NOURISH LINK- Connecting Surplus Food to Those in Need

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Abstract - Food waste presents a significant challenge globally, contributing to environmental degradation and social inequity. Events at large venues such as function halls often generate surplus food that, without efficient redistribution systems, ends up in landfills. This study introduces Nourish Link, a digital platform designed to connect surplus food from function halls to organizations and individuals in need. The platform ensures seamless communication, real-time tracking, and compliance with food safety standards. By streamlining the redistribution process, Nourish Link not only reduces food waste but also addresses food insecurity. This paper explores the framework, implementation, and potential impact of the platform, highlighting its role in fostering sustainability and community welfare.

*Key Words***:** Food redistribution, sustainability, surplus food management, hunger alleviation, digital platforms

1.INTRODUCTION

Food waste is a pressing global issue, with approximately one-third of all food produced being wasted annually. Large-scale events such as weddings and conferences contribute significantly to this wastage, with surplus food often discarded due to logistical challenges. Simultaneously, millions of individuals face food insecurity, emphasizing the need for effective redistribution systems. Nourish Link is a technological solution aimed at bridging this gap by creating a platform that connects function halls with organizations that distribute food to underserved communities. This paper examines the operational framework of Nourish Link, its impact on reducing food waste, and its potential for scalability.

2. METHODOLOGY

2.1 Platform Features

Nourish Link incorporates the following features to streamline the redistribution process:

- **Real-Time Tracking**: Ensures accurate food availability updates for donors and recipients.
- **User-Friendly Interface**: Enables function halls to easily log surplus food details.
- **Notification System**: Alerts donors and recipients about food availability and logistics.

2.2 Operational Framework

The platform operates in three distinct phases:

1. **Food Notification**: Function halls register surplus food details such as type, quantity, and storage conditions.
2. **Recipient Matching**: The system uses an algorithm to match surplus food to nearby recipients based on proximity and need.
3. **Logistics Management**: A network of volunteers or delivery services ensures timely pickup and delivery, maintaining food safety during transit.

2.3 Food Safety Compliance

Nourish Link follows stringent food safety protocols to ensure quality and compliance:

- All surplus food is packaged in sealed, hygienic containers.
- Temperature control is maintained for perishable items.

- Clear labeling includes preparation and expiry dates to guide proper consumption.
- **Table -1:** Sample Table format

Table 1: Pilot Study Metrics

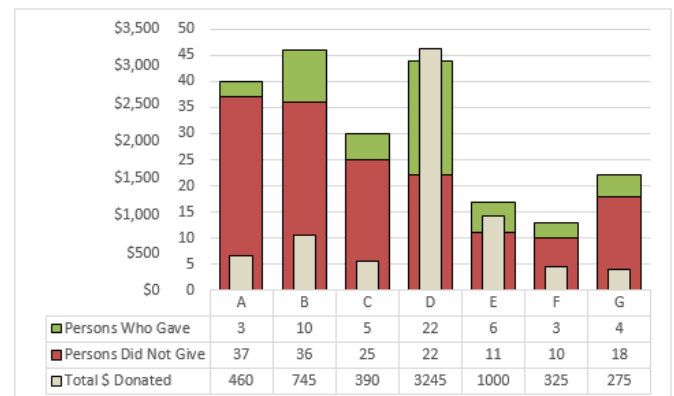| Metric	Value	Description
Number of Function Halls	10	Total halls participating in the pilot study.
Surplus Food Collected	2,000 kg	Total quantity of food recovered during the pilot.
Meals Delivered	5,000	Total meals distributed to recipients.
Waste Reduction	60%	Percentage decrease in food waste from participating halls.

Table 2: Challenges and Proposed Solutions

Challenge	Impact	Proposed Solution
Inconsistent Participation	Irregular contributions from function halls.	Incentivize regular participation.
Delivery Delays	Spoilage of perishable food during transit.	Automate logistics and partner with couriers.
Food Safety Concerns	Risk of contamination during transport.	Provide insulated containers and volunteer training.

Fig -1: Figure

Chart

	A	B	C	D	E	F	G
Persons Who Gave	3	10	5	22	6	3	4
Persons Did Not Give	37	36	25	22	11	10	18
Total $ Donated	460	745	390	3245	1000	325	275

3. CONCLUSIONS

Nourish Link is a transformative solution to the dual challenges of food wastage and food insecurity. By bridging the gap between surplus food sources and underserved communities, the platform promotes sustainability and social responsibility. The pilot implementation highlights its potential to significantly reduce food wastage while alleviating hunger.

Future Enhancements:

- Automating the scheduling process to minimize logistical delays.
- Expanding operations to additional cities and rural areas.
- Integrating Artificial Intelligence (AI) for predictive analytics to optimize matching and logistics.

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REFERENCES

1.Singh, A.K., Sahoo, U.K., Prus, P. (2024)
Food Waste to Food Security: Transition from Bioresources to Sustainability.
Published in: Resources, MDPI.

2 .Gustavsson, J., Cederberg, C., Sonesson, U. (2011)
Global Food Losses and Food Waste.
Published by: FAO Report.

3.Parfitt, J., Barthel, M., Macnaughton, S. (2010)
Food Waste Within Food Supply Chains: Quantification and Potential for Change.
Published in: Waste Management.

4.Lipinski, B., Hanson, C., Waite, R. (2013)
Reducing Food Loss and Waste: Creating a Sustainable Food Future.
Published by: World Resources Institute.

5.Schneider, F. (2013)
Review of Food Waste Prevention on an International Level.
Published in: Waste Management & Research.