

# Informal Monitoring Mechanisms in Public Service Delivery: Evidence from the Public Distribution System in India

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**Policy Motivation for Research:** The incidence of malnourishment among children in India is very high. As one of the government programs aimed at addressing malnutrition, the targeted Public Distribution System of India (TPDS) distributes grains and other goods through over 450,000 Fair Price (FP) Shops, where households are entitled to purchase rice, wheat, and other goods at below market rates from a locally appointed shopkeeper. The subsidy for grain is primarily targeted toward below-poverty-line (BPL) households, where BPL status is assigned by local elected officials. However, despite massive investment in the program, take-up rates vary greatly geographically and are quite low in many states, leaving the promise of an entitlement to food unfulfilled. In part, this is because of massive leakage from the

delivery system. Our study investigates if social networks can help in improving the delivery of subsidized goods by providing assistance in monitoring malfeasance by the shopkeepers and enforcing delivery by the threat of social sanctions.

**Policy Impact:** Our results speak directly to the implications of the "The National Food Security Bill" under consideration in India, which intends to increase the generosity of the TPDS.

**Synopsis:** Using data collected by the World Bank in 1997 in Uttar Pradesh and Bihar, we show that the identity of the PDS shopkeeper matters for take-up of Scheduled Caste (SC) households. Grain take-up is higher when SC households face SC shopkeepers,

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whereas there is no difference for kerosene or sugar. We show that informal monitoring and enforcement provided by the social network is driving these patterns. We develop a game theoretic model and test its implications to provide support for our hypothesis. We also provide further evidence of this mechanism at work using in-person surveys that we conducted in these villages in October 2012.

**I. Audience:** Planning Commission, Ministry of Rural Welfare, and Department of Food and Civil Supplies will find this useful.

### Policy Implications:

1. Increasing monitoring and enforcement can improve welfare of the vulnerable populations.

Monitoring and enforcement for households is costly. We estimate a structural model to quantify the welfare effects of changes in increased monitoring and enforcement. Using the estimates from our model, we show that improving monitoring and enforcement by an amount equivalent to that provided by the social networks can improve the welfare of the average SC household by one-fifth of the average subsidy amount.

2. Increasing the generosity of the program can have perverse effects on welfare.

Using our structural model, we also quantify the impact of increasing the generosity of the program through a decrease in the price that households must pay for grain. Making the program more generous benefits households who obtain goods and entices more households to obtain goods, but also increases the shopkeepers' incentives to black market goods. We find that the latter effect may dominate: increasing the subsidy can in fact perversely lower

take-up rates among the intended beneficiaries due to increased incentives to black market goods by the shop keepers.

### II. Implementation:

- Our results show that without increased monitoring efforts and enforcement efforts, increasing the generosity of the TPDS program may not yield the intended benefits of ensuring food security for poor households.
- If the envisaged National Food Security Bill was to be implemented, the Bill will be beneficial for all poor households only if monitoring by means of increased audits is increased sufficiently. The other component that can be useful is increasing the stakes for black marketing by tightening enforcement mechanisms.
- There is a debate about whether the TPDS should continue as designed or the government should move to a voucher based system. Our current results do not inform this debate directly. In either of these designs, however, our results emphasize that monitoring and enforcing rules is crucial for the success of the program.
- Whether the government continues the current system or uses vouchers, it is therefore important to find low-cost means of monitoring and enforcement. Our results suggest it will be useful to include citizens in the monitoring efforts.
- Community based monitoring can potentially be a good way forward since community institutions can facilitate information transmission and discipline.
- Pilot programs, where community based methods of monitoring are implemented, will be useful to understand the implications

and benefits of such monitoring. Community based monitoring may be more effective since communities have more local information. It is also low cost relative to top-down monitoring.

### III. Dissemination:

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Mr Jairam, Minister Rural Development, email: [jairam@sansad.nic.in](mailto:jairam@sansad.nic.in)

Professor K.V. Thomas, Minister of State for Food and Civil Supplies, email: [kvthomas@asia.com](mailto:kvthomas@asia.com)

Professor Kaushik Basu, Chief Economist, World Bank, email: [kb40@cornell.edu](mailto:kb40@cornell.edu)

**iv. Further Readings:** a brief (non-technical) list of related writing.

Dreze, J. and R. Khera (2010): "Chhattisgarh Shows the Way," *The Hindu, Magazine*. November 14, 2010. [URL: <http://www.thehindu.com/thehindu/mag/2010/11/14/stories/2010111450010100.htm>]

Khera, R. (2011): "Trends in Diversion of Grain from the Public Distribution System," *Economic and Political Weekly*, 46(21), 106-114.

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