Food security and ecosystem services provided by homegardens in Sri Lanka

Mattsson Eskil[1], Ostwald Madelene[2], Nissanka S.P[3]

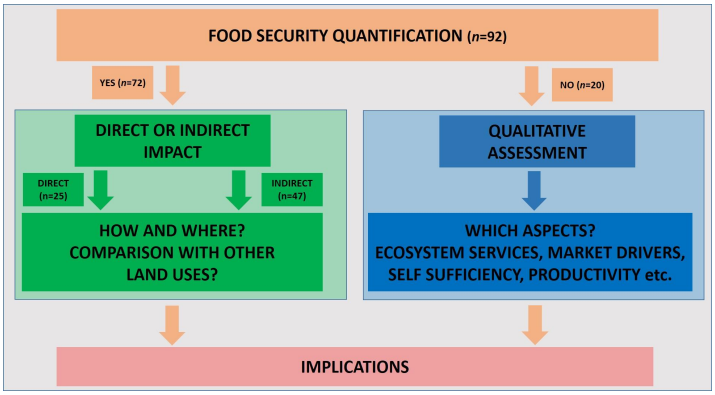
[1] IVL Swedish Environmental Research Institute, Natural Resources and Environmental Effects, Gothenburg, Sweden
[2] Chalmers University of Technology, Centre for Environment and Sustainability, Gothenburg, Sweden
[3] University of Peradeniya, Department of Crop Science, Peradeniya, Sri Lanka

Introduction and aims

In Sri Lanka, homegarden agroforestry systems cover about 13 percent of the land area and constitute a majority of Sri Lanka's total annual crop and timber production. Despite Sri Lankan homegardens are considered desirable and sustainable land-use systems that produce a multitude of ecosystem services, their role in food security is not yet entirely understood.

In a recently published research article we study how food security aspects in Sri Lankan homegarden systems are assessed in the scientific literature, by synthesizing articles (*n*=92) from scientific databases and grey literature (see flowchart below). The aim was to investigate the links between homegardens and food security, in terms of quantifying homegarden products or services, and identifying whether the characteristics of food security are assessed as direct- or indirect impacts, synergies or trade-offs.

BELOW: Flow-chart and the categorization results of a review article based on 92 documents, both peer-reviewed articles and grey literature (Mattsson et al. 2018).



Results and conclusions

- The indirect effects of food security are the most common assessed in the literature such as functions, ecosystem services and aspects related to climate change.
- Value addition, certification schemes or development of marketable goods are lacking – could give a lock-in effect of the systems and their users.
- Due to urbanization, homegarden systems are going through a transition leading to fragmentation of the systems.
- Interlinkages with other land-use systems (e.g. forestry or intensive agriculture) regarding impacts, synergies or trade-offs remain relatively unexplored.
- No studies assess the potential of homegardens to support food supply at the landscape- or national level. This makes it difficult to assess the wider contribution of homegardens to food security in Sri Lanka.

Way forward and policy recommendations

- Craft policies with higher degree of inclusiveness of stakeholders aligned with long-term commitments.
- Create guidelines that differentiate between biophysical variations (e.g. dry vs. wet climate zone) or socio-economic differences (e.g. urban vs. rural areas).
- Seeking synergies rather than trade-offs to increase the profitability of the homegarden systems while maintaining ecosystem services.
- Long-term transdisciplinary, stakeholder inclusive and data-dense research programs with clear monitoring and evaluation methods are needed in relation to changes in society and environment.

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Contact: Eskil Mattsson, eskil.mattsson@ivl.se