

School gardens as a method of scaling up sustainable technologies: a review

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ABSTRACT

Current research on school gardens is primarily focused on improving student nutrition. Less examined is their potential to be agents of knowledge transfer to the wider community. This paper seeks to determine the potential of school gardens as a pathway to scaling agricultural innovations. Literature is reviewed for best practices and recommendations conducive to scaling up agricultural technologies using school gardens. Findings indicated that school gardens have the potential to play a key role in scaling sustainable intensification (SI) technologies. They provide opportunities for knowledge transfer through teacher-student-parent communication. Identified best practices and barriers are then applied to a case study analysis of a USAID-funded project in Cambodia: Scaling Suitable Sustainable Technologies (S3-Cambodia) project.

INTRODUCTION

This paper seeks to determine the potential of school gardens as a pathway to scaling agricultural innovations, particularly SI technologies. Specifically, it will assess if school gardens are able to limit barriers to adoption such as risk and information availability

METHODOLOGY

This paper reviewed theoretical and empirical literature on the school gardens with a focus on scaling of agricultural technologies and innovations. Literature was found using key word searching through using the University of Tennessee libraries database and Google Scholar. Themes and key activities were then drawn from the literature to determine best practices of scaling successful school garden programs. Research gaps and challenges to school garden implementation were determined for each piece of literature and used to determine key barriers to scaling. Findings were then applied to a case study analysis of S3-Cambodia



OBJECTIVES

1. To review current and historical literature regarding scaling and adoption of agricultural innovation
2. To determine the impact of school gardens as a method of scaling up agricultural technologies

RESULTS/ DISCUSSION

Best Practices for scaling	Barriers to scaling
<ul style="list-style-type: none"> • Including <i>parents</i> in the learning process and upkeep of school gardens • Establishment of <i>home gardens</i> alongside school gardens • Establishment of <i>hands-on, research-based</i> agricultural curriculum in schools • <i>Collaboration</i> and <i>commitment</i> among all stakeholders • <i>Financial assistance</i> from government or outside organization for startup and upkeep 	<ul style="list-style-type: none"> • Focusing on the '<i>what</i>' and not the '<i>how</i>' (i.e. scaling is not 'one size fits all') • <i>Social mores</i> and the relationship between parent /child • Poor <i>capacity building</i> for and involvement of school heads, teachers, and parents • Lack of <i>social, human, and/or economic</i> capital • <i>Unintegrated</i> commitment and partnership among stakeholders

School gardens have the potential to play a key role in scaling SI technologies. They provide opportunities for knowledge transfer through teacher-student-parent communication. Overall, S3-Cambodia seeks to apply best practices and avoid the barriers to scaling. However, not detailed in the project proposal is parental involvement.

CONCLUSION

School gardens serve as a useful tool worldwide to enhance student agriculture education and food systems knowledge. While much of current research focuses on nutrition and vegetable consumption, there is literature supporting school garden ability to play a key role in scaling agricultural, specifically SI, technologies