

Supplement to: Jadhav M, Mannar MG. Diagnosing and addressing barriers to the uptake of double fortified salt in India: a value chain analysis. *Glob Health Sci Pract.* 2021;9(4). <https://doi.org/10.9745/GHSP-D-20-00448>

Supplement Table 1. Secondary Data collection and analysis framework for the Double Fortified Salt-Value Chain Analysis

| Data Sources | Stakeholders | Respondents/ Participants/ Organizations | Key themes for exploration | Value chain requirements ¹¹ assessed |
|--------------------------------------------------------------------------------------------------|----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Production and Sales records (Compiled data from representatives including reported data) | Premix manufacturers | JVS Foods, Rajasthan | Production and Sales records (compiled data from representatives including reported data) Price of DFS premix Barriers in production and sales | Capturing value Sufficient incentives along the VC Managing costs, risks, and uncertainty |
| | DFS producers | Goyal salts – Rajasthan Ankur Salts – Gujarat Tamil Nadu Salt Corporation (TNSC) - Tamil Nadu | Production and sales of DFS Prices of DFS premix and DFS Barriers in production and sales | Capturing value Sufficient incentives along the VC Managing costs, risks, and uncertainty |
| Web search | Government organizations | DFS standards and guidelines – Food Safety and Standards Authority of India. Policy directives of government departments including DFS interventions in food security programs (PDS – Public Distribution System of the Ministry of Consumer Affairs, Food and Public Distribution; ICDS – Integrated Child Development Services and MDM – Mid-Day-Meal scheme of the Ministry of Women and Child Development | Policies and guidelines on DFS Quality Assurance, standards, and protocols Coverage of DFS in food security programs Policies promoting private sector investment in DFS | Signaling mechanisms (consumer education) Availability (Coverage and sustainability of public sector interventions) Affordability (Subsidization and inclusion in food security programs) Value chain coordination and governance Managing costs, risks, and uncertainty (risk-sharing through public-private partnerships) Institutional environment (mechanisms, institutions, and policies) |
| DFS stakeholder consultations (3 consultations attended by the first author) | Implementing organizations | Implementation partners with representation from FSSAI, Nutritional International, Tata Trusts, GAIN, and other implementation partners | Experiences of implementing organizations Stakeholders’ perceptions and attitudes to DFS Experiences of consumers (as reported by implementation partners) Barriers to implementation and scale-up | Availability (Coverage data) Acceptability Value chain coordination and governance Managing costs, risks, and uncertainty (risk-sharing through public-private partnerships) |

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| | | | Coordination mechanisms | Institutional environment (mechanisms, institutions, and policies) |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|
| Program data Consumer acceptance and utilization of DFS from monitoring data of a DFS field intervention (household surveys involving 2000 households) | The India Nutrition Initiative – Tata Trusts (program data) Sensory studies by Institute of Home Economics, Delhi | Monitoring data from a field intervention on DFS in the state of Uttar Pradesh, India Unpublished data from sensory trials on DFS done at the Institute of Home Economics, New Delhi, India | Implementation experiences and program monitoring data Sensory trials and consumer acceptability | Acceptability (Consumer feedback and uptake of DFS) Nutrition awareness |
| Reports and studies | University of Toronto, Canada | Telephonic discussion with representatives from the University of Toronto Literature on the technology and salt formulation | Information on the encapsulation technology and the salt formulation | Acceptability |

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Supplement Table 2. Primary data collection

| Data collection methods | Stakeholders | Respondents/ Participants | Key themes for exploration | Value chain requirements assessed |
|-------------------------------------------------------|-----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| In-depth interviews (In-person interviews) (8) | Premix manufacturers (In-person interview) | Technical manager - JVS Foods, Rajasthan Operations Manager – JVS Foods, Rajasthan | Production and Sales Flow of products from input to end-product Barriers in production and sales Stakeholder perspectives on investment in DFS premix production | Capturing value Sufficient incentives along the VC Managing costs, risks, and uncertainty |
| | DFS producers (In-person interview) | Owner – Ankur Chemfood Ltd. Gujarat Manager – Ankur Chemfood Ltd. Gujarat Owner – Goyal Salts, Rajasthan Quality Manager – Jagannath Salts, Rajasthan Officer – Tamil Nadu Salt Corporation (TNSC), Tamil Nadu Owner – VKS Salts, Tuticorin, Tamil Nadu | Production and Sales Flow of products from input to end-product Barriers in production and sales Stakeholder perspectives on investment in DFS production | Capturing value Sufficient incentives along the VC Managing costs, risks, and uncertainty |