

## Incentivizing Fruit and Vegetable Consumption in Urbanizing India

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### Key Takeaways

- Fruit and vegetable supply chains in rural India are highly complex, consisting of both formal and informal sources, and many people are both producers and consumers.
- Drivers of fruit and vegetable purchases were based on availability, affordability, food safety concerns (i.e., pesticide use), sensory attributes, and cultural preferences.
- Seasonal fluctuations in price was an important determinant of fruit and vegetable purchase.
- Households were aware of what constituted a healthy diet, and there was no apparent gender discrimination with respect to intra-family food allocation.
- Implementing financial incentive-based schemes to influence food purchasing behaviour in close-knit communities in rural India is challenging.

### Objectives

The overall project objective was to develop the structure and prototype of a commercial partnership model that provides financial incentives for fruit and vegetable purchases in rural Indian communities. As part of the development process the intervention was implemented in one village and iterated/process evaluated to refine it resulting in the final version that will trial now. The study plans to implement the incentive scheme in three villages (with three other villages designated as the control group) for three months and conduct a process and outcome evaluation.

### Background

While low intake of fruits and vegetables is a global health concern, it is particularly an issue in India where an estimated 75% of the population do not meet the World Health Organization's target of 400 grams daily. This is one of the highest rates in the world and is a larger issue among rural communities than their urban counterparts. In the last decade, India has faced an acute epidemic of obesity and NCDs, which are the country's leading cause of death and

disability. Food environment research recognises that a key barrier to healthy diets is affordability. Thus, financial incentives may help to improve diets, especially among the rural poor. This study will provide evidence on the effects of incentives and incentive types (e.g. level, type or modality) on diets in low- and middle-income countries (LMICs).

### Methods

This development of the intervention took place in the state of Telangana in south India. The study developed an incentive scheme tailored to the study context, which will be implemented in three rural villages (along with 3 control villages), including over 1200 households and over 100 vendors to evaluate impacts on fruit and vegetable purchasing. Qualitative methods were used in the development and process evaluation of the scheme. Focus group discussions with participants of the intervention and control groups explored attitudes on food consumption and storage, purchasing patterns, financial aspects and attitudes about different incentive types. Stakeholder groups consisted of community leaders/members from villages, vendors of fruits/vegetables, local trade/business

associations, state government officials and NGOs of relevance. Process evaluation of the village for development used ethnographic methods such as direct observations and unstructured or semi-structured interviews. Due to COVID-19 pandemic restrictions in India, at the time of this research brief, only a baseline survey was completed. The remaining fieldwork will use both quantitative and qualitative methods to evaluate the effects of the scheme on fruit and vegetable consumption, as well as the effects of chronic disease and women's empowerment on intervention uptake.

## Results

Participants indicated that the availability of wild harvested leafy vegetables had decreased over time. The limited variety, quality and prices fruit and vegetables in village markets led participants to purchase those items from urban markets. Seasonal fluctuations in prices were described as a deterrent to economic accessibility to fruit and vegetables. Concerns about agrochemical use were cited as a health concern and food choice consideration.

Half of the households in the study owned agricultural land and majority of their produce was sold in wholesale markets (Agricultural Produce Market Committee). Leafy green vegetables and garnish contribute to 30% of fruit and vegetable production in the study villages. In terms of aggregate volume, around half of fruits and vegetables in the villages were purchased from outside the villages (nearby markets or in Hyderabad) due to cost and wider selection (most vegetables were grown and sold by vendors locally).

A financial incentive scheme was developed and iteratively refined. The final version involves a system in which the community members are provided with reward card which they can get stamped from local vendors each time they spend over a certain amount on purchase of fruit and vegetables. The completed reward card with a full set of stamps can be redeemed for a financial reward from the research team. Preliminary evaluation showed high uptake and interest in the scheme.

## More Information

- Surendran S, Selvaraj K, Turner C, Addanki S, Kannuri NK, Debbarma A, Kadiyala S, Kinra S, Walls H. "Characterising the fruit and vegetable environment of peri-urban Hyderabad, India." *Global Food Security*. 2020;24:100343. doi:10.1016/j.gfs.2019.100343. <https://www.sciencedirect.com/science/article/pii/S2211912419301208?dgcid=author>
- **Project Page** - <https://driversoffoodchoice.org/research/project-descriptions/incentivizing-fruit-and-vegetable-consumption/>

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