Better Eat

A Holistic Digital Ecosystem to Tackle Food Poverty in the United Kingdom

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Abstract

Food poverty is a pressing issue in the UK and around the world, and is likely to get worse over the next few years due to the COVID pandemic, stagnant global economic growth, and geopolitical tensions such as the Russian invasion of Ukraine. Despite intervention efforts by both Government and Non-Governmental Organizations to alleviate the food poverty, support remains inadequate. Efforts to address food insecurity have been undermined by structural and societal factors such as a reduction in benefit payments by the government and being inhibited by stigma and shame when seeking help respectively.

Better Eat, is our solution which recommends centralizing the current food assistance resources onto a singular platform and leveraging delivery platforms to transport the food packages. This will benefit food-insecure people by allowing for better access to food. The organizations that are battling food insecurity will have an opportunity to improve their operations and enhance the efficiency of the food distribution process. Our goal is to provide a blueprint for the nation to build up a resilient and long-lasting urban food assistance network.

Our Team

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Wen Nuan is a second-year Master in Public Policy candidate at the Lee Kuan Yew School of Public Policy, National University of Singapore. Before joining LKYSPP, she has eight-year experience in communication consultation, with extensive experience in communication strategy for both public and private sector, and strong media networks in mainland China, Hong Kong and west European countries.

CONTENT

Introduction
An intertwined relationship exists between poverty and food insecurity

Poverty creates unfavorable conditions that could contribute to, or exacerbate, the problem of food poverty. Food poverty, also known as food insecurity, is defined as a challenge to access and affordability of nutritious food within a community (Sustain, 2016). People living in poverty often experience financial hardships, which hinder them from affording safe and nutritious food daily. Without a sufficient caloric intake, they are unable to build up energy or strength to be productive.

As poverty and food insecurity are intrinsically linked, it is crucial to combat both problems simultaneously rather than in parallel. Since people living in poverty allocate a larger proportion of their income to food, they are particularly vulnerable to both rising inflation and high food prices. Therefore, government policy or welfare programs alone are not adequate in alleviating poverty. More concerted efforts with greater accountability from a wider range of stakeholders would be required to effectively tackle food insecurity.

Throughout the past decades, poverty and food insecurity have mostly been apparent in developing countries and many UN Sustainable Development Goals (SDGs) projects to eradicate hunger and poverty have been implemented in these populations. However, household food insecurity in developed and economically rich nations is often ignored in the mainstream press, leaving the poor and hungry alone in the cold.

In this paper, we propose a digital-platform solution to tackle food insecurity in the UK. According to data released by the Food Foundation, approximately 14 percent of UK households experienced moderate or severe food insecurity during May 2022, which went up by five percent from February 2022 (Swindells, 2022). The main goal of our solution is to support those who need food emergency support by leveraging existing food resources. Through embracing innovative approaches and fostering partnerships, we reinforce inclusiveness and transparency while fostering greater efficiency in our service.

Background
Food poverty has been on the upswing in the UK since the start of the COVID-19 pandemic and the recent cost of living crisis is making matters worse

15% of households in the UK have experienced food insecurity since the outbreak of COVID-19 in early 2020 (Goudie & McIntyre, 2021). As the country started a series of welfare programs in support of those most affected by the pandemic, a downtrend in households' food insecurity was observed. However, food insecurity across the UK has been on the rise again since 2022, due to rising inflation, high food prices, and the war in Ukraine.

As the current cost-of-living crisis in the UK has yet to reach its peak, food-insecure households will face even more challenges in 2022 than during the COVID-19 pandemic. Food banks in the UK saw a massive rise in customers between April 2020 and March 2021 (Pautz & Dempsey, 2022). They provided more than 2.5 million emergency food parcels to the needy (Figure 1), which represents a 35% increase from 2019 to 2020 (before the Covid-19 pandemic). Alarmingly, compared to the same period four years ago, the need for food banks has increased by 114%.
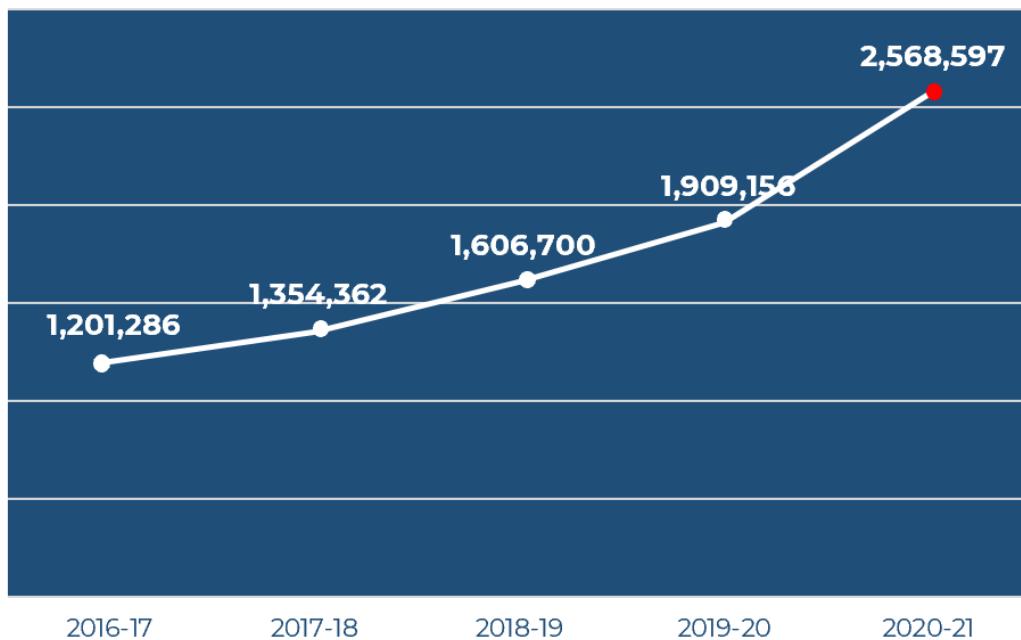

Figure 1: Number of needs for food banks in Trussell Trust network (2016-2021)
(Source: Trussell Trust)

The soaring food costs and escalating energy prices have led some food-insecure people to seek out shelf-stable foods that do not require refrigeration as opposed to fresher produce (Atkinson, 2022). Between May 2021 to May 2022, there was an average 8.5% price increase across all food items (Kollewe, 2022). Assuming disposable income remains constant, this could lead to lower consumption of food items, which consequently leads to malnutrition. Suffice to say, more people in the UK are facing a more food insecure future than they did during the pandemic.

Despite being the sixth richest country in the world, Britons are being squeezed by food poverty and it's worse for those who were already on a tight budget

Nearly 10 million people in the UK are struggling to find food, even those who are at work

Around one in five people in the UK fall below the poverty line after accounting for housing costs (Francis-Devine, 2022). This amounts to approximately 13.5 million people as of 2021, of whom more than three million are children and nearly 120,000 households threatened with homelessness. Due to data collection difficulties brought on by the COVID-19 pandemic, the numbers demonstrated above could be worse (Goudie & McIntyre, 2021). It is likely that there are more people living below the poverty line than was reported officially as the pandemic prevented a full accounting of poverty rates within the UK.

Among those living in poverty, food poverty is an especially intractable issue with nearly ten million people struggling to find food in April 2022 (Goodman, 2022). In total, a household living below the poverty line tends to spend an average of 14% of its total budget on food and non-alcoholic beverages alone, second only to household spending on rent and utilities (GOV.UK, 2021). Given that food prices have been rising steadily, assuming all else constant, the proportion of poor households' budgets going to food has increased relative to other household necessities.

More than two million UK adults went (at least) a day without food at some point in April 2022 (Rimi, 2022). As of May 2022, a 9.1% annual inflation change in consumer prices was recorded in the UK, which ranked the highest among comparable economies such as Germany (8.7%), Spain (8.5%), and Europe Zone (8.1%) (Krishna, 2022).

The UK also saw a 57% jump in the proportion of households that cut back on food or skipped meals in the first quarter of this year, accounting for over seven million food-insecure adults (Bulter, 2022). This drives up the working poverty rate and demonstrates that for some, wage rates are not keeping pace with rises in the cost of living.

Food poverty affects all walks of life, and some groups are more at risk than others

Within the UK, several regions and groups are more likely to suffer from food poverty than others. The reason is not just because of the high cost of living, but also a lack of access due to the insufficient number of food stores (otherwise known as a 'food desert'). According to the Social Market Foundation, places with high costs of living such as London, Manchester, and Liverpool tend to pay more for foodstuffs on a per unit basis than those in the North of England (Westwater, 2021). Similarly, regions such as Luton and Glasgow could be classified as food deserts since there is an undersupply of food stores to meet the needs of the population or food stores are inaccessible unless individuals have access to public or private transport (Titis et al., 2021).

Food poverty is also persistent among the physically disabled. Disability is heavily correlated with food instability, with two in three households referred to a food bank in early 2020 having at least one disabled person in their household (Spoor, 2021). People with disabilities are also five times more likely to suffer from food poverty (31.1% vs 6.4%) (Bogan, 2022).

Food poverty could hinder social cohesion and productivity, and cause a deadlock in the poverty cycle

The continued prevalence of food insecurity is precarious for all. Studies have shown that individuals who do not have a consistent supply of food tend to suffer from birth defects, cognitive issues, poorer general health outcomes, anxiety, depression, and poor sleep outcomes (Gundersen & Seligman, 2017). These poor health outcomes for individuals will have harmful effects on social cohesion and productivity.

Moreover, as food insecurity is deeply related to poverty, governments may also need to fund a variety of social programs, such as food and health support programs, to address the effects of food insecurity. The costs of these programs could number in the billions of dollars. Since food insecurity has such negative health and developmental outcomes, it also means that groups of food insecure people are more likely to be locked in a cycle of poverty as they cannot rise to their full physical and cognitive potential.

Given the multidimensional nature of poverty and the intertwined relationship between food insecurity and poverty, reducing poverty (SDG-1) cannot be achieved without combating food insecurity (SDG-2), and vice versa. Therefore, regular access to food is the vital engine to propelling the vulnerable out of poverty, and it is imperative to involve many stakeholders across sectors to collaboratively address food insecurity in poor population groups both locally and globally.

Landscape and Gap Analysis
Both the government and NGOs are taking action. Relief for some, but the others are still left behind

Although food poverty has increasingly gained attention from policymakers, the current policies by the government are mainly focused on vulnerable groups such as women and children. The remaining individuals are depended on Universe Credit as a single safety net.

The amount of help provided by Universal Credit does not always translate into actual spending on food for the poorer households who face challenges in other areas such as housing. The support from food banks or other NGOs could also be fragmented and are only able to offer short-term relief. With issues along the horizon, such as inflation, coupled with changes to the government Universal Credit policy which reduced the benefit by £20 in September 2021 (Ghelani, 2021), there are still a lot of gaps that need to be filled in the fight against food insecurity.

To ensure our solution successfully fills in the gaps, we first need to map out the current policies addressing food insecurity and understand the discrepancies and pain points of existing food assistance-related offerings.

A. **Weak safety net for food security where the COVID pandemic exposed the inadequacies of support**

Two main government policies addressing food insecurity in the UK include the Healthy Start Voucher (HSV) scheme targeting low-income pregnant women and children (under 4 years old) and Free School Meal (FSM) scheme targeting school-going children (under 16 years old). Individuals who do not fall under these two groups and require support will be placed under Universal Credit, which provides a monthly income payment to help with living costs (GOV.UK, 2021).

Temporary measures were provided during the pandemic to ensure that low-income families were able to receive support. However, these measures have since ended even as the global economy had not recovered sufficiently to pre-pandemic levels. Moreover, the inadequacy of support provided by Universal Credit is pulling more people into poverty (Power et al., 2020). The situation is further exacerbated due to the rise in inflation which continues to cause low-income families to live in challenging times. Consequently, the hardship from the inadequate support from the government has also caused further mental health strain, which could lead to adverse effects on the economy through lower productivity levels (Thomson, 2021).

B. The current food assistance system in the UK is fractured and lacks synergy among Government, private, and public sectors

Besides relying on the Universal Credit to cover part of the living cost, people can seek help from NGOs dedicated to food assistance. The NGOs currently provide support through the form of food banks and other registered entities such as schools, hospitals, and social enterprises. However, as of 2021, there is no comprehensive record of the number of organizations providing food aid in the UK (GOV.UK, 2021).

Most of the food banks are managed by The Trussell Trust and the Independent Food Aid Network (IFAN). The Trussell Trust conducts its own food security-related mapping such as areas of districts with higher poverty levels and the food demand of people in need. For those that are not in the Trussell Trust network, IFAN has stepped in to fill the gap in knowledge by providing food bank mapping services covering 1172 independent food banks in the UK (Revie, 2022). However, the process of data collection, measurement, or method of mapping do not follow a standardized set of practices which render cross-utilization of data to be impossible.

Without the full picture of food insecurity in the UK, it hinders the synergy among food assistance organizations to better allocate resources, including the progress of bringing food poverty to the immediate policymaking agenda.

C. The surge of demand pushed food banks to breaking point

Due to the soaring food price and energy bills, a growing number of families turned to food banks to seek support. Some food banks have recorded an increase in 50% of food parcels distributed since the end of 2021 (Forrest, 2022). The scale of suffering from food insecurity remains a big concern in the UK, and the food banks' ability to provide support to cover surging demand is reaching its limit.

D. Asking for food support is not easy. Some feel shame for asking for food while some have difficulty accessing food assistance organizations

While food banks are trying to help, some individuals are facing food poverty and have chosen to avoid food banks as it is seen as 'undignified' (Akinola, 2021). This creates a situation where food banks were designed to ensure that emergency food aid can be easily dispensed to recipients, but they were not fully utilizing the service. People who live in 'food deserts' with limited access to supermarkets and stores with fresh food have to rely on vehicles to get enough food for a few weeks. Due to the high-rising oil price, some people have to sacrifice their spending on food for energy bills, and it is also cost-sensitive for them to drive to major food banks to seek food support.

E. Food parcels' sugar content often exceeds the nutrient requirements

As food intake contributes to the prevention of malnutrition and reduces the likelihood of diet-related illnesses, food banks are trying to maximize the nutritional value of each parcel. However, as food parcels are provided through donations, there remains a challenge for food banks to ensure that the costs do not outweigh the benefits. In addition, considering the food parcels are for people in food crisis, the negative effects of staying hungry often outweigh the concerns over the excessive level of sugar or lack of Vitamin D in the food items that are provided (Hughes & Prayogo, 2018). Hence, it is important for food banks to strike a balance between quantity and quality of the food parcels.

Given the current food assistance landscape in the UK, we found that there are several areas where the current model of food assistance does not adequately meet the requirements set out by social needs. To bridge these gaps, our team proposes a solution covering all the key actions needed.

		Current concerns	Future goal	Gap	Actions
A.	Inadequate policies and measures for food security	Weak safety net for food security where the COVID pandemic exposed the inadequacy of support	Policies or schemes that could address food insecurity for more groups are launched	Current policies are limited to certain vulnerable groups	Support for those who are left out from current food security policies needs to be introduced
B.	Fractured food assistance system	Food assistance system in the UK is fractured and lacks synergy among Government, public and private sectors	Available resource and data could be exchanged and synced among different sectors to have a full picture of food security status	Organizations operate independently. There is no aligned mechanism among different sectors to achieve information exchange and resource allocation	A leading party to centralize all food assistance related information and services needs to step in to maximize the coverage and efficiency of food assistance
C.	Surging demand of food assistance	The surge of demand pushed food banks to breaking point	More food assistance resource could be in place Resource and capacity of organizations could be flexibly arranged	Resources of food assistance mainly rely on donation and government funding Lacks mobility of resource and capacity among difference organizations leads to resource waste	To recruit more parties from private sector is crucial to boost the food supply New mechanism for volunteer recruitment and resource mobility are required
D.	Barriers of accessing food assistance	Asking for food support is not easy. Some feel shame for asking for food while some have difficulty accessing food assistance organizations	People in need could access food assistance whenever and wherever they want	Current procedures of food assistance always require people in need to get food parcels on site	New way of food parcel delivery with higher privacy and efficiency is needed
E.	Nutritional quality of food parcels	Food parcels' sugar content often exceeds the nutrient requirements	Food parcels could not only help people in need to get enough energy but also to provide them with healthier diets	Food options for food parcels are limited considering its dependence on donations	Introduce healthier food option is necessary to achieve more balanced diets of food parcels

Figure 2: Summary of landscape and gaps of current food assistance status and needed actions in the UK

Solution
We converge, explore, and evolve
Better Eat, a holistic digital ecosystem to tackle food poverty

Who we are

Better Eat is a holistic digital platform that unites organizations in helping the UK population towards a more food secure future. These organizations are currently in the food-assistance space and our goal is to enmesh them within a single system to leverage each other's strengths to value-add towards a more efficient and productive service for the people who require support.

Figure 3: Key offerings of Better Eat

Better Eat centralizes all food assistance-related information and resources and acts as a one-stop digital platform for both providers and receivers of food assistance. We will work together with a diverse group of partners, ranging from public sectors such as authorities dedicated to food assistance and food safety (e.g., Food Standards Agency), food assistance-related NGOs (e.g., food banks and soup kitchens), food providers from the private sector (e.g., chained supermarkets and restaurants, urban farms) to donors from the general public. Our platform will act as the bridge for all the existing online and offline services to ensure that the food assistance demands among different groups are met.

Figure 4: Key partners of Better Eat

What we do

There are various aspects to **Better Eat** that are designed to ensure that food insecurity and the other issues associated with it are adequately addressed.

A. **A centralized and sustainable food assistance network**
   With all the information centralized on one platform, Better Eat will allow for: (a) document verification about people who need help, (b) the latest updates on food storage and offerings, (c) locations for food assistance and other food assistance-related information could be easily accessed. Having a single digital platform that consolidates all the existing services will ensure that there will be better monitoring, tracking, and management of food assistance services. In the future, this integrated digital network will allow the demand and supply of food assistance to match instantly on existing data. The required food assistance will then be automatically organized, based on information such as the latest status of food storage, location of donated parties, time, etc.

B. **Timely food assistance delivery with enhanced privacy**
   By collaborating with online delivery platforms, food parcels will be delivered directly from partners to people in need. This could enhance the overall efficiency and privacy so that people who need help can easily ask for it. In addition, delivery of food parcels also allows food banks to centralize operations without the need for multiple food banks within each community. The economies of scale gained from this overhaul of food bank operations will provide cost savings and will be used to offset the delivery costs of the food parcels.

C. **Food parcels with less wastage and a higher level of dietary quality and nutritional adequacy**
   Food parcels will be tailor-made towards the needs of the people who place an order through our digital platform. This allows for less wastage and more customization of food parcels, based on the existing availability of food items within the food bank. Moreover, we will partner with urban farms in the UK and offer special parcels comprising vegetables and fruits. This provides a good alternative or add-on in addition to food parcels provided by food banks and other food assistance organizations as fresh products could allow the food insecure recipients to achieve a more balanced and healthier diet.

D. **A social network for food assistance-related information**
   Once onboarded, people in need can access up-to-date and comprehensive food assistance-related information and keep up with the status of eligibility for receiving food

assistance. As our digital platform grows in size, we will explore opportunities such as the chance for our end-users to unlock new offers and discounts from other organizations.

E. Establish an efficient two-way food assistance channel based on the real-time requirement

Better Eat is also available for those who are willing to help. With the online donation channel enabled, those who would like to offer helping hands can check the latest requirement for food donations, food delivery volunteers, or check the nearest food banks or food assistance organizations for monetary donations. This provides a platform for the community to step in to help each other in a variety of ways.

F. Offer comprehensive coverage to different groups enabled by tailored functions

In addition to leveraging digital channels to allow young people to easily navigate the challenges of food insecurity, offline service is also available for individuals such as the disabled and elderly who require in-person assistance. Community fridges are also being included in the Better Eat digital ecosystem to ensure that groups who are still in the midst of their application for support from the food banks can get emergency food supplies to tide them over the crisis.

User journey

People who need food assistance will be required to visit food banks or other authorities once to verify their eligibility. Thereafter, they can easily gain access to all related information and receive food parcels that suit their needs by following the few simple steps below. This process enhances the overall efficiency and privacy so that people who need help can easily ask for help and overcome the sense of shame that might occur when asking for food parcels.

Step 1: Visit food-assistance-related organizations to verify the eligibility for getting food parcels
Step 2: Check verification status and confirmed food vouchers on Better Eat app
Step 3: Choose available food parcels based on your preferred dietary requirements, location, and the partnering organization on the Better Eat app
Step 4: Selected food parcels are picked up and handed over to delivery partners
Step 5: Selected food parcels are delivered, and food vouchers will no longer be available on the digital platform
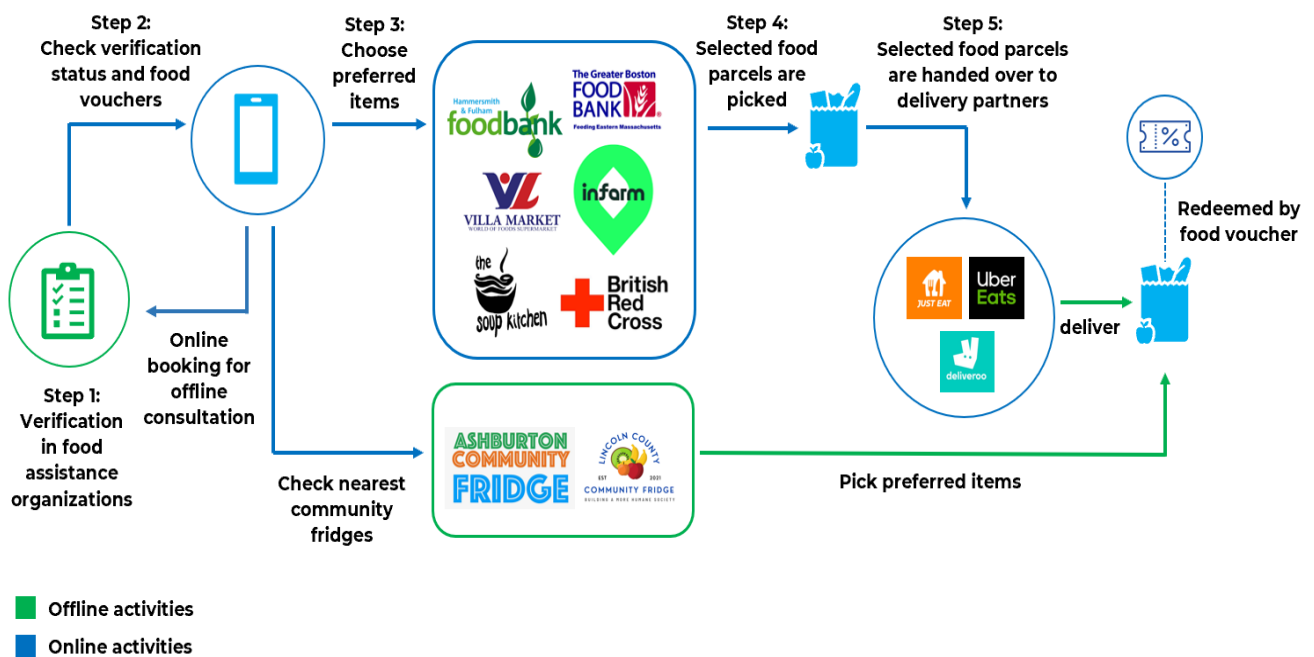

Figure 5: Overview of Better Eat's user journey

All food assistance-related information will be regularly updated. This includes the latest food assistance policies and programs, real-time tracking of the availability of food supplies, the location of the nearest food bank or community fridge, urban farms that are willing to offer fresh food packages, and restaurants that offer special discounts once onboarded on Better Eat

platform. All information will be available in English, Tamil, Hindi, Polish, Ukrainian, and Chinese to cater to the growing numbers of immigrants.
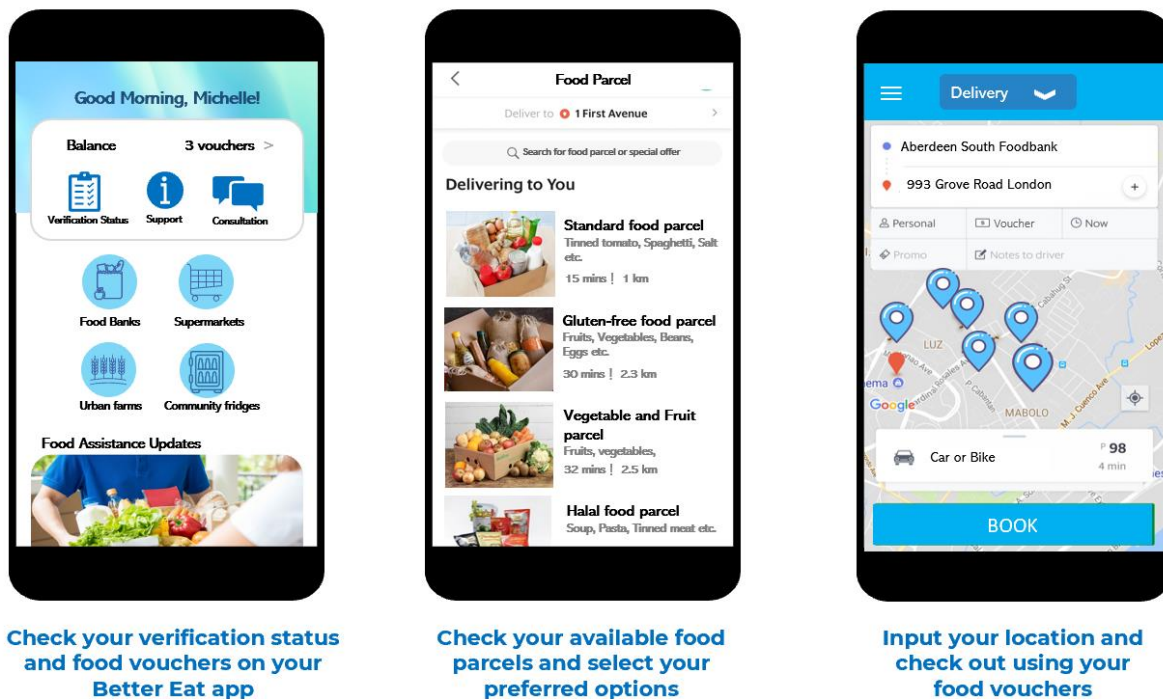

Check your verification status and food vouchers on your Better Eat app

Check your available food parcels and select your preferred options

Input your location and check out using your food vouchers

Figure 6: Examples of key functions (interface, available food options, and booking)

In addition to the offline service, people can book physical consultations and select their preferred time slots through the Better Eat app. Those who are living far away from major food assistance organizations can check the nearest community fridges to get the food they need.
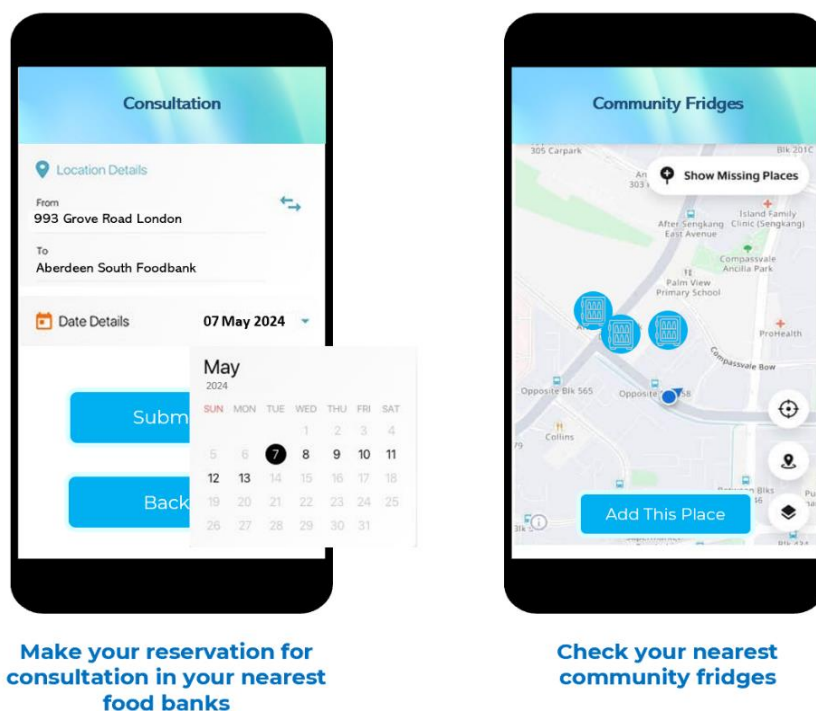

Make your reservation for consultation in your nearest food banks

Check your nearest community fridges

Figure 7: Examples of key functions (Booking of offline consultation and location of community fridges)

Implementation Analysis
To understand our opportunities, key stakeholders, and how we bring our solution to life

To ensure our platform can be rolled out successfully, we analyze and understand the current key players, stakeholders, and their respective roles. We have designed a three-phase plan to show details of execution and our solutions according to anticipated risks.

Key players analysis

By conducting secondary research on existing food assistance offerings in the UK, we have identified the existing key players and developed the following organization landscape mapping to categorize their focus and summarize their roles.

Focus	Existing players	About
Organizations coordinating food assistance resources	Trussell Trust	Trussell Trust provides support by having more than 1,200 food bank centers in the UK to ensure that people who require food aid can get a minimum of three days of nutritionally balanced emergency food to resolve the crises in their lives. Target group: food banks
	IFAN	The IFAN consolidates information and maintains a database of independent food banks and constantly shares updates with those who need food support. These independent food bank providers are usually standalone and out of large networks like the Trussell Trust. Target group: independent food banks (outside of Trussell Trust)
	OLIO	OLIO is an app connecting neighbours as well as local businesses so that surplus food could be shared. Target group: general public
	My Food Bank Finder	My Food Bank Finder is a website offering channels for donations and information of nearby food and apartment. Target group: general public
Food assistance organizations for specific groups	End Child Poverty	End Child Poverty targets the goal of eradicating child poverty in the UK. Their services include driving awareness of the causes and effects of child poverty while forging commitment across different sectors (public, private, voluntary sectors, and government) to fight against child poverty. Target group: children

	Feeding Britain	Feeding Britain runs a series of emergency food programs across the UK to protect children and their families from hunger. The food support includes hot meals and food packages which are available in selected collection points or home deliveries in the communities where the organization operates. Target group: children and their families
	NHS Volunteer Responders	NHS Volunteer Responders offers food assistance for those who are shielding (people are over 70, pregnant with a medical condition, or have a long-term health condition) or people who consider themselves as a vulnerable group for other reasons. Target group: socially or medically vulnerable group
	Sustainable Food Places	Sustainable Food Places offers support towards food emergencies created by the Covid-19 pandemic. This is done through local food partnerships on the ground and sharing of updates regarding the Government advice. Target group: people who need food emergency support
NGOs offering support for a wide range of individuals (including food assistance)	**Covid-19 Mutual Aid UK**	Covid-19 Mutual Aid UK organizes mutual aid activities with the support of volunteers throughout the COVID-19 pandemic in the UK. Various types of support are available including food support. Target group: people who need food emergency support
	The British Red Cross	The British Red Cross offers free support for people who experience mental, physical health hardship. They are also on-hand to provide food support and emotional support to those who are in need. Target group: people who need food emergency support
NGOs offering non-food related support that could relieve food emergency	**MoneyHelper**	MoneyHelper offers trusted support and advice for people to make clearer decisions on their money and pension. MoneyHelper offers detailed guidance on how to build up savings plans for people to have a buffer to deal with unexpected expenses (such as high rising food prices) and shocks. Target group: general public
	Mind	Mind provides professional advice and support to empower people who are experiencing mental health problems. It is found that food insecurity is highly associated with depression and anxiety. Those who are experiencing mental health problems because of the difficulty of accessing food can seek help from Mind's confidential hotlines service and get the up-to-date mental health information. Target group: people with mental problem

		Homeless Link is a charity working to end homelessness in England. It directly works with homeless people in the communities to offer professional support, networks, and training to help individuals or families in emergency, homeless, and related issues such as difficulty of dining. Target group: homeless people
	Homeless Link	

Figure 8: Landscape of key players in food assistance

Our unique role and opportunity

Currently, in addition to providing food parcels, many NGOs have gradually started to offer more specific services such as housing support, counseling services, and direct provision of money as aid to help the needy to cope with the worsening situation. As they share similar missions, values, and target groups, these organizations tend to have an overlap in their services, resulting in allocative inefficiency. Moreover, while some organizations have already partnered up with the private sector (e.g., chained supermarkets and restaurants) to get food donations, none of them has innovated to expand into alternative food supply channels. Under the current economic situation and pandemic where resources are overly stretched, it is imperative to introduce new channels to ensure the relatively sustainable food supply of food assistance.

Based on these insights, our team set out to create a holistic digital platform that serves the dual purposes of filling in the existing market need and addressing food insecurity across the UK in a more systematic and efficient way.

Better Eat demonstrates the following unique propositions:

A. We act as a centralized coordinating platform that consolidates and optimizes all the food assistance-related resources and abolishes the existing practices of working in silos.

B. We are a platform for the end-to-end delivery of food assistance.

C. We partner with urban farms to leverage domestic food production to diversify the source of food assistance.

D. We expand collaboration with enterprises, offering new ideas for CSR events that could both benefit donors and end-receivers.

E. We introduce new mechanisms for volunteer recruitment. This includes novel volunteering opportunities like volunteer delivery drivers to cater to the growing needs arising from our solution. We provide opportunities where the community can support each other further than the conventional means of cash donations.

F. We serve as a necessary social innovation that provides adequate and timely feedback from both food assistance recipients and partnering organizations utilizing the platform. This enables the policymakers to have a clear and up-to-date overview of food security within the regions, thereby providing the required evidence for targeted policies or schemes to address the issues.

G. We drive better synergy among authorities and food assistance-related organizations allowing for the formation of a more closely-knit food assistance network. This allows for the build-up of a strong bond and trust among communities, organizations, people in need, and the Government.

Stakeholder assessment

The table below categorizes the key stakeholders into different groups and summarizes how they can benefit and maximize their resources with Better Eat.

Category	Stakeholder	Project Role
Beneficiaries	App users mostly comprise: • General public who needs food assistance • Food-insecure households and individuals • The disabled	Benefit from: • Better access to food assistance • Higher privacy when asking for help • Higher efficiency of getting food parcels or support
Project Partners	NGOs and government agencies: • Food bank, soup kitchen, community fridges • British Red Cross • The Trussell Trust • Food Standards Agency	• Information exchange (e.g., user data, available food storage, volunteers) • Provide up-to-date data
	Companies that offer food assistance-related CSR activities: • Supermarkets (e.g., Tesco) • Convenient stores (7-Eleven) • Restaurants (e.g., Starbucks) • Other food providers who share the same goal to end hunger	• Offer discounts or free giveaways on leftover food • Donate surplus food • Collaborate to devise creative strategies to expand our service • Contribute to the process of reducing food insecurity across the country
	Delivery platform partners: • Uber Eats • Deliveroo • Just Eat	• Facilitate the food distribution process • Help raise awareness of food poverty
	App developer: • Sonin App Development	• Design and develop the app • Maintain and improve the app service
Potential Partners	Academia and research institutes: • GPPN Network • University of London • Independent Food Aid Network	• Advise the further development of our project • Conduct impact research
International Organizations	International and regional NGOs or agencies: • World Bank • United Nations	• Policy advocacy at both regional and international levels • Offer funding to our project

Figure 9: Stakeholder assessment of Better Eat

Three-phase plan for ecosystem development

Better Eat will be rolled out as part of a three-phase development plan: (a) landscape research and key partner recruitment, (b) platform development, and (c) platform refinement and partner expansion. We aim to prioritize our partnership with food banks, soup kitchens, urban farms, and community fridges to offer immediate support to alleviate the surging demand for food assistance. As our platform continues to grow, we hope to work with partners from the private sector such as restaurants, supermarkets, and other food providers who are willing to offer helping hands to fight against food poverty in the UK.

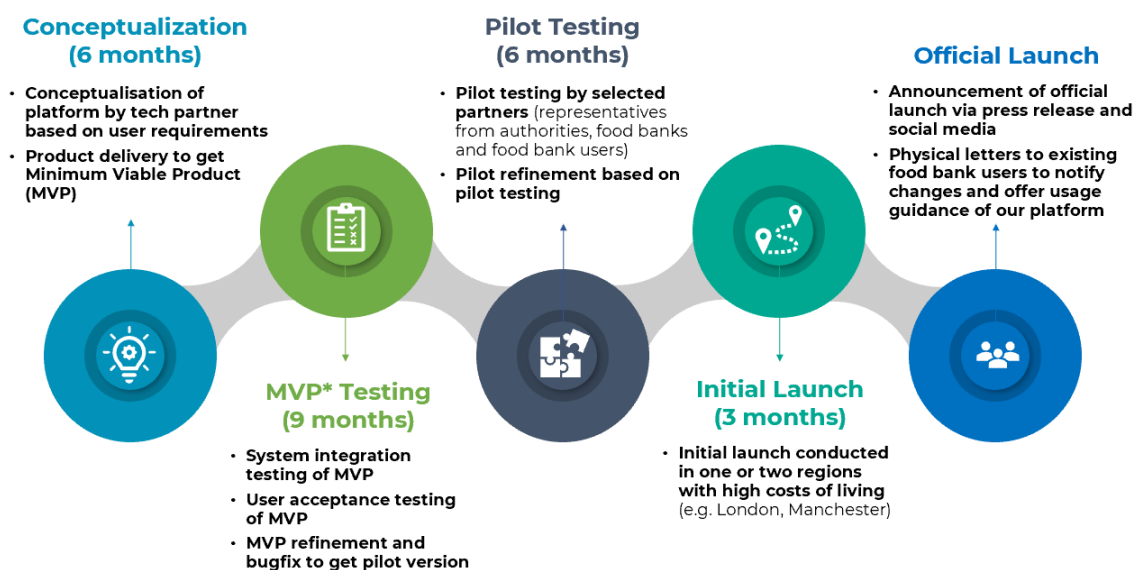## Phase one: landscape research and key partner recruitment

To better understand the challenges that current food assistance organizations are facing, we will conduct a mapping of all available resources and perform secondary research covering both demand and supply-side analysis. On the demand side, we will analyze the logistical and psychological barriers to households in need of food assistance. On the supply side, we will further map out available resources, food assistance-related organizations, and food providers. We will also analyze the key challenges of the food assistance supply chain. This will allow us to have a holistic and understanding of the situation and available resources that we can onboard on the Better Eat platform. By applying the Lean Six Sigma technique, we aim to improve the current process of providing aid and leverage our digital platform to remove time wasted during the processes.

Special focus group discussions and interviews will be arranged with certain groups of food bank users. We plan to target the physically disabled as they experience a higher level of accessing food assistance, or young food bank users who might not utilize the food assistance services due to shame. This could help us better understand the challenges they are facing and tailor our functions to cover their needs.

Concurrently as we conduct our landscape research, our team will also conduct primary partner recruitment to get our key partners (e.g., food banks, urban farms, and local authorities responsible for community fridges) on board and familiar with our solution. We aim to discuss and reach a consensus on a preliminary cooperation framework and get support from the Food Standards Agency to include all the available food assistance-related information on our platform.

Phase two: platform development

We will work with Sonin App Development as our tech partner for the development of the platform and also source for a legal partner to assist us in the setup of our non-profit legal entity. Our digital portal will be delivered in the following phases across two years:

Conceptualization (6 months)
- Conceptualisation of platform by tech partner based on user requirements
- Product delivery to get Minimum Viable Product (MVP)

MVP* Testing (9 months)
- System integration testing of MVP
- User acceptance testing of MVP
- MVP refinement and bugfix to get pilot version

Pilot Testing (6 months)
- Pilot testing by selected partners (representatives from authorities, food banks and food bank users)
- Pilot refinement based on pilot testing

Initial Launch (3 months)
- Initial launch conducted in one or two regions with high costs of living (e.g. London, Manchester)

Official Launch
- Announcement of official launch via press release and social media
- Physical letters to existing food bank users to notify changes and offer usage guidance of our platform

*MVP (Minimum Viable Product) refers to a version of a product with just enough features to be usable by early customers who can then provide feedback for future product development.

Figure 10: Key phases of Better Eat development

Phase three: platform refinement and partner expansion

After the official launch of Better Eat platform, the team will spend six months to closely monitor the overall operations of the platform. The founding team will continue to provide support as consultants to ensure that Better Eat continues to innovate and provide the best food assistance service to the community. Sonin App Development will continue to provide post-project support and bugfix services based on the feedback from partners and end-users.

An official social media account will be set up to solicit feedback on the service, offer guidance, and answer incoming inquiries from the public and media. We will also continue to expand our partnership network to identify parties that are willing to offer food assistance and explore feasible mechanisms to include them in the Better Eat digital ecosystem.

Risk assessment

With 92.2% mobile internet penetration (Frontier Economics network, 2018), Better Eat as an app-based solution is feasible for most of the population to use in the UK. However, we still anticipate several risks that we need to address during the platform development phase, which include partner onboarding, perceived social stigma and shame, project financing, data availability, and market competition. Figure 13 illustrates the risk severity matrix by Bhatta (2008) and Figure 14 summarizes potential risks identified, mitigation measures and the corresponding risk level based on the risk severity matrix.
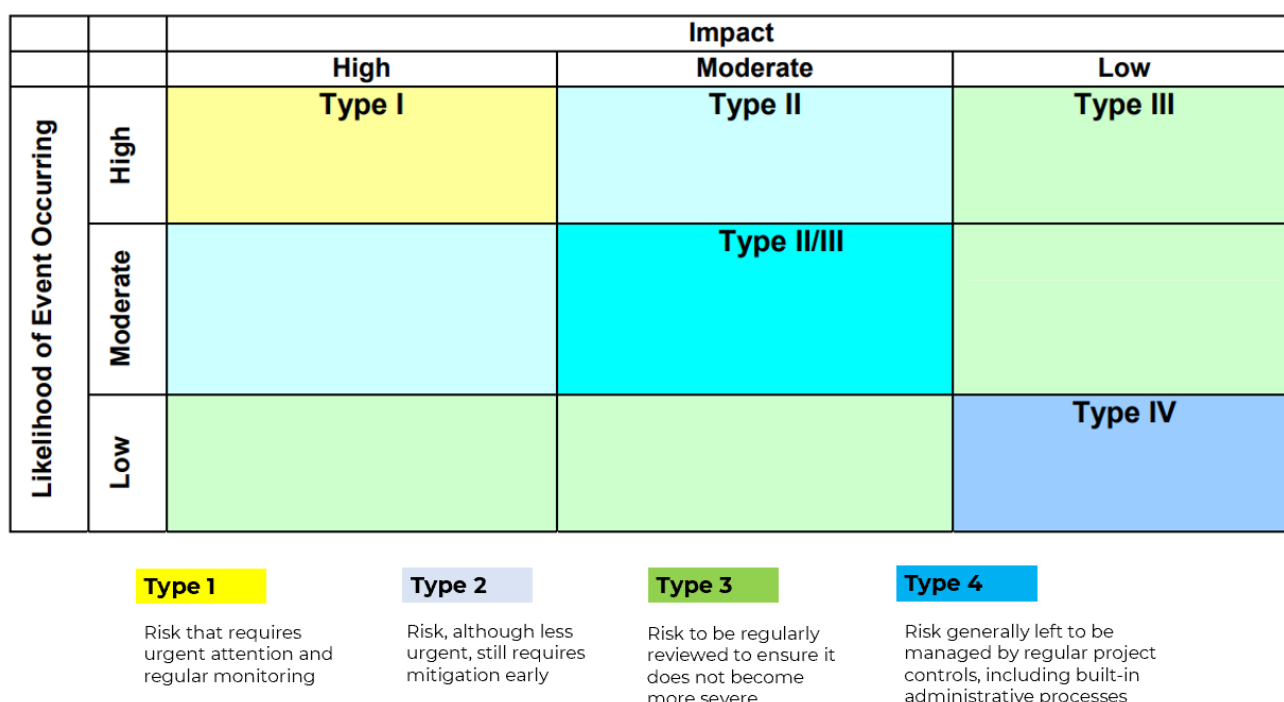

		Impact		
		High	**Moderate**	**Low**
Likelihood of Event Occurring	**High**	Type I	Type II	Type III
	Moderate		Type II/III	
	Low			Type IV

Type 1 — Risk that requires urgent attention and regular monitoring

Type 2 — Risk, although less urgent, still requires mitigation early

Type 3 — Risk to be regularly reviewed to ensure it does not become more severe

Type 4 — Risk generally left to be managed by regular project controls, including built-in administrative processes

Figure 11: Risk severity matrix with acceptance curves
(Source: Adapted from RBAF Guide, Treasury Board of Canada Secretariat, 2004)

Risks	Mitigation Measures	Risk Level
Partner onboarding *(Key Partners)* Existing food-assistance organizations, such as Food Banks and Community Fridges, will be our key partners at the initial stage. Their interest and support are crucial for the implementation success, but they may have their own prioritized agendas.	• Prioritize working with those with prior experience (for instance, food assistance-related CSR activities) • Conduct a due diligence check on our partners before approaching them	**Type 3**

Partner onboarding *(Potential Partners)* Private sector partners, such as supermarkets, convenience stores, and restaurants will be vital for our network expansion in the later phase. However, they are usually profit-driven entities who have a cost-sensitive investment strategy.	• Demonstrate our current track record on the project deliverables during the first phase • Highlight to the partners on the benefits reducing food waste and enhanced resource efficiency • Help them increase brand awareness through our partnerships	**Type 2**
Perceived social stigma and shame The "sense of shame" attached to requesting help with free food may drive the needy away. Various ethnographic research on foodbank use in the UK has also indicated how stigma can stop vulnerable accessing food banks (Garthwaite, 2016).	• Work with existing advocacy and support organizations to launch various stigma impacts programs • Tap on innovation to help reduce the stigma households face in seeking food assistance	**Type 2**
Project financing The project requires initial funding to cover the development cost and other up-front expenditures before it is fully operational.	• Sonin App Development, our app developer partner, provided a preliminary quotation based on a preferential rate for the development of the digital platform • Actively seek sponsorship from both private and public sectors	**Type 3**
Data availability The app needs accurate, with updated data/information from our partners to enhance our service offering.	• Secure data availability with our key partners • Create a data-sharing agreement with them for sustainability purpose	**Type 4**
Market Competition There are a lot of international organizations and NGOs tackling the issue of food poverty in the UK. Our project must avoid the danger of reinventing the wheel and unnecessary duplicating efforts.	• Conduct more comprehensive assessments to ensure our solution can fill in the gaps and offer value-added services • Ensure coordination and transparency with our partnering organizations	**Type 4**

Figure 12: Risk assessment of the implementation
(Reproduced based on Risk Severity Matrix with Acceptance Curves)

Project Funding
We seek funding and grants from both private and public sectors

To ensure the feasibility of our proposed idea, we have sourced and obtained quotations from relevant parties and sought professional advice to determine if our project is technically and financially feasible. Assistant Professor Sonia Akter from the Lee Kuan Yew School of Public Policy who has worked on food and agriculture policies across the Asia-Pacific region has advised the team on the project. Below is the estimated budget covering platform development, mapping and analysis for the supply and demand side, initial project operation, and administrative and miscellaneous expenses.
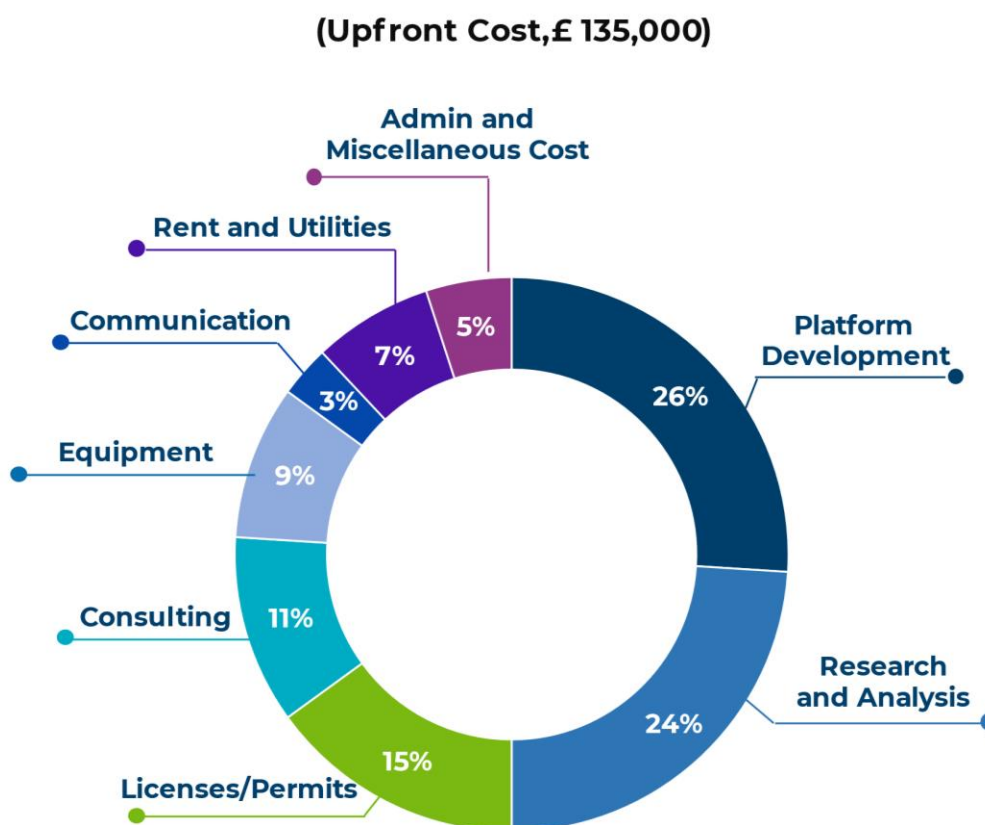

(Upfront Cost,£ 135,000)

- Admin and Miscellaneous Cost — 5%
- Rent and Utilities — 7%
- Communication — 3%
- Equipment — 9%
- Consulting — 11%
- Licenses/Permits — 15%
- Platform Development — 26%
- Research and Analysis — 24%

Figure 13: Estimated budget for Better Eat project development
(For reference only, it will be updated based on actual requirements)

The upfront cost is estimated to be £135,000, which we will seek funding from organizations such as the World Food Program (WFP) and Independent Food Aid Network (IFAN) who offer various grants to support food assistance-related initiatives. Once Better Eat is officially launched and becomes fully operational, we anticipate that a monthly fee of £3,000 will be incurred, which includes the operating expense, app maintenance, and administrative expenses. Since our service for end-users is free of charge, we will continue to seek long-term funding and donations from our governments, stakeholders, and partners. To ensure long-term financial sustainability, we will help our private sector partners design and launch corporate social responsibility programs and events for a small fee to cover our monthly expenses.

Roadmap of Growth
We help a receiver to become a contributor - not only as a bridge for food assistance but also a booster for better social bonds

We strive to consolidate all efforts to address food poverty in the UK comprehensively and systematically. This enables us to be a leading body in charting a direction such that everyone has easy and equal access to the food they need. Moreover, we aim to bridge resources with people in need and enhance social cohesion through various volunteer programs with our partners such as food parcels delivery and seed planting in urban farms. This ensures that we will be able to finally build up a sustainable and resilient urban food assistance network.

Short term: functions refinement
We will continue to explore the functionality of our app to provide more services. User journey and food parcel allocation mechanisms will be refined based on user experience to ensure the app is user-friendly and convenient to navigate for daily usage. There will be periodic information exchanges with partners, so that their latest needs are met and to also chart the future direction of the platform. Links for donations, blogs, and multimedia galleries for documentation will be available on the platform as well as the official websites of our partnering organizations to act as an outreach for households who require support and to encourage them to utilize our service and share their stories.

Mid-term: reducing food miles and enhancing social cohesion

In addition to delivering healthier food parcels by working with urban farms, we will progress further by carrying out social programs with our partners to enhance the bonding between those who need food assistance and their communities.

By offering volunteering opportunities with our partnering urban farms to participate in activities such as planting seeds, harvesting, or selling products in local markets, people can earn virtual coins and use them to redeem vegetables and fruits. This exercise allows people who need food assistance to 'earn' what they need and enables interaction with others. This could be beneficial for them as they enhance their sense of belonging in their communities through the crises. For our partnering urban farms, this could be a good chance to boost production and expand their offerings with more manpower.

Long-term: expanding partnership network

For long-term development, we will continue to collaborate with local partners to ensure that food vouchers remain applicable in more venues. We are determined to provide a consistent food supply and that no one will go hungry in their times of need. We envision that different organizations within the UK can work together in this effort to solve the food insecurity challenge that is faced by the nation.

Conclusion
Together we fight against food poverty

There is no more pressing challenge than ensuring food security for all. Better Eat responds to this urgent need by providing a unique platform-based solution to help food-insecure individuals and households get regular access to food. Through our centralized and sustainable food assistance network, Better Eat incorporates readily available data from our stakeholders and community sources to disseminate up-to-date food assistance-related information to our users. The Better Eat app is specifically designed to have an online delivery option, so that individuals in need can get food assistance whenever, wherever they want.

With continuous collaboration with our local partners, Better Eat can influence the government to enact policies to synergize with our solution to guarantee food access to all members of the society. Through Better Eat, we are driving long-lasting changes on the existing food assistance system, ensuring that no one goes to bed hungry.

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