

A Rapid Realist Review of Household Gardening Interventions for Improving Vegetable Consumption in Low- and Middle-Income Countries (LMICs)



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Introduction

Household gardening is a widely promoted strategy to improve globally low levels of vegetable consumption and overall diets in many LMICs. However, their effectiveness vary across different groups and program designs.

This research aims to understand *what works or does not work, for whom, in what context, and how* household gardening interventions change vegetable consumption in LMICs, specifically:

- 1) What are the **impact pathways** in household gardening that lead to improved vegetable consumption?
- 2) What are the relevant **contextual factors and mechanisms** along household gardening impact pathways that result in improved vegetable consumption?
- 3) Under **what context** are the underlying mechanisms triggered to enable, sustain, or constrain pathways to vegetable consumption?

Methodology

A **Rapid Realist Review (RRR)** approach was used to analyse the evidence on household gardening interventions and their impact on vegetable consumption in LMICs.

The RRR method in this study is adapted from the **Realist and Meta-narrative Evidence Synthesis: Evolving Standards / RAMESES Guide** which involved:

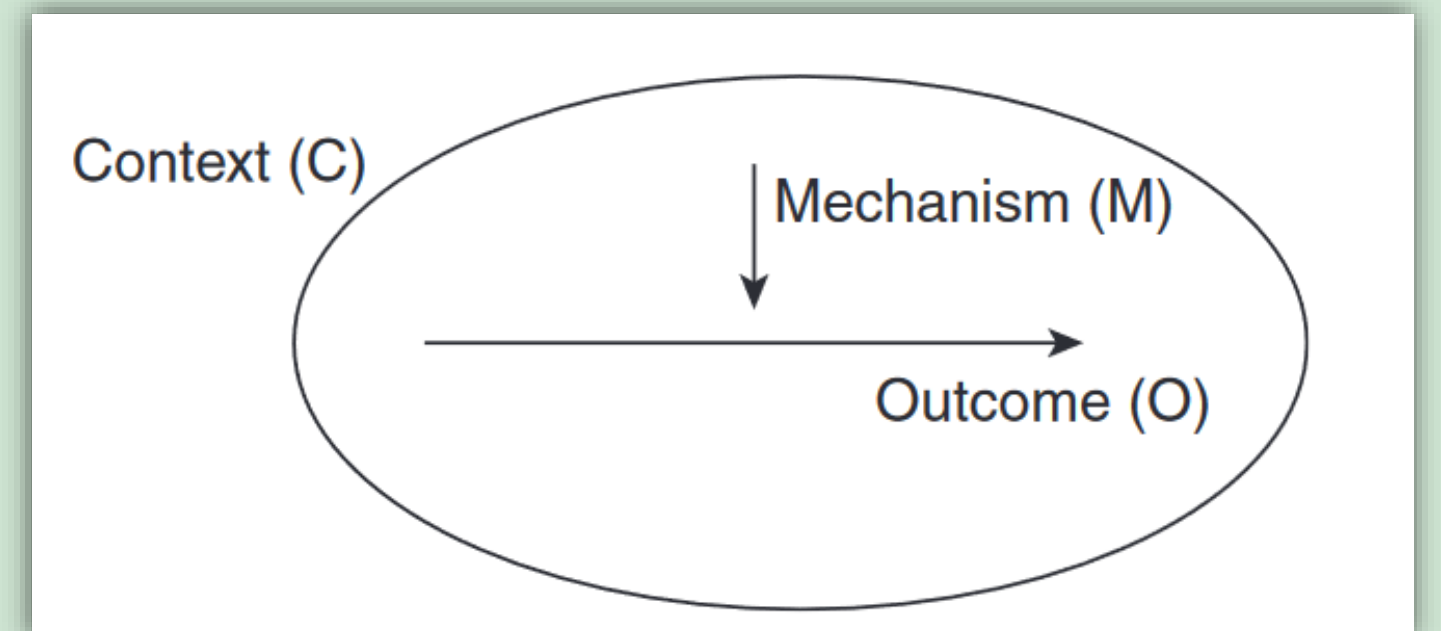


Figure 1. Basic components of realist causal explanation (Pawson, 2006)

- 1) Development of an initial programme theory (Figure 2)
- 2) Identification of studies from a **scoping study on vegetables and diets** in LMICs (Harris et al., 2022)
- 3) Development & refinement of programme theories

29 studies were selected, all published between 2002 & 2020, with most studies being quantitative (21), and conducted in South Asia (12) and Sub-Saharan Africa (11)

Results and Discussion

- **34 programme theories**, written as *context-mechanism-outcome (CMO)* / *if-then* statements under **three impact pathways**, were identified
- Most CMOs covered the production pathway (13) and knowledge pathway (13), while fewer for the income pathway (7)
- Example of a CMO identified in the RRR:

“When households with limited time to manage the gardens due to other competing responsibilities (C) are provided with starting materials and equipment for household gardening (I), lower priority is accorded to gardening (M) resulting in lower production of vegetables (O)”

Progression of impact pathways is not straightforward but is highly dynamic & dependent on contexts and mechanisms

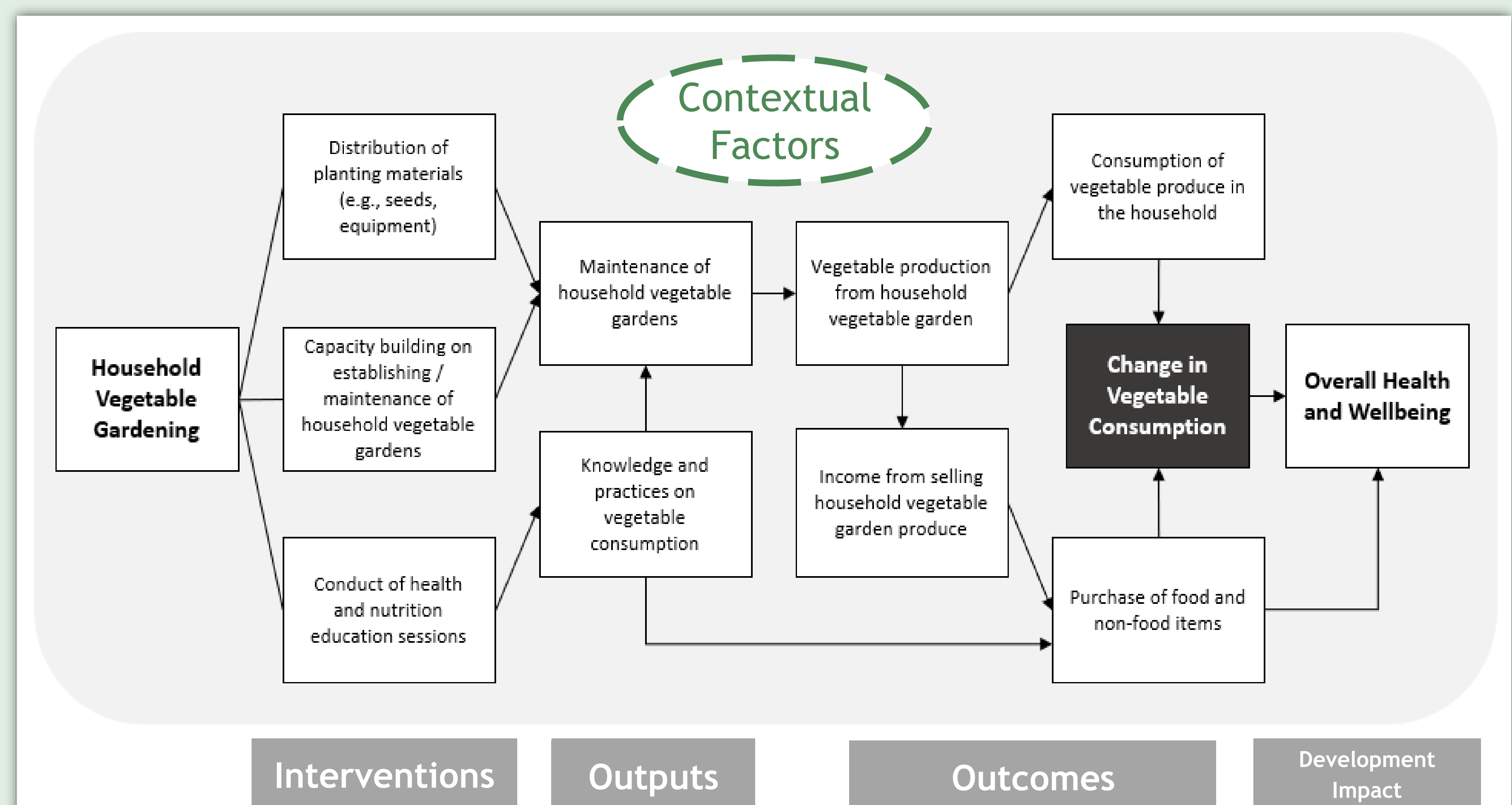


Figure 2. Initial programme theory, synthesized by the researcher from studies on household gardening and diets (Galhena et al., 2013; Olney et al., 2013; Schreinemachers, Brown, et al., 2018)

Impact Pathways	Contextual Factors within the Impact Pathway
Production	Seasonality, gardening space, pests and livestock, time, women's resource, market distance, produce sharing
Income	Surplus production, income levels, gardening space, market access
Knowledge	Women's participation, community-based approaches, gardening space, training access, literacy, employment

Conclusions

Household gardening presents significant potential in improving vegetable-rich diets in LMICs. However,

- Various contextual factors and mechanisms along each pathway need to be accounted in the design of household gardening programs to make them more synergistic and effective in improving vegetable consumption
- Specific impact pathways and programme theories can be investigated to establish the case for context-specific programmes that link agriculture, economic, education, & nutrition goals, while factoring various food systems drivers