2015

Harvesting Nutrition Contest

WINNING PROJECT DESCRIPTIONS

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Harvesting Nutrition Award Profile » Most Scalable Approach

N2Africa *– Putting Nitrogen Fixation to Work for Smallholder Farmers in Africa*

Why the project stood out: N2Africa is a large-scale multi-country project, working together with many partners and therefore able to reach many smallholder farmers. Farming is the mainstay of many rural households and so often the only means to access of food and income. Enhancing agricultural productivity by cultivating legume crops potentially improves the nutrition security of the household, directly and/or indirectly.

Intervention area(s): Ghana, Nigeria, Ethiopia, Tanzania, and Uganda (core countries), and in Democratic Republic of the Congo, Rwanda, Kenya, Mozambique, Malawi, and Zimbabwe (Tier 1 countries)

Project partners: Wageningen University together with International Institute of Tropical Agriculture (IITA), International Livestock Research Institute (ILRI), Alliance for a Green Revolution in Africa (AGRA), and many partners in the intervention areas. N2Africa is funded by the Bill & Melinda Gates Foundation.

Background: Nitrogen is the most limiting nutrient for plant growth as it is required to biosynthesize basic building blocks of proteins in plants (as well as animals). Although almost 80% of the air surrounding us is nitrogen, this can only be captured through an energy-expensive chemical process into synthetic fertilizer, or through bacteria that make a symbiosis with legume plants. In agriculture, nitrogen can thus be provided as synthetic fertilizer, or added naturally with the help of legume plants.

Grain legumes are a key source of nitrogen-rich edible seeds, providing a wide variety of high-protein products and constituting the major source of protein in the diets of the poor in most parts of sub-Saharan Africa. Largely grown as subsistence food crops, grain legumes are predominantly crops grown by women and used within the family. In addition, legume grain often has a good market demand and when farmers are linked to output markets, legumes can fulfil roles as important cash crops. Groundnut and soybean for example are major sources of edible oil and other industrial by-products.

Many types of legumes also provide an excellent source of feed to livestock, especially during the dry season when animal feeds are in short supply. Cowpea, groundnut, and certain legume trees are particularly well-used in different regions of the African continent, including in support of (e.g.) Kenya's growing smallholder dairy industry.

Thus, legumes represent a major direct source of food for man and livestock and may contribute to increased food security of subsistence farmers, reduce costs of food for poor consumers, and enhance rural incomes. Moreover, the ability to fix atmospheric nitrogen makes legumes excellent components within the various farming systems because they provide residual nitrogen and reduce the needs for mineral nitrogen fertilizers by associated non-legumes.

Project design: N2Africa is a large-scale, science-based "research-in-development" project focused on putting nitrogen fixation to work for smallholder farmers growing legume crops in Africa. The project aims to enhance

legume yields and yields of sequential crops, and to diversify cropping patterns from mono-cropping of cereals to rotation or intercropping with legumes. Enhanced yields and crop diversity should in turn contribute to enhanced food security and improved nutritional value of diets. The project engages with nutrition initiatives in the impact zones to teach and inform farmers about the nutritional benefits of the legumes and to demonstrate various recipes to enhance home consumption and improve nutrition security of the targeted households.

The project's vision of success is to build sustainable, long-term partnerships to enable African smallholder farmers to benefit from symbiotic N_2-fixation by grain legumes through effective production technologies, including inoculants and fertilizers.

Results: A comparative study in northern Ghana shows that children between 2 and 5 years old of N2Africa participants had a more nutrient-dense diet compared with non-N2Africa participants; for children under 2 years of age there was no difference. Female N2Africa participants and N2Africa participants who received training on soybean preparation mostly used the legume yield for home consumption; by contrast, male N2Africa participants mostly used the yield for sales, and it is less certain whether (and how) improved sales led to improved nutrition. A similar comparative study in western Kenya shows no difference in diversity of the diet between children below 5 years of N2Africa participants and non-N2Africa participants. Focus group discussions show that home consumption of soybean is high among N2Africa participants (mainly among participants who received training on soybean preparation), partly because they appreciate the taste and nutritional value and partly because of a lack of access to markets and/or low prices offered.

N2Africa website
http://www.n2africa.org/

Harvesting Nutrition Award Profile » Greatest Potential for Impact on Nutrition

Realigning Agriculture to Improve Nutrition (RAIN)

Why the project stood out: With its rigorous monitoring, learning, and evaluation components, the project provides evidence about the approach itself to contribute to the global agriculture-nutrition evidence base, a process led by IFPRI. The project is designed not only to understand what impact a complex, integrated, multisectoral project can have on maternal and child undernutrition, but also to contribute to the understanding of how such a project can be delivered. RAIN is recognized as a best-practice project in terms of generating evidence of best approaches and documenting optimal impact pathways.

Intervention area(s): Zambia

Project partners: Concern Worldwide Zambia, in conjunction with the International Food Policy Research Institute (IFPRI), Mumbwa Child Development Agency (local community-based organization), the Ministry of Agriculture and Livestock, and the Ministry of Community Development, Mother and Child Health. The project is funded by Irish Aid, Kerry Group, and the Bank of Ireland.

Background: Nearly every second child or 40% of children below five years of age are suffering from chronic undernutrition in Zambia. Chronic undernutrition can lead to shortness in stature (stunting) compared with a child's age. It has long-lasting, irreversible effects on the child's development, including its mental development, health, school performance and, later on, work productivity. Diets in Zambia have a low dietary diversity, which increases the risk of inadequate nutrient intake. Poverty, a low focus on production diversity beyond staple production, population growth, and the high prevalence of HIV and AIDS, among others, also contribute to food insecurity and undernutrition in Zambia.

The links between nutrition, health, agriculture, food security, and livelihoods are well recognized, and potential pathways between agriculture and nutrition have been suggested. However, undernutrition has multisectoral causes, including socio-cultural, behavioural, underlying health status, HIV & AIDS, competing income priorities, and gender inequalities. There is increasing agreement on the importance of multisectoral programming to sustainably address undernutrition. The RAIN project places a unique component of sectoral coordination/integration at its core, active at district but also extension and community level.

Project design: The RAIN project aims at preventing child stunting through interventions mainly focusing on agriculture with strong linkages to nutrition and health. Agricultural activities focus on year-round availability of and access to micro-nutrient rich foods at household level, accomplished through homestead gardening and small-scale animal husbandry, as well as borehole rehabilitation to support participants with year-round water supply. Optimization of health and nutrition is done through delivery of social behavior change communication, in particular to improve child and maternal nutrition, infant and young child feeding, and linkages to the existing health system—including the prevention of mother to child transmission services. Gender is recognized in the project as crucial to maximize the nutrition impact of all interventions, and gender equality and women's empowerment activities are implemented throughout.

Results: The project rigorously evaluates the impact of the RAIN model, monitors process indicators to understand the intended impact pathways, and documents and disseminates learning from the project at local, national, and international level.

Preliminary data shows very encouraging results, with increased production of various micronutrient rich crops, such as green leafy vegetables, and increased dietary diversity during both the hunger as the post-harvest season. Against a background of people concentrating on growing cash crops, mainly maize and cotton, this change is a notable one. The gender component has started also to show results, whereby women have more confidence and indicate positive changes in their husbands conduct e.g. by helping with building animal shelter, assisting with homestead garden watering, improved access to land and accompanying pregnant women and children to the health center.

The establishment of the District Coordination Nutrition Committee is the first of its kind in Zambia and has brought on board various players in the agriculture, health and nutrition sectors. The Committee has prepared a multisectoral district plan which aims to reduce the prevalence of stunting in the district.

RAIN Project webpage
https://www.concern.net/about/our-work/rain-project

Harvesting Nutrition Award Profile » Most Innovative Approach

Shamba Shape Up

Why the project stood out: Shamba Shape Up represents a unique combination of ICT, audience reach, and programming that can be leveraged for presenting and disseminating agriculture–nutrition linkages.

Intervention area(s): Kenya, Tanzania, Uganda.

Project partners (past and present): AECF, AGRA, ASARECA, IFAD, ICIPE, ICRAF/CCAFS, CIAT, Syngenta, Coopers, d.Light, KenChic, Unga Farm Care EA, Mea Fertiliser, IFDC, CABI, BecA, Rockefeller, Ultravetis, USAID East Africa, Soil Cares, GALVmed, Croplife, and Lachlan @griculture.

Background: In order to overcome limitations in reaching farmers, a variety of channels are increasingly used, including TV, radio, print media, and information and communication technology (ICT)-enabled tools, such as cell phones and videos. The enabling role of ICT in agriculture is well-documented (www.ictinagriculture.org), and while there are various ways of using ICT to increase access to extension services, the use of television has been demonstrated to hold high potential within East Africa.

Shamba Shape Up, created by the **Mediae Company**, is a "make-over" reality style educational television series made up of 26 (6-month long) programs, targeted primarily at rural and peri-urban populations and small scale farmers. The format of the series involves visiting small scale farms and identifying the problems faced by the farmer, then with the help and advice from experts and other resources, helping farmers to overcome their problems and advising them as to how to develop their farms into viable enterprises. The first series filmed and aired in Kenya in 2012, and attracted an estimated 3.5 million viewers. In 2014, over 9 million East Africans watched the program, which was filmed across the region.

Project design: Aimed at the region's rapidly growing rural audience, *Shamba Shape Up* aims to give smallholder farmers the tools and information they desperately need and lack to improve productivity and income on their farms. The show covers farms in a range of agroecological zones in three countries, illustrating the techniques for each location and crop/livestock type so that the audience can easily understand and adopt the practice. The core of the series tackles issues surrounding livestock, poultry, crops, soil fertility and the home using experts from each sector. The series has interactive support services to increase the uptake of information—viewers can SMS to be sent a free information leaflet or link up with experts, and follow updates and video clips online and on mobiles. Mediae has recently pilot launched a call center and subscription SMS service to cater for the more mobile savvy viewers.

Results: The evaluation of the first series is based on two surveys: one conducted immediately prior to the broadcast of the series and the other conducted immediately after the last of the 12 programs. Responses revealed evidence of improvements across knowledge, attitudes, and practice as a result of *Shamba Shape Up.* The most recent results from 2014 are summarized below:

Over 90 percent of the audience said the show was a good or very good source of information, 87% learned something **new,** and 45% of the audience had adopted a practice they learned from the show and applied it on

their farm—the majority being in soil fertility (18%), poultry (42%), and dairy farming (38%). Over 90 percent of adopters say the change resulted in more food or income for the household. A 2014 study led by Reading University estimated the net impact of the program on the value of milk produced in Kenya at $24 million. Other benefits include more confidence to make decisions and an increase in demand for information from service providers.

In 2015's series, the show has a strong nutrition theme. The impact of this will be seen when the post broadcast surveys are complete in late in the year.

In broad conclusion, the results from the pre- and post- broadcast surveys show very positive results in communicating knowledge and good practice to farmers. Although the changes are not uniform across all areas of content—a reflection of the amount of coverage given to the different topics, the technical nature of some of the information and its relevance—there is sufficient evidence in these results to be able to conclude that the first series of *Shamba Shape Up* has had a positive impact on improving awareness and knowledge of better farming practices.

Shamba Shape Up website
http://www.shambashapeup.com/