

AHN Learning lab: Economic Evaluation

Case Study: An integrated agriculture and health program to improve nutrition outcomes using bio-fortified sweetpotato

Reference: Cole, Donald C., et al. "Planning an integrated agriculture and health program and designing its evaluation: Experience from Western Kenya." Evaluation and program planning 56 (2016): 11-22.

1. Program objectives

Mama SASHA's overall goal was to improve the health status of pregnant women and the nutritional status of children up to two years through an integrated OFSP and health service-delivery strategy in Bungoma and Busia counties of Western Kenya. To meet this goal, the team set out three broad objectives:

1. To strengthen aspects of existing information, education, and communication materials and methods for supporting sustainable OFSP production and consumption at both the health facility and community levels, i.e. to improve the knowledge and practices of health workers, agricultural extension agents, and community members about OFSP and vitamin A rich foods. ^[L]_[SEP]
2. To improve the evidence base on impacts (on nutrition, women and child health status, and use of health services) and on sustainability of a delivery system for high-yielding OFSP through community- and facility-based health services, in conjunction with agricultural partners. ^[L]_[SEP]
3. To understand the costs and benefits of linking an integrated OFSP-focused agricultural-nutritional intervention to a health service-delivery system serving pregnant women. ^[L]_[SEP]

2. Implementing partners and funding sources

The Mama SASHA project was integrated into the USAID/Kenya AIDS, Population and Health Integrated Assistance Program (APHIA II and APHIAplus) and bundles OFSP promotion and production support with antenatal care and enhanced nutrition and infant and young child feeding education. It was implemented in four health facilities and surrounding communities in one county in Western Kenya.

1. Overall program and project management

- **International Potato Center – CIP** (prime grant recipient), responsible for overall project management and evaluation
- **PATH, an international health NGO**, with a Kenya office (sub-award to prime/CIP): responsible for integrating the project into an ongoing USAID/Ministry of Health project.

2. Project implementation:

- CIP supervised and coordinated all agriculture activities at community and household levels.

- PATH coordinated and integrated into four participating health facilities and their surrounding communities.
- CREADIS, a local agriculture community based organization worked with communities linked to two of the four health facilities. Provided extension services to community and households. (Sub-award to prime/CIP)
- ARDAP, a local agriculture community based organization worked with communities in two of the four health facilities. Provided extension services to community and households. . (Sub-award to prime/CIP)

3. Program activities

Prior to program initiation, the international Potato Center’s agricultural team conducted an agronomic and consumer acceptance study of potential OFSP varieties, in order to select two varieties for use in Mama SASHA. The two national agricultural NGO partners (CREADIS and ARDAP) worked with seven vine multipliers located near to each health facility and associated villages. The seven vine multipliers were responsible for establishing and maintaining OFSP vine production for distribution to project beneficiaries. CIP provided Vine multipliers with a flip chart/educational material that described available OFSP varieties, how to select and maintain quality-planting material and how to avoid infestation with the sweetpotato weevil, a major pest. The MAMA SASHA project (PATH, CIP, ARDAP and CREADIS) held one initial four-day training session where they brought together all project implementing partners for shared learning in all agriculture, health and nutrition aspects of the Mama SASHA project. During this initial training session, the vine multiplier farmers were also trained to provide information on nutritional benefits of OFSP, including vitamin A. The benefits of producing and consuming OFSP were conveyed to the larger community through semi-annual field days that highlighted the new varieties and methods for preparing OFSP. Vine multipliers and community health workers organized and participated in the semi-annual field days. Some project beneficiaries also attended these field days.

PATH also provided training and communication materials to existing volunteer community health workers to encourage pregnant women to seek recommended early antenatal care (ANC) and postnatal care services. Mama SASHA trained and supported these volunteer community health workers to implement community-level clubs for pregnant and lactating women, with monthly dialogue sessions on nutrition and health topics, and cooking demonstrations that utilized OFSP and other vitamin A rich foods. Community health workers used information, education and communication materials that was developed by PATH, including a manual for conducting monthly club sessions. PATH also designed and printed large posters for each participating health facility to encourage women to come early in the pregnancy to ANC services.

During each health facility visit, nurses and/or community health workers provided improved maternal, infant and pre-school child nutrition counseling. PATH produced pamphlets with key messages on healthy eating for nurses to give to the pregnant women attending antenatal care sessions. The major communication aid (also developed by PATH) for facility based nurses was a desk-sized set of counseling cards with six lessons developed by project members and PATH practitioners and extensively pre-tested. Each page on the chart had illustrated examples of healthy practices on the front, with the accompanying messages on the back (4–5 key messages per topic). The major lessons were: 1) Healthy mothers during pregnancy; 2) Healthy eating; 3)

Vitamin A; 4) Infant Feeding; 5) Orange-fleshed Sweetpotato Benefits; and 6) Growing Orange-fleshed Sweet- potato. At each ANC visit, the nurse or community health worker was to conduct lesson #5 and present one additional topic.

Crucially, nurses also dispensed vouchers for OFSP vines, thus linking to the agricultural side of the program. The voucher innovation was modeled on other successful uses of vouchers to promote use of services in reproductive health, maternal and child health and agriculture. However, using the vouchers in the health sector to stimulate demand for vitamin A rich OFSP, and coordinating that with its supply via OFSP vines through the agriculture sector was novel. Pregnant or lactating women received two vouchers per visit to the health facility, which they (or their family members) could redeem for 100 fresh cuttings each of improved Kabode and Vita varieties of OFSP from the vine multipliers. Trained agriculture extension officers from the Ministry of Agriculture extension services, NGOs and CIP followed up with agronomic advice and home visits to assess and discuss OFSP planting and crop management, providing another agriculture-health linkage. CIP designed and printed the vouchers that were distributed to pregnant women. Over 5,000 women were reached. They participated in 215 pregnant women clubs that met monthly. Women redeemed over 4,000 vouchers and planted OFSP in their home gardens.

Integration across multiple sectors required substantial coordination, networking and organizational support with relevant social actors at different jurisdictional levels. The local NGOS, CREADIS and ARDAP worked with volunteer community health workers to conduct awareness work with chiefs and community leaders at the village or sub-location level. Health service managers at the location and county level participated in the initial joint training sessions (mentioned above—a one-time four day training for all project implementers: health workers, agriculture extension officers, community health workers, and vine multipliers). CIP and PATH also organized repeated joint training of agriculture, nutrition and health staff working with Mama SASHA. CIP and PATH also held regular meetings with ARDAP and CREADIS, that included monthly feedback to agriculture, nutrition and health staff and community partners. All project partners within a given facility catchment area held quarterly meetings with implementation partners, and there was annual meeting with the broader network of stakeholders in Western province. [Table 1](#) provides a summary of these critical organizational meetings, which promoted integration throughout the program.

Table 1
Regular meetings for planning, integration and implementation in Mama SASHA.

Type of meeting	Frequency	Participants
Stakeholder–network	Annually Dec 2009 to May 2013	Cross-sectoral stakeholders: operational partners plus district and district nutritionists and provincial representative of Ministry of Health, home economists and provincial representative of Ministry of Agriculture, and other agriculture and nutrition relevant development implementing partners ^a
Partner	Quarterly	Formal operational partners: CIP program leader & agronomist, APHIA coordinator, development NGO directors and agricultural extension officers, representative of Kenya Agriculture Research Institute
Monitoring–feedback	Monthly	Actors on the ground: PATH project officer, trained community health workers, vine multipliers, community health extension workers, ante-natal care nurses, agricultural extension officers

APHIA—AIDS, Population and Health Integrated Assistance Program; CIP—International Potato Center; PATH—formerly Program for Appropriate Technology, now acronym only.

^a Development implementing partners as per Ministry of Public Health & Sanitation, Republic of Kenya, 2012.