

Take-home rations in the Integrated Child Development Services (ICDS): Study of coverage and uptake in Tamil Nadu

INTRODUCTION

Integrated Child Development Services (ICDS), a flagship program of the Government of India, offers nutrition services to support child development. One major component of ICDS is the Supplementary Nutrition Program (SNP), which provides take-home rations for all children under 6 years of age and pregnant and lactating women to bridge the calorie and protein gaps in their diets. Current SNP guidelines recommend providing the rations in the form of micronutrient-fortified food or energy-dense food to bridge the nutrient gap between the Recommended Dietary Allowance and Average Daily Intake (MoWCD 2014). In Tamil Nadu, the take-home rations are a fortified-blended product called Sathumaavu.

Coverage of take-home rations in Tamil Nadu is above the national average for all beneficiary groups, but variability across districts is high (IIPS and ICF 2021). Little is known about household use of Sathumaavu, perceptions of its quality, or its integration into standard diets. This study, a collaboration between LEAD at Krea University and the International Food Policy Research Institute (IFPRI) with the Government of Tamil Nadu, explored the uptake and use of Sathumaavu among women and children across the state. The study aimed to:

- Assess the uptake and use of the ICDS-provided Sathumaavu in Tamil Nadu
- Examine demand- and supply-side factors related to the coverage and use of Sathumaavu

STUDY METHODOLOGY

The cross-sectional study was conducted in five districts: 1) Ariyalur, 2) Ramanathapuram,

3) Villuppuram, 4) Dindigul, and 5) Coimbatore (Figure 1). Survey respondents were mothers with children under 3 years of age. Following listing in February 2021, phone surveys were conducted in July–September 2021, with questions covering respondent demographics, receipt and use of Sathumaavu, and other health and nutrition services. Table 1 provides the sample size by district and respondent type. In addition, five key informant interviews were conducted with ICDS staff at the district-, block-, and sector-levels; and five focus group discussions were held with women’s self-help groups that produce Sathumaavu.

Figure 1: Study districts

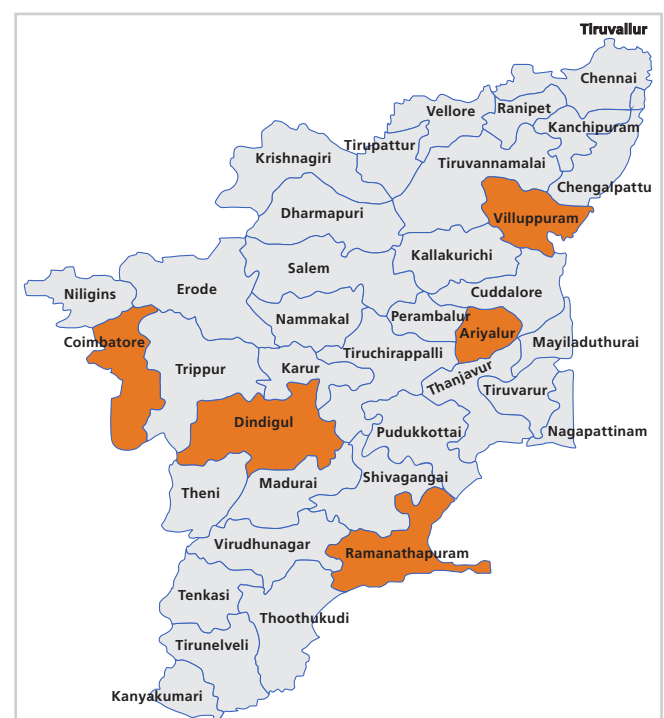


Table 1: Sample size by district and respondent type

District	Mothers with children <6 months	Mothers with children 6-23 months	Mothers with children 24-35 months	Total
Ariyalur	144	465	129	738
Coimbatore	103	298	66	467
Dindigul	88	241	91	420
Ramanathapuram	86	314	108	508
Villuppuram	75	237	67	379
Total	496	1,555	461	2,512

FINDINGS AND LESSONS

Coverage and uptake of Sathumaavu for pregnant and lactating mothers and for children is high

More than 93% mothers reported receiving Sathumaavu during their pregnancy, and about 97% reported consuming it (Figure 2). A majority (84%) of lactating mothers reported currently receiving Sathumaavu, and among those, 86% reported consuming it. Nearly 90% of mothers reported that they faced no challenges in receiving Sathumaavu.

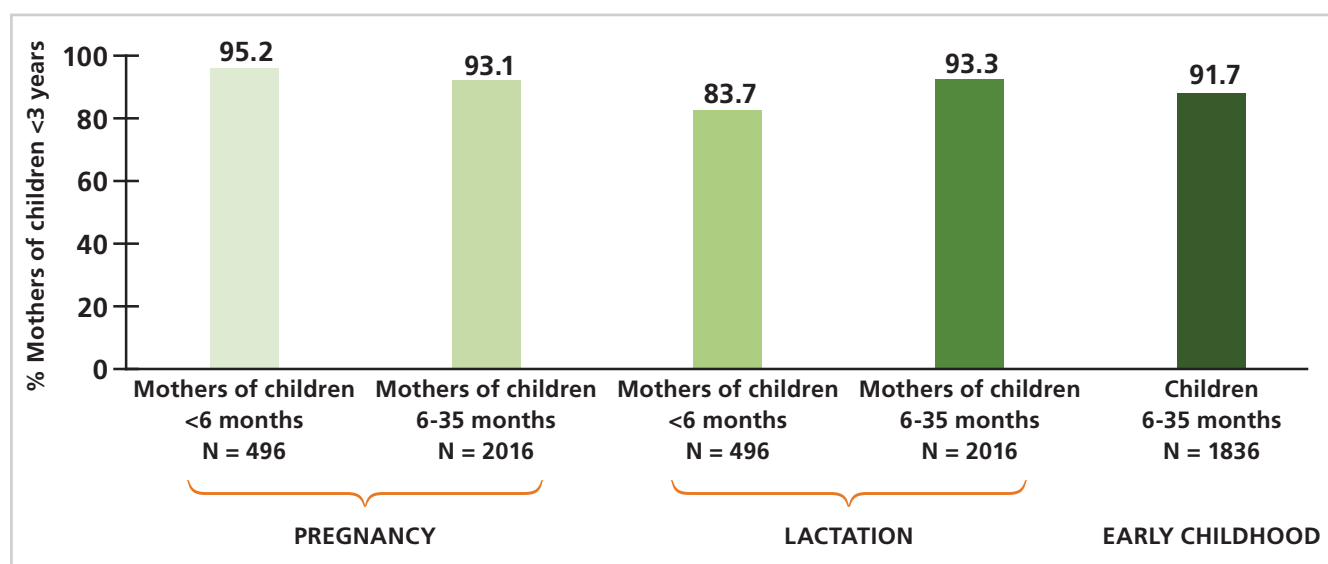
More than 90% of mothers reported receiving Sathumaavu for their child, and uptake was about the

same — 89% of children consumed it. Most mothers reported collecting it from the Anganwadi center, while 16% reported that an Anganwadi worker delivered it to their home.

Recommendations:

- Retain current delivery modality for Sathumaavu, as it is reaching a majority of ICDS-enrolled beneficiaries
- Identify ways of reaching the minority (7%) who did not receive Sathumaavu
- Retain current recipe of Sathumaavu, exploring options to improve its texture (see Box 1)

Figure 2: High coverage of Sathumaavu among ICDS beneficiaries



Box 1. Acceptability and use of Sathumaavu among the beneficiaries

In July 2020, phone-based interviews were conducted in five districts (Ariyalur, Ramanathapuram, Villuppuram, Dindigul, and Coimbatore) of Tamil Nadu with 819 women to assess the acceptability and use of Sathumaavu compared to the prior take-home ration. Most beneficiaries were satisfied with the new Sathumaavu version. Most preferred the new Sathumaavu's taste, consistency, ease of preparation, and packaging to the older version. The majority of beneficiaries (65%) reported receiving 1-2 kg of Sathumaavu per month. Most beneficiaries perceived Sathumaavu to be a nutritious food and hence consumed it or fed it to their children. Most women (91%) followed the packet recipe for kanji and sathu urundai, and kozhukatai was another preferred preparation. A few beneficiaries suggested improving the softness or fineness of Sathumaavu.

Sathumaavu is valued by the beneficiaries

Less than 24% of mothers preferred receiving cash compared to Sathumaavu. Women were informed about Sathumaavu and its use during routine outreach, and most mothers prepared Sathumaavu using the package instructions. However, of the 1,497 mothers of children under 3 years who said their children consumed Sathumaavu, nearly 83% reported that it was consumed by everyone in their household. This signals a high level of sharing within the households, although ration sharing is discouraged.

Recommendation:

- Strengthen strategies for encouraging adequate consumption of Sathumaavu by target beneficiaries within households

Most children are exposed to a diverse diet

Infant and young child feeding practices are encouraging. Most children in the study areas were introduced to solid and semi-solid foods in a timely manner, and almost 73% received food from five or more food groups, indicating exposure to a diverse diet (**Figure 3**). More than 85% were given legumes or nuts and dairy and 74% received fruits and vegetables.

More than 25% of children consumed sweetened beverages and nearly 20% consumed unhealthy foods.

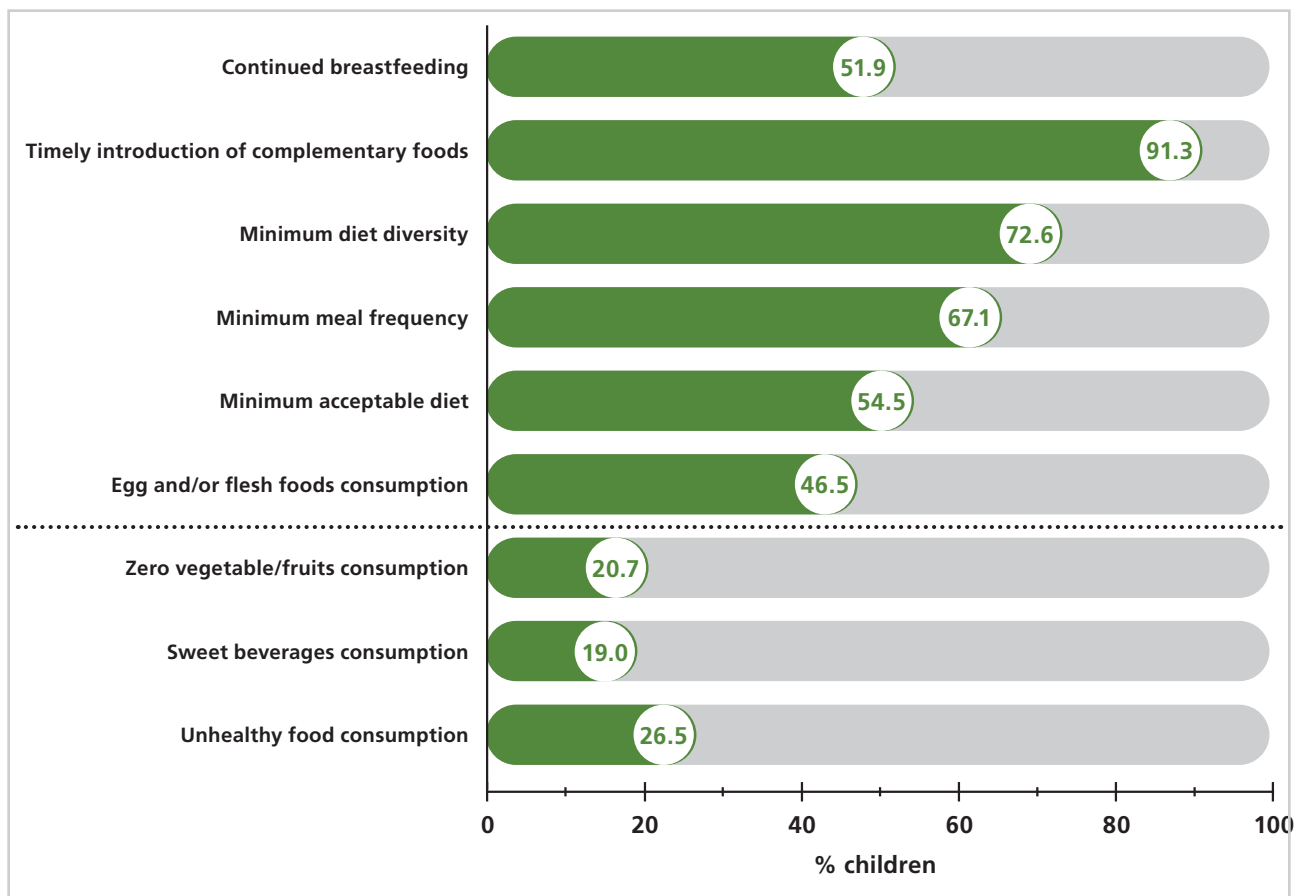
Recommendation:

- Ensure frontline workers continue to encourage families to feed their children diverse foods and help them identify ways to reduce feeding of sweetened beverages and snack foods



Photo credit: Shawn Sebastian for POSHAN

Figure 3: Infant and young child feeding practices are encouraging



Note: Definitions of IYCF indicators are based on the WHO guidelines (WHO and UNICEF 2021). Sample sizes vary based on the indicator: continued breastfeeding for children 12-23 months old (N=921); timely introduction of complementary foods for children 6-8 months old (N=288); other complementary feeding indicators for children 6-23 months old (N=1,555); minimum meal frequency and minimum acceptable diet calculated for breastfed children only (N=627).

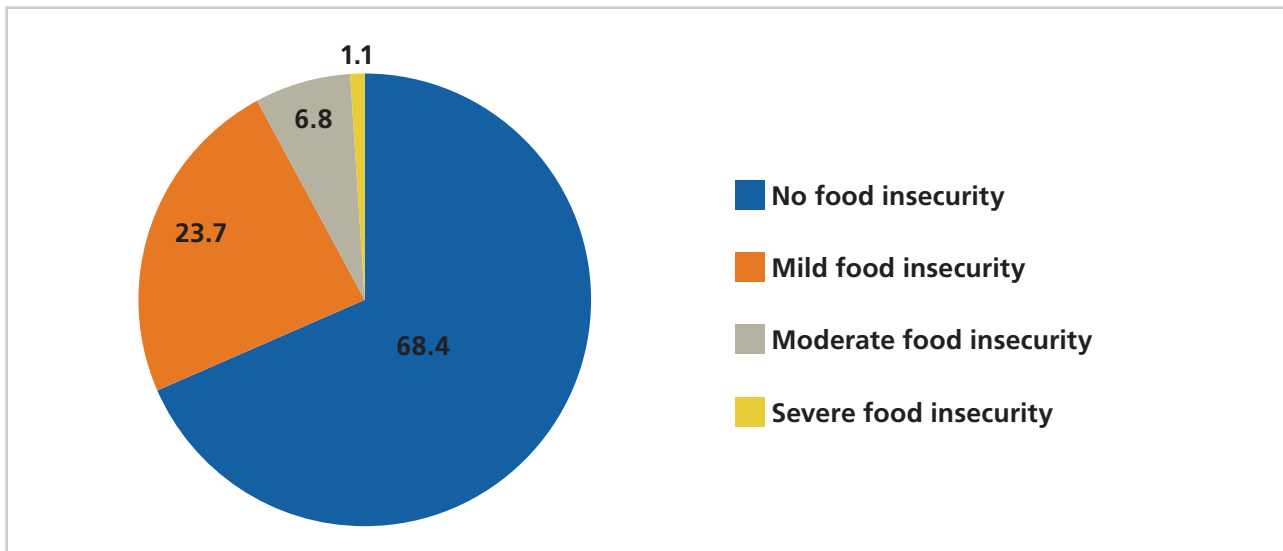
Most households received cash transfers and reported no food insecurity

Nearly 74% of households reported receiving government cash transfers in the six months prior to the survey (i.e., February-July 2021), and 84% reported accessing rations under the Public Distribution System (**Figure 4**). The majority of households (68.4%) reported no food insecurity in the month prior to the survey (i.e., June-August 2021).



Photo credit: Shawn Sebastian for POSHAN

Figure 4: Majority of households are food secure



Production and supply of Sathumaavu are standardized but storage, distribution, and quality control practices vary

Procurement of ingredients and production of Sathumaavu have been standardized for more than 20 years, using 15-day cycles of production and distribution. Demand is assessed based on Anganwadi center listings. The centers are the primary storage points where a 25-day buffer stock is maintained to ensure availability. Each batch is dispatched within a week, ensuring Sathumaavu is distributed within its 90-day shelf-life. The standards of packaging and distribution are uniform. To measure Sathumaavu portions, Anganwadi workers may use a standard cup, child-weighting scale, or estimate the portion size, and beneficiaries may bring their own containers.

Quality assurance monitoring at various levels includes routine lab testing, unscheduled checks by the food safety department, and internal quality checks by ICDS staff. Quality checks are also conducted by staff during home visits to beneficiaries. Anganwadi workers are trained on quality control measures by ICDS as part of the onboarding program and during periodic refresher trainings.

Recommendations:

- Standardize norms and introduction of checklists for storage and inspection at Anganwadi centers and norms for storage at beneficiary homes
- Standardize packaging and distribution for greater accuracy of delivery
- Provide families with labeled containers to store Sathumaavu



Photo credit: Shawn Sebastian for POSHAN



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LESSONS

This study provides insights on the program that can be used to further improve the uptake of SNP in Tamil Nadu. Overall, the lessons from both the supply and demand side are also relevant to other states for improving coverage and use of take-home rations. Given that Sathumaavu is a key entry point for client

engagement with other components of the ICDS program, improving its uptake has the potential to strengthen overall client engagement with ICDS in the state. The high coverage and uptake of Sathumaavu suggest that it should be continued, with some adjustments and improvements in packaging and distribution quantities, to ensure the greatest benefits.

REFERENCES

International Institute for Population Sciences (IIPS) and Inner City Fund (ICF). 2021. "National Family Health Survey (NFHS-5), India, 2019-21: Tamil Nadu," no. December: 1–735. <http://www.nfhsindia.org/>.

Ministry of Women and Child Development (MoWCD), Government of India. 2014. "Supplementary Nutrition Programme." Press Information Bureau. <https://pib.gov.in/newsite/printrelease.aspx?relid=104046>.

World Health Organization (WHO) and the United Nations Children's Fund (UNICEF). 2021. Indicators for Assessing Infant and Young Child Feeding Practices. World Health Organization and the United Nations Children's Fund (UNICEF). Vol. WHA55 A55/. http://apps.who.int/iris/bitstream/handle/10665/44306/9789241599290_eng.pdf?sequence=1%0Ahttp://whqlibdoc.who.int/publications/2008/9789241596664_eng.pdf%5Chttp://www.unicef.org/programme/breastfeeding/innocenti.htm%5Chttp://innocenti15.net/declaration.



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ABOUT POSHAN

Partnerships and Opportunities to Strengthen and Harmonize Actions for Nutrition in India (POSHAN) is a multi-year initiative that aims to build evidence on effective actions for nutrition and support the use of evidence in decision-making. It is supported by the Bill & Melinda Gates Foundation and led by IFPRI in India.

ABOUT RESEARCH NOTES

Research Notes summarize the latest findings from POSHAN-led studies.

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