

## **A conversation with Greg S. Garrett and Rizwan Yusufali on May 19, 2014**

### **Participants**

- Greg S. Garrett – Director, Large-Scale Food Fortification, Global Alliance for Improved Nutrition (GAIN); Board Member, International Council for the Control of Iodine Deficiency Disorders Global Network (ICCIDD)
- Rizwan Yusufali – Manager, Universal Salt Iodization Programs, GAIN
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Note: This set of notes was compiled by GiveWell and gives an overview of the major points made by Mr. Garrett and Mr. Yusufali.

### **Summary**

GiveWell spoke with Mr. Garrett and Mr. Yusufali about the work of the GAIN-UNICEF Universal Salt Iodization (USI) Partnership Project and future roles for GAIN in USI programs.

### **Overview of GAIN's work in universal salt iodization (USI)**

The Global Alliance for Improved Nutrition (GAIN) was established in 2002. It initially focused on scaling up nutritional interventions such as staple food fortification. Beginning in 2004, organizations involved in iodine and universal salt iodization (USI) assisted with GAIN's national food fortification programs, but GAIN did not explicitly work on USI. At the time, about 60% of the global population was covered by iodized salt.

In 2005, GAIN became interested in promoting salt iodization for the majority of the remaining fraction of households worldwide that lacked iodine coverage. Work in 14 countries is funded through the GAIN-UNICEF USI Partnership Project, which was GAIN's first foray into salt iodization. GAIN was the initiator of the USI Partnership Project, and the Bill and Melinda Gates Foundation ultimately funded UNICEF to work alongside GAIN, bringing with it its USI experience, particularly in policy and advocacy in salt iodization.

GAIN's work on salt iodization is fairly independent from its other programs, but GAIN's country managers play an increasing role in USI, particularly in policy and advocacy. They also ensure that other GAIN interventions such as complementary foods and supplementation continue to receive the required managerial and technical attention. USI is part of GAIN's Large-Scale Food Fortification initiative.

### **Overview of the GAIN-UNICEF USI Partnership Project**

The Partnership Project provides direct program support and grants to promote USI in the countries with the highest rates of iodine deficiency and low household coverage of iodized salt.

98% of the Partnership Project's funding will be used by March 2015, and the final reports on coverage surveys, in 13 Partnership Project countries, will be completed by December

2015. GAIN's USI programs in Tajikistan and Afghanistan will continue through 2016 because they are funded by other donors.

GAIN and UNICEF have complementary roles within the Partnership Project. GAIN focuses on issues related to the supply of iodized salt as well as monitoring and evaluation. For example, the GAIN premix facility supports a sustainable supply of quality potassium iodate. In particular, GAIN investigates the contribution of iodization of salt in processed foods, because an increasing percentage of salt consumption comes from processed foods. It also does monitoring and evaluation of iodine programs and works to improve quality assurance and quality control for salt producers and food control authorities. GAIN is also leading on the design and implementation of monitoring and evaluation including the endlines across the portfolio.

UNICEF's role on the Partnership Project is primarily around policy advocacy, communications, and marketing to promote salt iodization. For example, the Partnership Project together with other partners working on USI helped Ethiopia pass a law in 2011 that mandated salt iodization. However, the effectiveness of iodine legislation in some countries is unclear, because it is not always enforced or its regulatory monitoring processes need improvement

The roles of GAIN and UNICEF vary between countries and depend on the expertise of each organization in a country. For example, GAIN does some policy advocacy in Bangladesh. E.g. just recently in May Mr. Yusufali and GAIN's Bangladesh Country team convened a workshop in Bangladesh to demonstrate to government agencies the progress that has been made in USI over the past two years and to encourage them to improve the regulation of iodized salt.

### **Iodine coverage goals**

The standard programmatic indicator for USI programs is 90% household iodine coverage. Thus far, GAIN has supported USI to some 300 million people with improved access to iodized salt. If the 80-90% goal were reached, a total of 700 million people would have improved access to iodized salt due to GAIN and its partners' efforts.

Salt iodization must cover a critical number of people in order to be effective. The benefits of expanding salt iodization are not linear: expanding salt iodization becomes more effective as a population approaches 100% coverage. When an iodization program begins, higher-income families typically receive most of the iodized salt, but the main target of iodine programs is generally low-income and rural populations, which are more likely to be iodine deficient.

As programs come closer to achieving 90% household coverage, the amount of time and resources required to expand iodine coverage increases. For example, it might require 4-5 years to reach 50% household iodine coverage in a country, but it would require more than 4-5 years to increase iodine coverage from 50% to 100%.

Iodine has the largest benefits during prenatal development and early childhood, so the main targets for iodine programs are women of reproductive age and children under two years of age. It would be possible to provide supplements specifically to these groups, but it is more efficient to do USI because it is difficult to reach women with supplements before conception, which is the critical time to provide iodine. GAIN is providing funding to the Federal Institute of Technology (ETH) Zurich to do a study in the Philippines, Ghana, Croatia, and China to determine whether sufficient levels of iodine are transferred through breast milk in countries with 90% household coverage of adequately iodized salt. Michael Zimmermann and Maria Andersson, of ETH, led the study, though not as part of their work with the International Council for the Control of Iodine Deficiency (ICCIDD) Global Network.

### **Classification of the Partnership Project's programs**

In the Partnership Project's regional reviews of its programs in Africa and Asia in 2012, the supplies of salt in countries were classified based on whether salt iodization needed to be expanded, improved, or sustained. Most countries have elements of more than one category.

- **Expansion** of iodization is necessary in countries such as Senegal and Ghana where a large amount of salt is not iodized.
- **Improvement** of iodization techniques is necessary in some countries. For example, in Ethiopia, iodine is sprayed on salt (80% of coverage), which results in inconsistent iodine concentrations. Concentrations vary from 2 parts per million (ppm), which is too low, to 250 ppm, which is too high. To solve this GAIN is providing salt producers in Ethiopia with better iodization techniques and equipment. GAIN is currently best able to help countries in the "improve" category.
- **Sustainment** of iodization is necessary in countries such as China, where 90% household iodine coverage has been achieved, but ongoing efforts are needed to ensure this coverage remains high.

### **The Partnership Project's strategies for promoting salt iodization**

The Partnership Project has some standard strategies that it uses in its iodine programs. For example, it uses similar models for establishing sustainable supply chains of potassium iodate in most countries. However, the specifics of programs vary based on the needs of countries. For example, Ghana and Senegal require a special model for promoting salt iodization among small-scale producers due to the large number of small salt producers in the countries.

#### *Salt supply chains*

It is important for the Partnership Project to understand a country's salt supply chain from producers to consumers. For example, it is important to know whether salt is produced from seawater or mines. Salt supply chains can be fairly complex. For example, in Indonesia

there are hundreds of small harvesters, each of whom harvests about two tons of salt. Larger companies consolidate and package this salt for consumers. Each consolidator produces about 50,000-60,000 tons of salt. The Partnership Project often works with consolidators, rather than harvesters, to promote salt iodization. In some countries, the Partnership Project targets wholesalers and retailers to ensure they only purchase and sell iodized salt. This strategy was successful in Kyrgyzstan.

### *Medium and large salt producers*

In six of the countries where GAIN is working on iodization programs, the focus is on improving quality assurance and quality control of iodization among medium and large salt producers. (“Medium” and “large” are relative terms. In India, where total salt production is 6 million tons, one company produces 2 million tons of salt. In Ghana and Senegal, where total salt production is 150,000 tons, a company that produces 25,000-30,000 tons of salt is considered a large producer.)

Though there are fewer medium and large salt producers than small producers, medium and large producers supply the majority of salt in many countries. Typically, about 20% of salt producers supply about 80% of the salt in a country. However, in Ghana there are estimated to be 200-4000 salt producers, but 10-15 producers supply about 80% of the salt in the country.

The Partnership Project’s first step in working with salt producers is to list all the producers in a country in order of decreasing size. Beginning with the largest producers, it chooses a manageable number of producers to work with and determines what percentage of the salt supply those producers account for.

Next, GAIN works with producers to demonstrate to them that iodization is not costly. This is easier to do with large and medium salt producers than with small ones, because larger producers have larger profit margins. It can be difficult to convince small salt producers to iodize their salt, because usually the strategy of small producers is to minimize production costs. The largest costs for salt producers are typically fluctuations in the value of the local currency.

### *Small salt producers*

Salt production has recently been consolidated in many countries, which makes iodization more efficient. However, even in countries such as India where consolidation has occurred, there remain regions that receive salt from small producers. Small salt producers have been a focus for other iodine programs, because they produce much of the non-iodized salt in the world. GAIN has promoted a business-to-business (B2B) model as a new strategy to increase iodization among small salt producers. In this model, an independent company iodizes salt for many small salt producers.

### *Enforcement of iodization regulation*

In addition to working with producers, the Partnership Project works with regulators to improve enforcement of iodine laws. Most countries where the Partnership Project is active, except Russia and Ukraine, have laws mandating salt iodization, but many countries lack effective enforcement for iodization laws. For example, fines may be too small to be effective. In Bangladesh medium and large salt producers may not iodize their salt because it is less expensive to pay the fine for not iodizing than to pay for the iodine added to the salt.

### **Measurement of iodine consumption**

GAIN is improving methods for testing the concentrations of iodine in salt. It is developing cost-effective equipment, providing titration training, and distributing WYD Iodine Checker and iCheck devices to food control authorities.

The Partnership Project uses several proxies to monitor consumption of iodine, including usage of potassium iodate and production of iodized salt. It also does household surveys of iodized salt coverage, some of which are done as part of existing national surveys. The Partnership Project is also doing five independent national household iodine surveys. At the end of 2015 there will be updated data on coverage in 10 countries. The Partnership Project will also do surveys of urinary iodine concentrations (UICs) in Ethiopia, Indonesia, India, and China.

### **Funding and expenses for the Partnership Project**

GAIN receives funding from the Bill & Melinda Gates Foundation for its iodine programs on the Partnership Project. GAIN's other iodine programs are funded primarily by the United States Agency for International Development (USAID), a foundation in the Middle East, and Irish Aid.

The costs of UIC surveys and household iodine coverage surveys depend on the size of the country and the sample size. A UIC survey costs at least \$150,000-200,000, and a household coverage survey costs at least \$75,000-100,000. The main costs for surveys are logistics. For example, surveys in Niger have higher costs per person than in India because transportation in Niger is more difficult.

GAIN is trying to estimate the cost of iodine coverage per person per year, but this is a difficult question.

### **Roles for GAIN and UNICEF in USI following the completion of the Partnership Project**

GAIN wants to continue supporting national USI programs following the completion of the Partnership Project. In addition to the countries that the USI Partnership currently works in, GAIN wants to support iodine programs in some smaller countries in Africa and Asia. GAIN hopes that continued funding for iodine programs comes from bilateral aid organizations such as the European Commission, the UK Department for International Development (DFID), and USAID. Despite attempts to diversify the funding base for USI,

additional money is needed to ensure full scale up and sustainability. GAIN is developing sustainable, market-based plans for future salt iodization in over 10 countries. Other countries, such as Senegal and Ghana, likely need a more subsidized model to support iodization programs. GAIN is currently determining the costs of these plans.

GAIN and UNICEF will have a smaller role in salt iodization in Russia and Ukraine. Though the Partnership Project has had some success in promoting iodization in these countries (in the bread and meat industries, for example), there are unique challenges in these countries. The Partnership Project does not believe that it has the same opportunities for success in Russia and Ukraine as in other countries. Instead, it believes that more advocacy is needed to promote iodization in these countries. Advocacy led by an umbrella body such as the International Council for the Control of Iodine Deficiency Disorders – Global Network of which GAIN and UNICEF are members, would perhaps be more effective initially before program interventions are considered.

### **Collaborations with Scaling Up Nutrition (SUN) on USI**

Before the creation of Scaling Up Nutrition (SUN), iodine coalitions were arguably isolated from the broader nutrition agenda. SUN has made it easier for iodine programs to collaborate more broadly with nutrition actors. GAIN is working with the SUN secretariat to create toolkits for SUN countries to explain how the private sector can assist in salt iodization. GAIN and the United Nations World Food Programme (WFP) are co-chairing the SUN Business Network (SBN).

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