

Integrated Malaria Management through Development of a More Efficient Handicraft Enterprise in a Bambara Farming Village

MAIN OBJECTIVES:

Our main objective was to assess economic / sociological impacts the Handicraft Enterprise System (established 2007 by our collaboration) had on the village, Sanambele. We aimed to facilitate a more efficient system to further improve profit stream for Sanambele women that may lead to more medicines, bednets for malaria management. This project addresses the holistic goal of Sanambeleans to implement integrated malaria management to alleviate childhood malaria and other diseases/conditions causing childhood mortality in the village.

INTRODUCTION

• “The village market did not result from the initiative of civil servants in the government or of business people. The market is the vision of our village leader who made it possible for the village inhabitants to earn a living by working in the village itself...” [on the development of handicraft networking] (Wherry, 2006).

• Despite millions of free bednets/medicine packets plus billions of dollars invested in research to eliminate malaria, including 30 years of vaccine research, malaria incidence is not decreasing in sub-Saharan Africa.

• In the Malian village of Sanambele (population 1,000), participatory assessment of community concerns was undertaken in 2005 with 3 focus groups (Kante et al. 2009). Sanambeleans voted malaria number as the number one village problem.

• In 2006, villagers indicated local malaria management was dependent on village cash reserves.

• Ready cash income system from sale of Women’s Association handicrafts in US was suggested by Dunkel (2007) and established by professors Dunkel and Giusti, and two MSU externs to aid in malaria management (Giusti 2008).

• Further development of handicraft enterprise is necessary for sustainable malaria IPM and the development of self-reliance in Sanambele.

HYPOTHESIS:

Acknowledged weak links in current Sanambele Handicraft Enterprise System will be overcome by: 1) catalogue creation; 2) written order forms in Bambara; 3) using new phone communication to place orders and lead to desirable malaria management and eventual malaria eradication by villagers, for villagers.

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Development of Catalogue with Sanambele Women’s Association

“With your help, handicrafts have brought in even more income than agricultural products.” – *Sanambele Women’s Association Member*

Seven Members of Sanambele Women’s Association

Kofo (order form)

Togo (first name): _____
Jamu (last name): _____
Suguya # (order #): _____
Hake (how many): _____
Jesuguya (color): _____
Bonahake (total amount): _____



Villagers (Hawa Coulibaly, Bourama Coulibaly) with Wendy Nickisch and Keriba Coulibaly, IER-Sikasso scientist, monitor mosquito larvae prior to treating dry-season river pool with biocontrol bacterium, *Bacillus thuringiensis israeliensis (B.t.i.)*

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MATERIALS AND METHODS

- Focus group survey instrument developed to assess economic/social impact of village handicraft enterprise. 17 Women’s Association members participated.
- New product ideas for US market, including natural product jewelry suggested to Women’s Association
- Business catalogue to keep income records, wire payments suggested to women. Catalogue will include history of Sanambele Handicraft Enterprise.
- Microfinance loans discussed but innovative villagers already implemented them with handicraft profits and used profits to purchase cell phones to bridge previous communication barriers.
- Mosquito larvae collected in dry-season river pool for *Anopheles* ID at University of Bamako School of Medicine. Pres. Women’s Assoc., Hawa Coulibaly designs sample dipper from local natural materials.
- B.t.i. anopheline vector larval management techniques demonstrated for villagers sustainably.
- Montana State University student organized donation of oil immersion microscope by CDC for village clinic in malaria season and village junior high for school season to teach and ID malaria in peripheral blood smears.

RESULTS

- Women are now part of village team using Integrated Pest Management (IPM) to control malaria.
- Village team and MSU team continued working together in malaria IPM. Standing water found in effluent in 3 family bathing areas. Run-off water from bathing area forms puddles that could be mosquito larval habitat.
- Local river found to be main mosquito larvae habitat in/near Sanambele.
- Granular *B.t.i.* treatment techniques were taught to village IPM team and monitoring / treatment plan developed by Sanambeleans. A sustainable, village-produced replacement for B.t.i. (neem leaf slurry) was introduced to villagers. Neem leaf slurry, *Azadiracta indica*, is already used by villagers for vegetable crops.
- Since project start (2007), two Sanambele women leaders increased Handicraft Enterprise to 23 women. Women collaborated in filling orders, developing new products, and keeping records.

CONCLUSIONS

- 1) Main impact: Women were empowered; men supportive; malaria decreased
- 2) Women were discovered intrinsically innovative, creative, entrepreneurial.
- 3) Catalogue improved ordering, stimulated order form system, identified wire payments as possible and efficient.
- 4) Rapid malaria/mosquito decrease in village with little outside input correlated with adoption of economic opportunity and sustainable malaria management while respecting traditional based knowledge of villagers.
- 5) Without changing villagers’ daily routines, minor improvements in existing skills mean next generations of village have access to malaria-free life, more cash reserves, and better formal education.

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