

FINAL REPORT –OFDA GUINEA FORTIFICATION

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I. INTRODUCTION

The project goal was to strengthen capacity for the micronutrient fortification of key food staples, cooking oil and wheat flour, in order to mitigate the impact of the food price crisis on micronutrient deficiencies in women and children in Guinea. Rising prices of staples drive the poor to limit or eliminate consumption of more costly, micronutrient-rich foods, increasing levels of micronutrient malnutrition. As a result of the project's interventions, children under 5 years and women of reproductive age gained access to cooking oil fortified with vitamin A.

The project was designed to work with key stakeholders in Guinea to: 1) foster the enabling environment for fortification in conformity with regional standards and to support importers to comply with standards; 2) assist industries to improve quality control and safety management systems; 3) strengthen the capacity of government regulatory agencies to enforce fortification standards; and 4) support the consumers' union to develop social mobilization campaigns to sensitize consumers of the benefits of purchasing and consuming products bearing the "*Enrichi*" fortification logo.

Much of the groundwork was laid for this work through the support of USAID/West Africa's "Fortify West Africa Initiative"¹. HKI had advocated strongly for the Guinea government to sign decrees making fortification obligatory. This happened on July 19, 2012 – just before the project's start in October of that year. The decrees require that all wheat flour and cooking oil in Guinea – whether imported or processed locally – be fortified. A third decree created the national fortification alliance.

The national fortification alliance in Guinea meets to deliberate on national strategies for fortifying food vehicles and has lead responsibility for ensuring effective roll-out of the food fortification strategy and reaching the population as completely as possible with micronutrient fortified cooking oil (vitamin A) and wheat flour (iron, folic acid, zinc, B-group vitamins). There are two major large-scale cooking oil industries situated at the port of Conakry that re-package bulk imports of cooking oil. There are now two flour mills in operation but which still need training to meet WHO fortification standards; due to a series of delays described in the report, the project was unable to support the mills. The project aimed to help fortified oil reach an estimated 70% of children under the age of 14 years and women of reproductive age (15-49 years) living in urban communities in Guinea by the end of 2013.

While the project encountered numerous challenges that delayed implementation, ultimately it was successful at advancing food fortification in Guinea. Less than two months after the project ended, the Conakry oil companies began fortifying their production with vitamin A. Furthermore, the government's quality control board has gained the skills and equipment needed to carry out verifications – an important step to ensure quality and sustainability.

This report presents the activities carried out during the life of the project from October 26, 2012 through March 25, 2014 as well as an update on fortification activities in Guinea in the first few months following the project. On May 15, 2014, the two oil companies started fortifying all of their cooking oil production with vitamin A, and informal surveys of the target urban markets indicated that almost all oil is identified with the *Enrichi* logo. The World Food Program is now able to make local purchases of oil instead of importing it and recently placed a large order.

¹ USAID/WA - Grant No. 624-A-00-11-00016-00.

II. INDICATORS

Table 1: Life of project indicators

Sector and Sub-sector Indicators Table		
Objective: Ensure that micronutrient fortified wheat flour and cooking oil reach an estimated 90% and 65%, respectively, of the beneficiary target population of poor urban communities in Guinea in order to control vitamin and mineral deficiencies in vulnerable population groups.		
Sector:	Nutrition	Target
Geographic Area(s): Urban Communities (Conakry, Kankan etc.)		
Number of Beneficiaries Targeted:	70% reached with fortified oil:	
	Children < 14 years	949,914
	Women of reproductive age (WRA: 15 - 49 yrs)	530,302
	90% reached with fortified flour:	
Children < 14 years	1,221,318	
Women of reproductive age (WRA: 15 - 49 yrs)	1,681,817	

Sub-Sector:	Nutrition Education and Behavior Change	Target	Achieved	
Indicator (1):	Number of beneficiaries receiving nutrition education on benefits of fortified foods	TBD	192	
Indicator (2):	Number of providers (health care and/or community volunteers) trained in provision of nutrition education covering fortified foods	TBD	250	
Indicator 2 in proposal - change practice/knowledge:		Target	Baseline	Endline
Indicator (3):	Percent change in HH knowledge ² of the benefits of consuming fortified: Oil Flour	+30%	13%	N/A
Indicator (4)	Percent of HH knowledge ² of the health benefits of: Vitamin A Iron	+30%	31% 31%	N/A
Additional Indicators		Target	Baseline	Endline
Indicator (5):	Coverage of target population with fortified oil that meets national quality standards (%) Children <14 WRA	50% 70%	13%	N/A
Indicator (6):	Coverage of target population with fortified flour that meets national quality standards (%) Children <14 WRA	50% 90%	31% 31%	N/A

² As measured by survey question; signifies ability to cite at least one benefit

III. PROJECT INTERVENTIONS

The project carried out the following interventions during the life of the project.

A. Support for the fortification of cooking oil with vitamin A

HKI provided support to two cooking oil companies in Guinea – the *Huilerie de Guinée* and the *Huilerie Tahuigui*, both located at the port in Conakry. As part of an assessment conducted in October 2012, HKI’s regional fortification officer worked with oil company staff to define the equipment needed for the fortification of their production with vitamin A. HKI then contracted for the purchase and installation of the necessary equipment. After a number of delays for multiple reasons including customs clearance and supplier difficulties, the equipment was finally installed at the two oil companies in January 2014. Tests were conducted to demonstrate that the equipment was correctly installed and functioned properly.



Photo 1 : Fortification equipment in place

Based on an agreement signed with the two oil companies stating that HKI would purchase the initial supply of vitamin A pre-mix and that the oil companies would assume the responsibility for later purchases, HKI purchased a total of 420 kg of pre-mix. The pre-mix was donated to the Ministry of Health, which then made it available to the oil companies.

Following the installation of the equipment, HKI organized training for 29 staff from the two cooking oil companies. The trainers were HKI’s regional fortification program officer and HKI Guinea’s nutrition coordinator and technical assistant. The training covered the following topics:

- ✓ Fortification techniques (calculation of how much pre-mix to use, storage conditions for the pre-mix, etc.)
- ✓ Use and maintenance of the fortification equipment
- ✓ Advantages of consuming oil enriched with vitamin A

Although the oil companies had the equipment and an initial supply of pre-mix, they chose not to begin fortifying their production until they had labels with the regional fortification logo. They considered it essential to be able to distinguish the production that was fortified from the earlier oil produced that was not in order to avoid any misunderstandings when quality controls were carried out.

B. Efforts to support fortification of wheat flour

The Grands Moulins de Guinée was already fortifying its production with iron, zinc, and vitamin B complex when the project started. The dosage, however, did not respect the new norms defined by the government decrees signed in July 2012. The project had planned to provide a new microfeeder and to provide technical assistance for the fortification process. The manager of the Grands Moulins was an enthusiastic supporter of fortification efforts.

The Grands Moulins de Guinée submitted a request to HKI for the acquisition and installation of a new microfeeder and a sub-agreement between HKI and the Grands Moulins de Guinée was drafted. It was only a short time afterward, in November 2012, that the Grands Moulins de Guinée suspended all production due to financial constraints. Not willing to make investments until production resumed (so that it was sure the equipment would actually be used), HKI did not proceed with the planned purchase of the equipment, or the signature of the sub-agreement. Although mill management was initially very optimistic that production would resume, it has not. The company went through bankruptcy proceedings, dismissed most of its entire staff in a reorganization, and proceeded to seek new investors. Due to the political situation and unrest in Guinea through much of 2013, however, investors were reluctant to become involved. As of the end of the project production had still not resumed, and it was looking unlikely it ever would.

In early 2014, two new flour mills started production in Conakry. Although it was too late in the project to plan and provide assistance, HKI staff visited both, *Moulin d'Afrique* and *Moulins Taiba*, in order to view the facilities and also discuss Guinea's norms for fortification. Both have equipment to begin fortification although not full technical capacity. *Taiba* in particular is committed to fortifying its production and collaborating with the national alliance, however, management was not aware of Guinea's official norms. HKI provided guidance on how it could:

- ✓ Meet the norms defined in the decree requiring that all flour in Guinea be fortified with iron, zinc, and folic acid
- ✓ Contact the National Fortification Alliance in order to obtain the Enrichi logo to place on their labels once their flour is fortified according to the norms.

Following this technical visit the company installed a laboratory for internal controls and sent laboratory technicians from the mill to the training on quality control that HKI organized.

C. Putting quality control measures into place

The project purchased supplies, reagents, and a photospectrometer for the National Control Board's laboratory. The Ministry of Commerce, under which the National Quality Control Board functions, was very pleased with this contribution. They organized and covered the expenses for a formal ceremony during which HKI presented the materials to the Ministry. The equipment and supplies provided will enable the laboratory to ensure that flour and oil in Guinea are fortified according to the norms defined in the government's decrees.



Photo 2: The Minister of Commerce receives the photospectrometer

The project also provided a total of four iChecks to the National Quality Control Office – two for verifying levels of vitamin A in cooking oil and two for verifying the levels of iron in wheat flour.

HKI provided training in quality control practices designed to strengthen the theoretical knowledge of the participants as well as to teach them techniques for verifying fortification. The content was as follows:

- ✓ Techniques for controlling the quality of the fortification of vegetable oil with vitamin A and the fortification flour with iron, zinc and vitamin B complex.
- ✓ Use of iChecks to determine the presence of vitamin A in oil and iron in flour.

The training was held on January 20, 2014 with HKI’s regional fortification program officer as the lead trainer. Participants included staff of the National Quality Control Office (heads of section, inspectors, and laboratory technicians) as well as flour mill laboratory technicians. The Quality Control Board took the training seriously enough to bring in staff from the different regions of the country. A total of 41 of their staff (heads of section, inspectors, and laboratory technicians) attended as did six laboratory technicians from the new flour mills, *Moulins d’Afrique* and *Moulins Taïba*.

D. Training and education sessions for key stakeholders on the benefits of fortification

HKI’s training strategy targeted as “beneficiaries” key individuals with the potential to influence production or consumption; as well as health agents and volunteers, whose advice is highly respected.

a. Health agents and community health volunteers

In collaboration with the Ministries of Health, Industry and Commerce, HKI organized a series of training sessions on fortification for health agents and community health volunteers to raise their awareness of the health benefits of consuming fortified products. Themes covered in the training were:

- ✓ Basic information on micronutrients and the consequences of micronutrient deficiencies
- ✓ Food fortification and why it’s important
- ✓ The role health agents and community health volunteers can play in promoting the consumption of fortified foods.

Training was organized in the cities of Conakry, Labé, Kankan and Nzérékoré. A total of 147 health agents working in urban health centers and 103 community health volunteers working in the same cities were trained.

b. Bread bakers and importers of flour and cooking oil

A series of sessions were organized to educate bread bakers and importers of wheat flour and cooking oil about the importance of fortification and their obligations. The training which reached 174 people covered the following:

- ✓ The government decrees signed in 2012 requiring that all wheat flour and cooking oil in Guinea be fortified – whether imported or produced locally – and creating the National Fortification Alliance
- ✓ The role the participants need to play to make this a reality - by only purchasing fortified products
- ✓ Why food fortification is important and the advantages of consuming fortified foods
- ✓ How to recognize that products are fortified

c. Consumers' association

The last education session was organized to reach the consumers' association that helps ensure that the products consumed by Guineans are of good quality. Eighteen members of the association attended the session and were very interested in the information provided on food fortification and its importance.

E. Awareness-raising for the general population

A variety of communication materials were designed and reproduced to educate the general population on food fortification and inform them of the availability of fortified oil. The materials include posters, billboards, radio spots and TV spots. The materials present the “Enrichi” logo that facilitates recognition of fortified products across the West Africa region.

It was planned to implement the communications campaign once there was sufficient oil on the market – and in conjunction with a formal ceremony to officially “launch” oil fortification in Guinea. Due to scheduling challenges at the Ministry of Health and delay in initiating the fortification itself, this campaign had not yet started when the project ended but will be conducted with funding from other sources.

Because the awareness campaign was not conducted during the life of the project, it was not deemed useful to conduct an endline survey to test changes in knowledge or consumption of fortified foods, thus no data are available for these indicators.

F. Support to the Guinean Alliance for Food Fortification

The Guinean Alliance for Food Fortification was created by government decree in July 2012 to bring together all the stakeholders involved in fortification in Guinea. Its first meeting was held on October 11, 2012, with support from HKI. The meeting was an opportunity to discuss the status of the production, quality control and regulation of fortified foods, difficulties encountered, and opportunities for the future. The decrees mandating the fortification of oil and wheat flour were distributed to all participants and explained in detail. Each key player's role for the implementation of activities was clearly defined. HKI also had the opportunity to present the objectives, indicators

and activities of the OFDA-funded fortification project. The national media provided coverage of the meeting.

Several meetings of the Alliance’s executive board were held during the life of the project. Key topics covered during these meetings included:

- ✓ Challenges in obtaining customs exoneration for the fortification equipment and vitamin A pre-mix and strategies for addressing the issues
- ✓ Review of communications materials with suggestions for improvement
- ✓ Process for granting use of the regional fortification logo
- ✓ Updates on the initiation of fortification at the oil companies
- ✓ Presentations on activities implemented with various stakeholders
- ✓ Plans for a formal launch ceremony

Working groups were put into place to work on communications materials, plan the launch ceremony, and define how the logo would be used.

A meeting of the full National Fortification Alliance was planned for late March but had to be postponed at the last minute. Schedule conflicts made it impossible to re-schedule the meeting before the end of the project.

G. Measuring progress

A baseline survey conducted in December 2012 showed that less than 13% of individuals surveyed understood the importance of consuming fortified oil or flour, 31% understood the importance of iron and vitamin A, and only 4% recognized the regional fortification logo.

The survey also looked at purchase and consumption habits. The results confirmed that a large percentage of the population uses refined vegetable oil for cooking, with 79% purchasing quantities of less than one liter, sold on the informal market. However, given that the oil produced and labeled by the large-scale fortifiers is sold in containers of five or more liters, this means that the majority of consumers might not easily know whether the oil they are purchasing is fortified.

Only 1.3% of those surveyed had purchased wheat flour for home consumption; however, 93% purchased bread, 53% purchased fried dough known as “beignets” or pancakes known as “galettes”. “Beignets” are particularly popular with children.

As noted, because the project ended before the launch of fortification, an endline survey was not conducted.

H. Challenges

HKI faced a number of challenges in the implementation of the project and many of these challenges directly contributed to delays in project implementation.

- ✓ Reticence of the cooking oil companies to fully engage in the fortification process and, specifically, to commit to purchasing future supplies of vitamin A pre-mix. While this was eventually overcome, the difficulty in getting the directors of the companies to sign an agreement to allow HKI to proceed with the purchase of equipment and pre-mix caused a significant delay in implementation.

- ✓ The suspension of production at Grands Moulins de Guinée less than two months after the project started meant that the interventions to strengthen flour fortification could not be implemented.
- ✓ Serious difficulties were encountered in clearing the fortification equipment and pre-mix through customs. While these difficulties were eventually overcome with the support of the Ministry of Health, long delays in getting the equipment and pre-mix released further slowed project progress.
- ✓ The oil companies' decision to wait for their new labels with the fortification logo meant that actual fortification was further delayed.
- ✓ The project's funding ended at an unfortunate time. After months of delay, things really started to come together in the last quarter. Some further funding is needed to consolidate what has been achieved so far, to support the National Fortification Alliance in its role for the future and to advocate for full respect of the government decrees on fortification. HKI is pursuing various possibilities.

I. Post-project progress and perspectives for the future

At long last, on May 15, 2014, the two oil companies started fortifying all of their cooking oil production with vitamin A. Shortly afterwards, HKI staff visited markets in several different towns and cities and found that most of the locally produced oil in the market had labels with the fortification logo – confirming that the fortified oil was indeed reaching markets around the country.

The oil companies have also begun placing their own orders for pre-mix. This is very reassuring in light of their initial resistance.

Now that the oil produced in Guinea is fortified, the World Food Program is able to make local purchases of oil instead of importing it. They have already placed a large order for cooking oil.

In July 2014, the HKI regional fortification officer and HKI Guinea staff met individually with many of the key players who contribute to the success of fortification in Guinea. These included both ministry and industry stakeholders. The meeting at the Ministry of Industry was particularly important since the Director of Industry had recently been changed. The Director serves as the vice-chair of the Alliance so is a very key player. HKI communicated the role each stakeholder needs to play.

A meeting of the Guinea Alliance for Food Fortification was held at the Ministry of Health on July 24, 2014. The current status of food fortification was presented and interventions organized by HKI were described. Stakeholders were reminded that each must play the expected role in order to ensure that all wheat flour and cooking oil sold in Guinea are fortified – whether produced locally or imported. The status of salt iodization was also presented and this will topic will be included in the agenda of future Alliance meetings.

A number of different communications materials were developed and, now that fortification is ongoing, will be deployed. These include billboards, posters, and information sheets. Radio and TV spots are also ready but require sponsorship.

While much was eventually accomplished through the Accelerating Vitamin and Mineral Fortification of Staples project, there is still work to do. The Guinea Alliance for Food Fortification has not yet demonstrated that it is able to function without significant technical support from HKI or other partners. Additional equipment (iChecks) would make it possible to verify at more ports of entry that norms for vitamin A and iron fortification are respected for imports. The two new flour mills would benefit from additional technical assistance and possibly equipment in order to ensure that their production meets the national norms. HKI remains committed to advancing fortification and will continue to seek ways to provide the necessary support.

