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BASF's Partnership Engagement for Reducing Essential Micronutient Malnutrition in Developing Countries

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Global Compact Case Study:
BASF's Partnership Engagement for Reducing
Essential Micronutrient Malnutrition in Developing Countries

Case Abstract

This case study describes how BASF (the "Company") has developed and implemented a partnership initiative for meeting essential micronutrient needs in developing countries to meet the principles of the UN Global Compact. The case study is also an example of how the seemingly conflicting goals of Corporate Social Responsibility ("CSR") and economic sustainability can synergise to create a long term sustainable model.

BASF's Micronutrient Malnutrition Initiative (the "Initiative") aims to decrease malnutrition impacting developing countries, particularly vitamin A deficiency. The Initiative achieves this through public and private partnerships (often labelled multi-sector stakeholders) that facilitate the fortification and distribution of staple foods in specific communities. BASF adopts a proactive approach when deciding which communities are most suitable to their Initiative by using both their own and independent research undertaken by both public and private organisations.

This case study will focus on a food fortification project in Kenya where malnutrition is a prevalent problem. The project was conceived in 2002 and is continuing to this day. The ultimate goal is to implement a nation-wide program combating malnutrition.

The relevance of adequate nutrient intake is recognized under the International Covenant on Economic, Social and Cultural Rights ("ICESCR"), which is a part of the International Bill of Human Rights. The ICESCR is applied so as to foster the progressive realization of the human right to food, which

"[I]mplies that the diet as a whole contains a mix of nutrients for physical and mental growth, development and maintenance, and physical activity that are in compliance with human physiological needs at all stages throughout the life cycle and according to gender and occupation" (UNCHR 1999).

Company Profile

BASF originated in 1865 as a dye-making company in Ludwigshafen, Germany, and is one of the leading chemical companies in the world. Its founder, Friedrich Engelhorn, who owned a coal gas company at the time, saw potential in the by-product coal tar for the use of dyes. His vision was to create a company that would cover the entire production process from raw materials and auxiliaries through precursors and intermediates to dyes.

Today, BASF has approximately 94,000 employees, 100 production sites and customers in over 170 countries. Its main segments are Chemicals; Plastics;

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Performance Products; Agricultural Products and Nutrition; and Oil and Gas.

From its foundation BASF has sought to adopt a socially responsible outlook. As early as 1870, BASF provided affordable housing, health insurance plans, on-sight medical facilities and recreational facilities for its employees and their families and implemented occupational health and safety practices in the workplace. In the 1960s, the Company introduced rotary furnace incinerators for waste disposal, and in the 1970s it developed a wastewater treatment facility in Ludwigshafen, which, to this day, treats the municipal wastewater of the plant as well as the region.

In 2004, Dr. Jürgen Hambrecht, the Chairman of the Board of Directors announced BASF's long term policy: "We have given our route to the future a name: BASF 2015. All of us must align our day-to-day work with four strategic guidelines:

- earn a premium on our cost of capital;
- help our customers to be more successful;
- form the best team in industry; and
- ensure Sustainable Development" (BASF 2004).

BASF was one of 44 companies to sign on to the Global Compact upon its inception. The Company has since launched a number of projects in various countries to demonstrate its commitment to the Global Compact Principles.

THE CASE STUDY

The Micronutrient Malnutrition Initiative

The Initiative was started in 2002 by two BASF Business Nutrition Unit employees who were passionate about the challenge of alleviating malnutrition in an economically sustainable way.

Through their work, the employees were exposed to research and reports revealing the world's malnutrition challenge. More than 2 billion people worldwide are affected by micronutrient deficiencies (Allen A et al 2006). Furthermore, in annual figures, an estimated 1 million have died from Vitamin A deficiency alone (UNICEF 2004). Therefore, providing Vitamin A is a crucial challenge for developing countries.

They were well aware that BASF had the capacity and expertise to help reducing malnutrition due to the Company's fortification expertise and experience. The signing of the Global Compact encouraged these employees to present a long-term strategy addressing the challenge to BASF's Board.

What is micronutrient deficiency?

Micronutrient deficiency is a special form of malnutrition where an individual does not receive the essential recommended intake of vitamins and minerals, often referred to as

"hidden hunger" (UNICEF 2004). Micronutrients enable the body to produce enzymes, hormones and other substances essential for proper growth and development (WHO 2007). They derive their name from the fact that they are needed only in miniscule amounts.

The "Copenhagen Consensus", a study undertaken by some of the world's leading economists, found that the alleviation of malnutrition is one of the world's biggest challenges, and that it could be alleviated with relatively little cost (Copenhagen Consensus 2004). The public benefits would outweigh the costs by as much as 200:1 compared to 40:1 for supplementation (CC 2004).

Project rating		Challenge	Opportunity
Very Good	1	Diseases	Control of HIV/AIDS
	2	Malnutrition	Providing micro nutrients
	3	Subsidies and Trade	Trade liberalisation
	4	Diseases	Control of malaria
Good	5	Malnutrition	Development of new agricultural technologies
	6	Sanitation & Water	Small-scale water technology for livelihoods
	7	Sanitation & Water	Community-managed water supply and sanitation
	8	Sanitation & Water	Research on water productivity in food production
	9	Government	Lowering the cost of starting a new business
Fair	10	Migration	Lowering barriers to migration for skilled workers
	11	Malnutrition	Improving infant and child nutrition
	12	Malnutrition	Reducing the prevalence of low birth weight
	13	Diseases	Scaled-up basic health services
Bad	14	Migration	Guest worker programmes for the unskilled
	15	Climate	Optimal carbon tax
	16	Climate	The Kyoto Protocol
	17	Climate	Value-at-risk carbon tax

Further, a recent report published by the International Business Leaders Forum with the support of the World Bank and the Global Alliance for Improved Nutrition ("GAIN") strongly advocates the inclusion of the private sector when addressing micronutritient malnutrition. The report found that there is a clear business case for tackling malnutrition. Fortified foods provide new opportunities to add value, in turn, economies of scale lower prices reaching new customers. In addition, raising product quality stimulates competition and trade (GAIN 2007).

According to the World Health Organisation ("WHO"), Vitamin A deficiency is one of the three most prevalent micronutrient deficiencies in the world, the other two being iron and iodine deficiency. These three forms of deficiencies affect at least one third of the world's population.

Vitamin A deficiency affects the most vulnerable members of developing populations, predominantly children and pregnant women (WHO 2007). An estimated 254 million preschool children have a Vitamin A deficiency (WFP 2007). The normal growth of a child is dependent on a regular supply of Vitamin A. Vitamin A deficiency can cause blindness, and it has also been attributed to impaired immune systems, diseases of the lungs and intestines (e.g., tuberculosis, pneumonia and diarrhea), and complications

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from other diseases like HIV/AIDS, malaria and measles and anemia. The loss of healthy life expressed in disability adjusted life in years (DALY) is 1.8% of the world's total population.

Vitamin A is found in milk, liver, eggs, red and orange fruit and leafy green vegetables. These foods are rarely affordable for communities living on less then $US 2 per day and therefore cannot form part of their everyday diet. The diet in developing countries is often based on not more than a single - the cheapest available - staple food. Enriching these staples with essential micronutrients is not only a feasible technology for local food companies, but the most cost-effective means to prevent micronutrient deficiency.

Research has found that micronutrient deficiency is mainly prevalent in South-East Asia, parts of South America, and most of Africa (UNICEF 2004).

What are the economic and social effects of micronutrient deficiency?

The technical situation analysis coordinated by GAIN underscores the negative economic and social effects of micronutrient deficiencies (including vitamin A deficiency). These have been consistently proven by clinical and epidemiological evidence. The evidence concludes that:

- micronutrients are essential for the survival, health and chemical processes of the body;
- a reduction in micronutrient deficiency coincides with an increase in the immune system of individuals, which prevents disease;
- all age groups can benefit from an increase in micronutrients, however pregnant women and adolescent girls are the most vulnerable groups due to their consumption patterns and special dietary needs;
- a reduction in micronutrient deficiency in children increases their learning capacity and attendance at school. An increase in attendance translates to an increase in productivity when they are adults; and
- a reduction in micronutrient deficiency coincides with an increase in adult aerobic capacity and productivity (Sanghvi et al 2006).

Development of the Initiative

Before the Initiative was launched, the Company was already engaged in, and participated in a number of projects addressing micronutrient deficiencies. However, its role was generally limited to participation rather than initiation of such projects. This reactive approach was transformed to a proactive approach upon BASF becoming a member of the Global Compact.

The first challenge was the development of a business case for the project. The Company realized that despite there being a humanitarian need for food fortification in developing countries, there was no demand backed by sufficient purchasing power among the populations in need. Therefore, BASF had to initiate new ideas and plans to

encourage management to take on such a project though appealing to their altruistic side, but at the same time highlighting the long-term economic and financial benefits to the Company.

Their main challenges were to:

- convince management that the Initiative fitted into the BASF culture and business model of being economically sustainable and socially responsible in the long term;
- identify the right departments and people within the departments who could contribute to the project within their mandate and professional skills; and
- balance the business and humanitarian case for malnutrition and determine what they could offer one another.

As with all projects, a business case was presented to management. To assist management of the importance of such a project ten reasons were presented, these were:

- contributing to the corporate citizenship profile of BASF, e.g. through sustainability reporting relevant for sustainability investment schemes;
- increasing employee motivation in such projects and other human resources benefits like attracting prospective employees;
- gaining positive recognition among stakeholders in governmental relations, including national governments;
- development of markets in less-developed and developing countries in times of stagnating growth in mature economies;
- particular growth potential through addressing needs of the 'under-served' populations at the "base of the economic pyramid" (Prahalad 2004);
- multi-layered benefits from partnering with the UN and other non-profit organisations;
- opportunities for tenders and business opportunities unrelated to the project, mostly in the commercial field;
- lower margins resulting from the humanitarian purpose and limited purchasing power could partly be compensated by the 'softer' benefits mentioned above. The effect of economies of scale- the larger the project the larger the target group reached and, in the long term the higher likelihood of the Initiative's long-term sustainability and success;
- at the macro level, the relative low costs with high social returns. Management was persuaded by the Copenhagen Consensus to invest time and effort in combating poverty-related malnutrition due to the extremely favorable cost-benefit ratio; and
- the commitment by BASF to contribute and communicate to the Global Compact once a year an example of concrete engagement.

After undergoing an internal approval process, which considered the above reasons, it was agreed that BASF would initiate and support projects that involved the local

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industries as well as governmental and non-governmental organizations ("NGOs") with the long-term view of the localities becoming self-sufficient. Subsequent research determined which countries or regions were the most susceptible to micronutrient deficiencies, which types of micronutrient deficiencies were most prevalent, and which partners were the best for the projects. These countries include but are not limited to Morocco, Kenya and the Philippines where projects are currently taking place.

Partners

BASF developed a number of partnerships since the inception of the Initiative, including:

- GAIN -- BASF entered into a partnership with GAIN based on its technical capabilities in 2004. GAIN's mission "is to reduce malnutrition through the use of food fortification and other strategies aimed at improving the health and nutrition of populations at risk. GAIN has a key alliance-building function, bringing together both public and private partners around common objectives, and provides financial support and project implementing expertise" (GAIN 2007).
- Maplecroft -- a specialist research and advisory company focused on the non-financial performance of multinationals. Its vision is to "enhance the capacity of organizations, enabling them to optimize their contribution to society's goal of sustainable development" (Maplecroft 2006).
- GTZ -- the German Agency for Technical Cooperation supported the Initiative in providing technical capacity building to local food industries and facilitating multi-stakeholder workshops at the country level. GTZ operates 2300 technical cooperation projects in 160 countries, works for German Ministries, but also the EU, the UN and the World Bank. GTZ owns extensive field expertise in public-private-partnerships (PPP).

Strengths and challenges of the Initiative

Some of BASF's challenges in developing the Initiative were:

- BASF's limited presence in many developing countries including Africa where a number of projects are taking place. Relying on partners and outside sources can limit the success of the project to the resources of the respective partners. Often these partners are local firms or industry with limited need for capacity building and training by BASF in local communities who can then produce the food products;
- the fact that BASF only produces vitamins but not minerals or iodine. It only has the expertise and product solutions to deal with one-half of the micronutrient malnutrition issue. This challenge is tackled, again, through collaboration with various partners;
- identification of suitable food vehicles for fortification, which usually involves the sourcing of a widely consumed and affordable staple food;
- hesitation of public partners to join the project. This type of project is outside the usual scope of public partners like (local), NGOs or the country's government.

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Traditionally, aid for malnutrition often focuses on ad hoc, short term solutions, such as distribution of vitamin capsules (supplements). This approach remains useful to reach populations that cannot be reached by market-based projects, like the Initiative;

- the provision of non-fortified food aid by NGOs, which can delay the introduction of fortified food to a community in need. Although their malnutrition needs are met, it does not necessarily follow that they are receiving the correct level of micronutrients. Through advocacy, NGOs now realize the need to address both the macronutrient and micronutrient challenges and are altering their practices to the supply of fortified foods;
- economically sustainable initiative versus a charitable humanitarian project -- the challenge for BASF was to make this initiative a long-term, sustainable initiative that could be best addressed by the project making itself self-sustainable. BASF is complementing this approach with charitable projects like the BASF Social Foundation discussed below;
- being aware of cultural differences in different countries and regions -- part of the solution is found by looking at BASF's culture itself; that is, the fact that BASF employs 80%-90% of local residents where offices are located. Whenever BASF moves into new regions and communities it is required to research their culture as well as their consumption patterns, potential local partners and the best way to educate the community on the benefits of purchasing fortified foods. Each community is different, and these differences have to be addressed to ensure success.
- the dichotomy between the desire to form a global model for food fortification while trying to satisfy local differences. Adaptations to a universal model can be difficult and are a constant challenge for BASF and other companies initiating similar projects; and
- BASF's internal culture and attitude towards the Initiative (although this does not appear to be so much of a challenge than a strength). BASF's employees are proud of what the Company does for this Initiative, the nutrition division in particular, and this results in everyday support in all food fortification initiatives. However, there are always conflicts between the distribution of resources and the Company's goal of long-term economic sustainability. This is when management must decide between private tenders and tenders to the Initiative. The Company will give the Initiative priority whenever it can, but, ultimately, it is accountable to its shareholders.

Increasingly, also donors demand sustainable and market-based solutions. The objective behind this trend is to aim for the long-term self-sufficiency of programs and initiatives. Often public-private partnerships are needed in order to reach the (potential) beneficiaries who can hardly be reached by markets (Prahalad 2004).

Project implementation

The Kenyan project (the "Project") was launched in 2002 and is a good example to illustrate BASF's efforts to fortify foods. The Project's goal is to provide for fortification

of oil nationwide. This is an ambitious goal that requires BASF and its partners to be dedicated to the Project long–term.

The first step was to train BASF staff in the food fortification process and to build food fortification capacity locally. The head of BASF's Food Fortification department invited local employees to Germany to participate in workshops with colleagues from all over the world. They received training on the diverse issues related to micronutrient malnutrition and BASF's envisaged engagement. The training included elaboration on the country's specific challenges and potential solutions, including BASF's contributions, and resulted in a plan that needed to be discussed with local stakeholders in Kenya.

BASF entered into a local partnership with High Chem, a company that is highly committed and engaged in food fortification. High Chem´s owner guided the formation of a local food fortification team required for such a project (multi-partner stakeholders). BASF's international relations team helped to facilitate first contacts, negotiations and dialogues with potential and current partners of the Project in the initial phase of the Project.

The first of the annual East African Conferences was held in 2003 to bring together all stakeholders in food fortification. With the support of GAIN, this conference facilitated dialogue and mutual learning geared towards forming a multi-stakeholder alliance that develops an operational road map for a national food fortification scheme.

Evaluations of the conference by the conference participants yielded the following results;

~~Sectors involved~~

Business	Government	Int. Organization	Civil Society	Academia	Other
21	5	1	2	2	1

~~Useful for the attendees~~

Extremely worthwhile	Very worthwhile	worthwhile	Hardly worthwhile	Waste of time
28%	69%	3%	-	-

~~The conference was~~

(31) a source of information	(14) knowledgeable	(1) solid
(28) well-organized	(12) balanced	(1) entertaining
(22) a source of learning	(11) thought-provoking	(-) boring
(18) good networking	(5) "rushy"	(-) too political
(15) inspiring	(1) a marketing event	(-) too technical

~~The participants thought food fortification/malnutrition can be addressed best~~

(23) through cooperation of diverse partners (1) as a pure business case for companies
(2) within social responsibility of companies (1) by civil society organizations
(2) by the government (0) by developmental organizations

~~The extent to which the participants changed their attitude towards food fortification/ malnutrition~~

(14) awareness of broader picture
(7) want to learn more
(1) will change my business
(11) deepened my commitment
(4) met new partners
(1) no change (this participant was already involved in food fortification)
(7) consider to engage in FF
(2) will encourage others

~~The factors to be considered if engaged in food fortification~~

1. Quality of the product (18)
2. Technical support by supplier (13)
3. Price of product (8)
4. Social responsibility of supplier (8)
5. Logistics and local presence of supplier (5)

After the first conference, the project was facing the challenge not to lose momentum, which gave the impetus for BASF, GAIN and their partners to intensify joint efforts towards the creation of a self-sufficient local National Food Fortification Alliance (the "Alliance"). Based on the workshop participation, the Alliance involved the local bureau of standards, local industries, consumer groups and, over time, the government. The creation and maintenance of the Alliance was lead and assisted financially by the Initiative and allowed for the creation of a concrete road map and goals as well as enhanced advocacy opportunities, including a well-managed labelling scheme for fortified staple food. Such alliances are run successfully in a number of countries.

The formation of the Alliance led to the 100-day Rapid Results Initiative (the "RRI") which was aimed at fast-tracking the fortification of fats and oils with Vitamin A. The goal was to "have at least 3 edible fats and oils brands on the shelf with the Vitamin A fortification logo by December 16th 2006 (Micronutrient Initiative 2006). It was also used to fast-track standards for fortified foods, review studies on the prevalence of micronutrient deficiencies, seek support from public and private bodies, to educate the public and to review/develop food fortification laws.

The RRI has been successful to the extent that in 2007, a nationwide program was

implemented to build on the success of the RRI. Awareness of the importance of food fortification was raised within the government and the public and private institutions that are actively involved in the Alliance. It is, however, still too early to see any concrete results of the program in respect to the overall health of the population.

Similar projects have also occurred in Morocco, Uganda, Zambia, Nigeria, Senegal, Sudan and Ghana.

BASF has implemented projects through a number of means including:

- the initiation of and engagement in GAIN's National Fortification Alliances ("NFAs") -- "The National Fortification Alliance is a multi-sectoral partnership formed to formulate and implement collaboratively a comprehensive national food fortification strategy and programme(s)" (GAIN 2004). The NFAs' goal is to implement projects that create long-term sustainability to a specific community. BASF supported the formation and dialogue of NFAs by providing dialogue platforms and facilitation based on the strengths and capacities of all partners and GAIN's knowledge and experience in forming the correct blend of partners to ensure the success of a project;
- technical capacity building for local industry -- BASF provides technical training and advice on the food fortification process to the local food industries. BASF conducted training workshops in more than 20 developing countries geared towards transferring the technological capacities necessary for food fortification;
- in numerous cases, BASF provided free analytic and testing capacity to those partners and programs that are approaching the implementation stage of food fortification; and
- BASF developed and distributed a field-testing kit that allows testing staple foods at rural market or even household levels. It can also be used by governments for monitoring and quality control of food produced by the local industries. The field-testing kit was developed by BASF's central lab in Ludwigshafen. It is noteworthy that staff there often worked overtime because of their personal desire to support the Initiative.

Project financing and resources

The participating partners based on their particular strengths provide financing and resources for the implementation and execution of projects.

BASF contributed product solutions, technical capacity building, analytical capacity and supported monitoring and food safety control by the donation of field-testing kits.

The BASF Social Foundation is engaged in charity hunger initiatives, which complement BASF's corporate Initiative. The BASF Social Foundation, in partnership with UNICEF and GAIN, has developed a Global Employee Donation Scheme. The expected financial contribution of the Company amounts to €100,000 serving as seed funding for

complementary donations from 90,000 employees. These charity initiatives aim at reaching the most vulnerable groups that cannot be reached by food fortification initiatives alone, namely children, pregnant women and mothers.

Globally, the GAIN Foundation is the most important provider of funding for micronutrient malnutrition projects. In addition, GAIN's expertise in bringing together different partners ensures continued success. GAIN also monitors and evaluates projects that it participates in to discern their strengths and weaknesses and to provide feedback to the stakeholders involved.

BASF has not limited its projects to the food fortification process. The Company is also involved in financing a number of studies, conferences and analytic capacities (like food samples). For example, on August 22nd, 2006, BASF and its local partner High Chem organized and participated in a food fortification conference in Maputo, Mozambique. Participants included representatives from ministries, non-governmental organizations, consumer associations and industry with the aim to promote discussion about possibilities to fortify staple food in Mozambique.

Monitoring and evaluation

Project monitoring is done on two levels. The first involves public sector institutions such as GAIN; through efficacy studies; and national standard bodies (e.g., controlling food samples at processing or household level).

The second is through internal monitoring by BASF. BASF's monitoring includes quality testing of its product to ensure safety and the stability of the product. All products are analysed before delivery, and BASF takes a sample of each batch before distribution in case of any concerns or complaints. This ensures transparency and reinforces a good brand image, which is essential for BASF's long term brand image and good will.

The field-testing kit developed by BASF enables NGOs and standard setting bodies to test food provided not only by BASF but by other companies. In addition, BASF runs an evaluation for all its technical capacity building activities so as to allow feedback and enable self-learning and continuous improvement to the Initiative.

It is the Company's understanding that NGOs (including GAIN) and governmental organisations as well as other interested bodies research the ongoing effectiveness of the Initiative and other such projects. GAIN also provides national data on malnutrition including micronutrient deficiency, and monitors particular projects.

An independent study on the long-term nutritional impact of all BASF supported programs has not yet been undertaken, partially due to the high cost and time it would take to undertake such a study.

Project results

The participation in the Global Compact created an environment to fight malnutrition. All projects are geared towards the fortification of staple foods that are usually consumed by poor populations on a daily basis.

BASF, together with its partners, is engaged in more than 25 developing countries. An internal study was conducted as part of this case study, and it estimates that more than 1 million undernourished people with the most severe micronutrient deficiencies are currently reached through programs supported by BASF.

GAIN plans to improve the nutritional status of 1 billion people, of which 700 million are at risk of micronutrient deficiencies, over the period of 2002-2007, primarily through fortification of commonly available and consumed foods.

Examples of how BASF delivered assistance to the battle against malnutrition include:

- Kenya (Nairobi) -- a public-private partnership to improve productivity in African maize farming. BASF's agricultural department has developed technology that prevents striga (witchweed), a widespread parasitic weed that causes production losses of estimated €1.2 billion annually;
- Morocco (Rabatt) -- BASF, in cooperation with the government of Morocco and UNICEF, has assisted in the food fortification of sugar. BASF has used its technical capacity and know-how to assist the local sugar industry to produce sugar that met the nutrient demand of the population;
- development of a field-testing kit -- development of a field-testing kit for vitamin A in flour fortification that allows public interest organisations to test the contents of fortified foods; and a
- Food Fortification Conference, Kenya (Nairobi) -- this conference raised awareness for the challenge of micronutrient malnutrition and assisted in the building capacity for the fortification of staple foods in the local industry.

Micronutrient malnutrition is a severe problem affecting large parts of the world's population. BASF's Initiative is based on long-term financial gain, and it could be argued that the Company's long-term profit-driven goals are the sole reason it has taken on the Initiative in current form (as opposed to merely supporting charitable projects). From the Company's standpoint, a charitable approach towards reducing malnutrition does not help to make the projects and the communities that they are supposed to support self-sustainable. Also, there might be a possibility that the Company will cease funding the Initiative if the public and the press advocate challenges such as the environment to be more important.

It remains to be seen whether BASF and other companies engaged in this field can meet their commitments, especially in the long term. Although the Company set numerous precedents with regard to development and execution of projects with public and private partners, the challenge now will be to maintain this momentum.

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