

Citizen Monitoring of Fair Price Shops in the Public Distribution System

Final Project Report



Submitted to



Azim Premji
Philanthropic
Initiatives



By



PUBLIC AFFAIRS CENTRE
Committed to good governance



Preface

Public Affairs Centre (PAC) engages in action research focusing on Sustainable Development Goals (SDG) in the context of India. PAC is a not for profit Think Tank established in 1994 with a mandate to improve the quality of governance in India. The Centre is also a pioneer in deploying innovative Social Accountability Tools (SAT) to measure the quality and adequacy of public services. Over the years, its scope of work has expanded to include the whole gamut of research-advocacy-action to lead evidence-based research on governance across sectors, geographies and populations in India.

PAC was one of the first civil society-led institutional initiatives to mobilise demand for good governance in India. Dr. Samuel Paul (Founder Chairman) was instrumental in establishing PAC with a select group of friends. PAC is registered under Karnataka Societies Registration Act 1960 as a Society.

Editing by: PEC

Authors: Bhargavi Nagendra and Aishwarya Mallavaram

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Public Affairs Centre

#15, KIADB Industrial Area

Jigani-Bommasandra Link Road

Jigani Post, Anekal Taluk

Bangalore - 560105

Karnataka, India

TeleFax: +918027839918/19/20

Email: pec@pacindia.org

Website: www.pacindia.org

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August 2020

Acknowledgement

This path-breaking study is the first step towards a larger initiative. The project could not have been completed without the help of several individuals and organisations. PAC is indebted to them, and take this opportunity to thank all those who contributed at various stages of the project.

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Our heartfelt thanks to all the Citizen Monitors from across 30 districts who have played a key role in making this project a success.

PAC acknowledges the close support of the 18 district-level partner organisations who took part in this project work, including CORD, SEVAK, Jana Jagruthi Rural Development Society, SPOORTHY, Spandana, Sadhana, SAHARA, Mahila Samkhya, SIRDA, MANUSH, REACH, PRANATHI, VISHALA, PRAWARDA, CMSSS, IYD, Chiguru and Sadhana. PAC thanks them for engaging with the communities, conducting field activities, collecting data, and obtaining and sharing insights in order to make this project work a success.

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Abbreviations

APPI	Azim Premji Philanthropic Initiatives
BPL	Below Poverty Line
CIP	Central Issue Price
CM	Citizen Monitor
Dept. of FCS&CA	Department of Food, Civil Supplies & Consumer Affairs
DLPO	District Level Partner Organisation
FPS	Fair Price Shop
MSP	Minimum Support Price
NFSA	National Food Security Act
PAC	Public Affairs Centre
PDS	Public Distribution System



Executive Summary

Project period: April 2017- June 2020 (3 Years)

Funders: Dasra & Azim Premji Philanthropic Initiatives (APPI)

Objectives of the Project

Hunger is endemic and widespread in India and continues to persist – of the world's population suffering from malnutrition, 25% of them are in India. To address this problem, the Targeted Public Distribution System (PDS) the major vehicle of India's food security policy, is designed to support the poorest and those most in need.

In Karnataka alone, there are about 110 lakh beneficiaries, of which 11 lakh constitute the most vulnerable group of card holders. A system of this size requires accountability at every level as defined in the National Food Security Act, 2013. The first point of contact for maintaining this standard for Fair Price Shops (FPS) are Citizen Vigilance Committees (CVC), which requires more improvement on the ground. Previous studies have found that the none of the grievance redress mechanisms worked efficiently and suffered from widespread failures in the implementation.

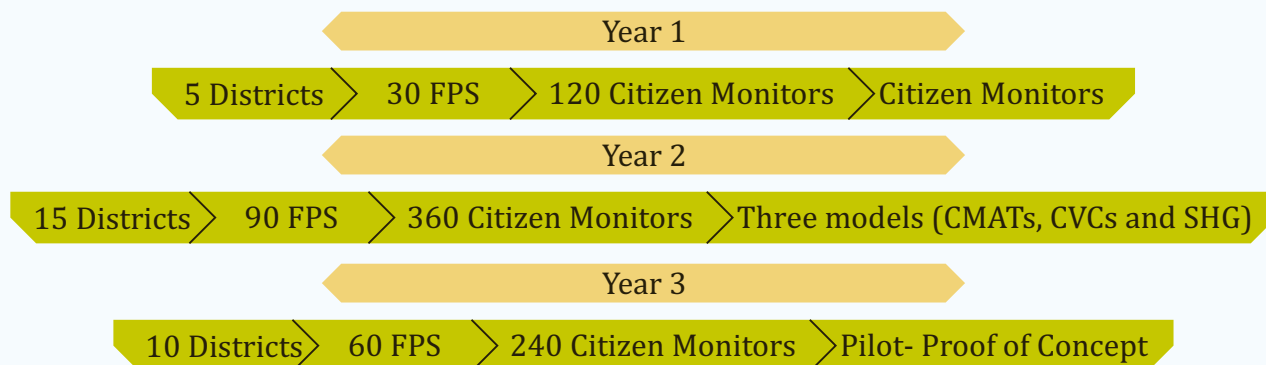
The Public Affairs Centre (PAC) was mandated in this project to embark on the journey to identify a standardised process of citizen monitoring of Fair Price Shop (FPS) in all the 30 districts of Karnataka to increase transparency of 180 FPSs.

Stakeholders in this project included:

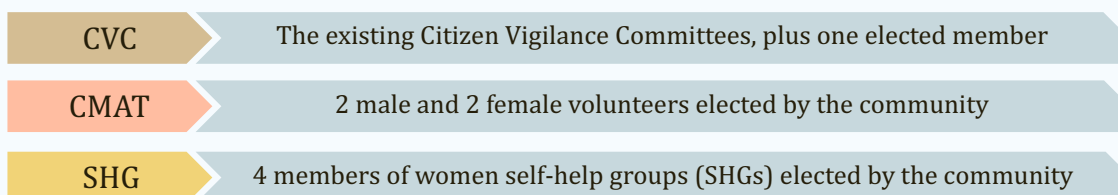
- Department of Food, Civil Supplies & Consumer Affairs, Government of Karnataka
- Beneficiaries of communities served by 180 Fair Price Shops across 30 districts
- Gram Panchayats and PDOs of the Taluk
- 18 District-Level Partner Organisations (DLPOs) with whom PAC has partnered to execute the project
- Dasra& Azim Premji Philanthropic Initiatives (APPI), who funded this project work.

Project Implementation Approach

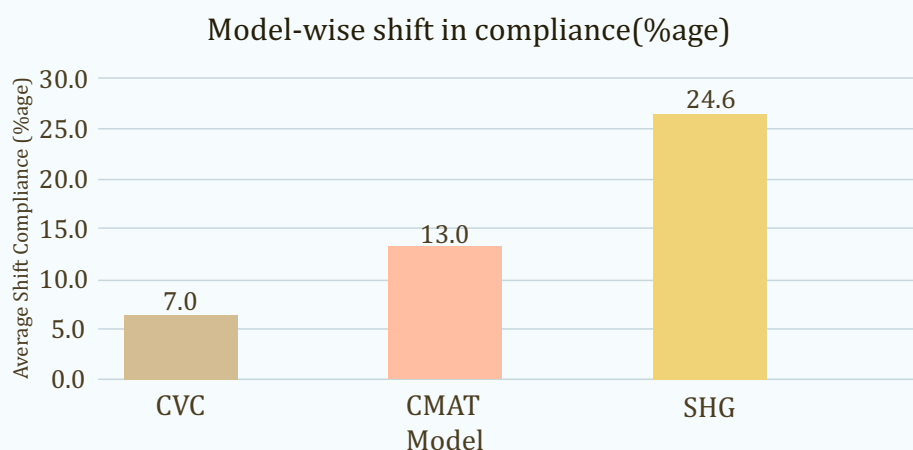
The project period was for 3 years, starting from April 2017 to March 2020, with implementation work being carried out across all 30 districts of Karnataka. The project was introduced in the following 3 phases:



In Year 2, the models piloted were teams of 4 citizen monitors each, formed as follows:



Among the three models that were applied the SHG model showed a disproportionate increase in compliance of FPS of more than 25% i.e., improvement in effective and transparent functioning over the course of the year. Compliance comprised of all the rules and regulations such as display of information, maintenance of records, cleanliness and hygiene of the FPS.



Finally, in year 3, the strongest observed model along with the implementation process– as analysed through the cumulative lessons so far – was rigorously tested in the 10 remaining districts.

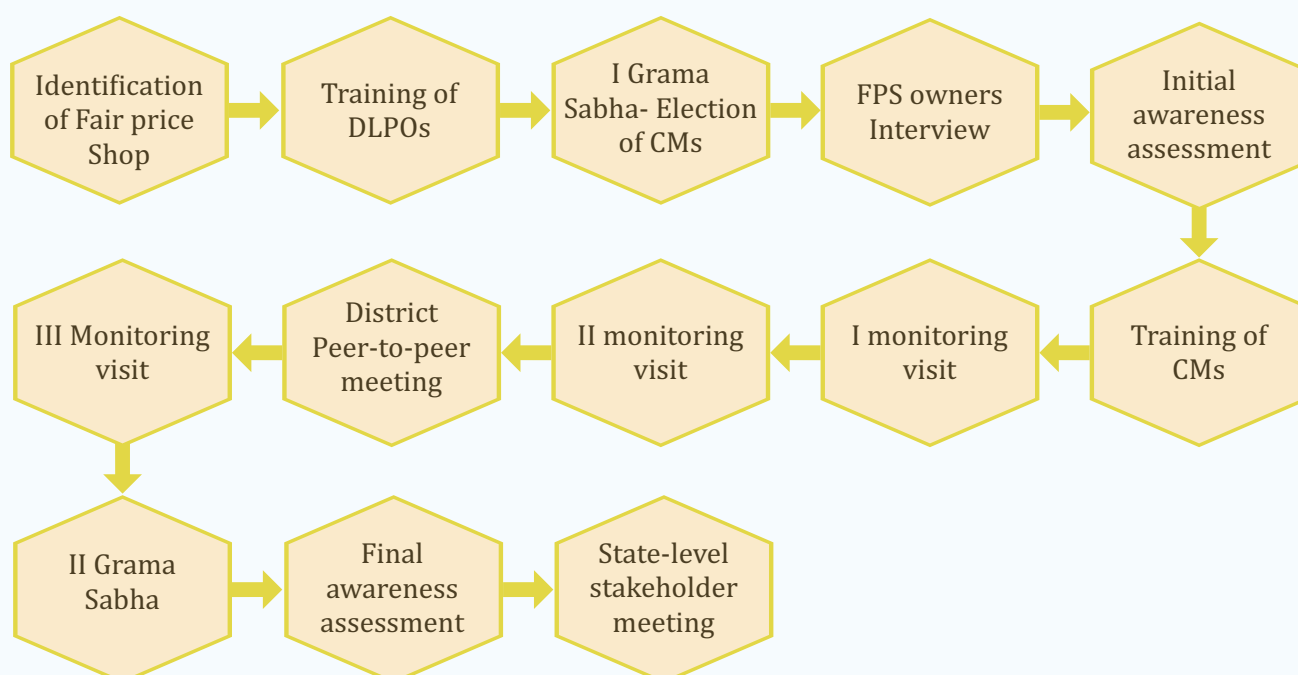
Implementation design

The learning from each year were also incorporated into the implementation of activities and were modified to meet the objectives and research questions as described in detail in the main report. Each of the activity also acted as a source of data for the overall study and to establish proof of concept.

Key lessons from Year 1, translating to changes in Year 2, involved:

- Organising Gram Sabha to maximise community involvement and election of CMs
- Bringing different stakeholders together for a collaborative learning experience, leading to greater awareness of the system as a whole, and synergies in operation.

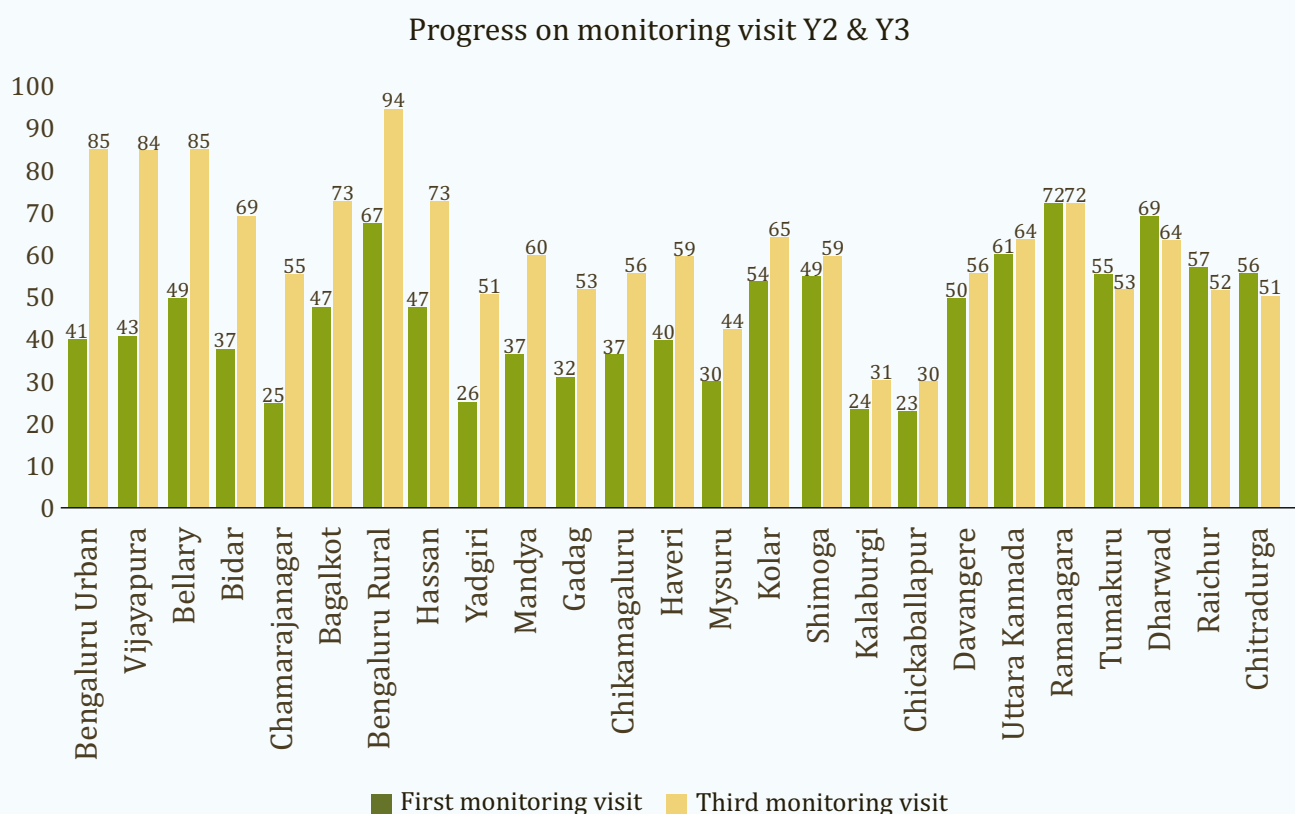
The final implementation design that would truly support the SHG model was evolved from the field learning of Year 1 and Year 2. The evolved designed that was piloted tested in Year 3 and recommended for large scale implementaion are as follows:



Findings from the project

Understanding the demand side:

1. The “compliance” measured was derived from the principal survey instrument for observation of FPS functioning. It comprised of inspecting the FPSs and checking for FPS on 6 critical parameters of compliance
2. The range of indicators used to measure this through the Monitoring visit checklist is derived from the Central and State guidelines, including Karnataka Essential Commodities Public Distribution System (Control) Order, 2016 and the Citizen Charter
3. The scores of the 6 FPS in all 25 districts (Year 2 & Year 3) which were selected were consecutively monitored thrice for compliance in the form of visits and the results for the same are as visualised in the graph below:



4. From the above graph, it can be observed that, 81% of the Self-Help Group (SHG) districts have shown a massive change in compliance scores
5. The shops that have shown negative performance is because of the following:
 - The FPSs owners here were politically influential and were not ready to cooperate with the CMs. Also did not participate
 - In many instances the Citizen Monitors have also been harassed, discouraging them to dialogue with the FPS owners.
6. Highlights of the findings in detail related to the mandatory compliances as specified by the guidelines and other aspects are in page 41-45 of the main report.

Role and effectiveness of government appointed CVCs

This exercise was carried out in order to assess and understand the presence/absence of citizen vigilance committees on ground. The CVCs details for the shops with intervention collected for the 10 districts, 59 FPSs under 30 taluks from the official website of Food, Civil Supplies and Consumer Affairs (FCS) department. It was found that:

1. Barely 5 members out of 111, were provided training and given roles and responsibilities by the Department whereas majority of the members were found to be absent
2. Very few of the CVC members have been a part of Aahara Adalath meetings. There were only 86 against the stipulated no of 177 (3 CVC members per FPS). Monthly minutes of the Ahara Adalath/ VC meetings reports they were found to be inaccessible or illegible.

Concerns from supply side

FPS owners:

1. In Year 3, it was observed that 36% of the FPS owners were not aware about the basic functionalities and aspects of portability of ration cards
2. Accessibility of FPS owners: In Year 3 of the intervention, it was witnessed that 31% of the FPS owners travelled from a distance of about 100-500kms
3. Support requested from the FPS owner: Number of suggestions were given by the FPS owners who have been running their shops over many years. The complete list is in page 47 of the main report.

Project Contribution

Overall, the project achieved the following:

- Strengthened community voices at the grassroots level
- Improved access of services at the last mile
- Increased awareness among the community members and the citizen volunteers on the working of the PDS
- Increase in demand to access their due entitlements, which in turn is pressurizing the district officials to be more accountable as far as PDS system is concerned
- A forum to bring up related issues, including biometric issues, etc
- More efficient and transparent working of FPS.

Specific Recommendations

Public Affairs Centre (PAC) advocates for a paradigm shift to nutrition security in the PDS, working through the 3 pillars of Community Agency (CA), Technology & Design (T&D), and Systemic Optimisation (SO), based on the operational foundation of shifting to a system of independent grievance redressal. The specific recommendations based on the learning from the project are as below:

- A. **Building Community Agency-** The work of the last three years is testament to the essential nature of community participation: it has shown that citizens, including from marginalised and excluded groups, are capable of enhancing food security in their communities.

Short term recommendations: (within 1 year)

1. Commence phase-wise roll out of the SHG model supported by the implementation process in all the FPSs over 3 years
2. Identify and implement the mandatory facilities and information at each and every FPS
3. Sack to sack transfer of food grains should be made compulsory
4. Pest control measures by the FPS owners every six months should be undertaken and made mandatory
5. It should be ensured that Ahara Adalaths are held regularly in all the shops with participation from the Citizen Monitors, FPS owners, Food inspectors and community members. Minutes should be made public
6. Enhanced, dedicated and rural IEC campaigns focusing on entitlements and grievance resolution
7. Building capacities of the FPS owners and CVC members by training on their roles, responsibilities and functional skills.

Medium term recommendations: (within 2-3 years)

1. Community monitoring mechanism: Implement the SHG model supported by the community monitoring mechanism in all the FPSs of Karnataka
2. Guidelines for functioning of sub-outlets and mobile FPSs developed and implemented
3. Review the appointment of all FPS owners ensuring existing anomalies are resolved
4. Mandatory quarterly inspection of infrastructure of the FPS before issuing/renewing the license
5. Regular social audits of the department need to be carried out and reports should be available in the public domain.

- B. **Technology & Design- Information & Communication Technologies (ICT)** play an important role in the following aspects: (a) biometric access to entitlements by users at the FPS (b) grievance redressal (c) stock movement at every stage.

Short term recommendations: (within 1 year)

1. Ensuring all the shops are equipped with biometric reading machines and electronic weighing machines
2. Ensure no shops charge beneficiaries for the use of biometric machine
3. Increasing the percentage of the coupons on occasions when the server connections are poor and while providing ration to elderly beneficiaries to increase inclusion
4. Educate and evaluate the digital literacy with access to technology for the beneficiaries.

Medium term recommendations: (within 2-3 years)

1. Implementing a user-friendly & effective design for the 'interface' between Government & community stakeholders for Grievance redressal
2. Using data flows & algorithms to detect leakages and create accountability
3. ICT-based tools to upload compliance audits to ensure that impact is created for the most vulnerable users at the last mile.

- C. **Systemic Optimisation-** Data collected over the last three years reveals several issues at the FPS level – e.g. number of card holders per shop, etc, that are indicative of systemic issues or problems further upstream in the supply chain.

Medium term recommendations: (within 2-3 years)

1. Mapping population of beneficiaries and jurisdiction of the FPS and staff to be revised and optimised based on rigorous scientific modelling
2. Mapping the population of the card holders to cater to their demands and take necessary improvements/ actions on the FPSs
3. Create Standard Operating Procedures (SoPs) for FPS level do deal with outliers – such as migrants, emergencies, natural disasters pandemic like COVID, etc.

D. Ombudsman Towards Independent Grievance Redressal:

Medium term recommendations: (within 2-3 years)

1. This operational shift addresses the key flaw in the implementation of the system as it is, which is that the roles of policymaker, service provider and regulator all lie within the same party – namely the same State Department of Government
2. PAC therefore advocates for a model of appointing an independent ombudsman at the state and district level to deal with PDS complaints, acting as a neutral arbiter between beneficiaries, FPS and Government.

E. Exploring local operations:

Long term recommendation

Exploring local operations of the PDS supply chain management that is currently, can be offered as small business opportunities for the young men and women from amongst the local population. This also include the community to run its own FPS.

F. From Calorific to Nutritional Security:

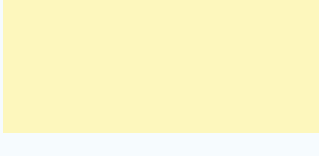
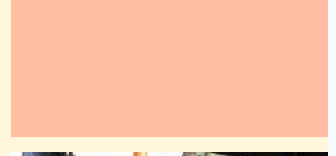
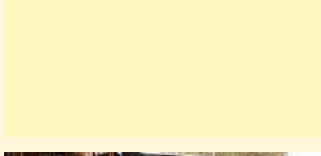
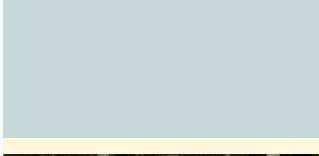
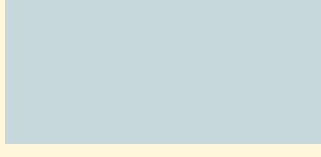
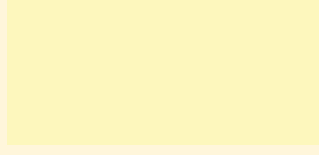
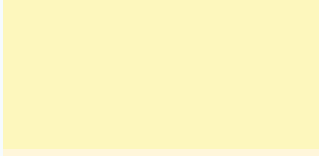
Long term recommendation

A comprehensive survey approaching the requirements from the demand sides considering geographical complexities is to be carried out.

The link between Agricultural Produce Market Committee (APMC) yards to the local FPS such that they provide fresh, locally sourced produce including fruits & vegetables at regular intervals needs to be identified. This is the conceptual paradigm shift will improve the completeness of the food basket.

Based on the insights collected from the ground, PAC would like to recommend to the Department of Food and Civil Supplies to adopt the recommendations. It is hoped that Karnataka can become a model state for India leading in terms of ensuring an empowered, decentralised socially accountable citizen-based service fulfilling the objectives of the National Food Security Act, 2013.





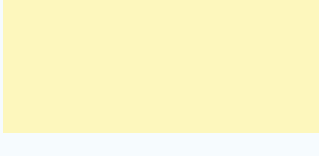
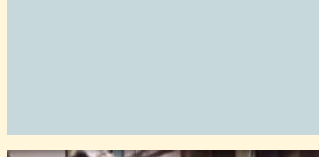
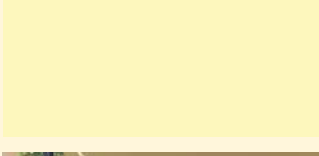
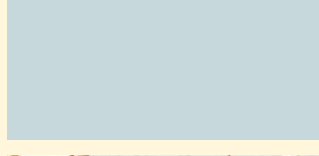
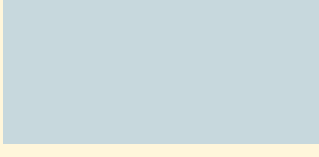
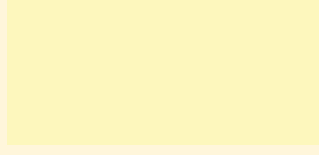
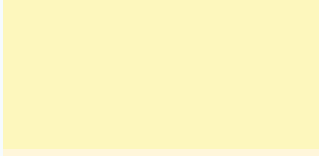


Table of Contents

Introduction	
World Today	1
New Agenda and New Opportunities	1
Context: India today	2
Food Security in India	2
Implementation of NFSA in Karnataka	6
Project	8
Theory of Change	8
Research Design of the project	9
Implementation Design of the project	11
Findings	19
Understanding the Demand side	19
CM Awareness results	27
Understanding the supply side	27
Gap analysis	31
Discussion	33
Concerns from the demand side	33
Concerns from supply side	42
Functioning of the Citizen Vigilance Committees (CVC) on ground	44
Functioning of Grievance Redressal System: 1967 and online Grievance portal	45
SHG model: The way ahead	46
Conclusion	53
PDS Reimagined	55
Recommendations	56
References	59
Annexure 1- Data Framework indicators	61
Annexure 2 – Technical note	64



List of Figures

Figure 1: Flow of food grains from farmers to the beneficiaries	4
Figure 2: Year wise implementation of the projects across Karnataka	8
Figure 3: PAC's model of creating impact through action-research-advocacy	9
Figure 4: Results on Compliance by FPS from Year 2	10
Figure 5: Conceptual data framework for the project	11
Figure 6: Flow chart of Year 1 activities	12
Figure 7: Citizen Monitor sharing her experience in the Grama Sabha at Bidar District	13
Figure 8: Flow chart of Year 2 & 3 activities	14
Figure 9: The Joint Director of FCS Department delivering a session in training programme	15
Figure 10: Discussion among the Citizen Monitors during the training programme	16
Figure 11: Participants at the Peer-to-peer meeting	16
Figure 12: Discussion held at special Grama sabha at Bidar district	17
Figure 13: DLPO describing their experiences of Ilkal FPS at Bagalkot district	18
Figure 14: Year 2 district wise comparison of change in compliance	20
Figure 15: Model-wise % increase in FPS compliance	20
Figure 16: District-wise comparison of Compliance for Year 2 & Year 3	21
Figure 17: District-wise change in Compliance for Display of information (Year 2 & Year 3)	23
Figure 18: District-wise change in Compliance for Maintenance of records (Year 2 & Year 3)	24
Figure 19: Change in the awareness levels of CMs in Year 3	27
Figure 20: Status of Govt. appointed CVCs in 59 shops (Year 3)	29
Figure 21: Data matrix derived from pairwise correlations (Year 3)	31
Figure 22: Separate counters setup in Mannayakeli Taluk, Bidar to avoid rush during distribution	38
Figure 23: Various processes of food grain transfer adopted at FPSs	40
Figure 24: Citizen Monitors checking the quality of rice grains in Ilkal FPS, Bagalkot district	41
Figure 25: Discussion of challenges and action taken by Citizen Monitors during Peer-to-peer meeting	42
Figure 26: Citizen Monitors inspecting the electronic weighing machine	47
Figure 27: Trends observed in offtake for 3 FPSs from July 2019- April 2020 (Year 3)	48
Figure 28: DLPOs providing training to Citizen Monitors at Ramanagara district	48
Figure 29: Temple premises used for biometric authentication	50
Figure 30: The old shop next to the cowshed	50
Figure 31: New premises of the FPS	50
Figure 32: Opening ceremony of the new premises	51
Figure 33: SHG Citizen Monitors filling-in the monitoring checklist during the monitoring visit at Bengaluru rural district	52
Figure 34: Operationalising Paradigm Shift	55

List of Tables

Table 1: MSP and CIP of rice/paddy (Rs/Kg)	5
Table 2: Subsidy and transportation expenditure (Rs. in Lakhs)	6

Introduction

"Striving to ensure that every child, woman and man enjoys adequate food on a regular basis is not only a moral imperative and an investment with enormous economic returns; it also signifies the realization of a basic human right."

-Jacques Diouf, Ex. Director General of FAO

World Today

An individual or a community is said to be food secure when 'they have physical or economic access to sufficient, safe and nutritious food that meets their dietary and basic food preferences for an active life at all times' as defined by the World Food Summit (WFS) and the Food and Agricultural Organisation (FAO). Although the world produces enough food to feed everyone on the planet, however, millions around the world are unable to access sufficient and wholesome food because of poverty and other reasons leading to poor health and nutrition.

Globally, the number of the undernourished people in the developing countries dropped by almost half in the past two decades (from 18.2% in 1999-2001 to 14.5% in 2016-18) [2] despite an increase in the world's population, due to rapid economic growth and increased agricultural productivity. However, as per FAO estimates, 2017 saw the third consecutive rise in world hunger i.e., those chronically undernourished facing food deprivation, increasing to 821 million (82 crore) often as a direct consequence of drought, environmental degradation and biodiversity loss and factors like socio-economic development, human rights and food prices. About 2 billion people in the world experience moderate to severe food insecurity due to lack of regular access to nutritious and sufficient food [3].



At the same time, FAO also estimates that approximately 1.3 billion tons per year, that is a third, by weight of all food produced in the world gets wasted [4]. This global food loss and waste approximating to 24% of all the food produced when converted to calories is equivalent to 614kkcal/cap/day. A considerable quantity of food is also wasted or lost during distribution and consumption stages [5].

In 2018, nearly 149 million children under five were stunted (low height for age) and nearly 50 million children under five were wasted (i.e, low weight for height) indicating high levels of malnutrition. Malnutrition refers to deficiencies, excesses, or imbalances in

- i. Ensuring nations are food secure by addressing the availability of food grains
- ii. Entitlement and delivery at the last mile
- iii. Plug food wastage occurring by the virtue of distribution of food grains to the last mile.

New Agenda and New Opportunities

In 2015, 195 member countries of the United Nations adopted the 2030 Agenda and its 17 Sustainable Development Goals (SDGs). Previous development plans mainly focused on the progress of developing nations but the 2030 Agenda is universal, applying to both developed and developing nations. The world leaders have pledged for common action and work across a broad and universal policy agenda.

With the adoption of the 2030 Agenda, 193 countries pledge to "leave no one behind" and "endeavour to reach the furthest behind first". They grounded their pledge in 17 Sustainable Development Goals (SDGs) with targets that seek to end poverty, hunger, preventable deaths and curable diseases; empower women and girls; curb inequalities in outcomes and opportunities; and enable all people access to clean water, adequate nutrition, quality healthcare, education, energy services and other essentials.

The "leave no one behind" agenda is important in these times more so because millions of people have been left behind and have been unable to participate in or benefit from human development, economic growth, globalisation or innovation. Women and girls, migrants,

indigenous peoples, people in rural areas, ethnic and linguistic minorities, people with disabilities, gender and sexual minorities, youth and old persons are among the ones left behind, enduring multiple and intersecting disadvantages. The multiple and intersecting disadvantages here means the unique experience of an individual arising out of a combination of various oppressions viz., historical, social and political context.

Actions towards ensuring leaving no one behind do not imply a separate course of action but should be inbuilt in all the actions required to achieve the SDGs.

Sustainable Development Goal 2 seeks to end hunger, achieve food security, and improve nutrition and double agricultural productivity by promoting sustainable agriculture by 2030. The SDG 2 and related targets comprehensively deal with issues of food production, distribution and access as well as nutrition of people of all age groups, gender and social categories, supported by sustainable agriculture. [8]. Achieving SDG 2 will have a substantial impact on attaining other closely related SDGs i.e., SDG 1- no poverty, SDG 3- good health and well-being, SDG 5- gender equality, SDG 8- decent work and economic growth and most importantly SDG 10- reduced inequalities.

The world will fail to achieve zero hunger and meet the targets for related goals, if the food security of the 27 crore undernourished people (15% of the population) in South Asia is not met.

With 17% of the world's population, India holds the key to global SDG achievement [9].

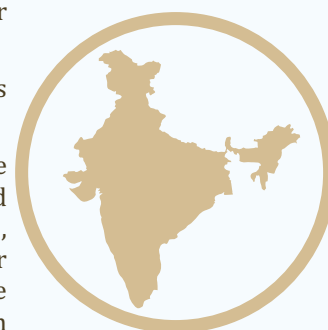
Context: India today

India, with a 1.3 billion population, has 40% of the total Indian workforce employed in the agriculture sector. The country has witnessed a six- fold increase in food production from 50 million tonnes in 1950-51 to more than 283.73 million tonnes in 2018-19 and has done well to expand food production and build up stocks of food grains. It has experienced remarkable economic growth in the recent past and remains one of the fastest growing economies in the world. However, the areas of poverty and food insecurity remain a matter of deep concern.

The Tendulkar Committee in 2011-12 estimated that 21.92% of Indian population lives below poverty line.

In spite of many strides taken to improve food production, accessibility to the available food poses a challenge that needs to be addressed on a large scale - 34.7% of children aged under five, that is 3 in 10 children suffer from 'stunting' and 15% from 'wasting'. In 2019, India ranked 102 out of 117 countries in the Global Hunger Index determined by four indicators - undernourishment, child wasting, child stunting and child mortality in the country. Nearly 47 million or 4 out of 10 children are not meeting their full human potential because of chronic under nutrition or stunting. This has serious consequences such as diminished learning capacity, increased risks to chronic diseases, poor school performance and reduced earnings. The impacts are multi-generational leading to vulnerable groups being left behind.

Hence, improved and efficient pro-poor growth strategies as well as direct food security and nutritional investments should be the way ahead to address food insecurity in India.



Hunger, the lived reality of millions of Indians, is insufficiently acknowledged except by those condemned to live with it.

– Harsh Mandar, Member of the National Advisory Council

Food Security in India

The Government has taken significant steps to combat under-and malnutrition over the past few decades with the Public Distribution System becoming a social necessity as well as an economic need. Rationing of food was introduced in India during World War II due to food scarcity, and expanded further during the 60's due to the famines that the country faced.

The system is owned and controlled by Government authorities on behalf of the public and aims to meet the basic needs of vulnerable sections of the society who cannot afford to depend upon the markets to obtain their food and essential supplies.

The Public Distribution System is guided by the following objectives:

- i. The procurement of food grains from the farmers at remunerative prices
- ii. To ensure equitable distribution of food grains to the consumers, particularly, the vulnerable sections of society, at affordable prices
- iii. The maintenance of food buffers for food security and price stability
- iv. To promote a strong consumer protection movement.

194.4 million People in India that is by measure 14.5% of the population is undernourished and shares a quarter of the global hunger burden.

- The State of Food security and Nutrition in India, FAO- 2019

The PDS is intended to make available the entire basic day to day requirement of commodities for households but does not provide supplementary commodities like vegetables, eggs and so on.

In June 1997, the Central government launched the Targeted Public Distribution System with focused attention on making it more beneficial for the weaker sections. The most distinctive feature of the new policy was the division of the entire population into the 'Above Poverty Line' (APL) and the 'Below Poverty Line' (BPL) categories, based on the poverty line defined by the Planning Commission.

In order to make the TPDS more focused towards the very poor, a separate category, under the Antyodaya Anna Yojana (AAY), was launched in December 2000 for one crore families. The AAY identified the poorest of the poor families in the BPL category and provided them with food grains at the highly subsidised rates of Rs 3 per kg for rice and Rs 2 per kg for wheat. The TPDS Control Order, 2001, empowered state governments to take action in order to get the food grains to the beneficiaries, identify households, issue ration cards, license fair price shops, decide issue prices, etc.

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The TPDS, though an important step in ensuring food security in India, was criticised on several counts — of leakage, mis-targeting and inefficient supply chain management — in the first 10 years of its implementation. The Planning Commission estimated in March 2005 that for every Rs 3.65 spent by the GoI, only one rupee reached BPL households. However, a National Council of Applied Economic Research (NCAER) study, in 2010, reported a high degree of satisfaction among the beneficiaries for the various indicators of the PDS, including, the quality and quantity of the grain supplied. In a nine-state study, Reetika Khera reported in 2011, that 80 per cent of the beneficiaries felt that the TPDS was important to cover their family's needs.

The implementation of a revamped Public Distribution System (PDS) under the National Food Security Act (NFSA), 2013 is a paradigm shift in the approach towards the issue of food security at the household level - from welfare to a rights-based approach. The NFSA adopts a life cycle approach making special provisions for ensuring food security of pregnant women, lactating mothers, and children from 6 months to 14 years of age.

The salient features of the NFSA are:

- i. Covers 75 per cent of the rural population and 50 per cent of the urban population (two-thirds of the total population)
- ii. Persons belonging to eligible households will be able to receive 5 kg of foodgrains per person per month at Rs 3 per kg for rice, Rs 2 for wheat and Re 1 for coarse grains. The AAY households will continue to get 35 kg per household per month
- iii. Special focus on nutritional support to women and children, with emphasis on pregnant and lactating mothers and children up to 14 years of age
- iv. Grievance redressal mechanisms at the district and state levels.

The NFSA also clearly demarcates the roles of the state and the central governments as follows:

Centre:

- i. Determine the total households, state-wise, that are eligible for ration under the PHH (Priority House Holds) or households identified as Below Poverty Line (BPL) and the AAY categories
- ii. Fix the quantity and price of the food grains distributed and procured
- iii. Transport food grains to the state godowns and share the burden for interstate transport
- iv. Support the states in creating storage space and undertaking computerisation.

State:

- i. Lift food grains from the FCI godowns and ensure intra-state storage and transportation, and distribution to beneficiaries
- ii. Identify and update the beneficiary list and issue the ration cards
- iii. Establish institutional arrangements for grievance redressal, social audit and vigilance.

Today, PDS is one of the largest social security programmes and is perhaps the largest distribution machinery of its type in the world. All the States and UTs have joined the NFSA. The Public Distribution System currently caters to 23.68 crore ration card holders, 80.75 crore beneficiaries dependent on the system and 5,38,013 Fair Price Shops to distribute rations.

To recapitulate, India is resolute in its aim to provide food security as described in Goal 2 of the Sustainable Development Goals (SDGs), i.e. to end hunger, achieve food security and promote sustainable agriculture. Towards this, the government procures food grains from the farmers, through the Central and the state agencies, to distribute to the beneficiaries, the vulnerable sections of society. This has been diagrammatically represented as below:

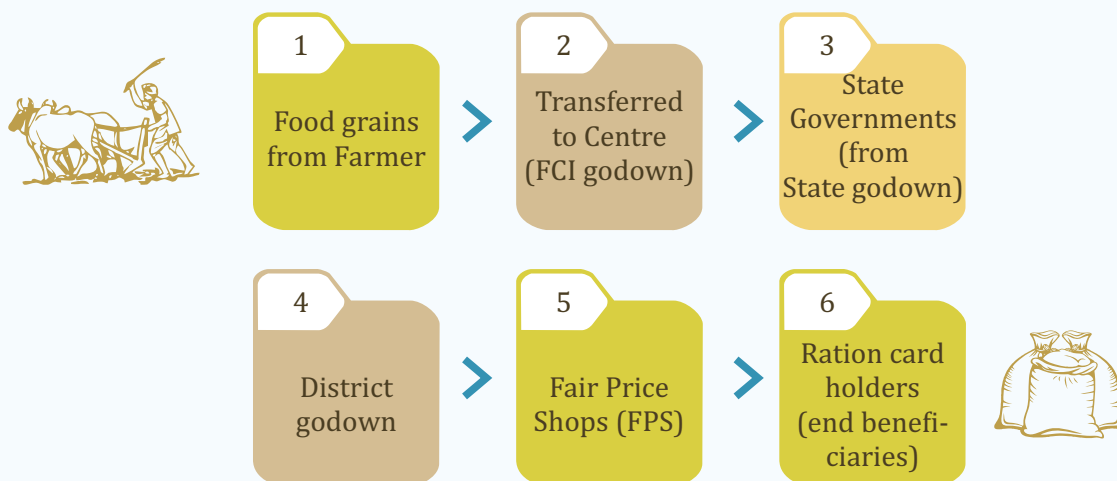


Figure 1: Flow of food grains from farmers to the beneficiaries [10]

The food subsidy has increased over the years and in 2014 the main factors contributing to the raising subsidies were: (i) Increasing costs of buying (at Minimum Support Price [MSP]) and handling food grains, (ii) Increase in procurement over the previous years and (iii) a stagnant Central Issue Price (CIP) (the price at which food grains were sold to the beneficiaries under TPDS).

Table 1: MSP and CIP of Rice/Paddy (Rs/kg)

Year	MSP/ Paddy	Derived MSP/rice*	CIP		Derived MSP/rice – CIP	
			BPL	APL	BPL	APL
2010-2011	10.3	16.5	5.7	8.3	10.0	7.4
2011-2012	11.1	17.8	5.7	8.3	12.1	9.5
2012-2013	12.8	20.5	5.7	8.3	14.8	12.2
Note: Derived MSP of rice has been calculated as 1.6 times the MSP of paddy						

The Table depicts a comparison of the CIP of rice that has remained constant and it's MSP increasing, the same has been in the case of wheat. The MSP per kg of paddy has increased by 120% from 2003-04 to 2012-13, while correspondingly the increase in MSP of wheat has been 114% [11]. The 2019-20 budget estimated food subsidy at Rs. 1,84,220 crores, an increase of 7.5% as compared to the revised estimate of 2018-19, that is Rs. 1,69,323 crores [12].

"I hope corporations understand that the world is not asking them to do something different from their normal business; rather it is asking them to do their normal business differently."

– Kofi Annan – Former Secretary General, UN

Calorie intake in households accessing PDS has been higher as compared to households that did not have access to PDS. In fact, the overall calorie intake in 2004-2005 was 3.5% and rose to 6% in 2009-10 [13]. PDS has contributed to alleviating around 55 million people above poverty line in 2009-10 through in-kind food transfers. The poverty figures would have been 16% higher than present otherwise [14 a& b]. States with strong PDS measures have shown decline in poverty levels like in Tamil Nadu and Chhattisgarh [15].

While a number of studies have identified the role of the PDS and NFSA in improving food security of India, at least through the provision of calories, there is some concern relating to issues of mis-targeting, under-coverage, corruption and diversion affecting the implementation and operation of the food safety network in India. Increased corruption has been shown to decrease accessibility which in turn affects the overall functioning of the PDS [16].

The NFSA is a double-edged sword which requires careful monitoring and modifications to achieve its full potential [16].

What is being witnessed is that large numbers of people at the first instance may have been left behind due to discrimination, poor services and geographic isolation through the scheme. This in practice, can perpetuate imbalances in overall health, food security of the communities; shortfalls in institutional and human capacities among the disadvantaged.

The Public Distribution System network can play a more meaningful role if only the system is able to address the widespread gap between promise and performance due to management issues. This can be achieved by making the system participatory, accountable, transparent, responsive, effective and efficient, and equitable.

The performance and accountability of the public sector like PDS needs to be improved because the citizens do not have the power, knowledge and incentives to demand better services and public accountability. This is especially the problem in the developing countries and is compounded by the fact that measurement and quantification of the benefits and adequacy of services are often difficult. Access to information and public

education and awareness building are especially important in demanding for greater accountability from their service providers [17]. Systemic generation and dissemination of information will encourage the public to organise and demand accountability through existing mechanisms or by innovating new mechanisms in the system [17]. For example, public accountability can be augmented through participation from the citizens. A participative approach to the design and delivery of public services could lead to a more effective and efficient utilization of the investments of public agencies. It acts as an incentive or pressure for the service providers to remain accountable.

The Central Government and the State Governments have done a tremendous job of maintaining and ensuring the delivery food grains to all the beneficiaries through the PDS for so many decades. It would be unimaginable for any other stakeholder to take up this mammoth job and carry out operations at such a large scale while providing subsidies. Civil Society Organisations can play a crucial role in supporting the government to fulfill the objectives of its programme by addressing some of the systemic inefficiencies in the interface between the service provider (PDS) the service recipient (citizens). While an exit option is not available for these communities of users, their voices become crucial to facilitate better responses from the Department in charge and to allow beneficiaries to demand for more accountability [18].

For ensuring transparency and proper functioning of the TPDS, the National Food Security Act, 2013 has instructed State Governments to set up Vigilance Committees at the State, District, Block and FPS levels consisting of persons as prescribed by the State Government. As per the Act, the Vigilance Committees shall perform the following functions:

- A Regularly supervise the implementation of all the schemes under this Act
- B Inform the District Grievance Redressal Officer, in writing of any violation of the provisions of this Act
- C Inform the District GR Officer, in writing of any malpractice or misappropriation of funds found by it.

Implementation of NFSA in Karnataka

The state of Karnataka has 30 districts, 1,27,48,321 ration cards including 10,95,849 (8.6%) AAY card holders and 1, 16, 52,472 (91.4%) priority Household card holders. That is totally 4, 32, 33,166 beneficiaries comprising of 46, 71,820 AAY beneficiaries and 3, 85, 61,346 PHH beneficiaries. The state has close to 19,895 Fair Price Shops across the districts.

4,32,33,166
Beneficiaries of PDS
in Karnataka

In 2011-12, Karnataka consumed 16.2 lakh tonnes of wheat and rice from PDS but had leakages upto 46.2%. By 2017, Karnataka successfully completed component one of end-to-end computerisation of TPDS scheme that is 100% digitisation of ration cards, 100% seeding in ration cards, had implemented online allocation of food grains, computerisation of supply-chain, set up a transparency portal and an online Grievance redressal system [19]. 27,49,532 cards were deleted in the state through the end-to-end computerisation operation [20].

Karnataka in 2018-19 spent Rs. 103867.11 lakhs for the subsidy and transportation of food grains under the PDS.

Table 2: Subsidy and transportation expenditure (Rs. in Lakhs)

Year	2014-15	2015-16	2016-17	2017-18	2018-19*
Expenditure including Subsidy and Transportation	253328.00	219585.02	185387.76	254171.80	103867.11
*upto November 2018 Source: Food and Civil Supplies Department					

The Vigilance Committee Gazette in the Karnataka Public Distribution System (PDS) (Control) Order, 1992, outlines the constitution, composition, functions, reporting procedures of the Vigilance Committees in the state.

As per the PDS Order, each FPS in Karnataka is to be governed by a Vigilance Committee comprising of 3 members who are chosen randomly through the computer data of ration card holders belonging to that shop. 1/3rd of its members will be replaced every six months and a meeting shall be conducted on 7th day every month namely on the day of Aahaara Adaalath. Aahaara Adaalaths are conducted by the Fair Price Shops and facilitated by Vigilance Committees and nodal officers to resolve the issues of the card holders as placed in the complaint box of the FPS or other issues brought out during the session.

The State govt has to send an Annual report to the Central Govt on the functioning of the Vigilance Committees as prescribed in the Central Targeted PDS Control Order.

Public Affairs Centre (PAC), an independent not-for-profit think tank guided by a study on “Social audit of public services in Karnataka” was very keen to understand the effectiveness of the monitoring mechanisms on the ground. In 2014, PAC carried out an independent study on “Effectiveness of Monitoring Mechanisms in Public Distribution System of Karnataka.” It analysed the effectiveness of the Grievance redress mechanism for the PDS and studied the awareness level and the usage of the grievance redress mechanism by the card holders.

After an extensive survey of covering 7355 individuals it found that none of these mechanisms worked efficiently and suffered from widespread failures in the implementation. Over 90% of the PDS consumers and 50% of the shopkeepers surveyed were not aware of the Vigilance Committees; records of the meeting did not exist as reported by 76% of the respondents. Complaint registers were not maintained in 70% of the shops and the FPSs were not open on all working days. The study presented evidence that monitoring mechanisms to ensure transparency, accountability and responsiveness were not functioning.

The reasons stated were:

- 1 Design problems in terms of the Vigilance Committees lacking independence from service providers
- 2 Overburdening of the Food Inspectors
- 3 Inadequate margins for the PDS shopkeepers
- 4 Inadequate monitoring of the grievance redress system.

The findings also showed that the Monitoring of the PDS was not being done as Vigilance Committees were defunct (91%).

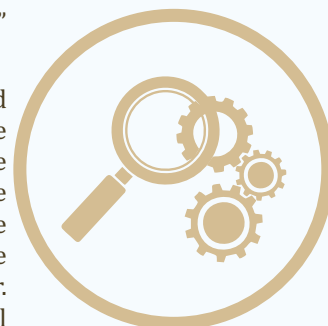
The project was recognised and supported by the then Minister of Food and Civil Supplies and Consumers Affairs Department, Shri. Dinesh Gundu Rao and the Department was concerned and was keen to understand the functioning on ground.

Project

Based on the above findings, Azim Premji Philanthropic Initiatives (APPI) funded and mandated PAC to carry out a project “Citizen Monitoring of Fair Price Shops in Karnataka” to develop a proof of concept and address the issues identified in the previous project.

With this background, PAC embarked on a project to make the PDS more efficient and equitable. PAC decided that there is no better way to do this than to empower the community. The proof-of-concept developed by Public Affairs Centre (PAC) under the project “Citizen Monitoring of Fair Price Shops in Karnataka” is thus driven by the purpose of providing voice to the voiceless. PAC believes that enhancing community agency – the ability to participate in the PDS not as mere beneficiaries but as stakeholders, there can be improved access to essential food grains for better food security and hence zero hunger. The project has been designed to systematically address issues like complete/partial denial of entitled quantities of commodities to the citizens, non-adherence to policies and rules in the day to day functioning of Fair Price Shops, shop level diversion of stocks, non-responsiveness to grievances from the department officials, etc., through bi-monthly citizen monitoring of Fair Price Shops.

The project aimed to develop a standardized citizen monitoring of Fair Price Shops in Karnataka to help improve transparency, accountability and service delivery associated with PDS.



The project period was for 3 years between April 2017 and March 2020, with implementation work being carried out incrementally across all 30 districts of Karnataka.

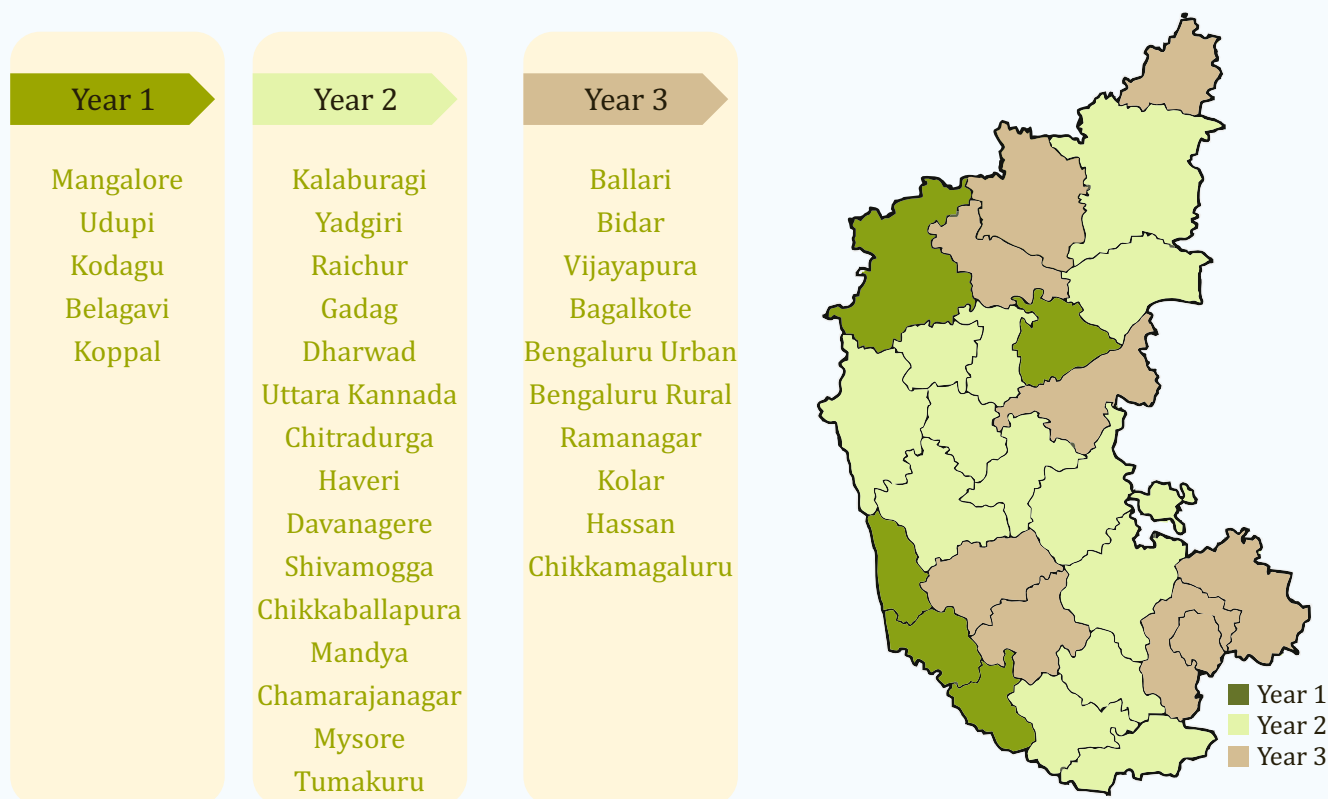


Figure 2: Year wise implementation of the projects across Karnataka

By the end of the three-year project period, PAC had to identify two things:

- 1 A model Citizen Monitoring group composition which would show the best improvement in the performance of their Fair Price Shops while following the norms of the NFSA, 2013
- 2 A standard process that would truly support the model identified in terms of understanding issues of supply chain, enabling a multi-stakeholder approach to bring on board all the stakeholders who are impacted the most, giving a platform for equitable dialogue, and help the community in resolving local issues related to PDS at their level.

The project also had to create standardised toolkits comprising of the reporting formats, Standard Operating Procedures (SoPs), checklists for Quality Checks (QCs) and training materials.

To achieve this, PAC partnered with grassroot organisations and CBOs for each district to carry out the project. Six Fair Price Shops were selected in each district and the criteria for selecting them met different objectives each year. Each shop had 4 Citizen Monitors trained and the composition of the team varied as per the model chosen for that particular district.

PAC's District Level Partner Organisations (DLPOs) comprising grass root organisations or CBOs facilitated election of the Citizen Monitors (CMs), and then trained them on relevant regulations concerning PDS, entitlements of ration card holders, and a standardised process of citizen monitoring of the FPS to check compliance with regulations.

Theory of Change

Most importantly, to ensure the project had the best results, PAC adopted a "learning by doing" model. It aligns with the mission of Public Affairs Centre, viz., to improve and institutionalise citizen-centric governance in all aspects of public service delivery. The

Centre follows a systematic 3A Framework (Awareness-Advocacy-Action) that includes a comprehensive consultative process among all stakeholders in the service delivery spectrum to ensure that the interventions designed are backed by their support.

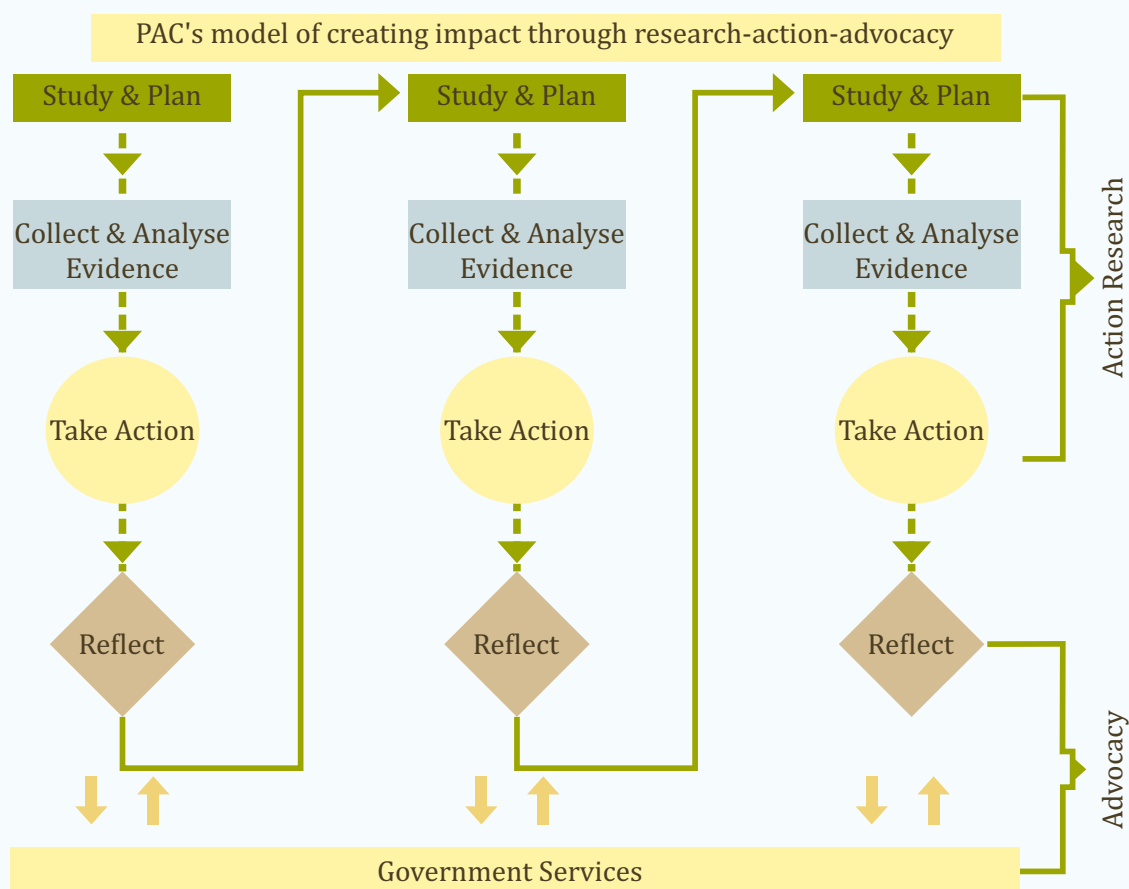


Figure 3: PAC's model of creating impact through action-research-advocacy (Source: Riel, M 2014)

In the current project, PAC interacted with policy makers, service providers, elected representatives, PAC's CBO partners, current community monitors, and communities of users to ensure that the 3As are carried out in consonance with the larger 'voice' on the ground. This 'learning by doing' process led to PAC adopting innovative approaches with every year so that the final model of FPS monitoring can be made replicable and sustainable, and presented to the Government of Karnataka as an implementable toolkit.

Based on the learning from the intervention in 5 districts of Karnataka in Year-1, PAC modified the research design of the intervention in Year 2., wherein PAC tested 3 different bottom-up models of citizen monitoring - CMAT model; CVC model; and SHG model, in partnership with the DLPOs. Supporting activities in the process also evolved to ensure a multi-stakeholder approach. At the end of Year 3, the monitoring process generated a compliance score tracked over the year and, on this metric, it was found that CM teams constituted by members of women's self-help groups (SHGs) elected by their community was found to be the best model to improve FPS functioning.

Research Design of the project

The learning from each year was incorporated into the research design and implementation of activities. Accordingly, the changes made over the three years were guided by the following research questions and hypothesis during each year. They are as follows:

Year 1

R1: How can citizen monitoring be used to improve the performance of FPSs in PDS in Karnataka?

H1: A DLPO-selected model of citizen monitoring is effective at moving FPSs towards greater compliance to transparency regulations, and redress of issues regarding ration distribution to beneficiaries, especially those in the BPL category.



Year 2

R2: What is an effective model of citizen monitoring based on election from the community?

H2: A model of citizen monitoring based on election from the community is effective in moving FPSs towards greater compliance to transparency regulations. The three election-based models included:-

- H2 CVC:** A citizen monitoring team which is constituted of the 3 Government-selected Vigilance Committee members augmented by 1 community-elected member is the most effective model for moving FPSs towards greater compliance to transparency regulations (CVC model)
- H2 CMAT:** A citizen monitoring team which is constituted of 2 men and 2 women members elected by the community is the most effective model for moving FPSs towards greater compliance to transparency regulations (CMAT model)
- H2 SHG:** A citizen monitoring team which is constituted of 4 women members elected by the community with each woman a member of at least 1 women's self-help group is the most effective model for moving FPSs towards greater compliance to transparency regulations (SHG model).

The three models tested in Year 2:

CVC	Existing Citizen Vigilance Committees, plus one elected member
CMAT	2 male and 2 female volunteers elected by the community
SHG	4 members of women Self-help Groups (SHGs) elected by the community

At the end of Year 2, the monitoring process generated a compliance score tracked over the year and, on this metric, it was found that CM teams constituted by members of women's self-help groups (SHGs) elected by their community were by far the best model to improve FPS functioning.

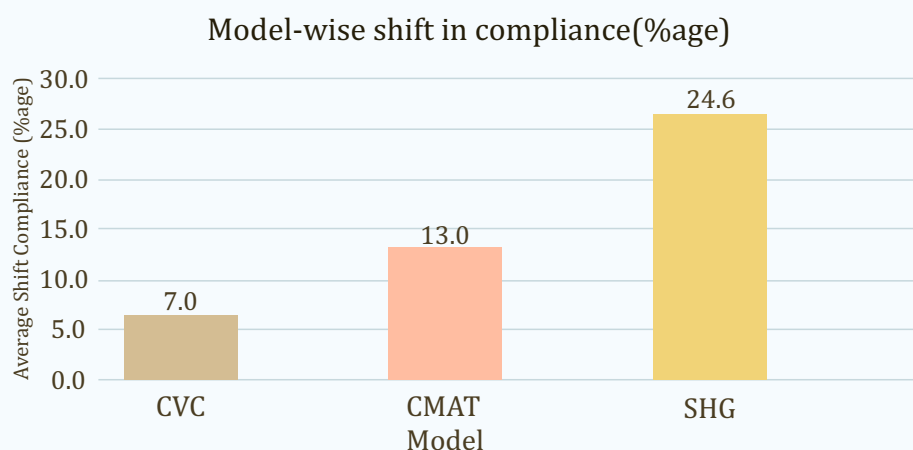


Figure 4: Results on Compliance by FPS from Year 2

Year 3

R3.1: What are the factors explaining the initial level of performance of the FPS as measured in the first monitoring visit?

H3.1: The factors explaining the initial performance of the FPS include the FPS owner/manager's awareness level, number of cardholders, level of engagement of the FPS owner/Manager with the Government officials and Grievance redress system, the level of activity of the existing Vigilance Committees, and the type of ownership of the FPS (whether privately owner, cooperatively owned or Government owned)

R3.2: What are the factors explaining the success of the CM teams constituted by the SHG model in terms of moving the FPS towards greater compliance?

H3.2: A training-empowered, citizen-elected model of citizen's monitoring committee comprising 4 women members (each of whom is a member of at least 1 women's SHG) is effective at shifting FPSs towards compliance with transparency regulations, when the FPS are chosen according to some normative criteria indicating high possibility of malpractice/irregularities.

H3.3: The SHG model of citizen monitoring is effective at resolution of various issues faced by communities regarding distribution of rations by FPS

H3.4: The SHG model of citizen monitoring results in communities becoming more engaged with issues regarding their FPS and the PDS.

H3.5: Some of the factors that contribute to the success of the SHG model include the social capital of the monitoring teams; the leadership ability of the members; the level of experience in SHG activities; and the literacy of the members of the CM team.

The following conceptual data framework captures all the research questions of Year 3 to test out the hypothesis. Detailed list of indicators identified for the analysis is in Annexure 1.

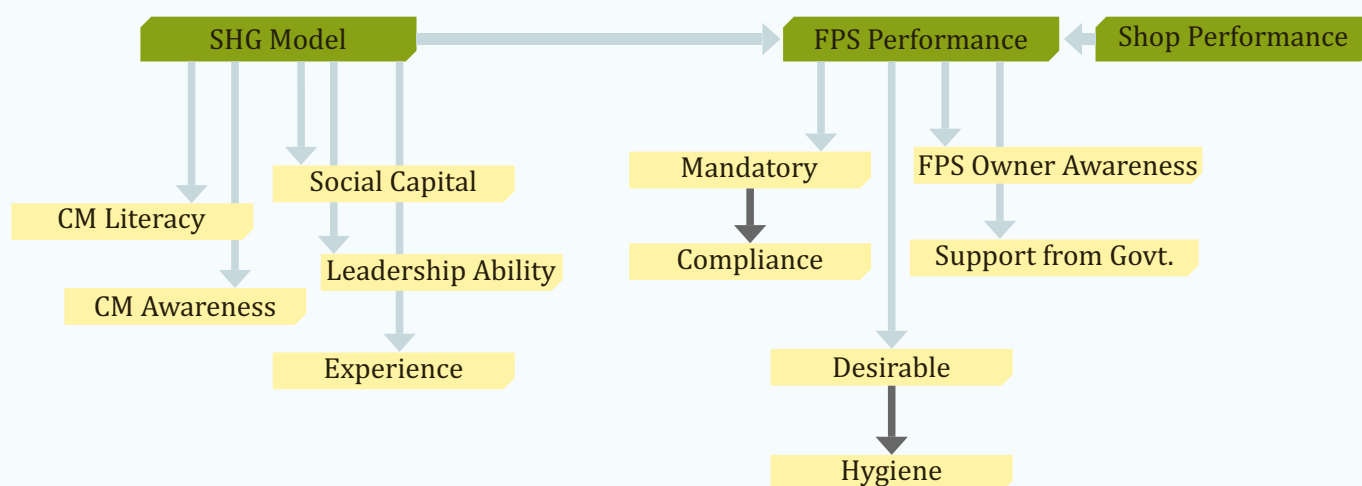
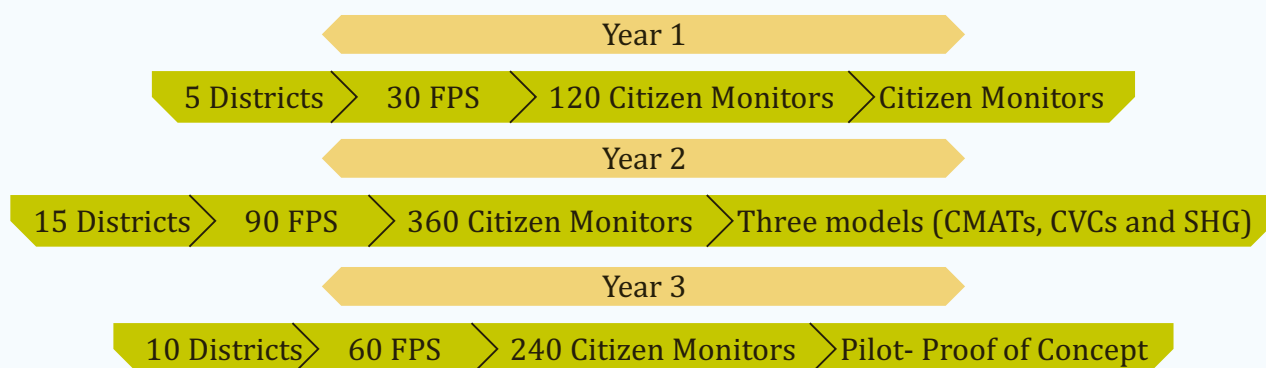


Figure 5: Conceptual data framework for the project

Implementation Design of the Project

The learning from each year were also incorporated into the implementation of activities and were modified to meet the objectives. Each of the activity also acted as a source of data for the overall study and to establish proof of concept. Reporting formats, Standard Operating Procedures and checklists to carry out quality checks were prepared to document and standardise the process.



The implementation design ensured the participation of the following important stakeholders in each stage:

- Beneficiaries of that particular Fair Price Shop
- Fair Price Shop Owner and board members of the society running the FPS
- Panchayat Development Officers (PDOs) and Gram Panchayat members at the village level
- Food Inspectors and/or Shirastadars of the respective Taluk
- Deputy Directors of the Food and Civil Supplies Department at District Level
- State Level Officials of the Food and Civil Supplies Department.

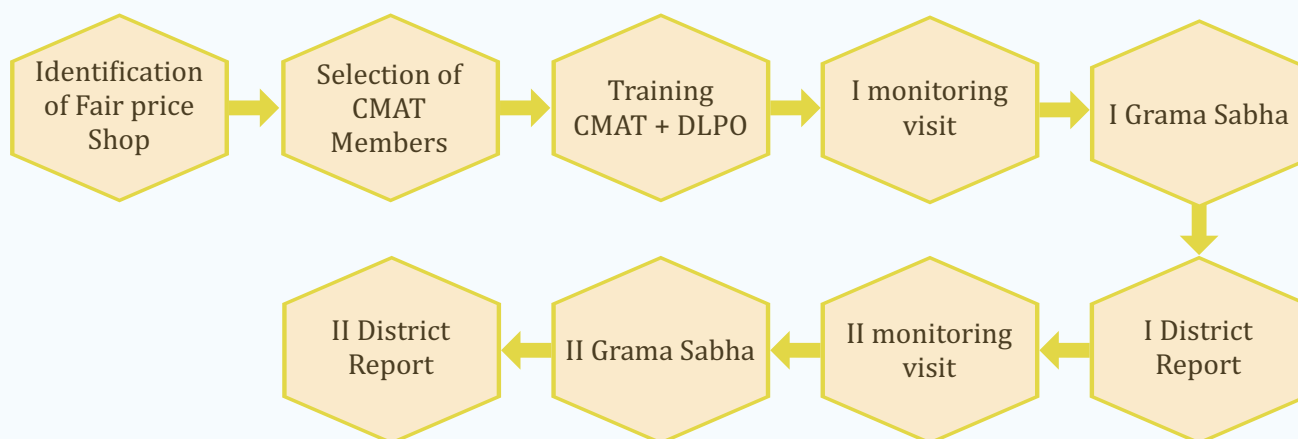


Figure 6: Flow chart of Year 1 activities

Identification of Fair Price Shops

In Year 1, 30 FPSs were identified from five districts (six FPSs per districts) with the help of District Level Partner Organisations (DLPOs). Out of those, 50% were privately owned, 40% were owned by cooperative societies and the remaining was directly managed by the Department of Food and Civil Supplies (FCS Dept), Government of Karnataka.

Selection of Citizen Monitoring Action Team (CMAT):

In Year 1 the CMATs were identified and selected from their respective FPSs.

Training of CMATs:

In Year 1, the CMs were brought to the District headquarters and were trained on their roles and responsibilities, reporting formats, etc., along with the DLPOs. The training workshops engaged Deputy Directors, Food Inspectors as resource persons on the first day's initial sessions to elucidate the status of functioning of the ration distribution system and other relevant information to the beneficiaries in the respective districts.

Monitoring visits:

The monitoring visits were made to inspect the FPS and to check the compliance of the FPS in terms of display boards, maintenance of records, utilisation of the biometric system, adequate storage space for food grains and kerosene, and maintenance of hygiene as mandated by the Citizen Charter.

Special Gram Sabha/ community meeting:

A "special" Gram Sabha (GS) was called to particularly discuss a specific issue or problem. Sabhas hold great significance for rural communities as they provide a platform for villagers to air their views and grievances, accept or reject proposals and select representatives for various committees for efficient and effective service delivery. In this case PAC called for the 1st round of "Special Gram Sabhas" in selected Gram Panchayats in order to - (1) Introduce the PAC "selected" Citizen Monitor (2) identify and discuss problems related to functioning of FPS on an open platform.

The 2nd round of special Gram Sabha/ community meeting was conducted after three monitoring visits to appraise the community on the work done by the selected Citizen Monitors.

PAC with its DLPO partners and Letters of Support from the Department met district officials of various levels to ensure buy-in and participation of the FPS owner in the GS.

To ensure inclusion, the following stakeholders were met and brought on board: –

- i. President, Secretary of the Society (if FPS is owned by a Society)
- ii. Members of local Self-help groups
- iii. Influential people in local organisations e.g. “Rakshana Vedikes”
- iv. Prominent local people who attend all public programmes in the village
- v. Village elders
- vi. SHG members
- vii. Anganwadi members
- viii. Disadvantaged communities
- ix. Others.



Figure 7: Citizen Monitor sharing her experience in the Grama Sabha at Bidar District

The second, final Gram Sabha was called to (1) inform community members of changes in functioning of FPS that was achieved, and (2) discuss the problems that were addressed through the monitoring visits, the terms engagement remaining the same.

Stakeholder meetings:

District level reports were prepared for each district documenting all the activities of the interventions, findings from the field, listing the recommendations and the challenges. In Year 1, the 5 districts of intervention were clubbed into two clusters (based on proximity) and the findings were presented by PAC and DLPO staff to the District Officials from the FCS department in the presence of CMs and Gram Panchayat members.

Key lessons from Year 1, translating to changes in Year 2, involved:

1. CMs “selected” by PAC did not get much support from the community
2. Organising Gram Sabha to maximise community involvement and election of CMs
3. Bringing different stakeholders together for a collaborative learning experience, leading to greater awareness of the system as a whole, and synergies in operation.

Year 2 and Year 3:

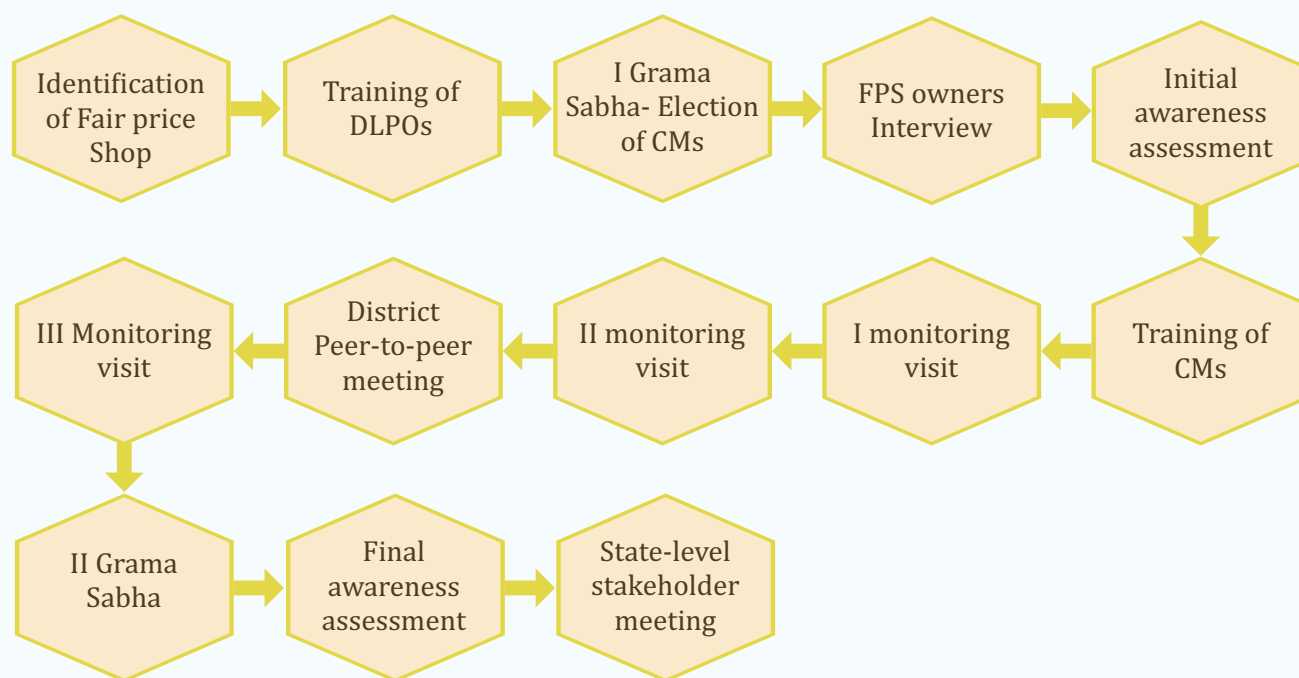


Figure 8: Flow chart of Year 2 & 3 activities

Identification of Fair Price Shops

In Year 2, 3 taluks were randomly selected from each of the 15 Districts. Further, 2 FPS were selected randomly from each taluk, subject to the constraint that no 2 FPS should be too close to each other within the taluka.

In Year 3, the main objective of the project was to test the best Year 2 model (SHG model) in "worst-case" conditions. In close consultation with the Department of FCS, criteria were identified in order to select 60 FPSs with a high probability of malpractice or other issues affecting the distribution of rations.

In each district, 3 talukas were randomly selected with an additional criterion that the DLPO of that district had to have operations there. The two criteria identified in consultation with the government.

- 1 Maximum BPL cards per FPS. 5 shops per district were selected according to this criterion
- 2 FPSs with maximum value averaged over 3 previous months (=total lifting balance - total closing balance of BPL, APL and AAY beneficiaries- total distribution by FPS owner) expressed as percentage of allotment. 1 shop per district was selected according to this criterion.

Training of DLPOs

PAC selected and appointed District Level Partner Organisations (DLPOs) based on certain criteria and trained the representatives to coordinate, support and facilitate all the field activities on behalf of PAC; educated them on the rights and entitlements ensued under PDS; grievance redress system under the PDS, and established a reporting and follow-up mechanism; empowering them to take up leadership roles in the whole process of community mobilisation, creating awareness among the beneficiaries and leading the advocacy plan. The updated training modules were printed and distributed to every participant during the Training of the Training (ToT) workshop. While the Training of Trainers (ToT) programmes for DLPOs were held with the CMs in Year 1, this was shifted to a separate activity in Year 2 and 3 to build capacity in DLPO staff. This made them self-reliant in training the CMs by themselves.



Figure 9: The Joint Director of FCS Department delivering a session in training programme

First Special Gram Sabha/Community Meeting

In Year 1 it was identified that the “selected” Citizen Monitor did not get the support required from the communities to carry out her/his functions to full potential. This was a very important learning for PAC. Therefore, in Years 2 & 3, the first special Gram Sabha was conducted to ‘elect’ the Citizen Monitors from the community and to discuss shop level issues and challenges.

In Year 2 and Year 3, PAC called for “Special Gram Sabhas” in selected Grama Panchayats in order to- (1) elect Citizen Monitors (2) identify and discuss problems related to functioning of FPS on an open platform. Communities with the help of DLPOs from each district elected 360 Citizen Monitors in Year 2 and 240 CMs in Year 3 to play a significant role in sustaining quality service delivery with the help of Gram Panchayats.

1 FPS was dropped in Year 3 due to a hostile environment that the FPS owner created in Bengaluru Urban district. Staff of the DLPO partner, Institute for Youth Development (IYD) were threatened in public and this was brought to the notice of the Joint Director of the FCS Dept and then to the Additional Director of Bangalore Urban District. Even after constant follow up, the decision of the AD to help the study team resolve the issue with the FPS owner was delayed which was affecting the timelines of the project. Hence it was internally decided that no intervention would be carried out in this shop.

The Gram Sabhas successfully raised awareness among the communities in terms of entitlements of beneficiaries, cost, function of FPS, timings of FPS, identify and communicate challenges in service delivery and quality of service delivery. They also successfully raised awareness on CVC committees of the department. PAC mobilised community volunteers as Citizen Monitors to monitor the FPS under this intervention. Over the three years 34,000 beneficiaries have participated in 350 special Gram Sabhas carried out as part of the project. These meetings have witnessed high participation of women volunteers. In Year 2 there were approximately 10,001 members who participated in the Gram Sabhas of which 54% were women.

FPS Owner Interview

PAC introduced a new activity, FPS owner interview, in Year 2 and Year 3 to help identify issues, leakages and gaps in the PDS supply chain. It brought to light the challenges faced by the FPS owners themselves and helped in demanding better transparency.

Initial Awareness Assessment

This was conducted in Year 3 in order to understand the awareness levels of the citizen monitors with regard to FPS basic functionalities.

Training of the Citizen Monitors

In Year 1, PAC observed that the participants attending the training workshops were from the poorest of the poor backgrounds, mostly working as daily wage labourers. The selected Citizen Monitors prioritised their daily wage labour over attending training workshop and involving themselves in the monitoring process. They did not want to miss their daily wage and other opportunities which were scarce and seasonal.

Hence in Years 2 and 3, after the CMs were nominated/ elected, in the first Special Grama Sabha, the trained DLPO staff visited the village/town of the FPS selected, and trained the Citizen Monitors at a place comfortable for the CMs to travel and undergo the training. The CMs were trained on their rights and entitlements under the PDS, history and functioning of the system, their roles and responsibilities as a CM and familiarising them with the reporting format.



Figure 10: Discussion among the Citizen Monitors during the training programme

Monitoring visits (I, II & III): In Years 2 and 3

The monitoring visits were carried out to inspect the FPS and to check the compliance of the FPS in terms of display boards, maintenance of records, utilisation of the biometric system, adequate storage space for food grains and kerosene and hygiene of the FPS.

District level Peer-to-peer meeting



Figure 11: Participants at the Peer-to-peer meeting

In Years 2 and 3, this new activity was introduced to enable shared learning among the CMs. Learnings, challenges that were faced by the CMs at different FPSs in the same district, steps taken for collective action to resolve issues, and so on were discussed. These discussions brought a sense of togetherness among all the women, encouragement from peers, newer ideas to help some of them deal with issues in their FPS and bonding with women from across the districts.

In Year 3, the need to create “actionable” outcomes from the capacity building of communities and subsequent citizen monitoring was felt. Therefore, at the Peer-to-peer meetings, the DLPOs facilitated the crafting of “letter of complaint” on various issues in the district, addressed to the Commissioner of the Department at the State level. It was felt that this approach will provide encouragement and give hope to communities that their longstanding issues regarding the FPS in their communities may be resolved.

Second Grama Sabha/Community meeting



Figure 12: Discussion held at special Grama sabha at Bidar district

In Years 2 and 3, the community meeting was conducted to inform the community members/ beneficiaries of changes made and the achievements of CMATs in the functioning of the FPS, as well as to discuss the problems that were addressed through the monitoring visits.

Final Awareness Assessment

Endline awareness assessment was introduced in the 2nd round of the Gram Sabha.

The CMs were quizzed on some questions regarding their entitlements, guidelines and grievance redressal avenues before and after the project intervention. Individual experiences by the end of intervention, their interest to take the project forward were also documented after the Gram Sabha in Year 2. In Y3, this was conducted in order to check the effectiveness of the training on the awareness of the CMs by the end of PAC's intervention.

Data Sources

Collectively, all the activities became sources of essential data to establish proof of concept by the end of three years. While primary data were collected through reporting formats for each of the activity, secondary data was also collected from various sources.

Primary sources, that is, data collected directly from the stakeholders of the project.

Quantitative data sources:

- 1 **Gram Sabha** reports of the community engagement indicators which were the % of total attendees and % of women attendees. Details for the database of Citizen Monitors was collected at the same time
- 2 **FPS owner interview** reports mainly captured the awareness scores of the FPS owner with regard to the Targeted Public Distribution System, general knowledge about PDS, its functions and suggestions for the improvement of the system
- 3 **Monitoring Visit** reports submitted by the Citizen monitors after each visit comprised of data on 'compliance' indicators i.e., in terms of display of information, maintenance of records, cleanliness of the FPS, hygiene of the FPS, shop maintenance, malpractices in the FPS and perception of beneficiaries on aspects of transparency, cleanliness, availability of entitlements, and storage. (Only in Year 2). Year 3 formats also collected data on Grievances identified and the steps taken to resolve them

- 4 Initial and final awareness assessment had questions relating to the rights and entitlements and GR system for the CMs before and after the intervention. (Note: Initial awareness assessment was only conducted in Year 3)
- 5 Presence of Citizen Vigilance Committees (CVCs) in the respective FPSs (Note: This was conducted only in Year 3 for 60 FPS).

Qualitative data sources:

- 1 Gram Sabha report: In addition to the quantitative scores, it also covered the issues identified at the shop level and the medium through which they needed to be solved
- 2 FPS owner interview report: In addition to the quantitative scores, it also covered the aspects of the demands and issues related to service delivery by the FPS owner
- 3 Peer to peer meeting report comprised of the shop level issues, actions taken to resolve the issues and suggestions from the peers (i.e., CMs from other FPSs in the same district).

Secondary sources, that is, data that had already been gathered by the department were: -

Qualitative data sources:

- 1 Offtake data: The offtake data obtained from the Food, Civil Supplies and Consumer Affairs Department website covered the % of ration taken by priority households which comprised of the Below Poverty Line (BPL) and Antyodaya Anna Yojana (AAY) beneficiaries under PDS. The data was collected for Year 2 and Year 3 FPSs only, for the duration of before PAC's intervention and after PAC's intervention to measure the improvement in the services
- 2 Data on sanctioned, working and vacant staff
- 3 Data on the amount of grains allotted and lifted by the FPS owners.



Figure 13: DLPO describing their experiences of Ilkal FPS at Bagalkot district

Findings

To improve PDS as a sustaining and empowered architecture, for ensuring nutrition and sustenance of people, it is important to ensure accountability and responsibility in the system. Both these qualities can be founded and will last firmly in any organisation, if accountability is taken from bottom-up and responsibility flows top-down.

In order to bring in accountability, transparency and community participation in the system, PAC conducted a project on 'Citizen Monitoring of Fair Price Shops' in Karnataka state, wherein it was noticed not only based on anecdotal evidence but empirical evidence on ground that the citizen vigilance committee members were not discharging their duties as expected.

Understanding the Demand Side

Attributes currently used in evaluating the performance of the FPS:

In the overall scheme of the Public Distribution System, the Fair Price Shops hold the key to fulfill the objectives governing the system by ensuring delivery of the services at the last mile i.e., delivering food grains to the all the beneficiaries covered under the scheme in a timely manner and at the cost prescribed by the government. They are ultimately responsible for access of food grains that each beneficiary is entitled to under the scheme in the most transparent and efficient method. For this, the shop has to comply with the rules and regulations as laid down by the Government. The Central and State guidelines, including Karnataka Essential Commodities Public Distribution System (Control) Order, 2016 have specified these guidelines with the aim of making it consumer-friendly, informative and transparent.

- 1 This section presents the findings of the study on the ground as compared to the norms prescribed by the Government, identify areas of improvement and discuss steps for improvement
- 2 The “compliance” measured is derived from the principal survey instrument for observation of FPS functioning. The Monitoring Checklist checks compliance (through “Yes/No” questions etc.) over a range of indicators. To assess the compliance indicators on ground, data was systematically collected during 3 monitoring visits to the FPS in an interval of 1 month and each visit of 2 hours each were made by the CMs. It comprised of inspecting the FPSs and checking the FPS on 6 parameters of compliance i.e., in terms of display boards, maintenance of records, utilisation of the biometric system, adequate storage space for food grains and kerosene, hygiene of the FPS as well as the perception of the citizen monitors (CMs) with regard to the working of the FPS and the behaviour of the FPS owner. The range of indicators used to measure this through the Monitoring visit checklist is derived from the above-mentioned Acts and guidelines.



The “metric” by which the compliance was measured was by the shift in the compliance between the 1st Monitoring visit to the shop by the CMs and 3rd Monitoring visit to the shop. The results of the monitoring visits to the FPSs by the trained Citizen Monitors has been the measure to determine the ideal model for the monitoring committee and the standardised process to be suggested for implementation on a large scale.

District Comparison

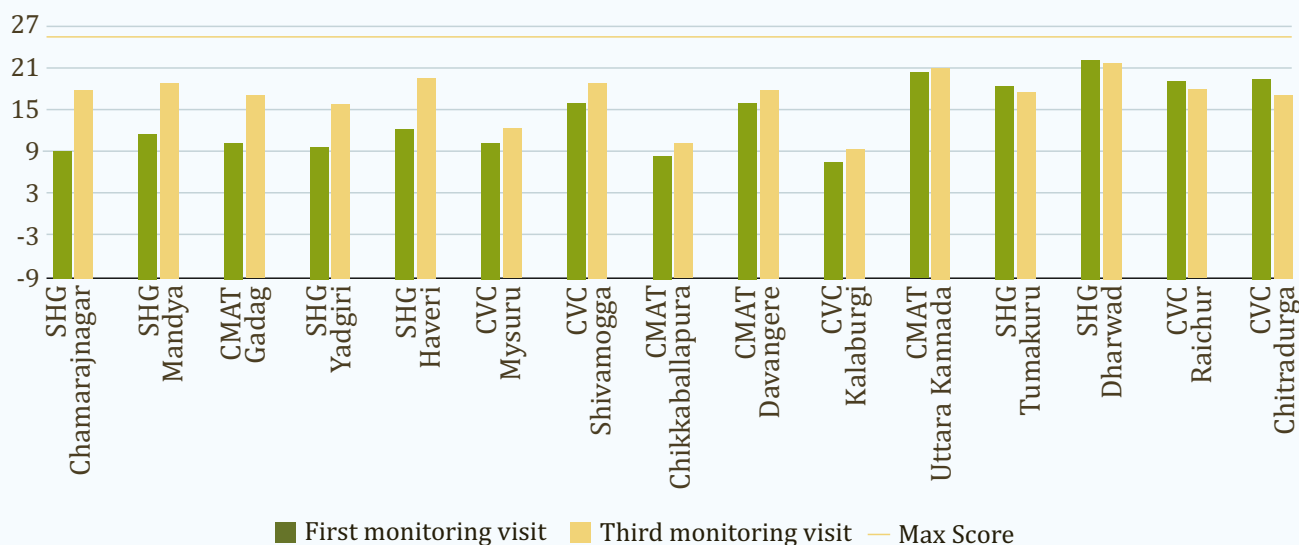


Figure 14: Year 2 district wise comparison of change in compliance

The shift in the compliance as depicted in the graph above has been because the FPS owners had been responding positively to the questions raised by the beneficiaries. For example, some FPS owners have started charging the correct amounts for entitlements; further, they are displaying information boards and samples as per regulations at their FPS. FPS owners are mandated to maintain 5 registers regarding stock & uptakes, etc. After the intervention, some FPS owners have started regular updating and maintenance of all the registers.

Based on the learning from the intervention in 5 districts of Karnataka in Year-1, PAC modified the research design of the intervention in Year 2. In Year 2, three different models were tested in the 15 districts (5 districts followed on model) to understand the extent to which they could bring about changes in their shops. The monitoring visit reports by the CMs included the generation of a compliance score tracked over the year and, on this metric, it was found that CM teams constituted by members of women's self-help groups (SHGs) elected by their community were by far the best model to improve FPS functioning.

Model-wise shift in compliance(%age)

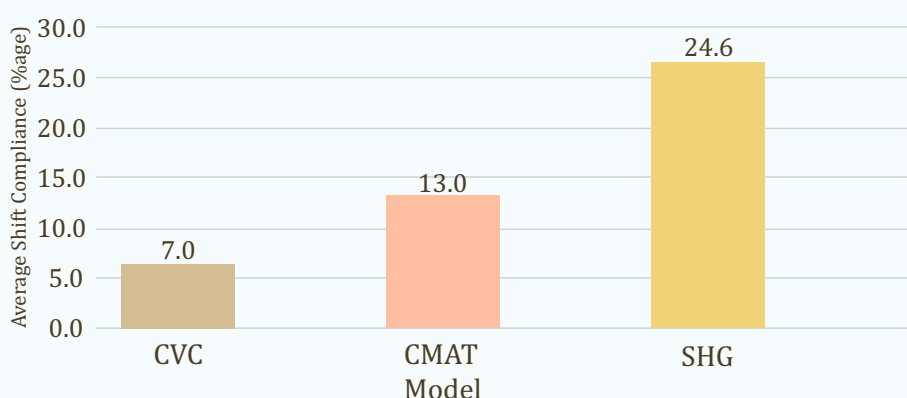


Figure 15: Model-wise % increase in FPS compliance

Figure 10 represents the increase in compliance, measured between the first and third monitoring visits, and averaged across all available data per model. All the three models showed a positive progress towards improving the compliance of the shops with significant roles played by each of the CM. But as per the research questions, the model which showed the maximum shift in the metric was to be pilot tested in 10 districts in Year 3. Hence, it has been identified clearly from the data that the SHG model shows a disproportionate increase in compliance of FPS of more than 25%.

On the basis of this, the SHG model of CMs was piloted tested in 10 districts to get an in-depth understanding of the possible enablers making this model successful. The details of the same will be discussed in the following sections. The scores of the 6 FPS in all 25 districts (Year 2 & Year 3) which were selected were consecutively monitored thrice for compliance in the form of visits and the results for the same are as visualised in the figure 14

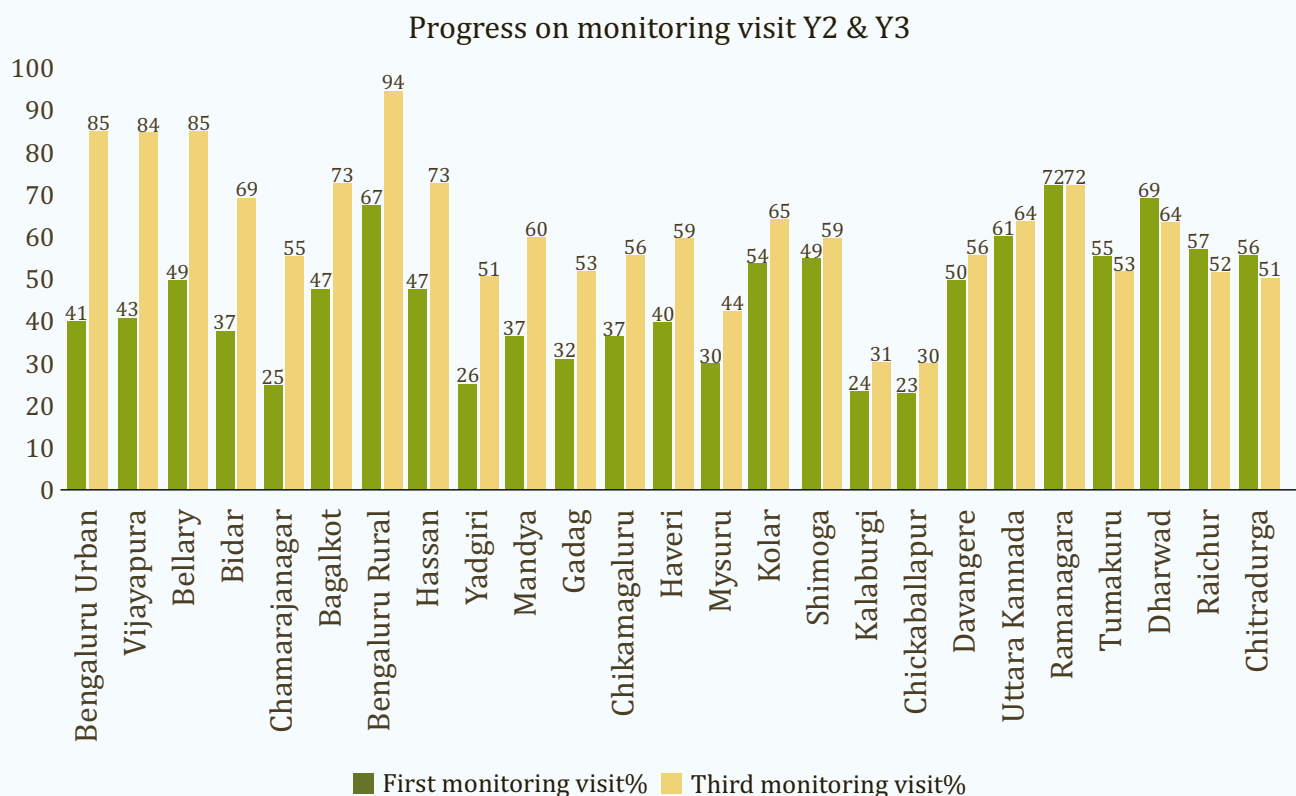


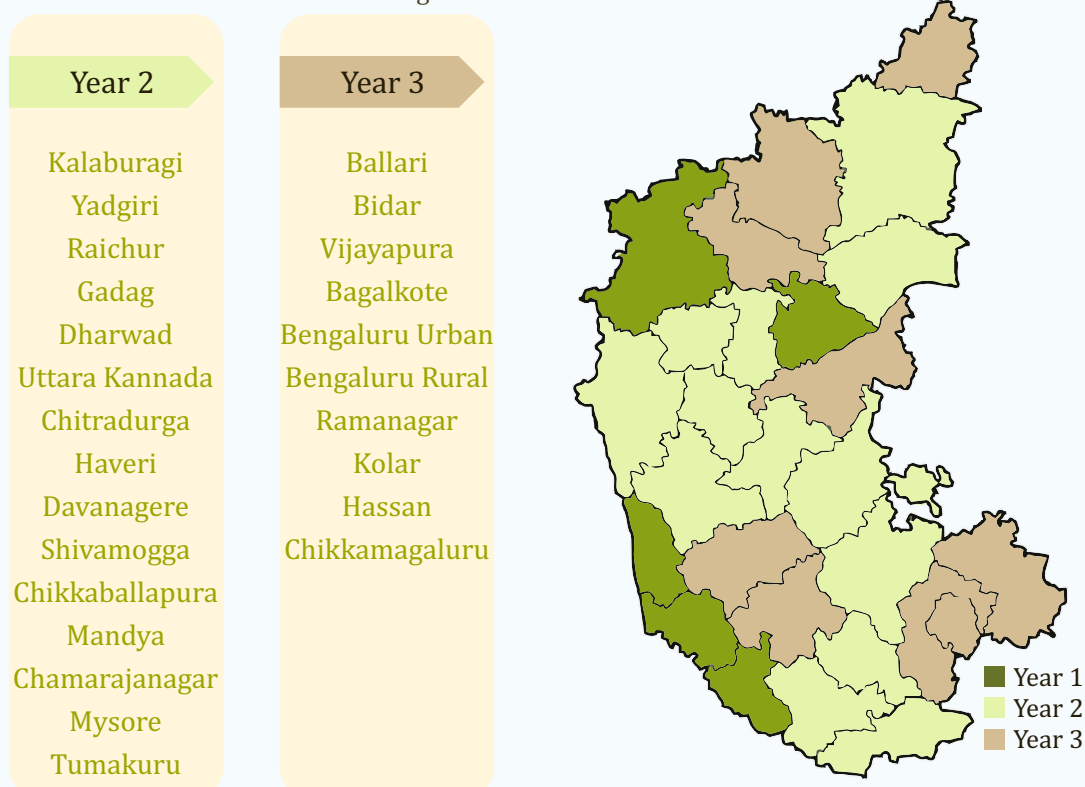
Figure 16: District-wise comparison of Compliance for Year 2 & Year 3

SHG Districts	Progressive Districts
Bengaluru Urban	From the above graph, it can be observed that 81% of the Self-Help Group (SHG) districts have shown a massive change in compliance scores. The SHG districts which have shown exceptionally well scores are Bangalore Urban (increase in compliance by score of 44 from the baseline to endline), Vijayapura district (increase in compliance by score of 41 from baseline to endline), Bellary district (increase in compliance by score of 36 from baseline to endline), Bidar district (increase in compliance by score of 32 from baseline to endline), Chamarajanagar district (increase in compliance by score of 30 from baseline to endline), Bagalkot district (increase in compliance by score of 26 from baseline to endline), Bangalore Rural district (increase in compliance by score of 27 from baseline to endline), Hassan district (increase in compliance by score of 26 from baseline to endline), Yadgiri district (increase in compliance by score of 25 from baseline to endline), Mandya district (increase of compliance by score of 23 from baseline to endline), Chikkmagaluru district (increase in compliance by score of from 19 in baseline to endline), and Haveri district (increase in compliance of 19 from baseline to endline).
Vijayapura	
Bellary	
Bidar	
Chamarajanagar	
Bagalkot	
Bengaluru Rural	
Hassan	
Yadgiri	
Mandya	
Chikkmagaluru	
Haveri	
Kolar	
Ramanagara	
Tumakuru	
Dharwad	

The shops that have shown negative performance i.e., decrease in the performance (Chitradurga, Raichur, Tumkuru, and Dharwad) or no change in score like Ramanagara is because of the following:

- i. The FPSs owners here were politically influential and were not ready to cooperate with the CMs
- ii. Many instances the Citizen Monitors have also been harassed discouraging them to dialogue with the FPS owners
- ii. In Chitradurga and Raichur the CVC model was followed (i.e government selected members were re-elected) and did not actively participate in the process.

Note: Year 2 and Year 3 covers the following districts



The detailed results of the performance of 25 shops to all the compliances are as follows:

1 **Display of information:** Checks for presence of various display boards.

In Year 2, it was observed that, in the first monitoring visit i.e., the baseline 2% of the FPSs did not maintain any boards in the FPS, 40% of the FPSs had maintained at least 7 boards, 21% of them had maintained 8-10 boards, 29% of the FPSs had maintained 11-13 boards whereas only 8% of the FPSs had all 14 mandatory boards.

In a similar way, after three rounds of monitoring visits in Year 2, i.e., endline, it was observed that most of the FPSs complied by the rules, as it can be seen, at least 19% of the shops had up-to 7 boards that were displayed, 21% of the shops had up-to 8-10 boards, 52% of the FPSs had maintained 11-13 boards and only 8% of the FPSs had all 14 mandatory boards. By the end of three monitoring visits, there was an improvement of display boards by 23%.

In Year 3, it was observed that, in the first monitoring visit, i.e., the baseline most of the FPSs were complying by the rules and regulations of PDS; 42% of the FPSs had maintained upto 7 mandatory boards, 25% of the FPSs had maintained up-to 8-10 boards, 25% of the FPSs had maintained up-to 11-13 boards and only 7% of the FPSs had maintained all 14 mandatory boards.

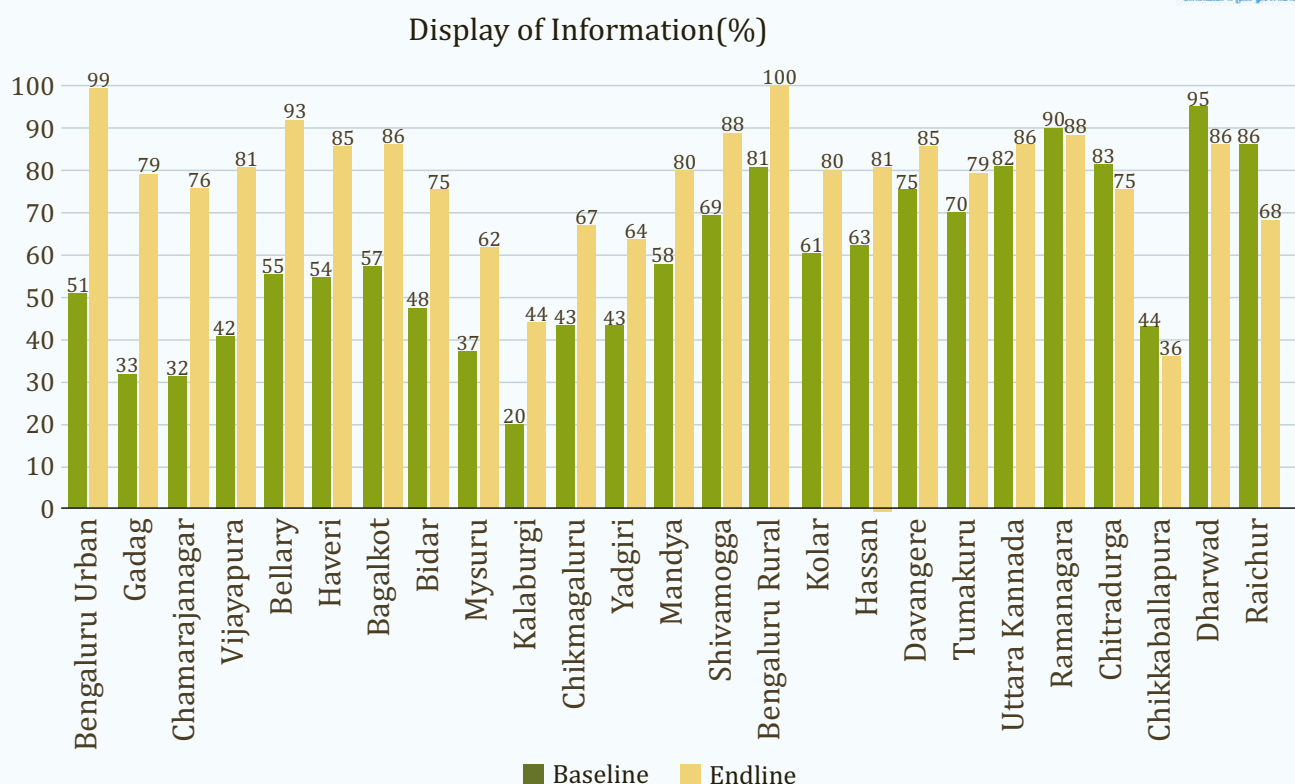


Figure 17: District-wise change in Compliance for Display of information (Year 2 & Year 3)

In a similar way, after three rounds of monitoring visits in Year 3, i.e., end line, it was observed that 2% of the FPSs had not maintained any of the boards; 5% of the FPSs had maintained at least 7 boards; 15% of the FPSs had maintained up-to 8-10 boards; 42% of the FPSs had maintained up-to 11-13 boards and 35% of the FPSs had maintained all 14 mandatory display boards. By the end of three monitoring visits, it was observed that there was an improvement of 17%.

- 2 **Timings maintained by the shop:** In Year 2, it was observed that in the first monitoring visit, 66% of the FPSs had followed the official timings of the FPS from 8AM to 8PM however, after three rounds of monitoring visits, it was observed that, 76% of the FPSs and FPS owners complied by the rules and opened the FPS on all the days of the month. By the end of three monitoring visits, it was observed that there was an improvement of 10%.

In Year 3, it was observed that in the first monitoring visit, 42% of the FPSs had followed the official timings of the FPS from 8AM to 8PM. After three rounds of monitoring visits, it was seen that 79% of the FPSs followed the official timings of the FPS as per the norms. By the end of three monitoring visits, it was observed that there was an improvement of 37%.

- 3 **Maintenance of records:** The records which need to maintain as per the Citizen Charter are complaint register, inspection book, minute's book of VC meetings, receipt book and official investigation register.

In Year 2, it was observed that in the first monitoring visit i.e., baseline, 21% of the FPSs had not complied with the standard norms and had not maintained any of the records, 31% of the FPSs had maintained and updated at least 2 records, 36% of the FPSs had maintained up-to 3-4 records and 12% of the FPSs had maintained all 5 mandatory records.

Consequently, in the third monitoring visit, i.e., end line, 16% of the FPSs had not complied by the norms and did not maintain any of the records, 18% of the FPSs had maintained at least 2 records, 32% of the FPSs had maintained up-to 3-4 records and 34% of the FPSs had maintained and updated all 5 mandatory records. By the end of three monitoring visits, there was an improvement of 22% in the maintenance of records.

In Year 3, it was observed that in the first monitoring visit i.e., baseline, 32% of the FPSs had not complied by the standard norms and had not maintained the records, 43% of the FPSs had maintained at least 2 records, 20% of the FPSs had maintained up-to 3-4 records and only 3% of the FPSs had maintained all 5 mandatory records.

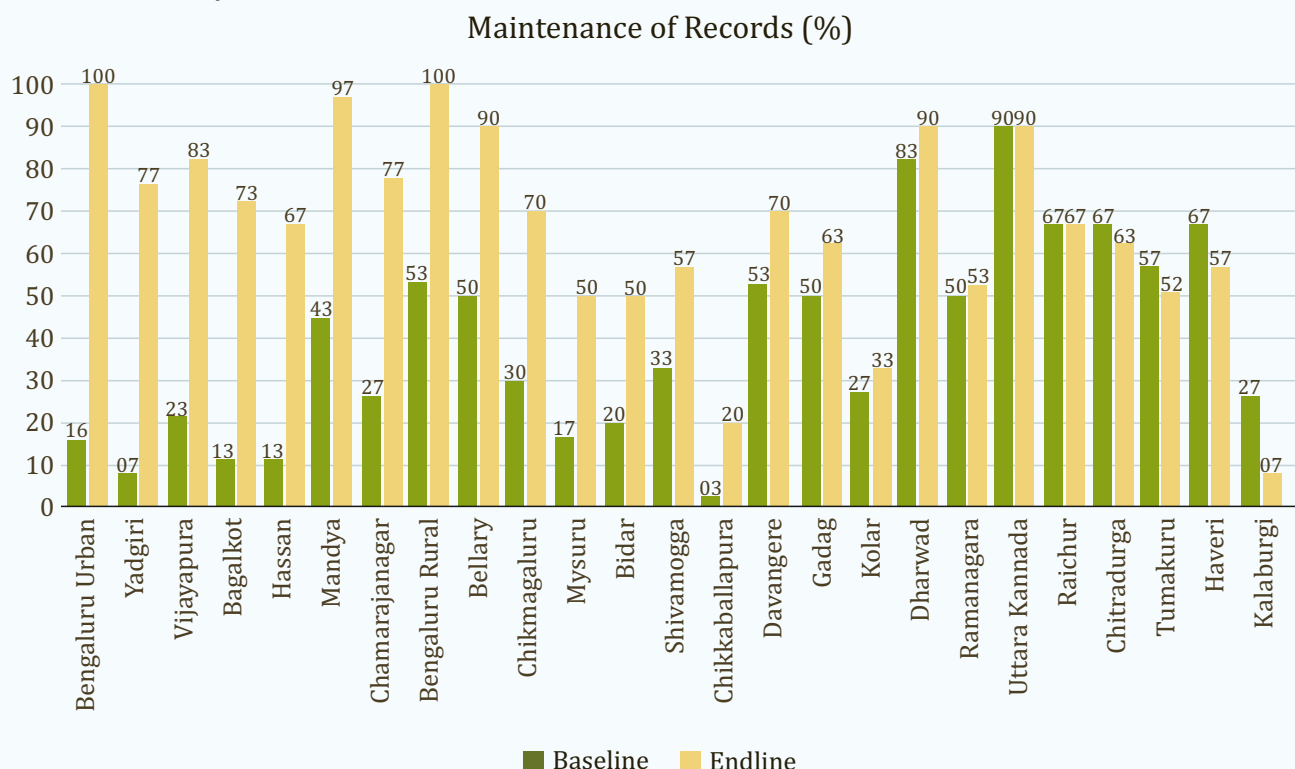


Figure 18: District-wise change in Compliance for Maintenance of records (Year 2 & Year 3)

Consequently, in the third monitoring visit, i.e., end line, 10% of the FPSs had not complied by the standard norms and had not maintained the records, 13% of the FPSs had maintained at least 2 records, 33% of the FPSs had maintained up-to 3-4 records and 42% of the FPSs had maintained and updated all 5 mandatory records. By the end of three monitoring visits, there was an improvement of 39% in the maintenance of records.

- 4 **Utilization of biometric system:** Whether the machine is installed and is working efficiently in terms of identifying the fingerprints of the beneficiaries without hassles and to be recognised in the shortest time span.

In Year 2, it was observed that in the first monitoring visit, i.e., baseline, 10% of the FPSs did not have a working biometric system and 90% of the FPSs had maintained and utilised the biometric system to distribute essential food commodities to the beneficiaries. Subsequently, in the third monitoring visit i.e., endline the percentages of non-working and working remained unchanged.

In Year 3, in the first monitoring visit, i.e., baseline, 3% of the FPSs did not have a working biometric system and 97% of the FPSs had maintained and utilised the biometric system to distribute essential food commodities to the beneficiaries. Subsequently, in the third monitoring visit, i.e., end line, 2% of the FPSs did not have a working biometric system and 98% of the FPSs had maintained and utilised the biometric system to distribute essential food commodities to the beneficiaries.



- 5 **Working electronic machine:** In Year 3, it was observed in the first monitoring visit that, 92% of the FPSs had a working electronic weighing machine. However, in 5 FPSs, it was observed that there was the working electronic weighing machine was not working in; In addition to that, it was also observed that there was absence of weighing machine reported in 4 FPSs in Chikkamagalur district i.e., Bettadamane FPS, Aldur FPS and Bilugula FPS and Channakeshava Nagar FPS at Bangalore Urban district and Alamatti FPS, in Vijayapura district.

However, after three rounds of monitoring visits, it was observed that, 93% of the FPSs had a working electronic weighing machine. However, in 4 FPSs there was an absence of weighing machine reported in Bettadamane FPS, Aldur FPS and Bilugula FPS in Chikkamagalur district and Alamatti FPS in Vijayapura district. After three rounds of monitoring visits, there was an improvement of 1%.



- 6 **Fair Price Shop maintenance:** Sufficient space for storage and retailing and separate for food and kerosene.

In Year 2, it was observed that in the first monitoring visit, i.e., baseline, 4% of the FPSs did not have either a sufficient space or a separate space to store food grains and kerosene, 30% of the FPSs had sufficient space for storage and retailing but lacked a separate space and 66% of the FPSs had sufficient as well as separate space for kerosene and food grains.

In the following third monitoring visit, i.e., end line, 4% of the FPSs did not have either a sufficient space or a separate space to store food grains and kerosene, 33% of the FPSs had sufficient space however, lacked a separate space and 62% of the FPSs had access to sufficient as well as a separate space for kerosene and food grains.

In Year 3, it was observed that in the first monitoring visit, i.e., baseline, 27% of the FPSs did not have access/ did not have a sufficient or separate space to store food grains and kerosene; 28% of the FPSs had sufficient space for storage of food grains but lacked a separate space for kerosene and food grains; 43% of the FPSs had sufficient space as well as a separate space to store food grains and kerosene.

In the following third monitoring visit, i.e., end line, 25% of the FPSs had insufficient spaces to store food grains and kerosene; 28% of the FPSs had a dearth of space for storing kerosene and 45% of the FPSs had enough space to store food grains and kerosene. By the end of three monitoring visits, it was observed that, there was an improvement of 2% in terms of storage space.

- 7 **Prevalence of malpractices in the FPS:** In Year 2 and Year 3 if the CM suspects or observes any black-market diversion of grains, or other wastage or corruption it was recorded in this section. In Year 3, overcharging while buying food grains or charging for using the biometric machine and if the FPS owner forced beneficiaries to buy other items in the shop was listed under this category.

In Year 2, it was observed that in the first monitoring visit, 86% of the FPSs did not show any indication of malpractice however, 14% of the FPSs showed a certain degree of malpractice. Consequently, in the third monitoring visit, 87% of the FPSs did not show any indication of malpractice however, 13% of the FPSs still showed a certain degree of malpractice, it could not be curtailed. After three rounds of monitoring visits, there was an improvement of 1% in the FPSs.

In Year 3, it was observed that in the first monitoring visit, 85% of the FPSs did not show any indication of malpractice however, 13% of the FPSs showed a high degree of malpractice and diversion of food grains; Consequently, in the third monitoring visit, 93% of the FPSs did not show any indication of malpractice, but, 7% of the FPSs still showed a high degree of malpractice. After three rounds of monitoring visits, there was an improvement of 6% in the FPSs in bringing down malpractice.

- **Overcharging for food grains:** In Year 3, in the first monitoring visit 17% of the FPS owners were charging the beneficiaries a nominal fee for using the biometric system. Consequently, in the third monitoring visit it was found that, 8% of the FPS owners are still charging the beneficiaries for the usage of the biometric system. While the SHG citizen monitors were able to bring it down by 11% some of the shops owners still continued the practice due to non-cooperation from the owners and high political interference eg: few FPSs in Kolar and Chikmagalur.
- **Forcing the beneficiaries to buy other commodities:** In Year 3, it was observed that in the first monitoring visit, that about 15% of the FPS owners forced beneficiaries to buy other commodities such as soaps, detergents or incandescent bulbs, and so on. Majority of the cases were observed in Bangalore Urban District (50%) and in Bidar (50%).

Consequently, in the third monitoring visit, 95% of the FPS owners did not force the beneficiaries to buy other commodities, nonetheless, 5% of FPS owners were forcing the beneficiaries to buy other commodities. Majority of the cases were observed in Bangalore Urban and Bagalkot districts.

- 8 **Hygiene of food commodities:** In Year 2, data was collected on the quality of food grains provided by the Department and this was reported based on the presence of lumps, other contaminants like foreign particles and so on. But this indicator was dropped in Y3 as suggested by the Commissioner of Food and Civil Supplies. It was suggested that since the measurement of the quality of food grains required technical knowledge, subjective determination of the indicator would lead to incorrect results.

Based on this learning and PAC's observation on the ground, in Year 3, the CMs only observed certain practices like the method used to transfer grains in the Fair Price Shops to the beneficiary's bag to check on hygiene.

In Year 3, it was observed that in the first monitoring visit, before PAC's intervention on the worst-case fair price shops, 46% of the FPSs were not following hygienic practices however, a tarpaulin was being used while distributing food grains; 15% of the FPSs did not maintain cleanliness and the hygiene of the FPS was low since the food grains used to be spread on the floor while distributing and stepped on by the distributor whereas only 39% of the FPSs used to maintain cleanliness and used to transfer grains from sack to sack.

Even after three rounds of monitoring visits, it was observed that, 54% of the FPSs were not following hygienic practices however, a tarpaulin was being used while distributing food grains, whereas 5% of the FPSs did not maintain cleanliness and hygiene of the FPS was low since the food grains used to be spread on the floor while distributing and imprinted with the FPS owner/ dealer's sole, 41% of the FPSs had improved their FPSs in terms of hygiene and transferred the grains from sack to sack to the beneficiaries of the FPS. After three rounds of monitoring visits, there was an improvement of 2% in the FPSs.

Pest control measures: In Year 2, it was noticed that, in the first monitoring visit, 62% of the FPSs had taken pest control measures however, after three rounds of monitoring visits, there was an improvement of 9% and 71% of the FPSs had taken pest control measures and ensured that hygiene was maintained.

These indicators are not mandatory as per the guidelines but PAC collected data to study the cleanliness practiced at the shop and quality of food grains maintained by the them.

CM Awareness Results

The initial and final awareness indicators comprised of understanding of the citizen monitors on the portability of ration cards i.e., being able to purchase food grains in from any shop across Karnataka; their entitlements eg: amount of rice Antyodaya Anna Yojana (AAY) beneficiaries are entitled to; the price for toor dal; the knowledge regarding the mandated official timings of the FPS i.e., from 8AM to 8PM and the awareness of the helpline number to register complaints with the department.

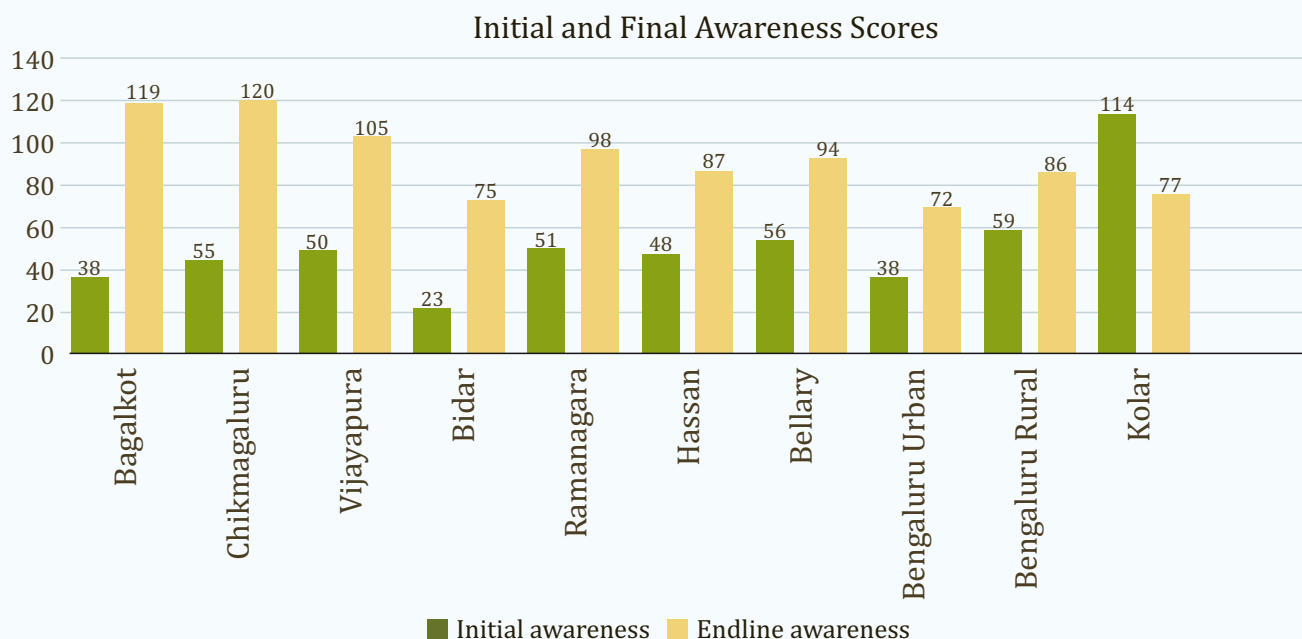


Figure 19: Change in the awareness levels of CMs in Year 3

On an average it was observed that 53% of the SHG CMs were aware about the basic functionalities before the training was provided to them.

In Year 3 districts, it can be observed that awareness levels of all the districts except for Kolar have shown an exceptional increase exponentially from pre and post-training. On an average, it was observed that after the training and three rounds of consecutive monitoring visits, there was a massive jump of 40% in the awareness levels that is 93% of the SHG CMs were aware about the basic functionalities and rules and regulations of the PDS, their entitlements and the GR mechanisms in the government.

Understanding the Supply Side:

As indicated earlier, within the scope of the study and other limitations, the project attempted to study the situation of the supply side by understanding the awareness levels of the FPS owner, support they require from the Department, and so on. The data was collected from 150 Fair Price Shop Owners or the managers involved in the daily functioning of the shop.

FPS owner awareness:

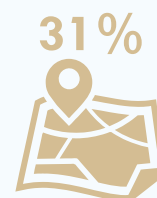
In Year 2, it was observed that the awareness levels of the FPS owner was low in certain aspects such as only 11% of the FPS owners were aware about the objectives and history of National Food Security Act (NFSA), 18% of the FPS owners were aware about the origin of the PDS. It was necessary to understand the awareness levels of the FPS owner. Based on the perception of FPS owners, 46% of the FPS owners stated that the PDS commenced due to droughts, floods and war conditions, 14% stated that it commenced due to inflation, 14% of FPS owners stated that it was due to regulate market imperfections, 79% of FPS owners stated that it was to alleviate people from poverty, 17% of the FPS owners stated that it was due to lack of distributive justice and 26% of the FPS owners stated that it was to check on market prices.

Objectives of PDS as per Govt.

Based on their perception, 57% of the FPS owners stated that the main objective of PDS as per the Govt is to supply essential commodities at reasonable prices; 77% of FPS owners stated that it was per the Govt is to supply essential commodities at reasonable prices; 77% of FPS owners stated that it was stated that it was to serve the poor and vulnerable sections of the society; 49% of FPS owners stated that it was to do social service for all the sections of the society; 24% of the FPS owner stated that it was to prevent black marketing; 17% of the FPS owners stated that it was for proper and equitable distribution of food grains and 6% of FPS owners stated that it was to stabilise the prices.

In Year 2, the findings indicated that, on an average 90 FPS owners travelled about 86 KMSs to reach the FPS. Additionally, 88% of the FPS owners were residing in the same locality (village/ward) and travelled about 3-5 kms to reach the FPS, 8% of the owners travelled about 10 to 15 kms to reach the FPS and 4% of the owners since they were not residing in the same village as the FPS, travelled from a distance of about 45 to 90 kms to reach the FPS.

In Year 3, the findings indicated that, on an average 59 FPS owners travelled about 66 KMS to reach the FPS. Additionally, 31% of the FPS owners were not residing in the same village as the FPS and travelled from a distance of 100-500 kms whereas on the other end, 19% of the FPS owners were visiting the FPS from a distance of 15-50 kms and rest 50% were in the close vicinity and were residing in the same village.



31 %
of the FPS owners
not the residents
locality as the FPS

Support requested from Govt to FPS owners:

To improve the existing system and to also make it service-provider friendly, inputs and suggestions from FPS owners were also taken.

- 81% of the FPS owners stated that the commission margin on sales and salaries need to be increased
- 71% of the FPS owners stated that the trainings should be provided by the Dept of FCS to better manage the FPS
- 68% of the FPS owners stated that strict actions and legal measures need to be taken to prevent corruption and prevailing malpractice.
- 64% of the FPS owners stated that timeliness of the delivery and correct quantity of delivery should be improved
- 59% of the FPS owners stated that quality of delivery needs to be improved
- 58% of the FPS owners stated that the capacity building workshops need to be conducted for beneficiaries to monitor the FPS
- 56% of the FPS owners stated that more cooperation is needed from the village and GP leaders
- 56% of the FPS owners stated that citizen vigilance committee members need to be actively participating
- 47% of the FPS owners stated that the food inspector visits should be increased
- 47% of the FPS owners stated that they need better monitoring to stop systemic pilferages.

FPS owner awareness:

In Year 3, it was observed that, 81% of the FPS owners are aware about the Act which governs Targeted Public Distribution System (TPDS), 3% of the FPS owners stated that the main reason for the origin of TPDS was in order to protect against drought and famine conditions in cities and villages.

80% of the FPS owners are aware about the portability of ration cards. 69% of the FPS owners have read the citizen charter, 58% of the FPS owners were aware about the rules and regulations of NFSA and 49% of the FPS owners stated that they were provided training and awareness programs.

Role and effectiveness of government appointed CVCs

According to the National Food Security Act (2013), the main functions of the Citizen Vigilance Committee is to:

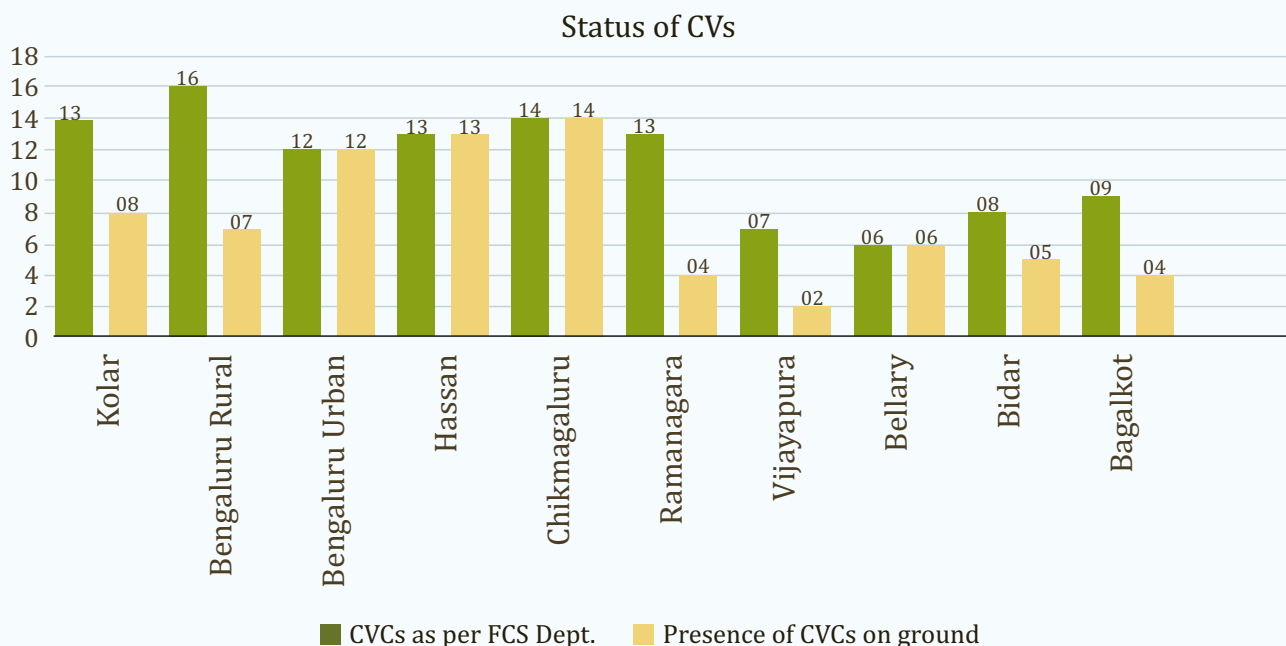


Figure 20: Status of Govt. appointed CVCs in 59 shops (Year 3)

- 1 Regularly supervise the functioning of the fair price shops
- 2 Inform the District Grievance Redressal Officer, in writing, of any violation of the provisions of the Act
- 3 Inform the District Grievance Redressal Officer, in writing, of any malpractice or misappropriation of funds found by it
- 4 Hold Quarterly meeting in the state on a notified date
- 5 Take immediate actions regarding the consumer grievances.

This exercise was carried out in order to assess and understand the presence/absence of citizen vigilance committees on ground.

The methodology followed was that the CVCs details for the selected FPSs were collected for the 10 districts, 59 FPSs under 30 taluks from the official website of Food, Civil Supplies and Consumer Affairs (FCS) department. The basic details such as name of the CVC member, age, a brief and address of VC was provided to the District Level Partner Organisations (DLPOs). Thereafter, DLPOs had telephonic interviews with the CVCs who were reachable with the help of the concerned Food Inspectors and FPS owner as the phone numbers were not available. When this activity was conducted it was found that majority of the VC members were unknown to the respective Food Inspectors/ FPS owners and the contact details of the beneficiary was invalid/ had changed. The implications of these factors are that they were inaccessible and unavailable of the FPS to resolve certain minor issues and provide awareness to beneficiaries on rights and entitlements.

The evidence shows that:

111

CVC Members Identified
for 10 Districts in State

75

Active CVC Members

Totally 111 CVC members were identified based on the government website and only 75 were accessible to speak to on the ground.

In Kolar district 13 citizen vigilance committee (CVC) members were identified, of which 62% of the CVC members were residents of the and were aware and informed by the Department of FCS. However, none of the CVC members were provided training or the roles and responsibilities. One of the CVCs attended one monitoring visit to the respective FPS.

In Bangalore Rural district, 16 CVC members were identified, of which only 7 CVC members were aware and informed by the FPS owner. However, none of the CVC members were provided training or the roles and responsibilities. One of the CVCs attended one monitoring visit to the respective FPS. Additionally, it was also observed that most of the CVCs were above the age of 60 and were not able to actively work.

In Bangalore Urban district, 12 CVC members were identified, of which all 12 CVC members were aware and informed by the FPS owner. However, only 1 member was provided training and roles and responsibilities. All 12 members have visited and monitored the FPS and 9 members have attended monthly Ahara Adalath meetings. However, none of the members were given remuneration except for 1 member.

In Hassan district, 13 CVC members were identified, of which all 13 CVC members were aware and informed by the FCS department. However, none of the members were provided training and roles and responsibilities. None of the members have visited and monitored the FPS. Additionally, it was observed that the FPS owner was not aware about the existence of the CVCs.

In Chikmagalur district, 14 CVC members were identified, of which all 14 CVC members were aware and informed by the FCS department. However, none of the members were provided training and roles of responsibilities. None of the members have visited an FPS to check the compliance of the shops.

In Ramanagara district, 14 CVC members were identified, of which only 4 members were aware and informed by the FCS department. 4 members were provided training but, only 3 members were aware about the roles and responsibilities. Additionally, it was observed that few CMs were a part of Ahara Adalath meeting twice.

In Vijayapura district, 7 CVC members were identified, of which only 2 members were aware and informed by the FPS owner. None of them were provided training or roles and responsibilities. Additionally, since they have been appointed newly, they have been informed by the FPS owner that the training would be conducted.

In Ballari district, 6 CVC members were identified, of which only 6 members were aware and informed by the FPS owner. None of them were provided training or roles and responsibilities.

In Bidar district, 8 CVC members were identified, of which only 5 members were aware and informed by the FPS owner. None of them were provided training or roles and responsibilities. Additionally, it was observed that the members were disinterested/engaged in other work.

In Bagalkot district, 9 CVC members were identified, of which only 1 member was aware and informed by the FPS owner and the rest were unaware. None of them were aware about the roles and responsibilities.

Gap Analysis

Note: The matrix was created only for Year 3 of PAC's intervention and has analysed data from only the 10 districts of Y3.

The matrix was created based on the hypothesis and research questions mentioned in the methodology section (page no. 11) a data framework comprising of various main constructs such as FPS performance which encompassed mandatory and desirable outcomes (availability, accessibility, hygiene and transparency and FPS owner awareness as per the rules and regulations of PDS), and an SHG construct which included social capital, leadership ability of the SHG members, experience of the SHGs, literacy, community engagement and awareness of the SHG CMs.

Correlations with respect to each main construct and sub-construct under the main construct, correlations between variables of the main construct and across constructs was accomplished to establish, assess and understand the relationships.

Pairwise Correlations (SHG_SP_FPS)-delta(endline-baseline)

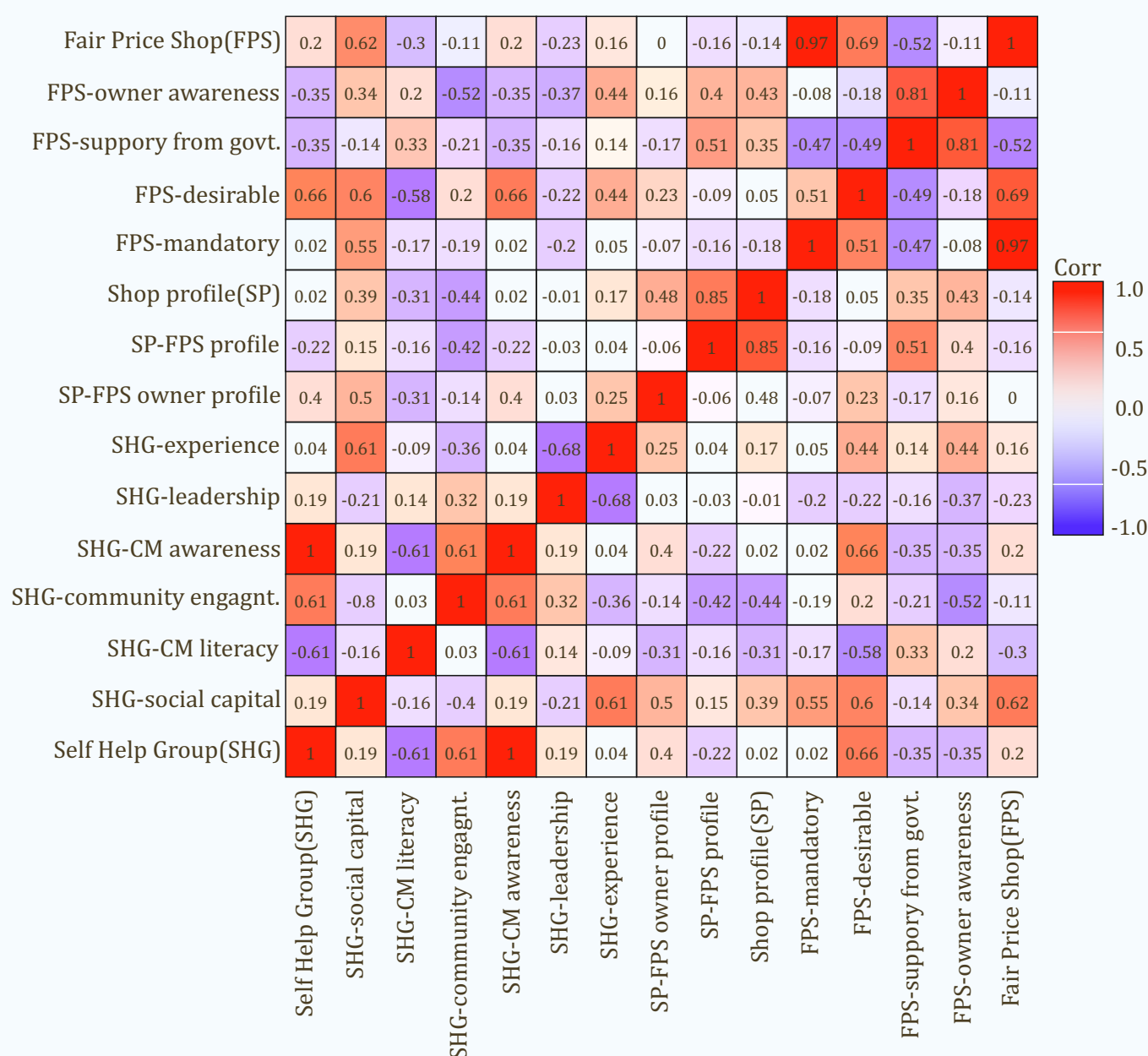


Figure 21: Data matrix derived from pairwise correlations (Year 3)

From the above matrix, the results can be depicted as follows:

- It can be observed that SHG construct is positively correlated with the Citizen monitor awareness (value=1) with a i.e., it can be stated that as the capacity building workshops for citizen monitors are increased on rights and entitlements and functioning of the FPS, the awareness of the CMs are improved drastically.
- The overall FPS performance shows high correlation with mandatory outcomes (value=0.97) which comprises of maintenance of display boards, records, storage and malpractice. This implies that mandatory outcomes highly influence the overall FPS performance construct and hence higher the compliance, greater the overall performance of FPS.
- Shop profile is highly correlated with FPS profile (value=0.85) which includes indicators related to FPS ownership type. This indicates that the FPS run by SHG, Govt or Private entities can influence the shop profile.
- FPS owner awareness is highly correlated with the FPS support from govt. (0.81). This indicates that if the Government extends its support to the FPS owner by increasing the frequency of food inspector (FI) visits or Tehsildars, support from FIs has high correlation with the awareness levels of the FPS owners measured based on their knowledge on objectives of PDS, entitlements of beneficiaries and GR procedures.
- FPS performance is highly correlated with the desirable outcomes (value=0.69). This indicates that hygiene is an important parameter that the FPS has to follow.
- SHG construct is highly correlated with desirable outcomes (value=0.66). This indicates that the SHG model has been able to influence the hygiene of the FPS positively.
- SHG construct is positively correlated with the overall FPS performance indirectly.
- CM literacy is negatively correlated with awareness of CMs. (value=-0.61). This indicates that educational qualifications do not hamper the awareness level of a CM regarding the rights and entitlements and functioning of the FPS. This implies that citizen monitors elected need not compulsorily have educational qualifications to monitor their FPS but trained with actionable knowledge to improve their FPS performance. Additionally, CM awareness is positively correlated with desirable outcomes under FPS performance.
- Overall FPS performance construct is positively correlated with social capital of SHGs. This implies that higher/larger the social capital network of a CM, the overall performance of the FPS will get better.
- Social capital is positively correlated with mandatory sub-construct. This indicates that CMs elected under the SHG model are likely to have high influence on the mandatory compliance of an FPS. (Compliance constitutes display of information, maintenance of records, hygiene of the FPS, cleanliness of the FPS, storage etc).
- Community engagement sub-construct was highly correlated with SHG construct. This indicates that community engagement has a higher correlation with the overall SHG construct.
- CM literacy was found to be negatively correlated with the overall SHG construct. This indicates that the educational qualification of the citizen monitor does not matter.

Discussion

Concerns from the demand side:

In order to improve the system, PAC attempted to first understand the localised problems pertaining to each shop through the 1st special Gram Sabha. The exclusive discussions and dialogues pertaining to food security, accountability and then certain concerns and demands raised by the beneficiaries participating in the meeting, acted as a catalyst to start solving problems together. The meetings ensured that the voices of concerns were addressed or attempted to address regardless of who it came from. By ensuring that the concerned officials and the most important influencers were present some of the concerns were addressed on the spot but also provided a platform for the concerned officials to meet the beneficiaries.

Electing the Citizen Monitor rather than “selecting” them from PAC’s side has been a very important learning from the project.

The second round of Grama Sabhas was designed to inform the community members of the changes brought about by the Citizen Monitoring teams in their respective shops. This in a way ensured the accountability of the citizen monitors to the community members, gave them a sense of ownership and confidence in the work carried out by them during the intervention period and accept some of the concerns that they were unable to resolve in the given timeframe.

Creative methods to invite and inform beneficiaries along with constant follow up for the Gram Sabhas saw a total attendees count of 26,775 participants out of which 21,542 participants were women for the first- and second-Grama Sabha over the three years. Advanced data analysis shows that the Community engagement sub-construct was highly correlated with SHG construct. This indicates that community engagement has a higher correlation with the overall SHG construct.

The project has also been affected by the strong local power dynamics in this process sometimes and this was more strongly exhibited during the elections of the Citizen Monitors. Effective capacity building provided to the staff of the DLPOs and their past experiences of working with the communities aided in tackling difficult situations. The project acknowledges that despite the capacity building programmes and other procedures that were followed beforehand, the power dynamics had negative influence in a few cases. Example, a relative of the FPS owner, unknown to the DLPO staff was ensured to be elected in the monitoring team.

After the Citizen Monitors were elected as per the criteria based on the project's research questions, they were trained by the DLPO staff. The training started with an initial awareness test for each member, followed by training and then the first monitoring visit to their respective FPS. The results of the following visits of all the teams have been discussed below, indicator-wise.

- 1 **Display of information boards:** The intent of displaying information is to educate the beneficiaries on their rights and entitlements and availability, affordability and accessibility of the food commodities, rules and regulations a shop should follow. When the norms or standards are not made known of, it is difficult for the beneficiaries to demand for greater accountability.

As per the PDS Control Order (2001), the duties and responsibilities of the Fair Price Shop owners are that the essential commodities must be sold as per the entitlement of ration card holders and at the retail issue prices fixed by the Government of Karnataka.

Each fair price shop is mandated to display the following information in the form of display boards or actuals which are to be placed at a prominent location in the shop on a daily basis:

Name of the FPS and FPS owner

License number of the shop

Working days and hours to indicate the beneficiaries about the accessibility and availability of ration on a monthly basis

23%
Improvements in
putting up
Displayboards

Details of attached ration cards

Entitlements of essential items

List of AAY, BPL and APL beneficiaries in the FPS

Price list of commodities

Helpline number for addressing complaints

Names of shop-level vigilance committee members to address grievances and provide awareness to the beneficiaries

Contact number of officials for general awareness

Opening and closing stock of essential

Food grain samples from the stock of that month for the beneficiaries to check the quality of food grains/ adulteration of food grains

Complaint box to raise complaints related to the FPS and beyond

During the course of PAC's intervention on the ground, in 25 districts of Karnataka state, it was witnessed that in Year 2 of the intervention in 90 FPSs, there was an improvement of 23% in the ensuring the maintenance and display of at least 11-13 mandatory boards out of 14 mandatory boards. In the 59 FPSs of Year 3 while only 7% of the shops maintained all the 14 display boards in the beginning by the third monitoring visit, 35% of the shops ensured the maintenance and display of all the 14 boards. There was an improvement of 17% in maintenance and display of 11-13 mandatory display boards.

In Bangalore Urban district, it was reported that in the initial phase of the intervention, none of the FPS owners complied by the rules and also seemed to be from politically influential backgrounds. However, with the interface of the Food Inspectors and Shirstedars, the FPS owners through special Gram Sabhas and personal meetings SHG CMs revamped the FPS in terms of display boards and the compliance score for the same doubled from 51 percent in first monitoring to 99 per cent in the third monitoring visit.

The reasons for the intervention to be successful and contributed to difference of 23% in Year 2 and 17% in Year 3 in the span of 3 months each was mainly due to the participation and actions taken by the citizen monitors on ground. Through the process of monitoring of the FPS, the citizen monitors with support from DLPOs requested and dialogued with the FPS owners/dealers to put up the essential boards, wherever it was required to make prominent changes. In instances wherein CMs were being affected by an externality, they sought the assistance of the DLPO staff to help them get in touch with the Food Inspector and in some cases the Deputy Director of the District to make and ensure compliance.

The prominent reasons for not displaying the display boards was primarily because of space constraints in the FPS, dilapidated infrastructure in some shops and in some cases the FPS owner chose to not act on the suggestions provided by the Citizen Monitors like in Mahadevaswamy FPS in Mysore.

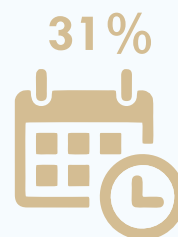
In addition to that, on the supply front, it was reported that 32% of the owners were either not provided any information about this or did not keep it even if it was mandatory. It was also observed that 20% of the FPS owners were not aware of the guidelines mandated to put the price lists.

- 2 **Timings and work days of the shop:** This is one of the most important indicators influencing the physical access of entitlements to the beneficiaries. The FPSs supposed to operate from 8AM to 12 PM and from 4PM to 8PM every day, except for Tuesday. The timings ensure that card holders like the daily wage laborers can collect their rations before or after work and even on Sundays. The checklist requires the monitors to discuss the working timings and days for the month based on their observations.

In Year 2 of the intervention, there was an improvement of 10% and the FPS owners complied by the rules and opened the FPS from 8AM to 8PM. In Year 3 of the intervention, there was an improvement of 37%.

It was also observed that 24% of the FPS owners were not aware of the official timings of the FPS. During the initial awareness assessment, out of 56 Citizen monitors, only 24% of them knew the correct timings of the shop and 42% of them were aware that FPSs are closed on Tuesdays.

In some shops like in Magadi Town FPS and Bevuru FPS in Ramangara the shop is kept open only for 4-5 days a month for ration distribution and some shops like in Almatti in Vijayapura or in some shops in Kalburgi among the others have no fixed days for distributing rations. It can also be observed that FPS shop owners from Bevuru travel about 25kms and that of Almatti has to travel 100 kms every day to reach the shop. This might also be the reason for erratic working days.



31 %
Improvements in
maintaining
shop timings

Citizens said that “if some of the citizens do not collect their ration, at the time the shop owner will make a call over phone and inform them to collect their ration. He will ensure about ration supply up to last house in the village has collected their ration” – Haliyala.

-Grama Sabha, Haliyala FPS, Uttara Kannada

The common scenario is a shop not maintaining the timing and working days lead to huge rush to collect entitlements and sometimes the beneficiary has to go home without collecting the rations or has to wait for many hours before collecting the rations and has to come back again Example beneficiaries of some shops in Uttara Kannada have to walk about 2-6 kms to reach the shop or in some shops in Chikmagalur and in Kotebeedi FPS in Vijayapura District, the beneficiaries have to travel about 6-8 kms to reach the shop. Around 40 families in the remote area of Chikmagalur spend approximately Rs.300-400 on an average per month to reach the shop (Uddebornahalli FPS).

Some of the common concerns are some of the society distribute to many card holders through sub-centres and limited number of days are allocated for each sub-centre. Some of the FPS owners also have complained that it is not economical for them to keep the shop open on all the days. The Citizen Monitors along with the DLPOs and the pressure from community members sometimes have been able to negotiate in many cases. Example in Chapparadalli FPS, Bellary District, the CMs have been able to convince the shop owner to open the shop from 4-5 days to atleast 16 days.

- 3 **Maintenance of records:** It provides a certain degree of accountability on the supply front of PDS.

The National Food Security Act (NFSA) 2013 rules states that 7 mandatory records should be maintained in the FPS:

Complaint register: In order to register complaints of the beneficiaries of the FPS

Inspection book: Maintain records of the food inspector/ Shirastedar visits

Minutes book of VC meetings: Document the vigilance committee meeting proceedings

Receipt book: Provide receipts and maintain records of the same.

Official investigation register

Stock register: Maintain and check the amount of grains present in the FPS

Sales register: Record the percent of sales in a month.



In Mysore district, Basavanahalli FPS, while conducting the monitoring visits, it was observed that none of the records were maintained except for official investigation register. However, even after 3 consecutive visits, it was observed that the FPS owner did not maintain any records. Since the FPS owner was a politically influential person in the community and GP. Even after consultation with the food inspector and after the FI intervened, the problem could not be rectified and there were no changes made.

However, recently it was declared by the Department of FCS that the stock and sales register can be viewed and updated online and the hard copies of them need not be maintained [No. CFS/PD/IV/40/2016-17].

During the course of our intervention, on the ground, in 25 districts of Karnataka state, it was witnessed that in Year 2 of the intervention, there was an improvement of 22% in the maintenance of 5 mandatory records and in Year 3 of the intervention there was an improvement of 39% in the maintenance of 5 mandatory records.

The reason for the intervention to be a successful one and a difference of 22% in the Year 2 and 39% in Year 3 in the duration of three months each was mainly due to the participative initiatives and actions taken by the citizen monitors on the ground.

It was reported that the prominent reason for lack of the records was primarily because of the non-cooperation of the FPS owner; space constraints in the FPS and also because some of the records such as stock and sales register were available online.

39%
Improvements in
maintenance of
5 mandatory records

- 4 **Utilisation of Utilities at the shop:** Modernisation including computerization of TPDS in the country has enabled timely allocation of food grains and biometric identification of beneficiaries, recording the transactions at the shop level and tracking of food grains. To ensure only genuine beneficiaries buy from the FPS, the state department has collected fingerprints and photographs of all card holder and has fed the data into a server. This is also being linked to Aadhar Card numbers through a yearly e-KYC linking exercise.

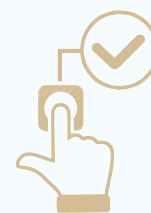
In Bellary district, Chapparadahalli FPS, it was observed that Rs. 10 was being charged to the beneficiaries for using the biometric system and in turn to access the ration. The ration was distributed only for 3-4 days which became an issue. After two rounds of monitoring visits, the CMs managed to change and address this issue. At present, the ration is being distributed for 10-15 days in a month. However, server issues were still prevalent in the FPS.

- **Utilisation of biometric system:** Modernisation including computerization of TPDS in the country has enabled timely allocation of food grains and biometric identification of beneficiaries, recording the transactions at the shop level and tracking of food grains. To ensure only genuine beneficiaries buy from the FPS,

the state department has collected fingerprints and photographs of all card holder and has fed the data into a server. This is also being linked to Aadhar Card numbers through a yearly e-KYC linking exercise.

Each shop has a biometric system machine installed to provide access to ration to beneficiaries after the fingerprint is recognised by the biometric machine. The indicator was chosen to track the usage of the same spatially.

During the course of the intervention in Year 2, it was reported that about 10% of the fair price shops did not have a working biometric system installed in the FPS and there was no sign of improvement. In Year 3, it was reported that there was an improvement of 1% in the FPSs, despite being mandated by PDS control order (2001) and NFSA and the high level.



The major issues relating to the biometric system were:

- 6% of the FPSs did not have a biometric machine
- 99% of the FPSs faced problems relating to server issues and due to which the beneficiaries could not access their ration on-time
- 50% of the beneficiaries were not able to access ration because either they were elderly beneficiaries (thumb impression is faded) or beneficiaries who work in factories which involve labour-intensive work or involved in agricultural labour
- 25% of the FPSs it was reported that the ration was not distributed on the same day as the biometric authentication since, few FPSs cover an average number of 2000 of ration cards, the FPS owners/ dealers requested the beneficiaries to visit the FPS 1-2 days after the authentication. Due to this, majority of the beneficiaries had to sacrifice 1-2 days of their daily wages and stand in a queue in the FPS to collect their ration which was a time-consuming activity
- 17% of the FPSs reported that service charge of Rs. 10 or so was being levied to the beneficiaries for using the biometric reading machine in the initial phase of the monitoring visit. However, after three consecutive visits, it was observed that it drastically decreased to 8% by the end of three monitoring visits. There was an improvement of 9% in this parameter
- The most common issue raised in the Gram Sabhas was that of the server issues occurring during the annual e-KYC linkage procedure.

99%
FPSs faced
server problems

In Chikkamagalur district, Bettadamane FPS, it was discovered that there were problems faced due to poor functioning of the FPS, poor cellular coverage i.e. biometric identification system would not function. The only location where the Biometric scanner would function was at a hilltop temple. The FPS owner was using the premises of this temple for Biometric authentication. This was a major adversity for the beneficiaries because they would have to travel to this 'network point' 3 times – once for login, once for rations, once for kerosene. Many beneficiaries would spend four days every month to get their entitlements. As most are daily wage workers who make a maximum wage of Rs. 300 per day in season (about 5 months a year), the effort of getting their ration was costing them about Rs. 1200 or 15% of their monthly income. In addition to this, they also have to bear the travel costs of reaching the inaccessible hilltop location. Many beneficiaries were not taking the rations because of such hurdles.

Nonetheless, because of the efforts taken by the CMs and their consultation with the respective Food Inspectors with the assistance of the DLPOs, the percent of charging for usage of biometric system has steeply decreased. This improvement of 9% was mainly since the SHG CMs provided awareness to their own neighbouring families and community on the whole to stop paying a service charge for using the biometric scanner. During the distribution of ration, if it was being requested/ demanded from the FPS owner, all the beneficiaries denied to pay. However, the biometric server issues are still prevalent in all 99% of the FPSs and were raised in most of the Gram Sabha discussions.

9%
FPSs stopped
charging for biometric
system usage

- **Utilisation of electronic weighing machine:** As a part of modernising the supply chain the manual weighing machine has been replaced with electronic weighing machine to avoid leakage and malpractices. Findings indicated that, during the course of PAC's intervention, in Year 3 there was an improvement of 1% in the installation of electronic weighing machine which catered to the need of giving the right quantity of food grains to the beneficiaries and also maintaining transparency. Some shops having electricity issues like the Geetha Manipete shop in Hassan district now has an electrical connection after the CMs and the DLPOs worked with the FPS owner to obtain the connection. The reasons for the same was mainly due to the non-cooperation of the FPS owner with the citizen monitors, towards complying by the norms as well as since the shop had space constraints because of which it could not be installed.
- 5 **Fair Price Shop Maintenance:** The quality and quantity of food commodities is essential for a healthy and nutritious diet. Although, PDS provides carbohydrate rich cereal and pulses during few instances, the storage and hygiene of the food commodities should be given utmost importance.

Therefore, as per PDS control order (2001), the rules mandate that every fair price shop must have sufficient storage space to store food grains of at least 2 months and it should have an adequate and a separate space to store food grains and kerosene.

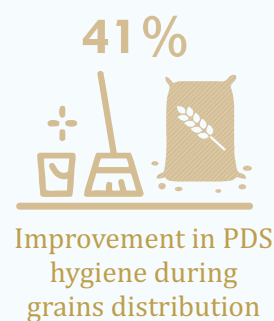
During the study, our findings indicated that, in Year 2 there was there was no improvement observed however, it declined by 4% since, few of the FPSs were either not distributing kerosene during that duration or due to the non-cooperation of FPS owners to follow the norms. But, in Year 3 of intervention, there was an improvement of 2%.

The reason for the improvement in the aspect of a separate and a sufficient space and a difference of 2% mainly due to the persistent efforts of the CMs to request and make changes in the FPS. For instance, in FPSs which did not have a space for storing kerosene separately, the CMs intervened, consulted the GP members, and ensured that the kerosene cans were stored in the nearby school building instead of the FPS. In addition to that, CMs along with the GP leaders and community members have worked together to shift fair price shops from a dilapidated infrastructure to a pucca building. The Citizen Monitoring team of Illkal FPS, Bagalkote district realised the unsafe access to the Fair Price Shop that was originally in a deserted APMC yard. But after their training, and constant support from the DLPO staff, the women have not shifted the shop which is closer to the city and has made it safer for everyone who comes to the shop to collect their rations.

Some of the other initiatives taken up the Citizen Monitors with the support of the Fair Price Shop owners and other community members are the following:



Figure 22: Separate counters setup in Mannayakeli Taluk, Bidar to avoid rush during distribution



- As the shop in Mannayakheli taluk in Bidar used to open for a few days in the month and given the large number of card holders, the shop would be extremely crowded and became unsafe for women to stand in the same queue as men, many complaints of physical harassment were raised. The Citizen Monitors here convinced the shop owners to set up two separate counters, manned by two staff members and two laptops and each counter catered to two separate lines – one for women and one for men. Barricades have been put up to ensuring streamlining of the crowd.
 - All the 5 out of 6 FPSs in Vijayapura district now have drinking water facilities for the beneficiaries waiting for a long time in the shop.
- 6 **Prevalence of malpractice in the FPS:** The PDS control order (2001), mandated that there should not be any form of mal-practice or diversion of food grains from the FPS; over-charging for food commodities or levying charges for usage of biometric system and to ensure no hampering in the quantity of entitlements.

During the course of PAC's intervention on the ground, in 25 districts of Karnataka, it was witnessed that in Year 2 there was an improvement of 1% in the curbing mal-practice and in Year 3 there was an improvement of 6% in the FPSs.

In the 59 FPSs in the last year, overcharging for food grains came down from 17% to 11% and the practice of forcing beneficiaries to buy other commodities came down from 15% to 5%.

About 17% of the FPSs in Year 2 charged extra for toor daal, instead of charging Rs. 38, people were charged between Rs. 40 to Rs.50.

Other types of malpractices included providing the beneficiaries lesser quantity.

The reason for the decrease in the degree of malpractices is mainly due to the significant initiatives taken by the CMs. Active engagement with the other community members in their networks, creating awareness among others to not pay or buy played a major role. Constructive engagement with the FPS owner sometimes with the support of Food Inspectors and DLPO staff has brought down malpractices in many shops. In few districts, such as Kolar, Chikmagalur and Bagalkot the attempts by the CMs supported by the DLPOs in a few shops were futile in the intervention period because of highly influential politically empowered FPS owners. They were not keen on making any changes with the practices followed by the shops.

In Bangalore Urban district, Hebbagodi FPS, it was observed that the FPS owner stopped forcing beneficiaries to buy other commodities after the 3rd monitoring visit from the elected Citizen Monitors, most of the beneficiaries were aware that they don't have to buy other commodities as per the rules and denied it when given by the owner. The CMs created awareness among the other beneficiaries of the FPS, which led to a change.

CASE STUDY: KODIHALLI VILLAGE

This FPS transformed from a unhygienic shop with no records maintenance to the best-performing FPS, together with an increase of 100 ration cards reaching 265.

At the first Gram Sabha, once citizens were made aware of their rights, the FPS owner apologised for not following regulations and CMs took responsibility for the overhaul of the shop's functioning, starting with updating lists of card holders. One month saw a supply shortage of 35kg, which the 4 CMs split amongst themselves so that beneficiaries were not impacted. After frequent complaints from the FPS owner regarding shortage of food grains, the 4 CMs themselves started distributing the rations for 2-3 months to understand the shortfall. They resolved the leakages at the shop level and they approached the district office to resolve shortage from the supply side.

Upon discovering that workers delivering grain to the shop asked the FPS owner for commission, the CMs also urged the FPS owner to not pay the commission.

The CMs also devised a strategy to sell the empty gunny bags that grain was delivered in so that the owner could save more money. The FPS owner also admitted that the CMs ensure that she received her commission regularly from the department after taking over the shop since her husband's death 3 years ago.

The CMs have also proactively called for community meetings on their own to resolve these issues.

Spoorthy, the DLPO, helped immensely by being proactive in calling the CMs and co-ordinating between them and government. The CMs in turn gained respect and praise from their community.

Key lessons:

- Continuous follow-up with CMs brings the best results
- Training CMs encourages them to take initiatives themselves
- The Deputy Director's and Food Inspector's involvement was crucial
- Cooperation between communities, NGO, government creates meaningful change.

Hygiene of food commodities:

Although, the hygiene of the food commodities has not been specified under any of the rules and regulations of the PDS, it was studied in depth through the project as it is an important parameter to food security. The Citizen Monitors measured the quality of grains on various dimensions and the hygienic practices adopted while distributing food grains to the beneficiaries. During the course of PAC's intervention on the ground, in 10 districts of Karnataka state, it was witnessed that in Year 3, there was an improvement of 2% in terms of transferring the food grains from sack to sack, a practice recommended by PAC as it involved minimum human contact and possible contamination from the surrounding. In addition to that there was also an improvement of 8% in terms of laying out a tarpaulin/plastic sheet while distributing ration to the beneficiaries instead of pouring the food grains on to the floor.

The reason for the change of 2% in terms of sack-to sack transfer and usage of tarpaulin was mainly due to efforts taken by the CMs to convince the FPS owner to not spread it on the floor or tarpaulin since the food grains would be consumed by the thousands of beneficiaries. 59% of the FPS owners could not be convinced either because they were politically influential and choose not to change the existing practice and some of the owners mentioned that transferring from sack to sack directly would be expensive. This is because it would require extra manpower and support leading to owners incurring more costs.



Figure 23: Various precesses of food grain transfer adopted at FPSs

Quality of the food grains supplied:

In Year 2, the CMs also checked for the quality of food grains in terms of presence of foreign particles, high moisture content in toor dal packets, discolouration and so on. In Year 3, toor dal was only available till 1st monitoring visit and in that visit 51% of the CM teams found lumps in toor dal packet. Other indicators except for lumps in toor dal packet indicator were dropped in Year 3 as suggested by the Commissioner of Food and Civil Supplies Department. An indicator like checking quality of food grains would require technical knowledge of grading food grains and it could not be done with subjectivity.



Figure 24: Citizen Monitors checking the quality of rice grains in Ilkal FPS, Bagalkot district

Pest control measures

Although, the pest control measures are not made mandatory as per the guidelines but PAC considered it as an important dimension to improve the performance of the shop and hence delivering food grains of good quality. The FPS owner has the choice to reject the food grains lot allocated at the distribution points if the quality is not satisfactory. It is also important to ensure that the shops are hygienic and takes up pest control measures as food grains stored in the shop are exposed to be damaged by pests. Example the CMs in first visit to FPS in Nelmangala Town, Bangalore Rural, found that the food grains had presence of cement pieces, small pebbles and there was also presence of rodents in the shop and all of this was resolved after convincing the shop owner to take up pest control measures and maintain cleanliness.

In Year 2 of the intervention, it was witnessed that there was an improvement of 9% in the parameter of pest control measures. i.e., spraying pesticides and regular cleaning. The reason for the change of 9% was mainly due to the steps taken by the CMs to educate the FPS owner on the benefits of taking the pest control measures and thereby making the FPS more hygienic.

Through advanced data analysis it has been found that the hygiene of food grains contributes significantly to the overall performance of the FPS (positive correlation value 0.69). The CMs elected under the SHG model have been able to contribute significantly to ensure that measures for maintaining hygiene of food grains was adopted (positive correlation value 0.66).

The three monitoring visits were followed by a closing Grama Sabha and an endline awareness assessment of the Citizen Monitors.

Initial and final awareness of citizen monitors:

The initial awareness assessments were conducted to understand the basic perception of CMs towards Fair Price Shops and PDS and final awareness assessments were conducted in order to understand the improvement of the perception and understanding of the PDS system.

The findings of PAC's intervention in Year 3 indicated that, when the initial awareness assessment was conducted, 53% of the SHG CMs were aware of the functionalities whereas after the training and three consecutive monitoring visits, it was reported that the awareness improved and it was 93% among the SHG CMs.

The reason for the exponential increase (40%) in the awareness level of the CMs was mainly since the PAC's DLPO partners visited each village to train the citizen monitors on the basic rights, entitlements, functioning, grievance redressal mechanism, importance of the same, rules and regulations of the PDS (in terms of boards, records, hygiene) etc.

40%

Improvement in
awareness
among CMs

Although, the training was provided only once, it is not just the training that helped the CMs achieve this, it was continuous learning at each monitoring visit, understanding and analysing the behaviour of the FPS owner, resolving issues of their community members and interactions with their food inspectors brought about changes in the FPS.

Data indicate that the awareness levels of the CMs of the SHG model highly influences performance of the SHG model chosen in the proof of concept (positive correlation value =1). The results indicate that when a comprehensive training including both theoretical and practical aspects along with handholding support to women elected under the SHG model is provided, they can contribute significantly to the overall performance of their FPSs. Data shows indicates that the literacy level of the CMs has less impact on their awareness levels of their roles and responsibilities as a CM, functionalities of the PDS and the GR system (negative correlation value 0.61).

Interviews with government appointed CVC members in the 59 FPSs of Year 3 showed that only 5 members of the 111 CVC members identified were provided training from the Government and only 12 of them had visited the FPS to monitor the shop.



Figure 25: Discussion of challenges and action taken by Citizen Monitors during Peer-to-peer meeting

Concerns from supply side- FPS owner's story:

Before the commencement of the intervention, an FPS owner interview was conducted in order to understand the awareness levels of the owner and identify the support they require to improve the shops.

The FPS owner was quizzed on the origin of the PDS, commencement of the TPDS, objectives of PDS, year of commencement of NFSA and the suggestions and support needed from the Govt and village leaders.

In Year 2 of PAC's intervention, 46% of the FPS owners stated that the PDS commenced due to droughts, floods and war conditions and 79% of the FPS owners stated that it was to alleviate poverty.

In Year 3, it was observed that 36% of the FPS owners were not aware about the basic functionalities and aspect of portability of ration cards.

The awareness and capacity building workshops for FPS owners was conducted only during the induction/ when the license was given to the FPS owners. However, based on the suggestions given by the FPS owners 58% of the owners reported that they required trainings at regular intervals to manage the FPS effectively.

Accessibility of FPS owner:

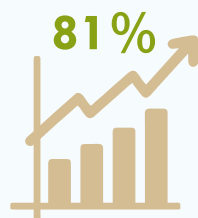
In Year 2 of the intervention, it was witnessed that 4% of the FPS owners travelled from a distance of about 45 to 90 kms to reach the FPS. In Year 3 of the intervention, it was witnessed that, 31% of the FPS owners travelled from a distance of about 100-500kms.

The reasons for the same were mainly because the FPS owners were not residents of the same village, a certain percent of FPS owners were also handling 1-2 FPSs because of

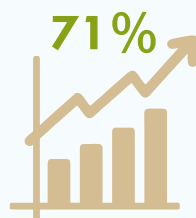
which they were residing in neighbouring villages. This was also a reason for non-compliance of the rules and not opening the FPS on all the days of the month (except Tuesdays) for distribution of food grains. As per the data analysis, the FPS ownership type significantly influences the shop profiles. This indicates that the FPS run by SHG, Govt or Private entities can influence the shop profile (positive correlation value 0.85).

Support requested from the FPS owner.

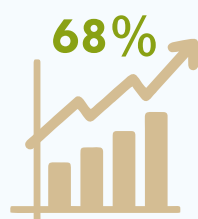
Based on the experience of the FPS owners over who have been running shops from over the years, the following suggestions stated:



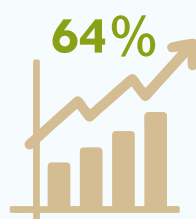
Commission margin on sales and salaries need to be increased



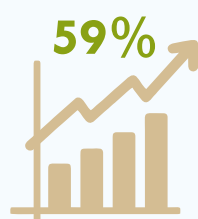
Trainings should be provided by the Dept of FCS to better manage the FPS



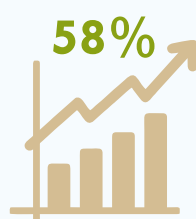
Strict actions and legal measures need to be taken to prevent corruption and prevailing malpractice



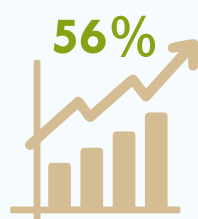
Timeliness of the delivery and correct quantity of delivery should be improved



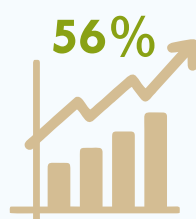
quality of delivery needs to be improved



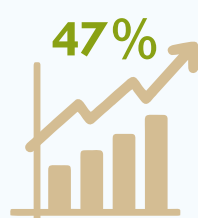
capacity building workshops need to be conducted for beneficiaries to monitor the FPS



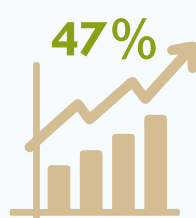
Cooperation is needed from the village and GP leaders



Citizen vigilance committee members need to be actively participating



Food inspector visits should be increased



Need better monitoring to stop systemic pilferages

FPS owner awareness is highly influenced by the FPS support from govt. (positive correlation value 0.81). This indicates that if the Government extends its support to the FPS owner by increasing the frequency of food inspector (FI) visits or Shirestdars, support from FIs has high correlation with the awareness levels of the FPS owners measured based on their knowledge on objectives of PDS, entitlements of beneficiaries and GR procedures.

As per the May, 2019 staff vacancy details, there is 50% vacancy for the posts of Deputy Director and Additional Director for each of the district, 57% vacancy for the Manager/

Food Shirestedar post and 28% vacancy for the post of Food Inspectors.

The study carried out by PAC in 2014, reported that the Food inspectors were overextended and did not function effectively. 90% of the users were not aware that there is a Food Inspector and 90% of the shops had not displayed the name and details of the Food Inspectors and did not maintain the inspection book. The guidelines require Food Inspectors to visit the shops twice a month.

Functioning of the Citizen Vigilance Committees (CVC) on ground:

The NFSA (2013) mandates vigilance committees to be functioning at various levels i.e., state, district, taluk and fair price shop level. The vigilance committees at the shop level act as local decentralised institutions to the beneficiaries and in theory to help voice their grievances, obtain information or advocate changes for their shops. The Act outlines the functioning of the CVCs and their roles and responsibilities. But under the NFSA, 2013, the State Government have to be made or issue the rules, notification and guidelines regarding the Vigilance Committees.

As per the Karnataka Public Distribution System (PDS) (Control) Order 1992, the Vigilance Committee Gazette specifies the following:

- 1 The term of CVCs is for two years and at the fair price shop
- 2 1/3rd of the members should be replaced every 6 months
- 3 The committee should constitute of 3 members. The State Government needs to provide training and capacity building to the CVCs selected randomly from a computer selection. Thereafter, every 7th of the month, Aahara Adalath/VC meeting needs to be conducted at shop-level to address the grievances and minutes of the VC meetings needs to be documented and uploaded on the website of FCS.

Based on the above, the project carried out a short exercise to assess and understand the presence/absence of citizen vigilance committees at the FPS level in 59 shops selected under the Year 3.

Out of the 59 shops across 10 districts, it was reported that 111 CVC members were a part of the committee and were selected as per the official website of FCS department. However, when pursued to carry out interviews with each of them, it was reported that barely 75 CVC members were aware that they were a part of the committee.

111

CVC Members Identified
for 10 Districts in State

75

Active CVC Members

They were found to be dysfunctional since, barely 5 members were provided training and given roles and responsibilities whereas majority of the members were found to be absent.

While carrying out the project, it was also noticed that there were few elderly beneficiaries appointed as CVC members who were found to be inactive, for instance, in Old Hagari Bommanahalli FPS in Ballari district. It was also noticed from the findings that most of the VC were either migrants or left the village they were residing after they were married. None of the CVC members were a part of any Aahara Adalath meetings/ were not aware about the same.

It was also reported through observational studies that, the vigilance committee meeting proceedings on the website are as old as 2017 and has not been updated since. Additionally, it was also seen that the monthly minutes of the Ahara Adalath/ VC meetings were barely 86 reports as on 2019-2020 for the Karnataka state and when attempted to read the report, they were found to be inaccessible or illegible.

5/111

Government
appointed
CVCs trained

Functioning of Grievance Redressal System: 1967 and Online Grievance Portal

An exercise to study on the present grievance redress system was undertaken in order to understand:

- Awareness levels of the beneficiaries and service provider (FPS owner)
- Analyse the trend of complaints received from the 1967 helpline number
- Provide recommendations to improve the current system.

1967- Toll free help line number:

The Supreme Court order in January 2013 sent out an order to all the States and UTs to set up a common 4-digit toll free helpline number along with an 1800 series number for registration and redressal of Grievances under TPDS. This was based on the recommendations of the Justice D P Wadhwa Committee which suggested the total computerisation of the TPDS. The 4-digit helpline number in Karnataka was set up in November 2013 for maintaining transparency in the implementation of the PDS programme. been set up by the Department for proactive Grievance Redressal. The State also ensured that all the shops would exhibit a signboard displaying the emblem of the state Government along with the 4-digit toll free helpline number.

90%* FPS owners were aware about the helpline number to lodge complaints

99% Cms were aware about the helpline number after training

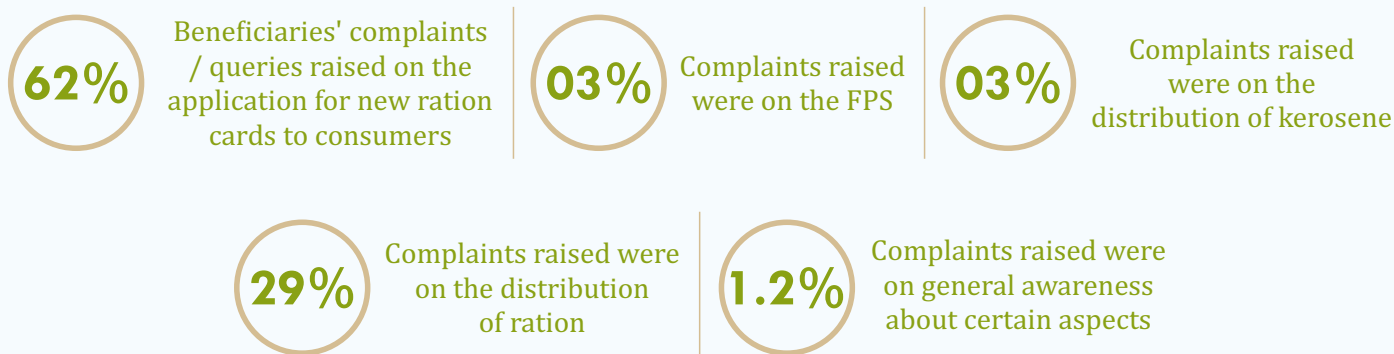
- *FPS owners: Out of the 59 shop owners interviewed, 90% of the FPS owners were aware about the helpline number to lodge complaints
- Citizen monitors: In the initial awareness assessment, it was observed that, only 19% of the CMs were aware about the helpline no. 1967, However, after the training was provided to them, it was observed that 99% of the CMs were aware about the helpline number to lodge complaints.

However, through observational data, it was indicated that there was not a designated person sanctioned to manage the grievances in the Department of Food and Civil Supplies.

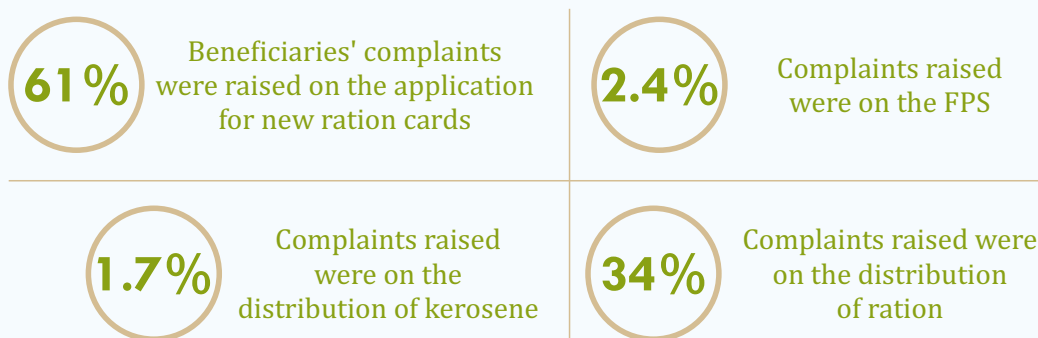
Analysis of GR data obtained from the Department:

Based on the secondary data obtained from the department on the number of phone calls received on the toll-free number for the months of July 2018 and February 2019, the observations are as follows [21 and 22]:

In July 2018 it was noted that:



In February 2019 it was noted that:



From 01.04.2018 to 28.02.2019, 44283 complaints were answered by the Department of Food and Civil Supplies.

It can be observed that the majority of the calls are regarding the queries or complaints are pertaining to application of new ration cards, renewal and so on.

From the findings above, it can be clearly visible that majority of the complaints registered by the beneficiaries was mainly pertaining to the application of new ration cards. Therefore, PAC recommends that Information Education Communication (IEC) campaigns should be conducted by either the GP village leaders or the FPS owner to minimise the complaints and also to enhance the awareness among the beneficiaries of the PDS.

1967 backdrop:

During observational studies, it was revealed that in the Department of Food and Civil Supplies Department, there was designated personnel appointed for handling the phone calls received from helpline number 1967, however, there was only one person allotted to manage the phone calls of the beneficiaries and there was only one telephone to address the issues of 19,895 fair price shops and 50567133 families. During the occasions when the telephone was either out of order or when the designated personnel was on sabbatical or leave, it was observed that the calls were not being answered and the issues of the beneficiaries were not being resolved during that time period. In addition to the above-mentioned factors, it was also seen that answering and resolving complaints of beneficiaries was just a task under the many in the job description of the personnel and he/she was multi-tasking.

There is a need for setting up a complete mechanism right from awareness creation to ensuring answering all the queries and issues raised.



1967

Grievance redressal by SHG CMs

In PAC's study, it was found that out of 427 complaints received from the beneficiaries, 23% of the issues were resolved by the SHG CMs; the problems mostly entailed displaying information in the FPS, maintaining records, enhancing the hygiene and cleanliness levels of the FPS, putting an end to the overcharging of food grains and charging for the usage of biometric scanner. The abovementioned problems were resolved by consulting the FPS owner by explaining the project, its aims and objectives, and 'why we do what we do'. Wherever required, the Food Inspectors and Shirastedars were also consulted to provide the support and to resolve the issues. The grievances beyond the control of the SHG CMs encompassed space constraints in the FPS which led to insufficient storage space for kerosene and food grains; un-willingness of politically influential FPS owners to change and make the FPS more compliant as per the norms; expansion of the food basket and inclusion of a diversity of food grains based on the location.

SHG model: The way ahead

After identifying that a citizen monitoring team composed of 4 women from the Self-help groups showed the most improvement in FPS compliance as compared to the two other models, it had to be tested under other circumstances for validity. Hence, in Year 3 it was pilot tested in 10 districts to study the other factors beyond gender (i.e. having all female

members) which play a role in the success/effectiveness of the SHG Model.

Self-help Groups (SHGs) form community-based organisations in developing countries like South Asia, Africa and so on. The original intent of the SHG programmes was to provide access to credit to rural members, usually rural women to meet their subsistence needs or to invest in activities generating income.

In Year 3 of PAC's intervention for 10 districts, 3 talukas were randomly selected in each district and the shops were particularly chosen based on two criteria except for Bangalore Urban. The proof of concept was to pilot test the model in shops with high levels of malpractice defined in terms of low offtake and high number of BPL cards. The three criteria defined in detail adopted in consultation with the Government were:

- 1 Maximum BPL cardholders per FPS in that district- This was chosen assuming that higher the number of cards per shop, the harder it would be for the shop owners to ensure attention in fully focused distribution, and most likely to indulge in diversion or leakage or other forms of malpractices
- 2 5 shops per district were selected according to this criterion
- 3 FPSs with maximum value of offtake was averaged over 3 previous months (=total lifting balance - total closing balance of BPL, APL and AAY beneficiaries- total distribution by FPS owner) expressed as percentage of allotment
- 4 1 shop per district was selected according to this criterion
- 5 In Bangalore Urban, the shops 4 FPSs was suggested by the Joint Director, Food and Civil supplies based on the highest number of complaints received against the shop and the shop's offtake levels.



Figure 26: Citizen Monitors inspecting the electronic weighing machine

Offtake is the percentage of ration distributed to the beneficiaries of the FPS in a month. The secondary data was collected from the official website of FCS department and measured against the duration of PAC's intervention.

For the 10 districts, Bagalkot had an average offtake of 32.1%, Ballari district had an offtake of 11%, Bangalore Rural district had an offtake of 24%, Bidar had an offtake of 48.8%, Vijayapura district had an offtake of 25.25%, Chikmagalur had an offtake of 16%, Hassan had an offtake of 12.9%, and Ramanagara had an offtake of 33.3%.

Through the intervention of 40 SHG citizen monitors (10 districts, 10 FPSs) for criteria (2), 70% of the FPSs improved because of PAC's intervention. The problems of the fair price shops ranged from none of the display boards being present, none of the records being maintained, cleanliness and hygiene not maintained, and prevalence of malpractices in few FPSs.

Offtake of Y3 FPS

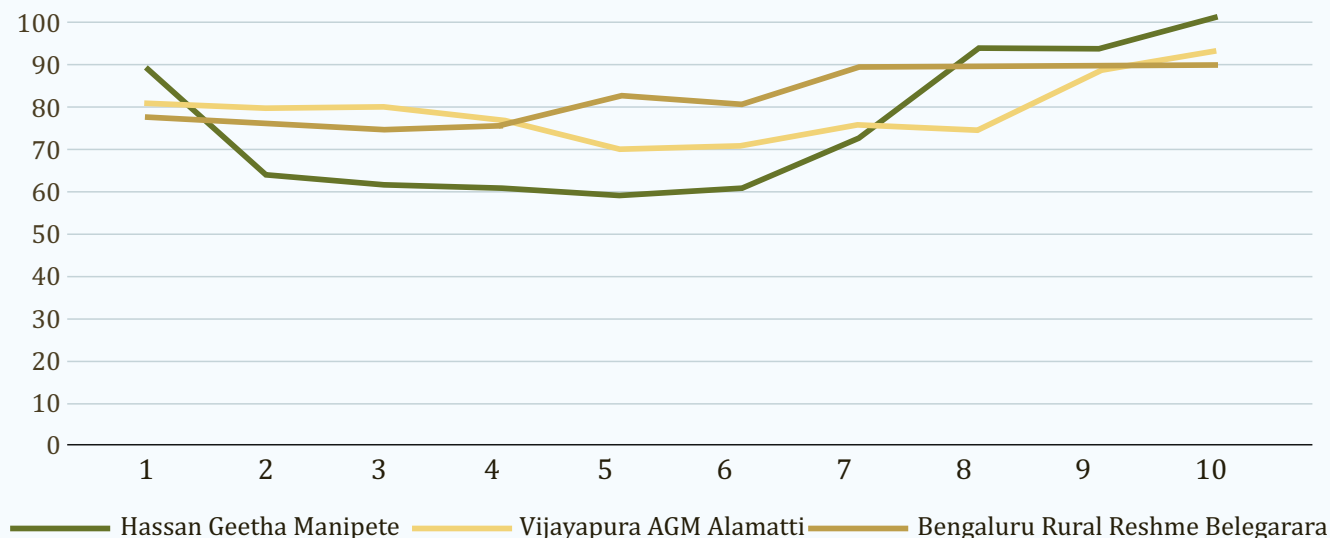


Figure 27: Trends observed in offtake for 3 FPSs from July 2019- April 2020 (Year 3)

Out of 10 worst shops identified in terms of low offtake, it can be observed from the graph above that the three shops mentioned were initially non-compliant and were retaining their ration either because of not operating the FPS on a timely basis or due to the behaviour of FPS owner. Based on our intervention from July 2019 to April 2020 in the 3 worst case shops the trendline is observed to have an upward positive trend. It can be concluded that most of the shop-level issues have been addressed and the FPSs presently are working and functioning efficiently because of the intervention of SHG CMs on ground and due to their persistent efforts to bring about changes in their FPSs.

The project found that out of 427 complaints received from the beneficiaries, the problems mostly entailed displaying information in the FPS, maintaining records, enhancing the hygiene and cleanliness levels of the FPS, putting an end to the overcharging of food grains and charging for the usage of biometric scanner. The abovementioned problems were resolved by consulting the FPS owner by explaining the project, its aims and objectives, and 'why we do what we do' with the support of the DLPOs. Wherever required, the Food Inspectors and Shirastedars were also consulted to provide the support and to resolve the issues. The grievances beyond the control of the SHG CMs encompassed space constraints in the FPS which led to insufficient storage space for kerosene and food grains; unwillingness of politically influential FPS owners to change and make the FPS more compliant as per the norms; expansion of the food basket and inclusion of a diversity of food grains based on the location.

The project has witnessed inspiring and proactive collective actions undertaken by the Citizen Monitors with the goal of improving the lives of everyone. One such case is that of Bettadamane FPS in Chikmagalur district.

23%
Issues were
resolved by
the SHG CMs



Figure 28: DLPOs providing training to Citizen Monitors at Ramanagara district

Bettadamane Case Study, Chikmagalur district

Bettadamane is a remote village in Chikmagalur district with just 192 households. Nearly half the population is from marginalised communities, with 32.87% belonging to Scheduled Castes while 14.31% belong to Scheduled Tribes. The remote nature of the village, along with the social conditions of the population, renders the village highly dependent on the PDS system. There are currently 300 ration card holders in the village.

It was initially the worst performing FPS shop in Chikmagalur district, and among the worst in the project. For starters, the FPS was located next to a cowshed. Cow dung and cow urine were deposited in the vicinity of the FPS, and the fluids would seep into the FPS. The food grains were exposed to dust and other pollution coming from outside. Kerosene and food grains were stored at the same place, leading to contamination of the food grains. Beneficiaries were charged Rs. 50 instead of Rs. 38 for Toor dal, and a service fee of Rs. 10 was being collected on top of this. A malfunctioning weighing scale was being used instead of the digital scale mandated. None of the required display boards or the registers were being maintained. In addition to the problems caused by poor functioning of the FPS, poor cellular coverage meant that the biometric identification system would not function. The only location where the Biometric scanner would function was at a hilltop temple. The FPS owner was using the premises of this temple for Biometric authentication. This was a major adversity for the beneficiaries because they would have to travel to this 'network point' 3 times – once for login, once for rations, once for kerosene. Many beneficiaries would spend four days every month to get their entitlements. As most are daily wage workers who make a maximum wage of Rs. 300 per day in season (about 5 months a year), the effort of getting their ration is costing them about Rs. 1200 or 15% of their monthly income. In addition to this, they also have to bear the travel costs of reaching the inaccessible hilltop location. Many beneficiaries were not taking the rations because of such hurdles.

When issues with the functioning of the FPS were brought up in the first Gram Sabha, the FPS owner was reluctant to cooperate. But dialogue with the DLPO CMSSS convinced him to engage with the project. After the FPS owner cooperated with the project, it became apparent that the cause of many of the problems in the FPS was that it was owned by the VSS Society, and the FPS owner was just an employee of the society. All decisions such as charging a Rs. 10 service fee were taken by the society, and the FPS owner was merely following their instructions. None of the society members has attended the Gram Sabhas. Hence our DLPO decided to reach out to the Society members directly to get them onboard the project.

When the CMAT was elected, its first priority was to have a better location for the FPS. The CMs would hold regular informal meetings with the community members where village elders and members of the SC/ST community could give their inputs. As the community members were aware of their entitlements, they were highly engaged in the process. The community emphasised a need for the FPS to remain in Bettadamane village, and not be merged with the FPS of the neighbouring village which was 6 KM away. The persistent efforts of the CMAT, the DLPO and concerned villagers convinced the Gram Panchayat and the VSS Society to move the FPS to an unused school building which was closer to the hilltop temple. The cleanliness and the additional space in the new premises greatly improved the hygiene and storage of the grains. At the same time, the Gram Panchayat agreed to construct a new building at a projected cost of Rs. 1 lakh and started collecting money for this.

By the 2nd Gram Sabha, the FPS had all mandatory display boards and all mandatory registers were being maintained. The floors of the FPS were clean, and grains were stored in a hygienic manner. Dal was sold at the right price of Rs. 38 and no service fee was being levied. A digital weighing machine had been installed and rations were being distributed on all days of the month in line with government regulations. However, the community highlighted that there were several unsolved problems during the Gram Sabha discussion. Network problems ensured that difficulty with biometric authentication persisted. Oil and food grains were being distributed on different days which necessitated multiple trips to the FPS. The beneficiaries also felt that the quality of the grains was poor and were dubious of the Food Inspector's claim that he ate the same grains and was satisfied with the quality. The Food Inspector also admitted that there were problems with biometric authentication across the state, and at this moment there is no way to sidestep the requirement for biometric authentication. However, elderly beneficiaries who had problems with their fingerprints could use an alternate facility, and the same was done with the mother of one of the CMs. For many of the queries raised by the community, the FI could only say that the FCS department would take note of their complaints.

The project not only ensured that functioning of the FPS improved, but the community and the CMs felt empowered to demand more accountability from the authorities, and take proactive action to improve the service they were getting. The new FPS building is ready, but has not yet been handed over as there is a discrepancy in the projected cost of construction and the actual cost of construction. The community is attempting to find out the reasons for this from the Gram Panchayat. The community is also discussing the possibility of getting a network booster for the FPS which would solve the problems of biometric authentication. All four CMs have expressed their willingness to continue in their roles.

Key lessons:

- An educated and active community can help solve even major issues with the FPS.



Figure 29: Temple premises used for biometric authentication



Figure 30: The old shop next to the cowshed



Figure 31: New premises of the FPS



Figure 32: Opening ceremony of the new premises

Effectiveness of SHG CMs

Women plays a critical role in contributing to the household food security by managing the available resources and so to her ensuring nutritious food, ensuring quality food, ensuring food on time to provide good nutrition for her children and family. But women's limited access to resources and their insufficient purchasing power are products of series of socio-economic and cultural factors acting as a detriment to their own development and that of society as a whole. Given women's critical role, strategies and actions for ensuring sustainable food security must address their limited access to productive resources [23].

The FAO UN, in its Strategic frame work 2000- 2015 on Gender Equality also has committed to provide the following two, among others for women:

- Access to sufficient, safe and nutritionally adequate food
- Access to Policy and decision-making process at all levels in the agricultural and the rural sector.

During the 3 years that PAC working along with DLPOs and the Govt. on the ground, began to test the theory and understand that the women from the communities need to become the focal point for the effective implementation of the PDS project. The work in engaging women from their communities to take an active part in the process of Citizen Monitoring was rooted in the strong belief, that if empowered, they would ensure and exercise their rights to secure their entitlements for their families and their communities.

While the SHGs were started as savings groups originally, in the recent past additional integration of other activities by NGOs in the fields of agriculture, health, or business development. Evidence suggested that women's group members reached out to an average of six other women with information in an intervention on health strategies [24]. Individuals participating in any groups are likely to be well connected and also participate in other groups which may result in spillover effects in their community [24]. The project observes that social capital of the citizen monitors in terms of their networks in the community has a positive influence in improving the performance of the FPS (referring to Figure 17).

When asked to rate their leadership ability in terms of their ability to organise and manage action, the ability to create pressure on the FPS to provide the correct rations, the ability to convince FPS owner etc, 32% of them were confident that they have outstanding

leadership ability and 52% of them believed they have an average leadership ability compared to others in their community. Studies on the impact of SHG participation on empowerment, largely from India exhibits increase in self-confidence, knowledge of important issues, negotiation skills, perceptions of autonomy, financial independence and mobility of members [25]. 60% of the SHG Citizen Monitors are involved in professions like tailoring, agricultural labour, teaching at Anganwadis, managing provision stores and so on. At least 88% of them have travelled outside their village and taluks.

Group membership is likely to increase participation in community governance and are likely to attend village meetings like [24] the project has seen a positive relationship between CMs of SHGs and participation of community members in the Grama Sabhas (referring to Figure 14).

Data from the project observes that Citizen Monitors perform extremely well in the capacity building exercises and especially when it is designed with practical knowledge incorporating real life scenarios. The negative relationship suggests that an individual SHG member without higher formal education can have equal contribution to improving the performance of the FPS after undergoing training in the project.

More Governments, donors and non-profit organisations are increasingly delivering interventions through locally- organised SHGs as they are thought to provide economies of scale and scope, as the groups may be used to reach out to more people at a lower cost per person, and may also serve to deliver interventions that address multiple issues.

The major advantage of this participatory, capacity-building approach is its sustainability - 200/259 Year 3 SHG CM wishes to continue working as CVCs reported a desire to continue working in their role. The Self-help Groups have been able to enhance the functioning of the FPS in all the aspects has ensured to achieve come of the major outcomes of the project-

- Enhanced transparency and accountability in FPS functioning
- Inclusive and sustained access to FPSs by individuals and their families
- Empowering beneficiaries of the PDS scheme- who mostly constitute people living below poverty line and the poorest of the poor.

Hence, PAC recommends CMs from Self-help Groups as a model for the Government supported by the implementation process designed in the project in order to meet its objectives of the programmes.



Figure 33: SHG Citizen Monitors filling-in the monitoring checklist during the monitoring visit at Bengaluru rural district

Conclusion

The project has identified a multi-stakeholder approach to improve the system, by creating joint working groups for participatory problem solving at the local level.

The Citizen Monitoring team comprising of women SHGs has been identified as the best model to aid the Government in carrying out its duties as vigilance committee members in the true spirit as specified by NFSA. The implementation design to support the SHG model evolved through learning by doing has ensured multi-stakeholder approach, safe space for dialogues between the CMs and FPSs and gaining support from the community members in the process.

There has been significant improvement in the compliance of 180 FPSs to rules and regulations as prescribed by the Govt across 90 Talukas and 30 districts of Karnataka through the project. It has improved the access to entitlements of approximately 1,01,826 beneficiaries directly or indirectly from across Karnataka.

The project has identified more than 716 community champions out of which 600 are women and have built capacities on their rights and entitlements under the PDS, working of PDS system including pathways for grievance redressal, their roles and responsibilities as CMs for their FPS. As per our end line interviews with CMs in Year 2, 303 women and 54 men out of 360 want to continue being Citizen Monitors.

More than 55+ DLPO staff have been trained to work in projects related to food security and PDS and also have been upgraded with their field related skills, like conducting a Gram Sabha, mobilising crowds for Gram Sabhas, collecting quantitative and qualitative reports and supporting the CMs by able to resolve issues on the ground.

The highlights in terms of improving the compliance of the FPS are as follows: process designed in the project in order to meet its objectives of the programmes.

- 1 **Display of information** - It was witnessed that in Year 2 of the intervention in 90 FPSs, there was an improvement of 23% in the ensuring the maintenance and display of at least 11-13 mandatory boards out of 14 mandatory boards. In the 59 FPSs of Year 3 while only 7% of the shops maintained all the 14 display boards in the beginning by the third monitoring visit, 35% of the shops ensured the maintenance and display of all the 14 boards. There was an improvement of 17% in the maintenance and display of at least 11-13 of display boards.
- 2 **Timings and work days of the shop** In Year 2 of the intervention, there was an improvement of 10% and the FPS owners complied by the rules and opened the FPS from 8AM to 8PM. In Year 3 of the intervention, there was an improvement of 37%.

It was also observed that 24% of the FPS owners were not aware of the official timings of the FPS. During the initial awareness assessment, out of 56 Citizen monitors, only 24% of them knew the correct timings of the shop and 42% of them were aware that FPSs are closed on Tuesdays.

- 3 **Utilisation of utilities at the shop**
 - Utilisation of biometric system: The major issues relating to the biometric system were:
 - 6% of the FPSs did not have a biometric machine
 - 99% of the FPSs faced problems relating to server issues and due to which the beneficiaries could not access their ration on-time
 - 50% of the beneficiaries were not able to access ration because either they were elderly beneficiaries (thumb impression is faded) or beneficiaries who work in factories which involve labour-intensive work or involved in agricultural labour
 - 25% of the FPSs it was reported that the ration was not distributed on the same day as the biometric authentication since, few FPSs cover an average number of 2000 of ration cards, the FPS owners/ dealers requested the beneficiaries to visit the FPS 1-2 days after the authentication. Due to this, majority of the beneficiaries had to sacrifice 1-2 days of their daily wages and stand in a queue in the FPS to collect their ration which was a time-consuming activity

716
Citizen Monitors
trained

55+
DLPO staff
been trained

- 17% of the FPSs reported that service charge of Rs. 10 or so was being levied to the beneficiaries in the initial phase of the monitoring visit. There was an improvement of 9% in this parameter
 - The most common issue raised in the Gram Sabhas was that of the server issues occurring during the annual e-KYC linkage procedure. The biometric server issues are still prevalent in all 99% of the FPSs and was raised in most of the Gram Sabha discussions.
- 4 **Fair Price Shop Maintenance** During the study, our findings indicated that, in Year 2 there was no improvement observed however, it declined by 4% since, few of the FPSs were either not distributing kerosene during that duration or due to the non-cooperation of FPS owners to follow the norms. But, in Year 3 of intervention, there was an improvement of 2%.
- 5 **Prevalence of mal-practice in the FPS:** During the course of PAC's intervention on the ground, in 25 districts of Karnataka, in Year 2 there was an improvement of 1% in the curbing mal-practice and in Year 3 there was an improvement of 6% in the FPSs. In the 59 FPSs in the last year, overcharging for food grains came down from 17% to 11% and the practice of forcing beneficiaries to buy other commodities came down from 15% to 5%.
- 6 **Hygiene of food commodities:** In Year 3, there was an improvement of 2% in terms of transferring the food grains from sack to sack, a practice recommended by PAC as it involved minimum human contact and possible contamination from the surrounding. In addition to that there was also an improvement of 8% in terms of laying out a tarpaulin/ plastic sheet while distributing ration to the beneficiaries instead of pouring the food grains on to the floor.

Advanced data analysis found that the hygiene of food grains contributes significantly to the overall performance of the FPS (positive correlation value 0.69). The CMs elected under the SHG model have been able to contribute positively to ensure that measures for maintaining hygiene of food grains was adopted (positive correlation value 0.66).

Other important highlights include:

- 1 **Initial and final awareness of citizen monitors:** The findings of PAC's intervention in Year 3 indicated that, when the initial awareness assessment was conducted, 53% of the SHG CMs were aware of the functionalities whereas after the training and three consecutive monitoring visits, it was reported that the awareness improved and it was 93% among the SHG CMs.

Data indicates that the awareness levels of the CMs of the SHG model highly influences performance of the SHG model chosen in the proof of concept (positive correlation value =1). The results indicate that when a comprehensive training including both theoretical and practical aspects along with handholding support to women elected under the SHG model is provided, they can contribute significantly to the overall performance of their FPSs. Data shows indicates that the literacy level of the CMs has less impact on their awareness levels of their roles and responsibilities as a CM, functionalities of the PDS and the GR system (negative correlation value 0.61).

- 2 **Functioning of the Citizen Vigilance Committees (CVC) on ground:** Interviews with government appointed CVC members in the 59 FPSs of Year 3 showed that only 5 members of the 111 CVC members identified were provided training from the Government and only 12 of them had visited the FPS to monitor the shop.

Awareness about the toll-free number among the following:

1. FPS owners: Out of the 59 shop owners interviewed, 90% of the FPS owners were aware about the helpline number to lodge complaints
2. Citizen monitors: In the initial awareness assessment, it was observed that, only 19% of the CMs were aware about the helpline no. 1967, However, after the training was provided to them, it was observed that 99% of the CMs were aware about the helpline number to lodge complaints.

The project has provided a platform for all the relevant stakeholders related to PDS to work out solutions together and improve the functioning of FPSs to ensure access of rations to all beneficiaries. Shops like Bettadamane in Chikmagalore, Kodihalli in Davangere and Somanapura in Chamarajanagara have set examples of how CMs, FPS owners, GPs and community members can jointly solve problems faced by community members.

The project overall has been able to specifically contribute the following:

- Strengthened community voices at the grassroots level
- Improved access of services at the last mile
- Increased awareness among the community members and the citizen volunteers on the working of the PDS
- Increase in demand to access their due entitlements, which in turn is pressurising the district officials to be more accountable as far as PDS system is concerned
- More efficient and transparent working of FPS
- A forum to bring up related issues, including biometric issues, etc.

It has been able to meet the true spirits of the CVC functions as mandated by NFSA through a participatory, accountable, transparent, responsive, effective and efficient and equitable manner.

The project has not only contributed in improving the access of food and services (SGD2) to many disadvantaged communities and ensuring their food security some extent. And by making the process more transparent and corruption free, it has help address the malpractice of shops overcharging the beneficiaries and hence reduced the financial burden of the communities by saving the out of pocket expenses (SDG1). It has not only addressed health poverty but also improved health by ensuring people get their rations to their full entitlement (SGD3?). While the project has trained 600 women, it has given them a platform for them to learn the, contribute to the wellbeing of the society, respected by the community members and most of all, their voices are heard and decisions at community levels are made (SDG4).

PDS Reimagined

Based on the findings from the study carried out by PAC, the following are the recommendations to improve the efficiency and effectiveness of the Public Distribution System.

On a long term, Public Affairs Centre (PAC) advocates for a paradigm shift to nutrition security in the PDS, working through the 3 pillars of Community Agency (CA), Technology & Design (T&D), and Systemic Optimisation (SO), based on the operational foundation of shifting to a system of independent grievance redressal to address inherent conflicts of interest within the system as it is.

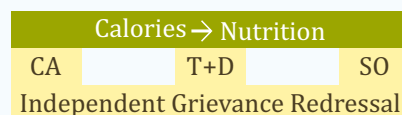


Figure 34: Operationalising Paradigm Shift

Recommendations

Pillar 1: Building Community Agency

The work of the last three years is testament to the essential nature of community participation: it has shown that citizens, including from marginalised and excluded groups, are capable of enhancing food security in their communities.

Short term recommendations

1. Commence phase-wise roll out of the SHG model supported by the implementation process in all the FPSs over 3 years
2. Identify and resolve shop level concerns like:
 - i Putting up all the display boards to be displayed in the shop as mandated by the guidelines
 - ii Maintenance and usage of complaint box in all the shops
 - iii Maintaining and updating all the mandatory records in the shop regularly
 - iv Following the 8AM- 12 PM and 4PM- 8PM shop timings
 - v Keeping the shop open on all days except on Tuesday and on government holidays
 - vi Overcharging beneficiaries for the commodities has to be checked and stopped
 - vii Ensuring all shops have functional biometric systems and electronic weighing machines.
3. Sack to sack transfer of food grains should be made compulsory
4. Pest control measures by the FPS owners every six months should be undertaken and made mandatory
5. It should be ensured that Ahara Adalaths are held regularly in all the shops with participation from the Citizen monitors, FPS owners, Food inspectors and community members
6. Meeting notes of Ahara Adalaths should be put up in the public domain including in the shops and GP/ ward offices
7. Enhanced, dedicated and rural IEC campaigns on the following:
 - i Rights and entitlements of the beneficiaries, portability of rationcards
 - ii Available grievance redressal channels in the department including the helpline number, Ahara Adalaths, online (through the web portal)
 - iii Procedure of obtaining new ration cards, procedure to change the names, and so on other issues related to ration cards
 - iv Disadvantages of using kerosene. FCS department can collaborate to ensure switching to greener energy sources.
8. Regular and surprise visits to the shop by the Food inspectors in their jurisdiction. The communities should be made familiar of the Food inspector in charge of their FPS
9. Setting up the backend support to receive calls on the helpline number and putting in place the documentation and reporting process
10. Creating more awareness among the beneficiaries and shop owners on the rights and entitlements, State guidelines and grievance redressal systems
11. Building capacities of the FPS owners and CVC members on:
 - i Their roles and responsibilities and their functions
 - ii Guidelines, record maintenance and introducing them to the channels of grievance redressal present in the department
 - iii Capacity building of FPS owners to operate computers/ laptops and soft skills.
12. Department should set up a comprehensive backend support to receive calls on the helpline number and putting in place the documentation and reporting process.

Medium term recommendations

1. Put in place a community monitoring mechanism: Based on the findings from the project, the SHG model supported by the implementation process, the community monitoring mechanism can be rolled out in all the FPSs of Karnataka
2. Guidelines for functioning of sub-outlets and mobile FPSs needs to be put in place
3. Ensure that the appointed FPS owners are residing in the same village as of the FPS so as to enhance the accessibility of the FPS owner to FPS which will enhance service delivery as well as distribution of ration will take place on all the days of the month
4. It should be mandatory that the infrastructure of the FPS needs to be inspected and checked before issuing the license to the FPS owner
5. Regular social audits of the department need to be carried out and reports should be put up in the public domain.

Pillar 2: Technology & Design

Information & Communication Technologies (ICT) play an important role in the following aspects: (a) biometric access to entitlements by users at the FPS (b) grievance redressal (c) stock movement at every stage. While a data-based technology platform does exist in Karnataka and other States, there is much more scope for improvement in these areas.

Short term recommendations

1. Identifying and resolving shop level issues:
 - i Ensuring all the shops are equipped with biometric reading machines and electronic weighing machines
 - ii Ensure no shops charge beneficiaries for the use of biometric machine.
2. Increasing the percentage of the coupons on occasions when the server connections are poor and while providing ration to elderly beneficiaries to increase inclusion.
3. Evaluating the digital literacy and access to technology of the beneficiaries and developing future interventions based on the results.

Medium term recommendations

1. Implementing a user-friendly & effective design for the 'interface' between Government & community stakeholders and the underlying technology platform
2. Using data flows & algorithms to detect leakages and create accountability
3. ICT-based tools (e.g. mobile app for smartphone and/or feature phone to upload compliance audits) will be created to ensure that impact is created for the most vulnerable users at the last mile.

Pillar 3: Systemic Optimisation

Data collected over the last three years reveals several issues at the FPS level – e.g. number of card holders per shop, etc – that are indicative of systemic issues or problems further upstream.

Medium term recommendations

1. Mapping population of beneficiaries and jurisdiction of the staff to be revised and optimised. An optimal standard is to be developed based on rigorous scientific modelling
2. Mapping the population of the card holders to cater to their demands and take necessary actions on the FPSs- eg: setting up more FPSs to reduce overburdening and hence malpractices, etc
3. Create Standard Operating Procedures (SoPs) for FPS level especially for migrants from other states to access foodgrains here especially in wake of emergencies like COVID, etc.

Overall long term recommendations

1. **Towards Independent Grievance Redressal**-This operational shift addresses the key flaw in the implementation of the system as it is, which is that the roles of policymaker, service provider and regulator all lie within the same party – namely the same State Department of Government. Grievance redressal, the most important challenge within the PDS, is hindered by this major conflict of interest. PAC therefore advocates for a model of appointing an independent ombudsman to deal with PDS complaints, acting as a neutral arbiter between beneficiaries, FPS and Government. The ombudsman at the community level is the team of CMs elected from the women's SHGs.
2. **Exploring local operations**-Exploring local operations of the PDS supply chain management that is currently undertaken by the Food Corporation of India and/or the State food Corporations, primarily through outsourcing to private contractors, can now be offered as small business opportunities for the young men and women from amongst the local population.
3. **From Calorific to Nutritional Security**-More research regarding diversifying food basket needs to be undertaken. The link between Agricultural Produce Market Committee (APMC) yards to the local FPS such that they provide fresh, locally sourced produce including fruits & vegetables at regular intervals needs to be identified. This is the conceptual paradigm shift will improve the completeness of the food basket.

When citizen monitors' lobbying goes unheeded; when technology malfunctions – there should be a solid foundation of grievance redressal, to appropriately escalate the problem.

Based on the insights collected from the ground, PAC would like to recommend to the Department of Food and Civil Supplies to adopt the recommendations. It is hoped that Karnataka can become a model state for India leading in terms of ensuring an empowered, decentralised socially accountable citizen-based service fulfilling the objectives of the National Food Security Act, 2013.

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Annexure 1

Level 1	Level 2	Level 3	Level 4	Discription	Indicator List
SHG Construct	Social capital		Age of SHG	This is computed by taking the sum, over all CMs in the team, over all SHGs the particular CM belongs to	Average Age of the SHG
			Other activities of SHG	This refers to other activities which may be undertaken by CMs as part of their membership with SHGs. The responses from the data collection will be examined, clustered and scored, and if found to be meaningful, the construct will be included in Social capital	% SHGs involved in other activities other than microfinance
	Leadership ability		Leadership role in SHG	Look at data and decide if this is useful and can be included	% of CMs who are office bearers in their SHGs
			Self-reported leadership ability	Scale of 1-10	Average self-reported leadership score who has scored 10
			Other professions	Look at data and decide if this is useful and can be included	% of CMs involved in other professions
	Experience		Number of years in SHG(s)	Sum of CM's individual experience in SHGs	Average no. of SGHs CMs are involved in
					Average experience in the SHGs
			Travel history		% of CMs who have travelled outside their village/taluk before
			Membership in other community groups	Look at data and decide if useful	% of CMs involved in other community groups
	CM Literacy		Number of years of education	Look at how to rank them	Average years of schooling / % of SHGs who have studied till high school
	Community engagement		Number of years of education	Attendees at Gram Sabha + gender split + attendance by caste. As this is an endogenous factor, it will not be included in the social capital construct during regression, and will be used only for correlation studies.	Average no. of women attending GS
					Average no. of participants
CM awareness				Measures the awareness levels of CMs before and after the intervention	% of CMs answering that 8AM-12PM & 4PM - 8PM as the response
					% of CMs answering 35kgs as the answer
					%of CMs answering the answer as Rs. 38
					% of CMs aware of the helpline number
					% of CMs responding that they are aware of being allowed to collect your monthly ration from any FPS in Karnataka
			Access	Is the FPS open from 8am-8pm every day except Tuesday?	% of FPS that were followed the 8-8 timings except Tuesday during all SHG visits
				Presence of biometric machine	% of shops having a working biometric machine
					% of FPS facing server issues
			Storage	Sufficient space to store 2 months of essential commodities	% of shops with sufficient space to store kerosene and rice

FPS performance	Mandatory outcomes	Compliance		Separate storage space for kerosene and for food grains	% of shops with separate space to store kerosene and rice
			Transparency	Presence of display boards required by law	% of shops with all the boards displayed
				Presence and maintenance of record books required by law	% of shops with all the required records maintained
				Presence of electronic weighing machine, etc	% of FPS with electronic weighing machine
				Presence of electronic weighing machine, etc	% of FPS with electronic weighing machine
			Malpractice	For essential rations and biometric	% of FPS over chagrining for rations or biometric
				Forcing beneficiaries to buy other items	% of FPS forcing beneficiaries to buy other items
	Desirable outcomes	Hygiene	Grain transfer	Method of grain transfer: spreading on floor, on tarpaulin, or sack-to-sack	% of FPS transferring grains from sack-to-sack
	Support from govt to the FPS owner			This is constructed from responses to the FPS Owner Interview - including frequency of Food Inspector visits, a self-reported scale of 0-10 for support from Food Inspector, etc	% of FPS owners who have received any training so far from the Department of Food, Civil Supplies & Consumer Affairs regarding job responsibilities as an FPS Owner
					% FPS owners who have faced any harassment/problems from the Food Inspector
		Support from the Food inspector			Average rating of FPS owners on the support they receive from Food inspectors
					Avg no. of visits made by VC to the FPS
				This is measured as a construct based on correct answers to questions in FPS Owner Interview about PDS objectives, entitlements of beneficiaries, CVCs and grievance redressal procedures.	% of FPS owners who responded that National Food Security Act governs the TPDS
					% of FPS owners who answered that there is 30% leakage in PDS scheme in Karnataka
					% of FPS owners aware of portability of ration cards
FPS owner awareness					% of FPS owners who responded that National Food Security Act governs the TPDS
					% of FPS owners who answered that there is 30% leakage in PDS scheme in Karnataka
					% of FPS owners aware of portability of ration cards
					% of FPS owners aware of the Government-appointed Vigilance Committee (VC), composed of the citizens
					% of FPS owners knowing the individual members of the Government's Vigilance Committee (VC) for their FPS
					% of FPS owners aware that VC is supposed to meet on every 7th of every month (Ahara Adalat)
					% of FPS owners aware of the Consumer Helpline that allows lodging of complaints, issues & grievances regarding PDS
					% of FPS owners aware of the facility provided by the Department for submission of online complaints regarding PDS in Karnataka
	FPS owner profile	FPS owner accessibility to shop			Avg distance traveled by the FPS owner/staff to reach the shop (kms)
					% of FPSs run by a Society

Shop Profile	FPS profile	FPS ownership		Type of ownership of the shop	% of FPSs owned by Government
					% of FPSs run by a SHG
					% of FPSs having private ownership
					Avg no. of years since FPS has operated
		Ownership details			Avg no. of years since FPS has operated
					% of FPSs having own premises
					% of FPSs on lease
		FPS jurisdiction			Avg no. of villages/wards under the shop

Annexure 2

Technical Note

ABSTRACT

This technical note provides a detailed explanation and the justification of the model (data framework) used for computing the scores at each level of the data framework without the use of subjective or uniform weights. PDS data framework uses a variation of the Principal Components Analysis (PCA) technique to arrive at the composite index. This technique effectively pronounces small variations amongst Districts in Karnataka and eliminates bias owing to outliers. The 35 indicators used in PDS data framework are grouped at various levels (Constructs) namely Self-Help Group (SHG), Fair Price Shop (FPS) and Shop Profile (SP).

INTRODUCTION

The Structure of PDS data framework consist of a three-level hierarchy- Constructs, Sub-constructs and the indicators.

- Construct: A Composite variable derived from various Sub-Constructs and indicators.
- Sub-Construct: A composite Variable derived from various indicators (One level below the Construct).
- Indicator: A variable which is used to measure the performance of set of questions assigned to it.

The constructs provide a common ground to compare multiple entities measured on a wide range of individual indicators, each representing a unique dimension of the entity. The entities here are the 10 districts of Karnataka, on which the data source for indicators had been collected to prove the hypothesis developed.

In the PDS data framework, the indicators at the bottom most layer are mapped to the respective Sub-construct in a manner such that each indicator maps to exactly one Sub-Construct. Each of the Sub-Construct maps to one of the Constructs in the top most layer. Each indicator can be tied to a Sub- Construct and the Construct that it maps to. An index score is computed at every node in each of the levels namely Constructs, Sub-Constructs and indicators using a variation of the Principal Components Analysis technique. Finally, the index scores at the top most level constituting the Constructs namely Self-Help Group (SHG), Fair Price Shop (FPS) and Shop Profile (SP) are arrived for each District.

COMPUTATION OF INDEX SCORE

1. The raw scores (after data preparation process) of individual indicator for each district were converted into normalised Z scores to ensure appropriate scaling of data. The direction of the scores were reversed appropriately during the process of scaling to ensure a standard alignment of values for each indicator wherein a high value indicates better performance and vice versa. The direction here was represented as positive and negative for each indicator accordingly.
2. A popular scientific algorithm called Principal Component Analysis was implemented to calculate the index score. PCA explains the variance in the observed data using a few linear combinations of the original data. These few linear combinations reduce the original data to a smaller set of variables called the principal components (PCs) in a manner that the PCs hold a high amount of the cumulative variance in the original data.

Further, the use of a variation of Manhattan Distance* over Euclidean Distance** ensures that small differences*** in PC scores across Districts are pronounced during aggregation. The cut-off for the PCs is taken at 0.8. In other words, the model selects as many PCs that explain a cumulative variance of 80% in the original data.

* Manhattan distance is the distance between two data points in a grid like path

** Euclidean distance is the straight-line distance between two data points in a plane.

*** Manhattan is preferred over Euclidean distance metric as the dimensionality of the data increases.

- 3 PCA here was implemented at each level dividing constructs and indicators into parent node and Child node. The child node is the bottom most layer (i.e., indicators) consisting of questions to the indicator (single or multiple questions).
 - If the length of the Child node is equal to 1, then index score is equal to Z-score
 - If the length of Child node is greater than 1, then index score is calculated by applying PCA
 - Once, the index score is generated for each indicator (child node), the composite index at Sub-Construct level (parent node) is calculated by taking average of index score computed at indicator level (child node).
- 4 The above process repeats, in a similar manner for Sub-Construct and Construct, where the child node for PCA is the Sub-Construct and Parent node for PCA is the Construct. Finally, the index scores are generated at each level of the data framework for each of the 10 districts.
- 5 Hence, to prove the hypothesis developed, “SHG has improved the performance of FPS” data analysis had been performed on the generated index score at each level.



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#15, KIADB industrial area, Jigani-Bommasandra link road, Jigani post, Anekal taluk
Bengaluru-560105, Karnataka, India
www.pacindia.org