

Planning an integrated agriculture and health program and designing its evaluation: Experience from Western Kenya



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ABSTRACT

Multi-sectoral programs that involve stakeholders in agriculture, nutrition and health care are essential for responding to nutrition problems such as vitamin A deficiency among pregnant and lactating women and their infants in many poor areas of lower income countries. Yet planning such multi-sectoral programs and designing appropriate evaluations, to respond to different disciplinary cultures of evidence, remain a challenge. We describe the context, program development process, and evaluation design of the Mama SASHA project (Sweetpotato Action for Security and Health in Africa) which promoted production and consumption of a bio-fortified, orange-fleshed sweetpotato (OFSP). In planning the program we drew upon information from needs assessments, stakeholder consultations, and a first round of the implementation evaluation of a pilot project. The multi-disciplinary team worked with partner organizations to develop a program theory of change and an impact pathway which identified aspects of the program that would be monitored and established evaluation methods. Responding to the growing demand for greater rigour in impact evaluations, we carried out quasi-experimental allocation by health facility catchment area, repeat village surveys for assessment of change in intervention and control areas, and longitudinal tracking of individual mother-child pairs. Mid-course corrections in program implementation were informed by program monitoring, regular feedback from implementers and partners' meetings. To assess economic efficiency and provide evidence for scaling we collected data on resources used and project expenses. Managing the multi-sectoral program and the mixed methods evaluation involved bargaining and trade-offs that were deemed essential to respond to the array of stakeholders, program funders and disciplines involved.

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1. Introduction

In response to persistently poor maternal, newborn and child health indicators in low income countries (Countdown to 2015, 2016), governments, non-governmental organizations and international donors have intensified calls for multi-sectoral interventions. In 2013, the World Bank declared that “Nutrition is a multi-sectoral problem with multi-sectoral solutions” (World

Bank, 2013). UNICEF also calls for multi-generational, multi-sectoral responses to these problems (UNICEF/EU, 2016). Given the vast majority of the rural poor globally are engaged in farming, promoting the cultivation and the consumption of micronutrient rich crops hold promise as complementary strategies to improve both livelihoods and nutritional status (Burchi, Fanzo, & Frison, 2011). However, as summarized in recent systematic reviews (Masset, Haddad, Cornelius, & Isaza-Castro, 2012; Ruel et al., 2013; Webb, 2013; Webb Girard, Self, McAuliffe, & Olude, 2012), the most appropriate multi-sectoral programs are not yet clear. Nor is there good evidence of the impact of such programs on the nutrition and health status of women and children, despite efforts to improve program evaluation (Levinson & Madzorera, 2005).

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Although multi-sectoral interventions are increasingly espoused by development stakeholders, it is rare to see programs that involve agriculture, health and other relevant sectors. Like health promotion programs in other contexts (Jolley, 2014), operating at village, district and regional levels within low-income countries is intrinsically complex. Planning such programs involves interaction with multiple social actors and engaging in a range of activities in a development context where multiple goals are often of interest to funders and national governments (Bamberger, 2000). Program theory requires analyzing a complex chain of causality, often not adequately spelled out much less subject to rigorous evaluation (Forss, Marra, & Schwartz, 2011). Others who have evaluated complex rural development interventions (Luo & Liu, 2014) have also commented on these challenges.

Further, there are different traditions of evaluation rigour and cultures of evidence among those evaluating multi-sectoral interventions (Cole et al., 2003; Klein, 2008). Agricultural economists, nutritionists, human health researchers, development specialists and evaluators hotly debate what constitutes credible and actionable evidence to guide implementation and influence policy-making (Donaldson, 2015). Trickett et al. (2011) have argued that evaluations of community-level interventions require understanding diverse socio-ecological conditions across communities and collaborating with social actors at different levels and over time, in order to produce not only valid evidence but also sustainable community level impacts. Health promotion and implementation science researchers appeal for much more attention to how interventions are planned and implemented by partners across sectors and at multiple levels to promote synergies in impacts (MacLean et al., 2010). Those fostering innovation systems use participatory methods to map networks of social actors, identify and analyze scenarios, and model impact pathways for longer term uptake, and scaling up good ideas (Douthwaite et al., 2007). However, these more open-ended processes can result in more varied types and intensities of intervention, including “lapses, infidelities and creative

adaptations” (Horton et al., 2013). These would likely be regarded as deficiencies among those who have called for greater rigour, championing randomized and quasi-experimental evaluation designs for a wide range of social, educational and economic interventions (see International Initiative for Impact Evaluation (www.3ieimpact.org/) and the Abdul Latif Jameel Poverty Action Lab at the Massachusetts Institute of Technology (<http://www.povertyactionlab.org/about-j-pal>)). In contrast, guidance on the evaluation of large scale development programs suggests paying attention to theories linking interventions to outcomes and advocates mixed methods approaches (Leeuw & Vaessen, 2009). There are practical problems for programs that must allocate resources to planning, implementation and evaluation, and may not have resources for a wide array of mixed-methods approaches (Morell, 2010).

As a multidisciplinary team involved in the planning of a multi-sectoral program and designing its evaluation, we faced both challenges in program planning and choices among the evaluation options, influenced by the priorities and approaches of our different disciplines. Our purposes in this paper are: to outline the multiple steps involved in planning the multi-sectoral program, including crucial linkage mechanisms across sectors; to describe our approach to monitoring and evaluation of its implementation; and to reflect on our experience of implementing the program and its evaluation (see Fig. 1). We start with the rationale for the program, its population focus, and the context. We next describe the needs assessment, planning with key social actors, and piloting of program components. All of these informed our program theory and helped us articulate expected pathways of change with the multiple interventions. To document implementation and outcomes, we formulated a mixed-methods, sequential design (Creswell & Plano Clark, 2010). We describe the benefits of our planning and evaluation approaches, the challenges and surprises we encountered along the way, and the adaptations required in both program implementation and our evaluation approach (Morell, 2010). Our aim is to share our experience of working across different cultures of evidence with other

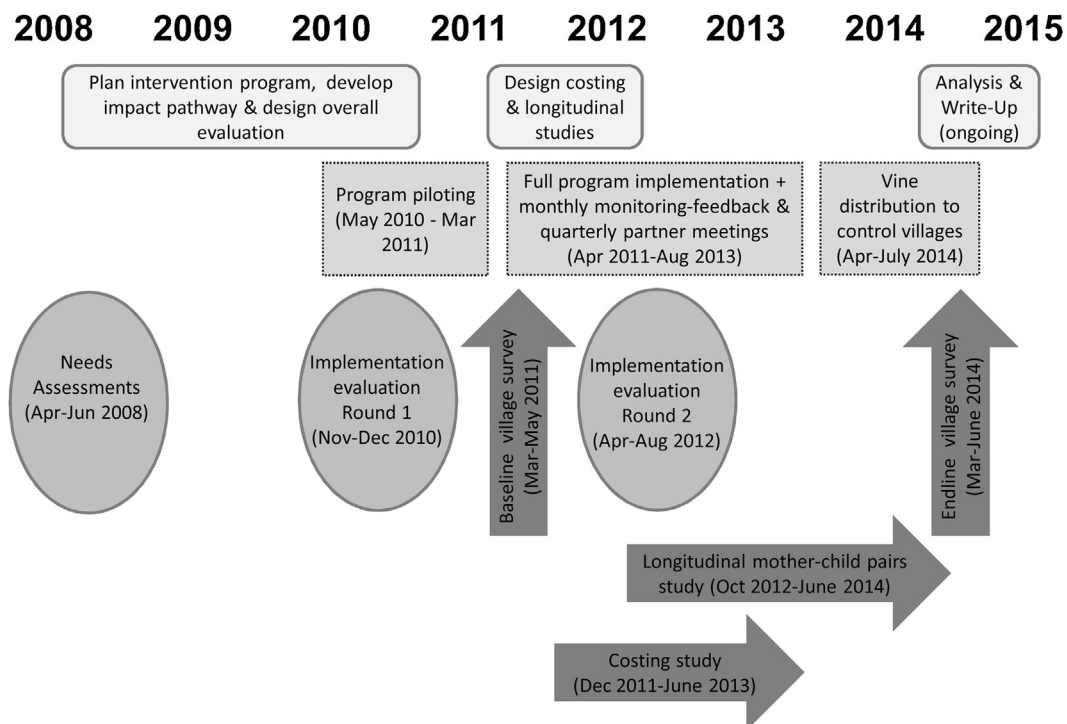


Fig. 1. Mama SASHA planning, implementation and evaluation timeline.

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