138 Reduce the burden of food preparation in resource-poor households

The Solution: This game-changer addresses the 'last mile' of food security, as households acquire ingredients and prepare meals in the home. Hidden costs of meal preparation are a large and often unrecognised barrier to food security and nutrition, especially in settings without reliable electricity from renewable sources and in settings where caregivers are unable to acquire pre-cooked items that facilitate preparation of healthy meals at all times. Food acquisition and preparation often places high burdens on caregiver time and can impose additional financial costs for cooking fuel, equipment, and transportation. Overcoming these barriers in cost-effective ways requires a rapid transition to universal electrification from renewable sources at sufficient levels of power for cooking and refrigeration, and also support for helpful processing that preserves and enhances the nutritional value of foods while reducing time and fuel requirements for meal preparation within the home, alongside regulatory approaches to limiting harmful ultra-processing that removes beneficial components and adds attributes associated with diet-related diseases. Enabling households to prepare healthy meals quickly with low fuel use requires a clear distinction between helpful processing and harmful ultra-processing, based on the growing evidence about what kinds of precooking and food preservation can retain and enhance nutrition.

Source(s) of the Solution: Our focus on the burden of meal preparation for resource-poor households emerged from the true cost of food analysis conducted by Science Group and is described in detail in the Science Group's policy brief, "Cost and affordability of preparing a basic meal around the world." This work built on past research using market prices to calculate diet costs and affordability. The working group's estimation of externalities related to environmental, social, and health externalities led to an exploration of the impact of these costs on the poorest. This led to the determination of the *cost of meal preparation* to reflect hidden costs within households, especially women's time use and fuel requirements for cooking basic meals. The resulting research brief reveals opportunities for more comprehensive analysis of barriers to healthy eating and game-changing interventions to end hunger and all forms of malnutrition. This solution is also closely related to a number of other proposals raised through the FSS dialogues and consultations. Our aim is to provide a unified framework through which to communicate the need for inter-related initiatives that remove barriers to healthy and sustainable meals while limiting the role of unhealthy and unsustainable foods.

Problem addressed within food systems: Eating a nutritious diet is essential for a healthy, active life. Food prices are just one aspect of helping people consume healthy diets. The SOFI (2020) report highlighted the widespread unaffordability of nutritious and healthy diets, but addressing constraints beyond affordability will help to improve diet quality and reduce food insecurity and malnutrition. While much is written about how food processing can contribute to unhealthy food environments and health problems, food processing can also contribute positively to solving food system challenges related to food safety, seasonal availability, and the burden of food preparation. Healthy diets are unaffordable for many of the world's poor, first because production costs and market prices of even the least-cost items exceed their available income, but also because of hidden costs of meal preparation, especially women's time and the fuel required for acquiring and preparing daily meals.

How this solution will address that problem: Reducing the burden of food preparation involves three main steps:

(i) *Electrification* powered by renewable energy sources is typically seen as essential for industrial machinery and residential lighting, communications, cooling, and heating and is also extremely important for meal preparation, cooking, and food storage. In households that are connected to electrical grids or standalone photovoltaic systems, electricity is by far the least costly form of power. Electricity in the kitchen allows people to use food preparation equipment that requires less time and

attention and allows for safe storage of fresh and prepared foods. Electrification based on renewables can make food systems dramatically more inclusive and sustainable.

(ii) *Support for helpful processing* that retains and improves foods' nutritional value (as opposed to ultra-processing that removes beneficial components, introduces harmful attributes, and is associated with poor health outcomes). Food processing inside or outside the home is a universal step in meal preparation, for which it is increasingly urgent to identify processing techniques that reduce drudgery and preserve or add to the nutritional value of foods—such as canning, freezing, drying, and fortification—and distinguish them from harmful ultra-processing that may add convenience, brand recognition, and shelf stability but compromises nutritional value by removing nutritious food components such as fibre and adding unhealthy components such as added sugar, sodium, and solid fats.

(iii) Government should create a *regulatory environment* that supports businesses, especially local SMEs, that provide helpful and healthy processing.[1] An initial definition for helpful and healthy processing could start with the NOVA classification, including NOVA groups 2 and 3 (processed foods) but excluding any foods with added trans fats as well as all cured and smoked meats due to their harmful effects. Key actions to support this solution would include further research regarding what kinds of processing are helpful and preserve or enhance the nutritional value of foods, what kinds of processing might be neutral, and what kinds of processing are harmful to health.

Solution's alignment to the 'game changing and systemic solution' criteria: Interventions to facilitate preparation of healthy meals are a game changer because they recognise the universal need for cooking and food preservation, along with the very diverse cultural and socioeconomic contexts in which meal preparation takes place. Universal electrification from renewables, combined with a clear distinction between helpful healthy processing and harmful ultra-processing, can use 21st century technology to deliver food and nutrition security through inclusive and sustainable food systems. Gender differences in caregiving responsibilities make these steps crucial for maternal and child health, as well as education and employment for adolescent girls and women who are otherwise required to spend a large fraction of each day on meal preparation, starting with the water and fuel required for cooking. Public support for electrification with renewables as well as support for SME food processing enterprises that preserve and enhance nutritional value is a game-changer because it harnesses large-scale employment of youth and marginalised groups, pursuing universal basic needs to develop locally appropriate food systems that are increasingly inclusive and sustainable over time.

Existing evidence: Focusing attention on the hidden cost of meal preparation, and the difference between helpful healthy processing versus harmful ultra-processing, builds on the large evidence base about the efficacy and cost-effectiveness of those programmes and policies.

Current/likely political support: Focusing on the hidden costs of meal preparation can enlist a wide range of stakeholders in developing an inclusive and sustainable food system. Electrification from renewables is already a central focus for governments around the world, addressing climate change in cost-effective ways through job creation to transform the energy sector. The importance of electrification for inclusive and sustainable food systems underscores our common interest in ensuring universal access to reliable grid power or standalone systems in both rural and urban areas.

Contexts where this is well/not well suited: Electrification powered by renewables for home kitchens and SME food processing firms will proceed at different speeds in different settings, as part of the larger global push towards fossil-free economic development. Regulatory support for companies that

[1] It will also be important to continue to use regulation and taxation to limit production and consumption of foods with harmful ultra-processing.

provide helpful healthy processing, while also limiting unhealthy ultra-processing will also require tailoring to each country's national nutrition policies but can be expedited through global standards and data sources that distinguish between healthy and unhealthy forms of food processing.