



26 March 2025

PROJECT SUMMARY

TRANSFORMING RESCUED FOOD INTO SHELF-STABLE MEALS

KEY POINTS

- **Food Insecurity:** Over the past year, nearly 2 million Australian households (19%) experienced severe food insecurity (Ipsos Public Affairs, 2024). Rural and remote communities are impacted by limited availability of nutritious foods, due to cost, geographical reach, socio economic status and climate (Health and Wellbeing Queensland, 2022).
- **Food Rescue and Meal Development:** FareShare utilises rescued food to create nutritious, complete frozen meals for vulnerable populations. By extending the range to include long shelf-life meals, the meals can be distributed to remote or disaster affected regions. In the creation of these shelf-stable meals, it is predicted an additional 150,000kg of surplus food could be converted annually.
- **Shelf-Stable Solutions:** The project focuses on developing and optimising formulations and processes for retort and freeze-dried meals, ensuring extended shelf life, food safety and quality.
- **Food Waste and Surplus:** Additional surplus food from gluts, often wasted, could be repurposed into meals for food-insecure populations, minimising waste and addressing food insecurity.
- **Impact on Food Insecurity:** With 15% of Australians experiencing food insecurity (McCrindle 2023), especially in remote and rural areas, this project helps provide accessible, nutrient-dense meals to underserved communities.
- **Scalable Distribution:** When fully operational, retort and freeze-dried meals which do not require refrigeration or freezing, will be manufactured at a rate of 500+ meals per day and can be distributed efficiently, including air-dropped to remote locations.

THE CHALLENGE

The project's primary challenge was developing nutritious, complete meals from rescued food, as FareShare had no experience in producing shelf-stable meals and lacked the infrastructure for retort and freeze-drying processes.

These methods, which are crucial for ensuring long-term food safety and nutritional integrity, require specialised expertise, precision and rigorous control. Both retort and freeze-drying involve complex techniques that demand stringent temperature regulation and process monitoring. To overcome these challenges, FareShare had to adapt its operational processes, invest in new equipment, collaborate with contract manufacturers, and ensure that the meals met necessary shelf-life and safety standards, all while maintaining the integrity of the rescued ingredients.



Figure 2. Philippa Harmon (QDPI), James Fien (FareShare)

THE OPPORTUNITY

By converting rescued food into long shelf-life meals, FareShare can provide reliable, nutrient-dense food sources where options are currently limited. The development of retort and freeze-dried meal processes will allow for scalable production, with the potential to manufacture more than 500 meals a day. These meals can be distributed widely without the need for expensive refrigeration or freezing, including through air drops to remote communities, ultimately increasing the reach of FareShare's food relief efforts.

Additionally, the project will contribute to reducing food waste by utilising surplus food that would otherwise go to waste, offering a sustainable solution to both food insecurity and food waste.

OUR RESEARCH

- Develop production methods for freeze-dried and retort meals, optimising processing for nutrition and quality.
- Collaborate with FareShare to define product requirements and formulate robust, flexible recipes.
- Assess product shelf life through microbiological, physicochemical and sensory tests.
- Train FareShare staff to conduct culturally sensitive sensory evaluations in remote communities.
- Conduct formulation and process trials, refining recipes and production for both freeze-dried and retort meals.
- Provide technical manuals and staff training on food safety and packaging for long shelf-life products.
- Evaluate social impact and compile final project report.



Figure 2. Queena Wang, Patricia Lindeman, Kerridyn Hooker, (QDPI)

OUTCOMES

This project has equipped FareShare with the knowledge and capability to produce a diverse range of high quality, retort and freeze-dried meals. The long shelf-life, shelf-stable format of the meals make them suitable for distribution to remote communities and people in disaster-relief situations. The immediate outcome is the creation of a sustainable, scalable food solution that is both reliable and deployable in times of emergency. As a result, FareShare is now able to provide nutritious meals to underserved populations.

IMPACT

The broader impact of this project lies in FareShare's ability to extend the reach of its food relief services, particularly to rural and remote communities that often face limited access to nutritious foods due to high costs, geographic isolation, socioeconomic disadvantage, and climate-related challenges (Health and Wellbeing Queensland, 2022). By introducing shelf-stable retort and freeze-dried meals as an alternative to frozen options, FareShare addresses a critical gap in disaster preparedness and recovery, ensuring that communities have access to healthy, complete meals during times of crisis. This initiative not only improves immediate food security and well-being but also contributes to the development of more resilient, self-sustaining communities with greater capacity to respond to future challenges.

NEXT STEPS

- Explore additional contract manufacturers to scale up freeze-drying and retort production.
- Build strategic partnerships with disaster relief organisations for efficient distribution.
- Extend the shelf life beyond six months through real-time validation.
- Collect ongoing feedback to ensure consumer satisfaction with meals.
- Expand the product range with new meal options as needed.
- Conduct follow-up assessments to evaluate long-term social impact.

PROJECT TEAM

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PROJECT WEBPAGE

[TRANSFORMING RESCUED FOOD INTO SHELF STABLE MEALS - End Food Waste Australia » End Food Waste Australia](#)

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