1st, the WBCSD Climate Smart Agriculture Action Plan was published to share how business can support CSA and what safeguards need to be in place to support smallholder and farmer livelihoods.

By 2030, Kellogg has committed to support the livelihoods for 500,000 farmers through partnerships, research and training on climate smart agriculture which helps farmers adapt to climate change while assuring productivity of their yields and reducing greenhouse gas emissions from their agricultural practices. This builds on our commitment made at the UN Climate Summit in 2014 at the launch of the Global Alliance on Climate Smart Agriculture to support 15,000 smallholder growers by 2020 to increase adoption of climate-smart agriculture and help improve their livelihoods and climate resiliency.



Quinoa drying in the field after harvest

Water

We respect the human right to water as defined by the United Nations Committee on Economic, Social and Cultural Rights and General Assembly. Around the globe, fresh water resources are under pressure from climate change, population growth, industrial and agricultural uses, and aging or inefficient infrastructure. Increasingly, businesses and communities are recognizing the critical importance of preserving and protecting water supplies. As member of the communities where we source and make our foods, we work to reduce water usage, through increase efficiency and water reuse, thereby reducing the impact to these community water sources.

In our own Facilities

Kellogg uses a combination of internal knowledge and external sources to determine an overall water risk score for each manufacturing facility. Internal information is based on site specific surveys that pull together local knowledge on physical, regulatory, social, and community risk factors. External sources referenced include three leading external datasets that consider exposure to current conditions (quantity, quality, regulatory, social) and projected changes in water quantity over time, based on indices such as population growth and climate change. These datasets include the WBCSD Global Water Tool, the World Wildlife Fund Water Risk Filter and the WRI Aqueduct Tool.

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Based on our assessment, which was updated in 2014, the sites within our organization that have the highest levels of water risk include Omaha, Nebraska; San Jose, California; Valls, Spain; and Linares, Mexico. While all Kellogg manufacturing facilities have established water-efficiency goals and are implementing water-saving initiatives, we are paying particularly close attention to water use in these locations.

Through these water-saving efforts, we have reduced our water use per metric tonne of food produced over 11% since our baseline year of 2005 and our facilities are working hard to deliver the 2015 commitments with both capital projects and employee engagement programs, including the following examples:

- In 2014 and 2015, several facilities in North America completed water reuse projects by optimizing settings and installing new water treatment technologies to their boiler steam systems. Because energy is also used in the process to generate steam, these projects reduce both water and energy use.
- Our cereal facility in Battle Creek, Michigan, employs a dust-control system that promotes employee safety and facility cleanliness but uses large quantities of water. In 2014 we made several changes to the system, such as adjustments to its computer settings and the reuse of water from nearby equipment. These changes reduced the plant's annual water usage by 10 percent per metric tonne of food produced, or more than 33.5 million gallons per year.
- Our Anseong, South Korea, facility, reduced its water use by 9.06 percent per metric tonne of food produced in 2014, largely through employee behavioral changes

A final summary of our progress against the 2015 Sustainability Commitments will be provided in our 2015 Corporate Responsibility Report, which will be available [here](#) in April 2016.

In our Supply Chain

FAO/AQUASTAT and the Water Footprint Network are used to assess several key ingredient suppliers and associated water-related business risks, overlaying our supply source locations against global water stress maps and renewable water supply projections. This includes working with the University of Minnesota Institute on the Environment to create water and climate risk maps globally for specific ingredient sourcing locations.

We have found that some of the most volume water-intensive crops are predominantly rain fed, like cocoa (17,196 liter/kg). However based on the various analyses performed by our trusted partners, which take into account all components of water stress, we have identified the top three water-intensive commodities that the company sources as:

- Tree nuts (including almonds and pecans): 9279 liters/kg, from California USA and South America
- Cheese: 3178 liter/kg, from USA
- Rice: 2497 liter/kg, primarily from Spain, Italy, Arkansas and Louisiana USA, and Thailand

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If we layer these water-stressed commodities with materiality based on volume procured however, we are able to prioritize:

- rice (2497 liter/kg), coming primarily from Spain, Italy, Arkansas and Louisiana USA, and Thailand
- sugar cane (1782 liter/kg), coming primarily from Florida and Louisiana USA, Mexico, and Brazil,
- and maize (1222 liter/kg), coming from Nebraska, Illinois, and Kansas USA, Argentina, and India.

We are actively working with suppliers and growers to address these risks, along with climate resilience, as part of our Sustainability 2020 Commitments on Responsible Sourcing, which can be found [here](#).

Additionally, site-specific details of local community water resource interests are reviewed during Kellogg water risk assessments. Manufacturing facilities and grower networks work directly with City officials, Municipal suppliers and neighboring water users for community engagement and to appropriately plan for water use and management in the community, including sites in the U.S., Mexico, and India. For example, the Saginaw Bay watershed, the largest drainage basin in Michigan, feeds into Lake Huron and is where the soft white winter wheat and sugar beets for Kellogg's Frosted Mini-Wheats® and other products are grown. The area has water pollution challenges linked to agriculture and industry and is part of a Great Lakes critical conservation area. We have joined a wide range of stakeholders—including conservation groups, grain suppliers, food companies and state and federal agencies—in supporting the Saginaw Bay watershed Regional Conservation Partnership. In Michigan, with leadership by the U.S. Department of Agriculture, The Nature Conservancy and the Michigan Agri-Business Association, the partnership's goal is to improve farmers' conservation practices so as to improve soil and water quality and stem nutrient runoff into the Great Lakes. For the first year of this program, Kellogg's support will help train 50 certified crop advisors at partnering agronomy retailers, who will in turn work with farmers directly on conservation practices.

Kellogg is committed to consulting local communities in the rare event that we develop water resources. For example, Kellogg consulted with Bolivian communities and farmer cooperatives to identify the need for a solar irrigation system. Kashi and Archer Daniels Midland Co. (ADM) both have joined the Andean Family Farmers partnership, which is designed to support quinoa farmers in Bolivia. Currently the A.F.F.

Highlight

Starting in late 2015, Kellogg is partnering with Environmental Defense Fund (EDF) and United Suppliers, an agricultural products retailer, to roll out their SUSTAIN initiative. Our partnership will be in Nebraska, where we buy our corn for Corn Flakes and Frosted Flakes.

Kellogg will work in the community to promote the work, which will focus on water quality and climate resiliency by measuring indicators like fertilizer efficiency, water use efficiency, and soil health. United Suppliers' retailers can volunteer to be a part of the SUSTAIN program and will receive training on the key sustainability priorities. The trained retailers will then work with farmers in their region. We estimate that in 2016, 15 retailers will be trained, each of whom can reach between 20 and 70 farmers in our sourcing communities.

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is working to install irrigation systems that will serve farms in five communities in Bolivia. Kashi, a business owned by the Kellogg Co., is helping to fund the A.F.F. Light-A-Community project to bring electricity to quinoa growing regions. The project will supply solar-powered electricity to off-grid rural homes and irrigation projects far from electrical lines.

Waste

As a global food company, we believe we have a significant role to play in helping to end hunger, achieve food security, improve nutrition and promote sustainable agriculture (UN SDG 2). We will do our part to halve per capita global food waste at the retail and consumer level, and to reduce food losses along the production and supply chains including post-harvest losses by 2030 (UN SDG 12.3). A critical element to this work is helping to eradicate food waste from food systems. We contribute in three important ways:

- **FARMS:** Working to eliminate post-harvest loss so that more of the food which is grown is consumed.
- **MAKING:** Working to eliminate food waste in our processes, capturing it instead to feed people in need, and when that use is not appropriate, ensuring it is used for animal feed.
- **COMMUNITIES:** Through our Breakfast for Better Days signature cause, working to assure our food also goes to help those in need either due to disaster relief or chronic hunger in communities we support around the world.

Kellogg continues to have active work underway in each of these three areas. Leading examples include:

- **FARMS:** Working with partners to develop and promote post-harvest loss reduction practices in major ingredients relevant to Kellogg by developing sustainable agriculture programs with smallholder farmers in India, Bangladesh, South Africa, Thailand, Philippines and other countries which promote and improve post-harvest loss reduction.
- **MAKING:** Committed to decreasing our waste sent to landfill (per metric tonne of food produced) by 20 percent from 2009 to 2015. We set this new target after achieving a 41.5 percent waste-to-landfill reduction from 2005 to 2009. Less than 6% of waste goes to landfill. Edible Food waste is donated to feed people in need; in any cases where that use is not appropriate it is used for animal feed.
- **COMMUNITIES:** Providing through Breakfasts for Better Days 1 billion serving of cereal and snacks, more than half of which are breakfast, to children and families in need around the world by the end of 2016.

We are also working to ensure 30% of our plants send zero waste to landfill by 2016.

- Our newest zero waste to landfill facility, in Kutno, Poland, was designed to be a zero waste to landfill from the start. They began operation in July 2014, with high standards for segregation so

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all waste generated in the factory is recycled or reused. This success belongs to all Kutno employees who after receiving appropriate training are truly engaged and committed for environment and segregation of waste.

- Our Chicago 31st Street snacks facility in Illinois began revamping its recycling program in February 2014. The plant purchased new recycling containers and placed them in optimal locations. They also began recycling items they hadn't before, such as the cardboard cores at the center of packaging bag rolls, and composting food waste from employee cafeterias. As a result, the plant reduced its waste to landfill per metric tonne of food produced by over 68% in 2014. Employee engagement has been essential to achieving and maintaining this performance; the plant's employee GoGreen Team meets monthly to discuss waste-reduction ideas. These efforts were nominated for a K Values™ Award, one of Kellogg Company's most important internal recognitions. This facility has continued these efforts through 2015, reducing waste to landfill per metric tonne of food produced another 78% this year compared to 2014 and is consistently achieving 99% waste diversion.
- Our facility in Queretaro, Mexico, has reduced their waste to landfill by almost 25% during 2015, thanks in part to ongoing training, a focus on reuse before recycling (like ceramic plates in the cafeteria, reusing uniform fabric and donating old lights), and composting both cafeteria and garden waste.
- Our facilities in Pagewood and Botany, Australia (one office and one manufacturing facility) are working together to standardize the color coding of waste and recycling bins and to ensure the right size bins are provided in the right location for all employees. For example, centralized waste stations eliminated the need for general garbage bins under each employee's desk, so employees are only provided recycling containers for paper and cardboard at their desk.



Chicago 31st St facility celebrating their initial goal of 30 Days without filling their Compactor

Responsible Sourcing

Commitments

Our purpose is to nourish families so they can flourish and thrive – from the farmers who grow our ingredients, to the employees who bring our values to life, and the consumers who buy our foods, all of whom want a better world for generations to come.

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We are committed to contributing to solutions for hunger relief, food security, equality and addressing the impacts of climate change. For more than one hundred years, Kellogg has led efforts to address these issues and will continue to do more. In support of the launch of UN Sustainable Development Goals, by 2030, we will:

- Support improved livelihoods for over 500,000 farmers, many of whom are women, through partnerships, research and training on climate smart agriculture.
- Do our part to help relieve hunger by leveraging the scale of our global operations, employees and resources to provide more than one billion food servings to people in need, with a focus on breakfast.
- Empower and educate women and girls in the countries in which we grow our ingredients and make our foods and ensure that government policies enable opportunity.

This builds on our existing 2020 Global Sustainability Commitments on Responsible Sourcing (where we committed to responsibly source rice, wheat, corn, potatoes, sugar beets, sugar cane, cocoa, palm oil and vanilla) as well our commitment to help increase adoption of climate-smart agriculture practices for 15,000 smallholder growers in communities from which we source, helping to improve their livelihoods and climate resiliency, by 2020.

Kellogg Grower Survey

Kellogg is committing to supporting agriculture which is smart for our climate and smart for the growers. This commitment will enable improved resilience to impacts from things such as weather events or market shocks, productivity, particularly for smallholder farmers, and reduction of greenhouse gas emissions. Kellogg is enabling this through partnerships with organizations like World Business Council's Low Carbon Technology Partnerships and Cool Farm Tool.

Kellogg recognizes the need to conserve biodiversity, responsibly manage pesticide use, and effectively manage soils to avoid erosion, land degradation and desertification. Through partnership with NGOs, we have identified countries where environmental degradation is a particular issue: Indonesia, Malaysia and Argentina. That's why we have created a robust [palm oil policy](#) and are working with our suppliers to address risks.

The types of support enabled by Kellogg to help deliver climate smart agriculture for both livelihood and environment improvements will include programs such as:

- Research and technical assistance
- Training on best management and agronomic practices

Highlight: Strawberries

Chaucer, a global supplier for freeze-dried strawberries, has completed 52 Kellogg's Origins™ Grower Surveys for 350+ farmers in China and Latin America in 2015. Kellogg is working with Chaucer to share climate smart practices at grower trainings in 2016.

- Access to markets and financial resources

In addition, through our work with suppliers, millers and growers, and other partner stakeholders we provide data, maps, tools, agronomic support, and/or training to support continuous improvement in climate adaptation, including for smallholder farmers, optimization of fertilizer inputs while measuring and improving greenhouse gas emissions, optimization of water use and improvement of soil health including irrigation methods and new technologies. We are committed to responsibly source rice, wheat, corn, potatoes, strawberries, raisins/sultanas and sugar beets by measuring continuous improvement through metrics focused on water, fertilizer use, greenhouse gas emissions, livelihoods other relevant factors as aligned with industry standards and measurement tools, such as Field to Market.

We will not directly measure continuous improvement on every farm, but instead take the learnings from the sampled growers to share with the supplier and all growers to drive awareness on best management practices and to guide Kellogg and supplier led support. Suppliers must strive to reduce or optimize agricultural inputs; reduce greenhouse gas emissions, energy and water use; and minimize water pollution and waste, including food waste and landfill usage.

In our first full year of engagement, over half of in-scope global corn, wheat, rice, potatoes, strawberries and raisins/sultanas categories have been engaged to complete surveys with growers in their supply chain to measure continuous improvement on environmental and social indicators.

Pollinator Health

At Kellogg we recognize the seriousness of pollinator health; pollinators like honeybees play a vital role in the world’s supply chain. Our need, along with all food companies, is to understand the implications pollinator health has to our supply chain and business. We have taken in action in several areas to begin addressing these concerns:

Highlight: Argentinian Maize

Kellogg worked with local suppliers and University to create a booklet to support flint corn growers in Argentina. Through Kellogg support, Dr Lucas Borrás, a professor at University of Rosario, provides sustainable agriculture support and training for advisors, agronomists and technicians who work directly with hundreds of farmers in the area. Dr. Borrás leads the development of materials on sustainable agriculture which is made available to everyone the farming community. Science indicates that maize corn grown in Argentina has lower environmental impacts than in other parts of the world due to the use of traditional varieties, conservation agriculture, low tillage, and rotation, with little water impact because this golden maize is mostly rain fed.

- In our UK Kellogg's Origins™ Program, we actively encourage farmers to implement our Natural Heritage practices. 2 of these practices, *hedgerow management* and planting *pollinator and wildflower mix*, provide pollen and nectar. By combining both of these practices around a farm, the early flowering hedgerows and later flowering pollinator mix, the availability of pollen and nectar is extended from March through to September. In 2016, a new Wildlife Action Plan tool, will allow us to measure and then encourage further use of our Natural Heritage practices, tailored specifically to the farms needs and natural surroundings.
- Also in Europe at our Manchester facility, to educate and raise awareness with employees on the importance of pollinators we have started keeping bee's onsite and harvesting their honey.
- In the US, as partners of three Regional Conservation Partnership Programs (RCPP) across seven states, we are encouraging sustainable agriculture and conservation practices that improve biodiversity and support pollinator health.



Employees and local urban farmer at Manchester facility tending the bees

We continue to look for other opportunities to understand and address risks, speaking with suppliers and partners to better understand actions they are taking in this region. We understand that pollinator health is part of the larger concern of the risks of climate change, where Kellogg is taking a leading role to understand and mitigate risks in our supply chain associated with climate change.

Smallholders, Women, and Building Climate Resiliency

Kellogg recognizes that women often play a significant role in agriculture, but in some countries still face challenges of injustice and inequality. Kellogg is identifying the parts of our supply chain with the highest prevalence of women, while identifying the risks and opportunities they face, depending on their communities and regions. We recognize the importance of communities' right to access and control of land, especially the land that enables food security.

We will continue to identify and develop programs to provide resources and education that improve the livelihoods of women farmers/workers, their families and their communities, supporting challenges and issues such as access to inputs, markets, or training. We also acknowledge the complexity of land tenure rights, including access to land, land use, land tenure. We support access to clean and potable water and acknowledge the importance to not impede on the rights of farmers to associate themselves and negotiate collectively. Kellogg understands the importance of income diversification and the dangers of over-dependence on one buyer. That's why we are working with NGOs to improve quality and market access so that smallholders can diversify their businesses.

Kellogg Company Origins™ Farmer Program: Thailand Rice [Background](#)

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In 2014, Kellogg Company expanded its sustainability commitments to include responsible sourcing, addressing sustainable agriculture, as well as the needs of smallholder and women farmers. These Sustainability 2020 commitments focus on 10 priority ingredients and reflect work which Kellogg has been engaged in for several years across their global sourcing footprint. Collaborative projects with farmers, millers, input providers and external research organizations have been established to deliver the responsible sourcing commitments, which reflect the three tenets of Climate Smart Agriculture (CSA); productivity, resiliency and adaptation, and GHG mitigation.

An example of one of these programs is the Kellogg Origins™ Farmer Program, which began with training rice farmers in Spain and now has expanded globally to promote sustainable practices in agriculture including postharvest processing. Following is a more detailed description of how Kellogg Origins™ Farmer Program was applied using CSA to develop new rice market access in Thailand.

In 2008, Kellogg collaborated with Thailand's Bureau of Rice Research and Development (BRRD) to develop a medium grain rice variety through conventional breeding practices that can be grown in Thailand and which can be used in Kellogg foods like Rice Bubbles™. To benefit farmers, the seed variety had to be high yielding and resistant to pests and disease, while reducing food waste and mitigating greenhouse gas emissions. By diversifying the type of rice grown in the region, delivering productivity improvements, and creating new market access options, farmers will be more resilient to market shocks and can sustainably intensify their lands.

Following 7 years of collaborative partnership with BRRD, and other partners such as International Rice Research Institute (IRRI) and CP Group, the Thai government released this as a new medium grain rice variety in March 2015 and showcased it as the result of a successful public-private partnership between private industry and a government research institution. For Kellogg, this new medium grain rice seed



Kellogg rice fields in Thailand

variety offers not only a fully integrated supply chain and security of supply of medium grain rice at a

local, regional and global level, but also supports CSA as well as sustainable manufacturing by increasing plant capacity and lowering energy use.

To continue delivering social and environmental benefits, Kellogg is continuing to collaborate with farmers, millers, input suppliers and IRRI to reduce agricultural food waste and GHG emissions through improved pre- and postharvest handling of the rice.

Addressing Barriers

The development of a new medium grain rice seed variety demonstrated that a multidisciplinary and holistic approach to the entire supply chain is needed to overcome strategic and operation barriers and challenges.

Driven by a business imperative to secure our supply chain into the future, Kellogg's invested significant time (7 years) and resources to develop medium grain rice in Thailand. The direct ROI will be a sustainable and reliable supply of medium grain rice in Southeast Asia. Additional benefits from the program include increased quality of the grain, and improved capacity with lower energy use in Kellogg processing. Further improvement work is ongoing for milling yield through improved pre- and postharvest processing.

Farmers are contracted to grow rice for Kellogg through our supplier. Grower feedback has indicated that the medium grain rice variety has increased farmer livelihoods as it has a higher yield potential than local long grain varieties, shows increased pest and disease resistance, and is responsive to reduced, targeted fertilizer campaigns, leading to sustainable intensification and greenhouse gas mitigation benefits.

Using the "seed to spoon" approach allowed Kellogg to leverage the existing Kellogg Origins™ Farmer Program, including Postharvest Loss Reduction Program, to ensure responsible sourcing of rice, reduced food waste and GHG emissions. Understanding and integrating the components of the supply chain from varietal development to delivery into the Kellogg facility provides full product traceability. Accessing the right tools to analyze and monitor farm data has allowed continual tracking of crop progress. The team is also providing training in good agricultural practices as well as postharvest processing.

Kellogg Company Origins™ Farmer Program: Philippines Rice

In the terraced Mountain Province of the Philippines' Cordillera region, there is a community of farmers who have been growing heirloom rice varieties for generations. Heirloom varieties are passed down from generation to generation. These grains are typically grown on small family farms and often contain exceptional taste, nutrient, and cooking qualities. In many cases these varieties are also more resilient to abiotic and biotic stresses like climate patterns and bacteria or insects.

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Through Kellogg's partnership with International Rice Research Institute (IRRI) and the Department of Agriculture, who are currently working with 272 farming families in these communities, we are helping fund work that will help improve the agronomic practices and entrepreneurial skills to those farmers - 80% of whom are women. These activities will also ensure the preservation of the cultural identity of these indigenous farmers and the Philippine Rice Terraces, a UNESCO World Heritage Site.

In this particular community in the Cordillera region, where 80% are women, some of the projects that we are partially funding will include:

- Irrigation items to deliver stored rainwater to the rice terraces
- Executive sponsorship for training sessions and attendance to relevant conferences
- Post-harvest infrastructure needs such as granary for rice storage
- A plan for food preservation and post-harvest handling training

Grains research and support to farmer livelihoods in one of the most marginal rice ecosystems in the Philippines, are examples of the work Kellogg's Advance Innovation team does to stay at the forefront of sustainable rice research.

Kellogg Company Origins™ Farmer Program: Indian Maize

Odisha is India's poorest state, with a 46.4 percent poverty rate, 87 percent of people living in rural areas, and the country's lowest agricultural wages. Farmers face increasing environmental risks due to changing land use patterns, intensive agriculture, deforestation and expansion of human settlements. Gender-based inequalities, including engaging in civil society organizations and finding time to professionally develop, are exacerbated within lower-caste and tribal communities. CARE's five-year Pathways project works to empower 10,000 women from these marginalized groups in two of the poorest districts, Kalahandi and Kandhamal, seeking to increase their maize productivity at scale, and has already received funding from The Bill & Melinda Gates Foundation and Cargill. Kellogg funding will help empower an additional 5,000 women smallholders, contributing to an overall effort – combined with support from Cargill and the Bill and Melinda Gates Foundation – of empowering 15,000 poor women smallholder farmers. Kellogg's efforts in this project and beyond are focused on providing specific support to women farmers facing external shocks, especially due to climate variability. This program will engage men and women growers to enhance their maize productivity, promote secure and sustainable livelihoods and improve their status in the community. Expected results for this 3 year project include:

- 1,000 women smallholders access and adopt improved maize production, post-production, marketing practices and technology, and enjoy enhanced access to the maize supply chain
- 20 women leaders/animators in project villages working for women's inclusion and equity
- At least 10 women entrepreneurs developed and participate effectively along the value chain
- 50 women's producer groups are organized and actively access inputs, technology, and services for improving production and price
- Men and other influential actors support, service, and promote women smallholders

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- 1,000 women smallholders are linked to government support services and institutions
In the first year of this program, CARE has reached about 500 women farmers to engage them on climate smart agriculture and women's empowerment.

Also in India, Kellogg is partnering with TechnoServe train 3,000 farmers (with 30% women) on improved wheat and maize agronomic practices, as well as to provide the 1,000 female project participants with training on kitchen gardening and household nutrition. In addition to farmer training, the project works to expand productivity and services offered by Farmer Producer Companies (cooperative businesses that bring together farmers). In Guna, India, over 3,000 maize and soy farmers were organized into 151 farmer groups. Each farmer group received 3-4 training sessions on agronomic practices (over 400 training sessions in total) as well as trainings to support healthy families by cultivating kitchen garden. We are excited to share that so far, 62% of farmers have attended more than 75% of trainings and 24 demo plots are already established.



Mungi Bai, Chairman and Gopesh Joshi, CEO of the Producer Company for our India partnership

Kellogg Company Origins™ Farmer Program: Bangladesh Potatoes

As one of the poorest countries in the world, Bangladesh has numerous political, economic, social and environmental challenges. However, Bangladesh is the third largest producer of potatoes in Asia – with total production of 8,500,000 metric tonnes (internal stats) and it is the second largest agricultural crop produced in Bangladesh. Kellogg Company is working locally in Bangladesh to develop a value-added supply chain of potatoes, for use in Pringles for the Asian market. Through our many in-country partnerships, including suppliers and key NGOs, we have engaged with over 1000 Bangladeshi smallholder farmers across 11 districts of Bangladesh to support their livelihoods and climate resiliency by expanding the use of sustainable agricultural practices.

The pilot was a fantastic success, and some of the awesome achievements include:

- Farmers were positive towards the overall program and were satisfied with the performance of processing grade varieties of potatoes that was used
- Although the farmers previously used traditional methods for growing their potatoes, they were open to trying new, improved agricultural practices. These practices were suggested by the project team, who were available to give advice on both technical and strategic issues
- The field yields of potatoes harvested by the farmers improved significantly under the program
- Potato processors were directly linked with the farmers, which enabled them to procure potatoes at a competitive price without a middleman.

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Kellogg Company Origins™ Farmer Program: South African Maize

Corn is one of South Africa's most important crops and a primary staple food for the population. In 2013, South Africa produced 12.5 million metric tons (MT) of corn across 3.25 million hectares of land. The majority of production is commercial white and yellow corn, while subsistence farmers produce an estimated 500,000 MT of white corn for household consumption each year. It has historically been very difficult to integrate smallholder farmers into commercial supply chains due to small plot sizes, limited market methods leading to low yields and quality levels.

Kellogg's largest developing country sourcing origin for corn. TechnoServe, a leading global NGO, has estimated that Kellogg impacts 13,400 full smallholder livelihood equivalents (FFE) and touches 22,000 smallholders (potential farmer exposure) in South Africa. To support these communities, in 2015 Kellogg has partnered with TechnoServe in South Africa to support climate resiliency and improved by:

- Supporting 400 farmers of which 70% (280) are women in training, including financial literacy and business skills, land preparation, crop management and post-harvest management;
- Create a baseline study to understand farmer needs;
- Monitoring and evaluation of project impact on farmer livelihoods over the course of a year

Kellogg Partnerships: Mexican Maize and Wheat

Kellogg's partner, CIMMYT, founded MasAgro, an initiative that brings smallholder and women farmers together with agricultural research and development organizations to raise and stabilize their crop yields and increase income through agricultural conservation training to small growers. Kellogg's funding supports this large public-private partnership that reaches 200,000 farmers. Kellogg also partners with CIMMYT on various other opportunities involving maize and wheat – from exploring the nutritional benefits of unique heritage seeds to understanding variety performance for farmers in different locations.

Kellogg Partnerships: Cocoa in Cote d'Ivoire

Kellogg is partnering with ASDA, Cargill and the NGO CARE to better understand barriers to women in cocoa farming communities and provide better access to training. Women farmers represent nearly half of Africa's agricultural workers, and are critically important to developing the full potential of African agriculture and food security. However, they historically haven't had the support needed to grow from subsistence farming to smallholder production and beyond. In cocoa, women are involved in activities such as planting seedlings, collecting cocoa pods, transporting, fermenting and drying cocoa beans. This collaboration aims to provide gender-sensitive assistance and professional development to women across our supply chain and beyond. The work will include:

- Gender sensitization training for Anader agents (Côte d'Ivoire's national agency for rural development).

- Gender assessment, with help from CARE, to gain clearer insights into the number of women cocoa farmers across farming regions, the activities they are involved in and current levels of access to training and information.
- Setting up specific female-only training for up to 1,000 women farmers to improve agricultural and business skills, supported by the African Cocoa Initiative, a World Cocoa Foundation led program. The partnership has already supported the first gender sensitization training program for 100 regional agents from Anader who are responsible for training cocoa farmers in local communities. Cargill currently trains over 70,000 Ivorian cocoa farmers through its network of 1,800 Farmer Field Schools with the support of Anader. The three-day training, completed in April, raised awareness of gender issues and provided practical steps for Anader agents to implement in their day-to-day activities, which are being cascaded throughout the organization.

Kellogg Partnerships: Sugar Cane Workers

Kellogg Company commits to uphold the UN Guiding Principles on Business and Human Rights. We are working with trusted partners where agricultural supply chain conditions are at a higher risk. One such example is our partnership with Solidaridad and other organizations.

Kellogg is working as part of stakeholder group with Solidaridad and Bonsucro to improve labor conditions in the sugar cane supply chain. Kellogg's partnership will help to fund the development of training materials for approximately 25,000 workers for the 2016/2017 growing season in Latin America (Mexico, El Salvador, Honduras, and Guatemala). These materials will focus on helping train sugar cane workers on occupational health and safety, productivity of cane cutters, and addressing concerns of child labor.

Advocacy Initiatives

UN Sustainable Development Goals

Kellogg has pledged to continue its global work at local levels toward solutions that support the latest SDGs. Our 2020 Global Sustainability Commitments align closely with many of the recently announced UN SDG's. In addition, we have committed to the following:

- Through our signature global cause, *Breakfasts for Better Days*, Kellogg helps relieve hunger by leveraging the scale of its global operations, employees and resources to provide more than one billion food servings to people in need, with a focus on breakfast.
- Empower and educate women and girls in the countries in which Kellogg grows its ingredients and makes its foods, and ensure that government policies enable opportunities for them to learn about climate smart agriculture.

Policy Change in India for Women's Economic Empowerment

Kellogg representatives engaged with Government officials including Commissioner of Industries, Director of factories, Inspector of factories, Principle Secretary for industries and finally the Chief Minister in Sri City, India. All of this was to allow women to work in all the shifts so that industries are

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encouraged to provide greater employment to women in the state. The government now allows women to work on night shifts.

Government Advocacy Summary

Kellogg regularly engages with stakeholders on the important topic of climate change. In addition to customers and suppliers, these stakeholders include World Business Council for Sustainable Development (WBCSD), Business for Innovative Climate and Energy Policy (BICEP), Grocery Manufacturers Association, Consumer Goods Forum, Global Environmental Management Initiative, CDP, We Mean Business, and others. We encourage industry associations and peers to engage in meaningful climate action. We will report on this industry engagement annually.

- Since 2014, Kellogg has continued to strengthen our commitment to climate action through various government engagements including President Obama's Climate Data Initiative, the United States Department of Agriculture's Global Open Data for Agriculture and Nutrition initiative, and the White House American Business Act on Climate Pledge.
- We signed on to the Climate Declaration and join Business for Innovative Climate and Energy Policy (BICEP) in 2014.
- In 2015, we leveraged shared investment cost using public-private partnerships, which supports efficiency and productivity improvements in our plants. For example, Kellogg has had support through U.S. Department of Energy, state and federal government incentives and local utilities to assess and implement low carbon projects.
- During the United Nations Climate Week 2015, John Bryant, Kellogg Company Chairman & CEO, co-authored a [Huffington Post op-ed](#) with Unilever's Paul Polman to showcase the business case for climate action. Kellogg Latin America President Maria Fernanda Mejia spoke about the impacts of climate on smallholders during the Climate Group Signature Event. We committed to support the livelihoods of 500,000 farmers, many of whom are women, through partnerships, research and training on climate smart agriculture and to work with at least 15,000 smallholder farmers to encourage adoption of CSA practices during this event.
- Kellogg participated in The Chicago Council on Global Affairs and InterAction's multi-part congressional educational series looking at the intimate connection between food security and major policy issues facing the United States, focused on women's empowerment in agriculture with both the Senate and House Hunger Caucus.
- During December 2015's 21st Conference of the Parties (COP21) global climate negotiations, Kellogg senior executives participated in many events to advocate for climate action and business leadership. On December 8th, 2015, [John Bryant announced](#) ambitious science-based targets at the International New York Times Energy for All event.