Leading global action to eliminate brain damage due to iodine deficiency

Contents

About IGN

4 Message from our Executive Director
6 Thirty years of the IDD newsletter
8 Where now for the IDD newsletter?
10 Facts about iodine deficiency
11 100 years of salt iodination

Our work

13 Global iodine status
15 What is the real situation regarding salt iodination?
19 The role of our regional coordinators

Data and innovation

31 Facilitating regional salt trade in West and Central Africa
32 Revitalizing USI programs
33 Working together through conflict
34 South Sudan - starting from scratch
35 An update on salt iodination in Central America
36 IGN’s webinars strengthen regional coordination

Financial statements

41 EUthyroid consortium
42 Research update
44 Our partners and supporters
45 Partnerships and funding
49 Our team
50 Management council meeting
51 The core team
52 Regional and national coordinators
57 Statement of operations - year ended December 31, 2022

© Vietnam / Hoang Hoa Man
The 100th anniversary of salt iodization in Switzerland in 2022 (see story later in this report), and the coming centenary of iodization in the U.S. in 2024, will provide an opportunity to look at how far we have come with the work to ensure adequate iodine nutrition for all.

According to UNICEF data, some 88% of the world’s population uses iodized salt. That is an amazing global achievement. But if you unpack it a little, it’s evident there’s still more to be done. First, it’s not clear that all this salt contains enough iodine – UNICEF data refer to salt with any amount of iodine. Secondly, UNICEF estimates that nearly 1 billion people still don’t have access to iodized salt.

We know from the experience of Switzerland that it is possible to achieve a sustained, highly effective program that provides adequate iodine nutrition. That’s what IGN wants for every country in the world, so that children’s developing brains can be protected against losses in learning capacity or more serious problems.

So how do we get there? Reflecting on our organization’s history – which is discussed in the next article about the IDD Newsletter, we see the evolution of our work, from the early days of the International Council for Control of Iodine Deficiency Disorders (ICCIDD), through the highly successful Universal Salt Iodization (USI) campaign, and now adapting to the current global context.

UNICEF estimates that nearly 1 billion people still don’t have access to iodized salt.

As has rightly happened, global success has led to less attention and less resource allocation as the problem diminishes. The lead organizations working on the campaign 10–20 years ago now have other, more urgent priorities, with focus and resources going to these areas.

But as that happens, IGN’s role becomes increasingly important. We hold the institutional memory of the successes and challenges to salt iodination over the years, and more crucially, we are the global organization that watches over iodine nutrition and programming, to make sure that the successes are maintained, and catalyzes action if things are not as they should be. From conducting national and regional landscape analyses to providing technical support to address problems, we are there to help countries preserve and protect the progress they have made. We see an opportunity to leverage the network of regional and national coordinators who are working to provide emergency commissions to program and poised to act where it’s needed.

As resources diminish, so too does our knowledge of the real situation of iodine nutrition. National surveys are costly and are not a priority for most countries, so data is old. In adapting to this new context, IGN is seeking new, less expensive ways to understand population iodine status through models such as sentinel sites as well as new tools to assess the strengths and weaknesses of national iodine-nutrition programs.

We are also exploring other potential ways to reach populations with iodine, such as the use of iodized salt in processed foods. As technology improves, and evidence on cost-effective impact is strengthened, there may also be the opportunity to add other fortifications to salt.

This report contains stories from around the world that detail our unique way of working with different partners and stakeholders to improve and sustain iodine nutrition. From new approaches to collecting data, to putting a spotlight on the work of our regional and national coordinators, we believe these stories bring home the fact that our organization’s work is key to protecting progress and reaching those who do not yet have access to adequate iodine nutrition.

Message from our Executive Director

The 100th anniversary of salt iodization in Switzerland in 2022 (see story later in this report), and the coming centenary of iodization in the U.S. in 2024, will provide an opportunity to look at how far we have come with the work to ensure adequate iodine nutrition for all.

According to UNICEF data, some 88% of the world’s population uses iodized salt. That is an amazing global achievement. But if you unpack it a little, it’s evident there’s still more to be done. First, it’s not clear that all this salt contains enough iodine – UNICEF data refer to salt with any amount of iodine. Secondly, UNICEF estimates that nearly 1 billion people still don’t have access to iodized salt.

We know from the experience of Switzerland that it is possible to achieve a sustained, highly effective program that provides adequate iodine nutrition. That’s what IGN wants for every country in the world, so that children’s developing brains can be protected against losses in learning capacity or more serious problems.

So how do we get there? Reflecting on our organization’s history – which is discussed in the next article about the IDD Newsletter, we see the evolution of our work, from the early days of the International Council for Control of Iodine Deficiency Disorders (ICCIDD), through the highly successful Universal Salt Iodization (USI) campaign, and now adapting to the current global context.

UNICEF estimates that nearly 1 billion people still don’t have access to iodized salt.

As has rightly happened, global success has led to less attention and less resource allocation as the problem diminishes. The lead organizations working on the campaign 10–20 years ago now have other, more urgent priorities, with focus and resources going to these areas.

But as that happens, IGN’s role becomes increasingly important. We hold the institutional memory of the successes and challenges to salt iodination over the years, and more crucially, we are the global organization that watches over iodine nutrition and programming, to make sure that the successes are maintained, and catalyzes action if things are not as they should be. From conducting national and regional landscape analyses to providing technical support to address problems, we are there to help countries preserve and protect the progress they have made. We see an opportunity to leverage the network of regional and national coordinators who are working to provide emergency commissions to program and poised to act where it’s needed.

As resources diminish, so too does our knowledge of the real situation of iodine nutrition. National surveys are costly and are not a priority for most countries, so data is old. In adapting to this new context, IGN is seeking new, less expensive ways to understand population iodine status through models such as sentinel sites as well as new tools to assess the strengths and weaknesses of national iodine-nutrition programs.

We are also exploring other potential ways to reach populations with iodine, such as the use of iodized salt in processed foods. As technology improves, and evidence on cost-effective impact is strengthened, there may also be the opportunity to add other fortifications to salt.

This report contains stories from around the world that detail our unique way of working with different partners and stakeholders to improve and sustain iodine nutrition. From new approaches to collecting data, to putting a spotlight on the work of our regional and national coordinators, we believe these stories bring home the fact that our organization’s work is key to protecting progress and reaching those who do not yet have access to adequate iodine nutrition.

Message from our Executive Director

The 100th anniversary of salt iodization in Switzerland in 2022 (see story later in this report), and the coming centenary of iodization in the U.S. in 2024, will provide an opportunity to look at how far we have come with the work to ensure adequate iodine nutrition for all.

According to UNICEF data, some 88% of the world’s population uses iodized salt. That is an amazing global achievement. But if you unpack it a little, it’s evident there’s still more to be done. First, it’s not clear that all this salt contains enough iodine – UNICEF data refer to salt with any amount of iodine. Secondly, UNICEF estimates that nearly 1 billion people still don’t have access to iodized salt.

We know from the experience of Switzerland that it is possible to achieve a sustained, highly effective program that provides adequate iodine nutrition. That’s what IGN wants for every country in the world, so that children’s developing brains can be protected against losses in learning capacity or more serious problems.

So how do we get there? Reflecting on our organization’s history – which is discussed in the next article about the IDD Newsletter, we see the evolution of our work, from the early days of the International Council for Control of Iodine Deficiency Disorders (ICCIDD), through the highly successful Universal Salt Iodization (USI) campaign, and now adapting to the current global context.

UNICEF estimates that nearly 1 billion people still don’t have access to iodized salt.

As has rightly happened, global success has led to less attention and less resource allocation as the problem diminishes. The lead organizations working on the campaign 10–20 years ago now have other, more urgent priorities, with focus and resources going to these areas.

But as that happens, IGN’s role becomes increasingly important. We hold the institutional memory of the successes and challenges to salt iodination over the years, and more crucially, we are the global organization that watches over iodine nutrition and programming, to make sure that the successes are maintained, and catalyzes action if things are not as they should be. From conducting national and regional landscape analyses to providing technical support to address problems, we are there to help countries preserve and protect the progress they have made. We see an opportunity to leverage the network of regional and national coordinators who are working to provide emergency commissions to program and poised to act where it’s needed.

As resources diminish, so too does our knowledge of the real situation of iodine nutrition. National surveys are costly and are not a priority for most countries, so data is old. In adapting to this new context, IGN is seeking new, less expensive ways to understand population iodine status through models such as sentinel sites as well as new tools to assess the strengths and weaknesses of national iodine-nutrition programs.

We are also exploring other potential ways to reach populations with iodine, such as the use of iodized salt in processed foods. As technology improves, and evidence on cost-effective impact is strengthened, there may also be the opportunity to add other fortifications to salt.

This report contains stories from around the world that detail our unique way of working with different partners and stakeholders to improve and sustain iodine nutrition. From new approaches to collecting data, to putting a spotlight on the work of our regional and national coordinators, we believe these stories bring home the fact that our organization’s work is key to protecting progress and reaching those who do not yet have access to adequate iodine nutrition.
Thoughts from Gregory Geerasimov, Regional Coordinator for Eastern Europe and Central Asia

For thirty years, the IDD newsletter has been the voice of the global iodine community. It was founded at practically the same time as the International Council for Control of Iodine Deficiency Disorders (ICCIDD), the predecessor of the Iodine Global Network, by John Dunn MD, Professor of Endocrinology at University of Virginia in Charlottesville (USA), who was Secretary of the Board and later ICCIDD Executive Director.

At first, the newsletter was short—a few pages printed in black and white for limited distribution. But as time went on, it gathered momentum, and its digital issue, which began in the mid-1990s, reached thousands of subscribers worldwide. After John Dunn’s sudden passing in 2004, Constance Pittman, MD, ICCIDD Board Member and Professor of the University of Alabama in Birmingham (USA) became interim editor.

In April 2005, the ICCIDD Board announced Michael D. Zimmermann MD as the new editor of the IDD Newsletter. Michael at that time worked at the Human Nutrition Laboratory, Swiss Federal Institute of Technology (ETH), Zurich, Switzerland and so, for the next 16 years, Zurich became the home of the IDD Newsletter and Michael Zimmermann its host.

Over the years, Michael significantly strengthened the newsletter, which became an important source of new information on the iodine status of nations and populations, iodized salt production, distribution, and told stories about people who were working hard to attain USI, which WHO later called one of the most important public health successes, on a par with elimination of smallpox and polio.

In April 2005, the ICCIDD Board announced Michael D. Zimmermann MD as the new editor of the IDD Newsletter. Michael at that time worked at the Human Nutrition Laboratory, Swiss Federal Institute of Technology (ETH), Zurich, Switzerland and so, for the next 16 years, Zurich became the home of the IDD Newsletter and Michael Zimmermann its host.

Over the years, Michael significantly strengthened the newsletter, which became an important source of new information on the iodine status of nations and populations, iodized salt production, distribution, and told stories about people who were working hard to attain USI, which WHO later called one of the most important public health successes, on a par with elimination of smallpox and polio.

Thirty years of the IDD newsletter

Gregory notes that if somebody ever wanted to write a history of the global success of USI in reaching the goal of optimum iodine nutrition worldwide, the IDD Newsletter would be the best source of information on what happened every year in different parts of the world. It contained reports from countries and regions, summaries of the most important research publications, human interest stories, and information on the daily work of ICCIDD/IGN and its members. The newsletter currently reaches over 6,600 readers worldwide as an e-copy and is digitally archived on the IGN website.

The newsletter became an important source of new information on the iodine status of nations and populations.

For Gregory, as IGN Regional Coordinator for Eastern Europe and Central Asia, the newsletter provided the opportunity to publish results of research projects and human-interest stories from the region that may not be suited to scientific journals, but were important for history and appreciated by the newsletter’s readership.
Werner reflects that the IDD Newsletter was created at a time when the global public health agenda was more focused on the issue of iodine deficiency, and a large international community, from the private sector to civil society, was engaged in the achievement of Universal Salt Iodization. In the early days, in its printed format, it was one of the few means of sharing specialized knowledge and information with this community.

As technology changed, its next iteration in both printed and electronic form allowed it to effectively reach a global community, and thousands of subscribers not only read, but actively used the publication to share knowledge, research, progress and design national programs. Michael’s stewardship of the newsletter at this time placed it at the heart of developments and gave a voice to those working to improve iodine nutrition. Kiwanis International’s support has allowed us to continue its publication over the past decade. Designer Urs Imholz, who has worked on the publication with Michael for many years, also deserves credit for keeping the publication fresh and attractive to readers.

Technology has changed once again, and this, together with environmental and cost factors, has led IGN to the conclusion that the newsletter will only be electronically distributed from now on.

Michael’s decision to step down at the end of 2022 has led Werner, an Executive Director of IGN, to reflect on the very different situation we are in today regarding global awareness to iodine deficiency and how the newsletter can best support IGN’s work and the global agenda in this context. The world has moved on, and competing demands for attention mean that time, focus, and resources devoted to the problem have diminished. Such large-scale non-emergency related public health campaigns are not practical in the past, and resources to continue these activities are becoming even scarcer.

How we deal with the problem of iodine deficiency too has changed. From the early newsletter days of documenting early evidence and quick wins, we have moved to a realization that the fact that salt needs to be iodized forever to maintain and advance the progress made, requires continuous monitoring and regular intervention.

Moving forward, the newsletter will explore the role of iodine nutrition in this changed environment, challenging readers to think about new ways to use what we have learned to make iodine nutrition programs equitable and sustainable. Thanks to Michael’s editorship, there is a rich history and strong foundations upon which we can build.

On behalf of the many readers of the IDD Newsletter, IGN wants to thank Michael for his successful work and dedication. IGN also wants to thank Kiwanis International, which has supported the production and distribution of the newsletter over the past decade.
Switzerland holds a significant place in the history of salt iodization, having pioneered this cost-effective solution to prevent iodine deficiency worldwide. For the past 100 years, Switzerland’s salt iodization program has made remarkable strides in public health by significantly reducing goiter and the less visible effects of iodine deficiency, such as, losses in learning ability in children. However, maintaining program coverage and addressing deficiencies in certain population groups remain ongoing challenges.

In 1922, Switzerland introduced the first salt iodization program, revolutionizing the fight against iodine deficiency on a global scale. This ground-breaking initiative quickly resulted in a significant reduction in goiter within just a few years, demonstrating the power of salt iodization as a cost-effective solution.

The success of Switzerland’s salt iodization program can be attributed to the collective efforts of government bodies, academia, and Swiss Saltworks. Swiss Saltworks, which holds a monopoly on salt extraction, plays a crucial role by providing both iodized and non-iodized salt at the same price, allowing consumers to make an informed choice.

Regular national monitoring through cross-sectional studies and iodine intake assessments further ensure the program’s effectiveness.

Although Switzerland has made significant progress in combating iodine deficiency, challenges persist. Only 61% of food-grade salt sold in Switzerland was iodized in 2020. Most salt consumption (70-80%) comes from foods produced or cooked outside households, making it crucial to improve the use of iodized salt in industrially processed foods.

Understanding the main dietary sources of salt, such as bread and dairy products, helps to target strategies to address deficiencies in specific population groups, including vegans and pregnant women.

Lack of awareness and knowledge about the importance of iodized salt, both among the general public, food producers and the medical community, poses a significant barrier. Also, difficulties in exporting products made with iodized salt have resulted in non-iodized salt being preferred for exports. Overcoming these challenges requires targeted communication strategies and collaboration between responsible authorities.

Switzerland’s salt iodization program has paved the way for preventing iodine deficiency over the past century. While challenges still persist, renewed efforts are necessary to ensure adequate iodine nutrition for all population groups and prevent deficiency disorders in future generations. Improved coverage of iodized salt in industrially processed foods and regular iodine status monitoring are essential for sustaining the program’s success and creating a healthier future.

The human body needs constant, small amounts of iodine in the diet for metabolism and brain development. Normal diets in most countries do not contain enough iodine.

Insufficient iodine intake during pregnancy can lead to lasting brain damage that reduces a child’s IQ by 7-10 points and up to 15.5 points in cases of severe deficiency, with marked impact on children’s learning ability and school performance.

But over years, less attention has been paid to the problem, and in some countries, progress is being eroded, endangering the brain development of children and impacting their ability to contribute to the social and economic prosperity of their countries and communities.

Adding tiny amounts of iodine to salt for human and animal consumption can address the problem. It is simple and very inexpensive – just US5¢ a year for a lifetime of protection – and has been some sort of constant around the world for the past three decades.

Although Switzerland has made significant progress in combating iodine deficiency, challenges persist. Only 61% of food-grade salt sold in Switzerland was iodized in 2020. About salt consumption (70-80%) comes from foods produced or cooked outside households, making it crucial to improve the use of iodized salt in industrially processed foods.

Understanding the main dietary sources of salt, such as bread and dairy products, helps to target strategies to address deficiencies in specific population groups, including vegans and pregnant women.

Lack of awareness and knowledge about the importance of iodized salt, both among the general public, food producers and the medical community, poses a significant barrier. Also, difficulties in exporting products made with iodized salt have resulted in non-iodized salt being preferred for exports. Overcoming these challenges requires targeted communication strategies and collaboration between responsible authorities.

Switzerland’s salt iodization program has paved the way for preventing iodine deficiency over the past century. While challenges still persist, renewed efforts are necessary to ensure adequate iodine nutrition for all population groups and prevent deficiency disorders in future generations. Improved coverage of iodized salt in industrially processed foods and regular iodine status monitoring are essential for sustaining the program’s success and creating a healthier future.
IGN tracks the global impact of salt iodization by compiling data on urinary iodine concentration (UIC) from nationally representative epidemiological studies. The IGN Scorecard presents the most recent UIC studies conducted in school-age children for 194 WHO Member States. The global iodine status is summarized yearly and the iodine intake in countries is classified as sufficient, deficient, or excessive based on the median UIC.

In 2022, cross-sectional UIC studies have been conducted in 143 out of 194 countries in the past 15 years (2007–2022): in 126 countries (88%), the studies were nationally representative.

Since the global review in 2021, data from nationally representative studies in children have become available from Cape Verde, China, India, Iran, Kyrgyzstan, Montenegro, Peru, and the Philippines. The new studies were conducted in 2016–2021 and confirmed overall iodine adequacy in all eight countries, although regional differences exist. In Ukraine, a nationally representative study was conducted in adults in 2019 and was used in the absence of data in children. This study suggests deficient iodine intake in the Ukrainian population.

The IGN database has also been updated with new information from regional studies, which are used to fill data gaps in countries where no national surveys have been conducted in the past 15 years. Recent data is lacking in 11 countries, including several African countries.

Current global iodine status in school-age children

The iodine intake in school children is currently adequate in 112 countries around the world. In most countries, the iodine intake remains stable. However, 20 countries (out of 143 countries with data) still have insufficient iodine in their diets. (Figure 1) Iodine deficiency remains in all regions worldwide and affects populations at all stages of economic development. There are still gaps in the salt iodization program in some countries and it is possible that certain segments of the population may not meet dietary iodine requirements.

Epidemiological UIC data is increasingly becoming available in population groups other than school-age children. UIC is included in national health and nutrition surveillance and combined with studies monitoring sodium intake, studies typically conducted in the adult population. More and more countries report iodine status only in adults and/or pregnant women, or in parallel with children. Together with WHO, IGN is currently working on extending global reporting on iodine status to also include adults and pregnant women to provide a more complete reflection of the current iodine status in the general population.
Estimated iodine nutrition in 194 WHO Member States in 2021 based on national median UIC in school-age children obtained from studies conducted between 2007–2021. a) Median UIC < 100 µg/L; b) Median UIC 100-299 µg/L; c) Median UIC ≥ 300 µg/L; d) Number of countries. UIC, Urinary iodine concentration.

What is the real situation regarding salt iodization?

UNICEF’s database of households consuming salt with iodine contains information from around the world. Data was collected during Multiple Indicator Cluster Surveys (MICS), Demographic and Health Surveys (DHS) and other nationally representative surveys. When data began to be gathered, countries were engaged in the global campaign to iodize salt, which had major visibility and donor resources to support these actions.

With the disappearance of visible signs of iodine deficiency such as goiter and cretinism, public and policy attention for this campaign declined, and other public health issues took center stage, leading to a reduction in data collection. This means that we do not know the true situation about salt iodization in many countries and even globally.

IGN has analyzed the data to take an in-depth look at the situation.
The database contains the latest data on iodized salt coverage for 116 countries. Of these, 27% of countries have iodized salt coverage < 70%, 27% have an coverage between 70 and 90% and finally 47% countries have reached optimal iodized salt coverage with > 90%.

Data presented are mostly outdated and therefore may no longer represent the current situation. Only 22% of the data is less than five years old as recommended by WHO. 78% are older than five years and 29% are older than 10 years.
The database also contains sub-national data such as wealth quintile and iodized salt coverage by region. The majority of countries have data on this topic: 74% of countries have data on wealth quintile, 86% of countries have data by region, and 83% of countries have data on urban and rural areas.

Sources:

- DHS: Demographic and Health Survey (from official DHS programs and surveys available at dhsprogram.com)
- DHS-style or MICS-style survey: Survey with MICS or DHS in the title but which is not an official MICS or DHS survey (not available on the official MICS or DHS websites)
- Iodine survey: Survey focused on iodine nutrition
- LSMS: The Living Standards Measurement Study (from official World Bank Group supported surveys available at iresearch.worldbank.org/lsms/lsmssurveyFinder.htm)
- MICS: Multiple Indicator Cluster Survey (from official UNICEF-supported surveys available at mics.unicef.org)
- NNS/SMART: National Nutrition Survey/Standardized Monitoring and Assessment of Relief and Transitions
- Nutrition surveillance: Estimates originating from nutrition monitoring and surveillance systems which are nationally representative
- ONS: Other National Survey
- PAPFAM: Pan Arab Project for Family Health survey

IGN’s regional coordinators work to ensure IGN’s global presence and are a source of knowledge on issues related to iodine nutrition and salt iodization for their region.

Regional coordinators understand how country-specific conditions relate to the regional situation and contribute to designing strategies required to improve and sustain iodization.

They ensure and guide the network of national coordinators, whom they use as a source of country-specific in-depth information and as contacts or partners for implementing required activities.
South America

Key achievements

A regional communications plan for Latin America was developed, and technical assistance was provided to Andean countries to improve the quality of iodized salt and monitor small producers.

In Argentina, IGN identified difficulties in the salt iodization process and provided support to salt producers. IGN carried out strategic communication and advocacy efforts in Argentina and Peru, including producing communication materials and providing training for local health workers and nutritionists on the importance of iodine nutrition. Alliances were formed with organizations such as the Endocrinology Society Federation from Argentina and the National Centre of Intercultural Health (CESNI) authorities in Peru to promote the use of iodized salt.

What’s next

IGN will support the government in monitoring and training activities with producers in Bolivia and Argentina. In Peru, IGN will promote research on knowledge and practices about salt consumption within the Amazonian communities, collaborating with CESNI, and produce guidelines and audio material in the native language for these communities. To ensure the sustainability of its initiatives, IGN will develop a plan to disseminate educational materials and follow-up on health workers trained in social marketing strategies in Peru and Argentina. Additionally, IGN will promote the use of systematised data about food fortification and USI implementation using tools such as GFDx and digital social platforms.

Western and Central Africa

Key achievements

IGN has helped in taking concrete steps to establish a coordination system in Ghana and supported Mauritania in adapting their legislation to include ECOWAS regional standards.

IGN partnered with The Broker, a think tank for sustainable development, for a study across five countries to better understand the trade structures linking supply and demand in the region. A regional workshop was organized in Dakar, Senegal, with UNICEF and government delegates from the five countries to discuss the outcomes of the report and identify a common way forward to facilitate the intra-regional trade of quality iodized salt. Regional and country-level recommendations were identified as a result of the report and workshop. A study in Ghana identified a mechanism for the sustainable supply of potassium iodate through a revolving fund. Also, IGN raised awareness among food producers in Ghana about the legal requirement to use iodized salt.

What’s next

The ECOWAS standard on salt iodization needs to be updated and upgraded to a regional-wide regulation, to improve the quality of iodized salt and facilitate intra-regional trade of quality iodized salt. This will require strong advocacy with all 15 member states of ECOWAS to approve the regional regulation mandating that all salt in the ECOWAS region must be iodized.

Ivory Coast is the major importer of salt from Senegal. IGN aims to facilitate and encourage importers to procure from reputable salt producers with the capacity to produce quality iodized salt, ensuring a constant demand.
**Eastern and Southern Africa**

**What’s next**
IGN will ramp up support and assistance to the same countries as in 2022. The regional coordination mechanism will continue to be strengthened, with an aim to broaden its mandate to include overall food fortification. IGN will provide technical support to South Sudan and Tanzania and complete a landscape analysis in Namibia. In Mozambique, the team will strengthen the salt surveillance system and provide technical assistance on KIO3 access and the use of iodized salt in processed foods. In Madagascar, the team will support the salt surveillance system and provide technical assistance on KIO3 access and the use of iodized salt in processed foods.

**Key achievements**
The team maintained a highly functional regional coordination mechanism on USI/IDD programs and conducted in-depth landscape analyses in Botswana, Madagascar, Mozambique, and South Sudan. IGN provided technical support to plan and implement interventions to improve iodine nutrition in Madagascar, Mozambique, Namibia, and South Sudan. In Mozambique, IGN conducted a study to assess under which conditions the formation of cooperatives could help improve the supply of high-quality iodized salt by Small and Medium Enterprises (SMEs). IGN also developed a comprehensive conceptual model assessing the contribution of industrially processed foods prepared with iodized salt to iodine nutrition, and in Tanzania the role of locally produced processed foods in iodine intake was studied.

Partnerships were formed with key regional bodies, such as the ECSA-HC Best Practices Forum, Health Ministers’ 71st Conference, and the IGAD/USAID/ECSA-HC Learning Network on Nutrition Surveillance.

**Eastern Europe and Western Asia**

**What’s next**
IGN plans to publish a quarterly Iodine Blog in Russian. IGN will continue to promote the Guidance on the use of iodized salt in processed foods to country teams in the region. IGN will also collaborate with WHO Europe’s Non-Communicable Diseases (NCD) Office and national counterparts to develop salt reduction strategies that align with salt iodination efforts in Georgia.

**Key achievements**
The USI FORTIMAS Guidance was developed and translated into Russian and subsequent preparations were made for piloting in Armenia. The sentinel methodology in FORTIMAS is expected to make USI monitoring less complicated and costly.

The guidance on the use of iodized salt in processed foods was developed and translated into Russian and its implementation started in Tajikistan. In Moldova, IGN supported the government in adopting a new regulation making iodized salt mandatory for the manufacture of bakery products, as well as in public catering, such as education and health institutions, and the military.

USI FORTIMAS will be piloted in Armenia. In addition, IGN will work closely with Moldova government agencies and partners to ensure the implementation of the 2022 salt regulation.

Finally, a WHO Europe report will be completed in collaboration with Romania International and other partners.
Key achievements
IGN collaborated with UNICEF to conduct a regional landscape analysis of the iodine nutrition and salt iodization situation in all MENA countries. An in-depth analysis examined the levels and trends of iodine status, household use of iodized salt, regulation and program management in Egypt, Iraq, Lebanon and Sudan.
IGN’s Regional Coordinator and experts held workshops, seminars, and symposiums with policy makers and industry representatives during visits to Sudan, Egypt, Iraq. Additionally, a descriptive analysis was conducted on the remaining 17 countries in the region. In partnership with UNICEF MENA, a regional meeting on the salt iodization landscape analysis was organized in Amman, Jordan, to disseminate and discuss the results of the in-depth analysis conducted in Sudan, Lebanon, Iraq, and Egypt.

What’s next
IGN will partner with the American University in Beirut, Lebanon to examine the role of processed foods in iodine intake, and to advocate with salt producers to improve their engagement. Due to the crisis in Sudan, IGN will continue virtual communication with our national coordinator and the Ministry of Health to maintain current achievements of salt legislation advocacy and support in any efforts to protect and improve iodine nutrition. In Iraq, IGN will support the formation of a coordination committee with government ministries and UN agencies. In Egypt, IGN will support work to improve equity and overall management of salt iodization. The results of the descriptive landscape survey in the 17 countries of MENA will be organized to determine and discuss the results of the in-depth analysis conducted in Sudan, Lebanon, Iraq, and Egypt.

Key achievements
IGN strengthened regional coordination through the organization of four webinars focused on the monitoring of iodine status, maintaining universal salt iodination in compatibility with salt reduction initiatives, salt reduction strategies, and recent research insights from China. Around 700 participants from various countries attended the webinars, which were promoted by IGN’s national coordinator network. Additionally, research was conducted on the commercial usage of iodized salt in Pakistan and the contribution of processed foods to iodine in Bangladesh. In Sri Lanka, the USI FORTIMAS sentinel system was pilot tested to monitor iodine status, while rapid test kits were disbursed in Afghanistan and Pakistan to monitor iodination. IGN also organized 5 panel discussions in Pakistan to inform national stakeholders on the importance of salt iodization and a national meeting in Nepal to discuss the revision of iodine regulations.

What’s next
USI FORTIMAS will be implemented in Sri Lanka and micronutrient survey data for iodine will be analyzed for Bangladesh. In India, a webinar for salt manufacturers and producers to address their difficulties and concerns and provide possible solutions and a national convening meeting for sustained optimal iodine intake will be organized. A national stakeholder meeting will be held in Hutton, Nepal and will raise awareness of the salt iodination regulation revision. The strengthening of the regional coordination network will continue, which is important because of the large regional trade.
**Southeast Asia and Pacific**

**Key achievements**
IGN initiated surveys on the iodine status of the Karen indigenous people living in the Laiwo subdistrict, the Sangkhlaburi district, and Kanchanaburi province in Thailand.

IGN completed surveys in Papua New Guinea on access to iodized salt and salty condiments in some remote areas with high levels of iodine deficiency. The region’s national coordinators held two meetings and maintained regular communication networks. A quality assessment of the local production of salt in Cambodia was initiated.

**What’s next**
Landscape analyses for Cambodia will be completed. IGN will also advocate, together with partners, lawmakers in the Philippines, in coordination with the Ministry of Health, for the continued mandatory iodination of salt, and to include the use of iodized salt in imported processed food.

In Papua New Guinea and Thailand, IGN will support the release of survey results to advocate for salt iodination in these vulnerable populations. IGN will monitor developments in the drafting of the Nutrition Act in Malaysia. Additionally, IGN is reaching out to the government of Vietnam to identify the optimal way to avoid iodine status sliding back into deficiency.

**China and East Asia**

**Key achievements**
IGN participated in various academic symposiums and workshops related to thyroid diseases and iodine deficiency disorder (IDD), the Bohai symposium of Thyroid Diseases, standard committee of endemic diseases in Harbin, and various other symposiums where regional coordinator, Qian Ming, gave lectures on the progress of controlling IDD and the effects of maternal thyroid function on offspring in iodine deficient areas.

IGN introduced IDD knowledge on a Tianjin web radio show on national IDD Day. Also, in collaboration with medical schools, IGN completed a family survey, covering more than 6,000 participants throughout China.

**What’s next**
IGN plans to continue its focus on engagement with the medical sector in sustaining adequate iodine nutrition. IGN will hold consultations with stakeholders to share information and disseminate IDD surveys.

IGN plans to provide IDD education through digital platforms, including blogs and social media, and contribute more stories to the IDD newsletter. IGN also plans to support western provinces in China with IDD education and organize a meeting in Mongolia to support education.
Western and Central Europe

Key achievements
IGN established a working relationship with the European Union’s Directorate General for Health and Food Safety to inform Member States and endorse the recognition of iodine deficiency as a health problem in Europe.

A Member States group was formed to define a common strategy to optimize iodine intake in Europe, with iodine mention in Europe being placed on the agenda of the Belgian presidency in 2024. IGN and Kiwanis International held meetings with WHO Europe and agreed on the publication of a report on the issue of iodine deficiency in Europe.

What’s next
A survey on iodine status in pregnant women and newborns in Belgium and through Europe is being developed to help guide policy and interventions in Europe.

The WHO report on iodine nutrition in Europe will be published in Q1 of 2024, with an update being presented at an IGN and European Thyroid Association (ETA) meeting in Milan in September 2023. Additionally, the EUthyroid consortium has received funding and will research effective strategies to promote awareness of the problem of iodine deficiency, especially among young people, over the next four years.

North America

Key achievements
Although the United States and Canada have been considered iodine sufficient overall for decades, recent research indicates that mild deficiency has re-emerged among US pregnant women.

IGN participated in iodine lectures and workshops at the Kiwanis International annual convention and in a webinar, podcast, symposium, and workshops with the National Dairy Council to raise awareness about iodine.

What’s next
A multi-sector cross-sectional survey of US pregnant women will be conducted under the umbrella of the NIH’s Environmental Influences on Child Health Outcomes (ECHO) program.

The American Thyroid Association (ATA) pregnancy guidelines are undergoing review, and an updated guideline including recommendations on iodine nutrition is anticipated in 2025.

IGN will continue to partner with the National Dairy Council for a public awareness campaign about iodine for child brain development. Additionally, IGN will conduct activities and a public awareness campaign around the 2024 centennial for iodized salt with Kiwanis International.
Central America and the Caribbean

Key achievements

- A research project on processed foods in Panama and Guatemala was conducted and the results disseminated in webinars with national authorities, leading to next steps and recommended actions being taken by those authorities.
- IGN also worked with INCAP to assess the situation of salt iodization in countries in the region, including laws, regulations, and standards. IGN collaborated with the University of Notre Dame and the Swiss Federal Institute of Technology ETH to improve the availability of quality iodized salt in Haiti.
- IGN will work with INCAP to contribute to the Regional Network of Micronutrient Commissions with annual meetings and webinars. Throughout the region, laboratory capacities for analysis of iodine in salt will be strengthened, beginning with organizing proficiency testing and followed by creating a training plan and providing technical assistance to salt producers and packagers.
- IGN will publish and disseminate the results of the situation analysis of salt iodization with INCAP and organize webinars on the role of iodine in processed foods. IGN will also support Honduras and Guatemala in updating their regulation on salt iodization, and conduct training sessions across the region on implementing monitoring guidelines.

What’s next

- Working with INCAP, IGN will contribute to the Regional Network of Interministerial Commissions with annual meetings and webinars. Throughout the region, laboratory capacities for analysis of iodine in salt will be strengthened, beginning with organizing proficiency testing and followed by creating a training plan and providing technical assistance to salt producers and packagers.
- IGN will publish and disseminate the results of the situation analysis of salt iodization with INCAP and organize webinars on the role of iodine in processed foods. IGN will also support Honduras and Guatemala in updating their regulation on salt iodization, and conduct training sessions across the region on implementing monitoring guidelines.
- To better understand the trade structures and demand in the region, IGN and UNICEF partnered with The Broker, a think tank for sustainable development, to review the region’s iodized salt trade. Through data and information gathered from country-level studies in Ghana, Senegal, Togo, Burkina Faso, and Ivory Coast, the report reviewed the dynamics, barriers, and opportunities presented by the flow of iodized salt in the region.
- The report presented a broad overview of the iodized salt trade in the region, identifying knowledge gaps and promising avenues from a regional trade perspective, for combating iodine deficiency in the region. Its aim was to spark discussion among relevant stakeholders at national level and stimulate a regional dialogue about what can be achieved together to facilitate the trade in iodized salt.

Facilitating regional salt trade in West and Central Africa

Senegal is the largest producer of salt in Western and Central Africa, followed by Ghana. The rest of the countries in the region import salt. Regional trade is therefore an essential factor in ensuring the availability of quality iodized salt to importing countries.

Enhancing regional trade has the potential not only to improve the availability of iodized salt, but to contribute to economic growth and sustainable development by creating opportunities for economies of scale and enabling the movement of salt from producing to importing countries.

A regional workshop was then organized in Dakar, Senegal in November 2022 to identify a common way forward to facilitate the regional trade of quality iodized salt, with government delegates from the studied countries and salt industry representatives.

Strategies that will stimulate the trade of quality iodized salt were identified at the meeting, such as reducing non-tariff barriers and initiating a region-wide certification system. Other recommendations included that countries should explore expanded trade procedures, form a directory of importers of quality iodized salt, create control mechanisms, perform market research, and reduce bureaucracy. An overarching message from the meeting was to forge strong collective and regional effort, and a commitment to salt iodization. Going forward, it is essential that stakeholders work together to ensure that future policy interventions and programs are successful both from a business and public health perspective.
The Middle East and North Africa Region (MENA)

A series of in-depth analyses carried out by IGN and UNICEF in the MENA region brought representatives of both organizations and stakeholders from Sudan, Lebanon, Iraq and Egypt together in Amman, Jordan on 24–25 January 2023, for a two-day meeting to identify recommendations and priorities to revitalize USI programs in their countries.

The analyses highlighted bottlenecks at regional and national levels to sustainably improve iodine nutrition. Country government representatives, UNICEF staff, and IGN members attended the two-day meeting. The participants reviewed the findings of the analyses, identified challenges and opportunities, and determined next steps for each country.

In the case of Egypt, the support mechanism for purchase and distribution of potassium iodate was discussed. The Ministry of Health is facing difficulties in sustaining financial support due to rising prices. Various alternative options were explored, including local production of premix or transferring the responsibility to producers.

In Iraq, market surveys showed that a large proportion of salt is still iodized, highlighting the continued commitment from producers even in the absence of strong government oversight and social unrest. Also, a lack of testing was identified as an area in need of improvement.

Lebanon emphasised the need for coordination among relevant ministries to ensure a workable system for monitoring and quality control. There is a need for updates and data on iodized salt production, along with an increased focus on the use of iodized salt in processed foods.

Sudan emphasised the need for coordination among local and central government and the salt industry for moving forward. The country still faces significant public health problems due to iodine deficiency, with the lack of legislation and policy and low production of iodized salt as the main reasons behind the weak program.

The meeting resulted in country teams determining a path for progress, exploring ways to support one another in overcoming challenges, and increasing regional coordination and communication.

Working together through conflict

The impact of the war in Ukraine on global malnutrition is far reaching, particularly in countries that are already grappling with the effects of the climate crisis and the ravages to global food supply chains caused by the COVID-19 pandemic.

Moldova was critically dependent on salt imports from the Artyomsol Salt Mines in Donetsk, Ukraine. The mines covered 95% of the salt needs in Ukraine and exported salt to 16 other countries, including Moldova.

The war in Ukraine disrupted the transportation of iodized salt, and Moldovan salt importers were left negotiating with Romanian and Turkish producers to make up for the losses. Prices were expected to rise steeply, and the progress made in salt iodization was in danger of being lost.

Despite these setbacks, Gregory Gerasimov, IGN’s regional coordinator, and Liliana Turcan, the national coordinator for Moldova, were determined to find new resources and innovative solutions to the problem. After advocacy efforts and technical support from the IGN team, a government resolution was passed that called for the baking industry and public catering in order to prevent iodine deficiency among the population.

The dedicated efforts of Liliana Turcan were instrumental in ensuring that a large proportion of the Moldovan population now has access to iodized salt, with the help of the baking industry. Even in the face of war, disruption, and crisis, progress towards better health and nutrition can be made with dedication, perseverance, and innovative thinking.
South Sudan is one of the five countries in Eastern and Southern Africa that are categorized as iodine deficient. According to the most recent data from the Sudan Household Health Survey in 2010, 79% of the population does not consume iodized salt. A significant finding in IGN’s landscape analysis was the country’s lack of a Universal Salt Iodization (USI) program. To address this issue, South Sudan was selected for targeted support from IGN in collaboration with UNICEF to help start a USI program from scratch.

A workshop was organized to discuss the findings of the landscape analysis and develop a Country Action Plan. Seven strategic recommendations were developed, which include the creation of a USI coordinating committee, developing a USI policy and ensuring it becomes a part of the country’s larger policy on food, nutrition and other social services, and adopting regulations on iodized salt. Other recommendations include regularly monitoring and enforcing the standards for iodized salt, developing data on imported salt to determine the sources of salt into the country, and incorporating data on iodized salt usage at the household level into existing surveys. Finally, a plan to conduct a baseline iodine survey to track program progress over time.

The Country Action Plan includes these recommendations, and a stakeholder consultation, organized by IGN and UNICEF, is planned for 2023 to agree on the next steps in implementation. The USI program is critical to address the issue of iodine deficiency disorders (IDD) in South Sudan, and the long-term benefits are significant, as it will help to prevent losses in learning ability of children.

INCAP and IGN worked together to promote strategic actions in the region, with a focus on USI programs. The partnership seeks to foster research and knowledge, contributing to a shared goal of improving nutrition. Based on a questionnaire methodology, the report provides a clear overview of the current situation and identifies the main needs in improving performance, concluding that although performance of salt iodization programs might not be optimum, salt is being iodized and some countries are enforcing the legislation to ensure compliance. The report highlights some areas of concern, such as contamination of salt and lack of government monitoring since 2010. While Guatemala, Honduras, Dominican Republic and Panama have legislation to support the creation of a commission for micronutrient-fortified foods, only Guatemala has an active commission. Lack of resources in many countries has prevented iodine status assessments.

The report identifies the need to work and deliver unified messages on the importance of consuming iodized salt while at the same time reducing salt intake. Countries are moving forward with efforts to train and support on salt iodization for artisan producers, as well as strengthening quality assurance and control, and external monitoring. Exchanging experiences among countries throughout the region and advocacy on the importance of iodine nutrition and the benefits of salt iodization to the public authorities is also recommended. The report provides a basis for action in the region, with support from IGN and INCAP in strengthening national salt iodization programs with sustainable and evidence-based strategies and improving health outcomes of people in the Central America and Caribbean region.

In 2022, the Institute of Nutrition of Central America and Panama (INCAP) and IGN carried out a study to see whether limitations in performance that occurred during the COVID-19 pandemic still exist.
IGN’s South Asia team organized a series of four webinars across six months on monitoring of iodine status, sustaining universal salt iodization in compatibility with salt reduction initiatives, iodine intake from processed foods, and recent research insights from China.

Around 700 participants from various countries attended the webinars, which were promoted by IGN’s national coordinator network.

The first webinar on monitoring addressed the challenges posed by the COVID-19 pandemic and related crises on nutrition and food fortification in South Asian countries. The speakers included experts from the field of food fortification who presented their ideas, experiences, and findings related to the usefulness and rationale of fortification, challenges in monitoring salt iodization, rice, and wheat flour fortification. IGN’s Executive Director Werner Schultink delivered welcome remarks, and Senior Advisor Arnold Timmer explored questions on what tools for monitoring existed and what is being measured.

During the next webinar, Vilma Tyler, Senior Nutrition Advisor at UNICEF, delivered opening remarks. Results from the landscape analyses carried out in all eight South Asian countries in partnership with the UNICEF Regional Office of South Asia were presented. Also, Dr. Fatim Rashid, IGN national coordinator, Pakistan, presented lessons, best practices, and challenges from Pakistan’s U58 program.

For the third webinar on sustainable strategies, IGN Board Chair Michael Zimmerman discussed sustaining salt iodization programs in compatibility with salt reduction, which is important for the prevention of non-communicable diseases such as cardiovascular problems. Professor Bruce Neal, Executive Director of The George Institute for Global Health, shared the key findings of a long-term, large-scale study conducted in rural China on the use of salt substitutes, which can significantly reduce health risks compared to regular salt.

For the final webinar, the panel discussed how to ensure iodine intake through the mandatory use of iodized salt in the production of processed foods. The webinars provided an excellent platform for experts to share their experiences and ideas to improve iodine programs in the South Asian region. Recommendations include activating a regional platform to improve networking capacity, developing regional guidance, communication, and knowledge products to equip country teams, and undertaking advocacy efforts for sustained commitments from stakeholders. The success of these webinars was a result of the leadership of IGN’s regional coordinator Renuka Jayatissa and work of IGN’s strong national coordinator network and highlights the importance of collaboration and coordination in promoting optimal iodine nutrition and improving the effectiveness of food fortification programs.

IGN’s webinars strengthen regional coordination
While tackling the problem of iodine deficiency has been a global public health success, it’s clear that the work of achieving adequate iodine nutrition for all is not yet done. Even in countries where national status is adequate on average, population segments may face deficiency, usually the poorest and most vulnerable. Monitoring systems in many countries are slipping, and financial resources to support programs have faded in the face of other challenges such as rising non-communicable diseases, but also larger societal problems such as instability, climate change, economic hardship, COVID-19, and conflict, as we see in Sudan, Ukraine, and many other places. While representative national surveys to determine iodine status remain, the ‘gold standard’, they are also expensive and not done regularly enough. Therefore we struggle to know what actual current status is in many countries. The availability of good and relevant data is essential to developing strategies to reach everyone, everywhere equitably and sustainably with adequate iodine nutrition.

IGN is working on new, less expensive and highly effective tools, both to improve monitoring of salt iodization programs and to understand the iodine status of population groups.

Iodine deficiency in the WHO European region

A solution at our doorstep

Iodine deficiency is a widespread problem in Europe, increasing risk of thyroid disease and subsequent health consequences, as well as its potential negative impact on the developing brains and cognitive ability and school performance of children. While regulations for salt iodization exist in most European countries, iodine intake remains insufficient to ensure optimal iodine nutrition in all population groups. In many countries where persistent mild iodine deficiency exists, it is not recognized as a public health concern by health authorities.

A series of meetings with WHO, IGN, researchers and Kiwanis International identified the need for a report on the situation regarding iodine deficiency in Europe. Evidence that the situation in a number of countries is inadequate has been presented through various scientific channels as well as to the European Union, but has not led to action to address the situation. The partners agreed that an official WHO report on the situation in the WHO European Region, which would also explore potential courses of action to address the negative impacts of IDD, should be produced and presented to national policymakers from Ministries of Health as a means of eliciting action.

The last WHO report on iodine deficiency in Europe was published fifteen years ago. A wealth of new data on iodine status has been available since then, particularly in vulnerable population groups. This data needs to be critically reviewed in the context of new scientific advances as well as in the current landscape of changing food habits. The objective of this new report is to summarize national data on current iodine status and prevention measures in Europe, which will be used to provide evidence-based advocacy and program guidance for strengthening countries’ strategies to optimize iodine status.

The partners see the need to go beyond survey and study data to a more in-depth analysis of existing national policy and regulatory frameworks and guidelines, and industry perspectives, to make the case for necessary improvements as well as identify efficient strategy and action points. The report will focus on the situation and impact description, and on regulations and strategies. Work is progressing and the report is expected to be published in the first quarter of 2024.

Iodine deficiency in the WHO European region Making sure salt is adequately iodized forever

Making sure salt is adequately iodized forever

IGN’s work on sustainability

While tackling the problem of iodine deficiency has been a global public health success, it’s clear that the work of achieving adequate iodine nutrition for all is not yet done. Even in countries where national status is adequate on average, population segments may face deficiency, usually the poorest and most vulnerable. Monitoring systems in many countries are slipping, and financial resources to support programs have faded in the face of other challenges such as rising non-communicable diseases, but also larger societal problems such as instability, climate change, economic hardship, COVID-19, and conflict, as we see in Sudan, Ukraine, and many other places. While representative national surveys to determine iodine status remain, the ‘gold standard’, they are also expensive and not done regularly enough. Therefore we struggle to know what actual current status is in many countries.

The availability of good and relevant data is essential to developing strategies to reach everyone, everywhere equitably and sustainably with adequate iodine nutrition. IGN is working on new, less expensive and highly effective tools, both to improve monitoring of salt iodization programs and to understand the iodine status of population groups.
One of these tools, called USI FORTIMAS, is a seminal data collection methodology that can be used to feasibly track effective coverage of national salt iodization programs and identify program gaps. Early testing has already yielded results. A 2022 nutrition and micronutrient survey in Sri Lanka showed deficiency in all population groups, with the most alarming level among pregnant women. It seemed that iodine intake had decreased substantially since the last survey in 2016.

Pilot testing with the FORTIMAS tool discovered that producers were having difficulty meeting the narrow level of iodine concentration in salt. As fines for having salt with too high a concentration were ten times higher than for low levels, this created a narrow level of iodine concentration in salt. As producers were having difficulty meeting the standard and hope this would solve the problem, once more protecting Sri Lanka, showed deficiency in all population groups, with the most alarming level among pregnant women. It seemed that iodine intake had decreased substantially since the last survey in 2016.

As national programs become more stable, this approach should help anticipate potential problem areas and thus improve long-term sustainability.

That tool is being pilot tested in a number of countries. IGN has created a version of this tool specifically for salt iodination, which is being tested in several countries across different regions and will be adapted to different program contexts so that it can be used for program improvement in the coming year.

One of these tools, called USI FORTIMAS, is a seminal data collection methodology that can be used to feasibly track effective coverage of national salt iodization programs and identify program gaps. Early testing has already yielded results. A 2022 nutrition and micronutrient survey in Sri Lanka showed deficiency in all population groups, with the most alarming level among pregnant women. It seemed that iodine intake had decreased substantially since the last survey in 2016.

Pilot testing with the FORTIMAS tool discovered that producers were having difficulty meeting the narrow level of iodine concentration in salt. As fines for having salt with too high a concentration were ten times higher than for low levels, this created a narrow level of iodine concentration in salt. As producers were having difficulty meeting the standard and hope this would solve the problem, once more protecting Sri Lanka, showed deficiency in all population groups, with the most alarming level among pregnant women. It seemed that iodine intake had decreased substantially since the last survey in 2016.

Adding iodine to salt is a technically simple and cheap intervention, and our objective is to ensure that it is done efficiently and effectively. Understanding the situation in the major components of a successful program (e.g., legislation, fortification, supply, quality control monitoring) can help identify vulnerabilities in program performance.

As part of its work with the Global Fortification Data Exchange (GFDE), IGN helped develop a tool to help national program managers assess vulnerabilities in large-scale food fortification programs. This tool is designed to look more closely at all elements of the national program – including the legislative and regulatory environment, program management and coordination, supply and logistics, advocacy, and regulatory environment, program management – and thus improve long-term sustainability.

That tool is being pilot tested in a number of countries. IGN then created a version of this tool specifically for salt iodination, which is being tested in several countries across different regions and will be adapted to different program contexts so that it can be used for program improvement in the coming year.
Research update

Dr. Maria Andersson  
Nutrition Research Unit, University Children’s Hospital Zurich, Switzerland

IGN’s research activities aim to address scientific questions directly relevant to iodine programs. Research focus over recent years has been to evaluate new methods for iodine status monitoring and to evaluate biomarker thresholds for iodine adequacy.

The conventional approach to assessing iodine status is by measuring the spot urinary iodine concentration (UIC) and comparing the median UIC to established thresholds. However, the prevalence of iodine deficiency may also be estimated from spot UIC and urinary creatinine concentration. To account for high variability in iodine intake, a repeat spot-urine sample must be collected in a subgroup of the study population. The advantage of this approach is that it can identify iodine inadequacy in cross-sectional studies that may be masked by the WHO median UIC thresholds and thereby provide higher granularity to the interpretation of iodine nutritition.

A recent study supported by IGN determined the sample size needed to estimate the prevalence of iodine deficiency in cross-sectional studies. Sample size determination for studies measuring UIC and estimating the iodine intake is complex because standard formulas for sample size calculations assume normally distributed data, which is rarely the case for iodine intake.

A modeling analysis used data from local observational studies of women from three populations with typical iodine intake patterns in Switzerland, South Africa, and Tanzania.

The study showed that the ultimate sample size in cross-sectional studies estimating the prevalence of iodine inadequacy from spot UIC depends on the variability in iodine intake and the actual prevalence. The study demonstrated that it is more effective to make sure that at least 25% of the study participants provide a repeat urine sample than to increase the overall sample size of the study. Although no sample size recommendation fits all study characteristics, a sample size of 400 women with a repeated measure in 100 women achieves satisfactory power in most populations and may guide the planning of studies aimed to estimate the prevalence of iodine deficiency.

Collaboration and funding

IGN supported research activities have been coordinated by ETH Zurich (Switzerland) and conducted in collaboration with local study teams.

The research projects have been funded by UNICEF/USAID.

New publications

Partnerships and funding

All of IGN’s work happens through dynamic and different partnerships with international organizations, governments, the private sector and civil society, and donors. These partnerships cover a range of activity, from technical support to program implementation, to maintaining global data, to broader advocacy efforts to promote the fortification of staple foods with essential micronutrients, including iodine.

Global advocacy for food fortification

The importance of adequate vitamins and minerals during pregnancy is crucial in preventing birth defects such as spina bifida and other neural tube defects as well as protecting the developing brains of children. A community of advocates focused on large scale food fortification with folic acid, spearheaded by the Global Alliance for the Prevention of Spina Bifida, initiated the development of a resolution by the World Health Assembly to reduce the presence of spina bifida and hydrocephalus worldwide, and has since been broadened to urge global progress in fortification with a range of nutrients, including iodine.

Our work with UNICEF

Our major collaboration with UNICEF, funded by USAID, strengthens universal salt iodization, improves global knowledge about iodine deficiency, and helps us to provide technical guidance and support to the sustainability of iodine programs in four regions and many countries around the world. Globally, the partnership supported IGN’s participation in the multi-partner USI Technical Working Group which is working to advance effectiveness and sustain global progress in today’s challenging context. IGN leads a sub-group exploring the significant challenges around working with small salt producers.

The activities in partnership globally and across regions are detailed in our regional round-up and specific stories. Through the global partnership agreement, UNICEF was also a partial funder of our work to engage new markets of data use and pilot test a program vulnerability. This is explored further in the research, data and innovation section of this report.

A data collaboration with WHO

Following a request from the World Health Assembly to strengthen global surveillance of micronutrient deficiencies, WHO is upgrading and expanding its Global Vitamin and Mineral Nutrition Information System (VMNIS). One component of VMNIS is the Micronutrients Database, that compiles data on vitamin and mineral nutritional status of populations in Survey Status. This database is used to monitor micronutrient status around the globe, provide global estimates of the burden of micronutrient deficiencies, and calculate trends over time. It has recently expanded to become a more comprehensive surveillance system that includes most indicators of micronutrient status being used worldwide today.

IGN has served as the main source of iodine status data while WHO has been upgrading their systems. Since 2021, with the support of Founders Pledge and UNICEF, IGN has partnered with WHO to update the micronutrients database with data on iodine.
Partnership with the Micronutrient Forum
The Micronutrient Forum plays a similar, but broader role to IGN’s work on advocacy, convening, tracking and knowledge management on national and global micronutrient programs. Mutual topics of interest include the global advocacy to expand food fortification and the inadequacy of micronutrient data and finding innovative ways to gather or use data differently.

Support from the Bill & Melinda Gates Foundation
The Foundation funds aspects of our work that include research and innovation in data collection, leading to more effective programs and better coverage, and the Global Fortification Data Exchange (GFDx) partnership to provide actionable data on food fortification to enable decision makers to use it to improve the quality of national fortification programs, working with the Global Alliance for Improved Nutrition (GAIN) and the Food Fortification Initiative (FFI).

Nutrition International (NI)
NI is one of the lead partners supporting country-level efforts to achieve USI. IGN’s collaboration with NI support planning of scalable and sustainable USI programs at country level, align policies and practices, and to jointly further the USI and iodine nutrition agenda at global and regional level.

The World Iodine Association (WIA)
With the support of the IGN team, WIA organized its Second International Conference on Iodine in Food Systems and Health in November 2022. Gathering global representatives from the scientific, academic, and medical community, industry, as well as policymakers and international organizations, the conference provided a forum for discussing the most recent scientific and policy developments related to the prevention of iodine deficiency disorders and the essential role of iodine in human health.

Founders Pledge
In addition to support for the data collaboration with WHO, we would like to acknowledge Founders Pledge support for our work in countries around the world.

The Life You Can Save
We work closely with the team at The Life You Can Save, who not only support but promote IGN’s work.

Thank you!
From small donations by individuals to grants from the organizations mentioned in this article, every contribution plays a vital role in our work. We don’t have offices and keep our administrative costs to a minimum, so that every donation protects the developing brains of children through the simple, cost-effective intervention of iodizing salt.

We would like to thank the following organizations and platforms.
Our team

The first in-person management council meeting in three years was held on February 28 – March 1 in Geneva, Switzerland. The core team, regional coordinators and some members of the Board of Directors attended the two-day meeting covering situation analyses, program updates, partnerships, data and technological initiatives and innovations, and expected outcomes and initiatives from the regional coordinators.

Management council meeting
Our core team

The IGN team consists of a small core staff and a network of regional coordinators who work with national IGN coordinators and other counterparts to develop action plans for program strengthening.

**Werner Schultink**
Executive Director

**Jude Louis**
Finance and Administration Manager

**Rehia Houston**
Senior Advisor, Program Implementation

**Joyce Greene**
Senior Advisor, Partnerships and Advocacy

**Deqa Jama**
Communications Expert

The IGN has a unique network of regional and national coordinators, who possess a deep understanding of local contexts and are instrumental in identifying national solutions. These dedicated IGN team members explore challenges that hinder national programs, including the impact of dietary changes such as the use of iodized salt in processed foods, and monitoring advancements in salt reduction initiatives.

Our national coordinators are volunteers and are an invaluable source of country-specific knowledge, offering in-depth information and serving as vital contacts and partners in implementing necessary activities. They advocate for technical support for crucial program components necessary for sustainable universal salt iodization (USI) and the achievement of our goals, and provide essential technical assistance in designing, implementing, monitoring, and evaluating regional- and national-level interventions, as well as supporting implementation of legislation and regulations pertaining to salt iodination.

**Regional coordinators**

- **North America**
  - Elizabeth N. Pearce
  - USA

- **Central America and Caribbean**
  - Ivette Sandino
  - Nicaragua

- **South America**
  - Ana Maria Higa Yamashiro
  - Peru

- **Western and Central Europe**
  - Rodrigo Moreno-Reyes
  - Belgium

- **Eastern and Southern Africa**
  - Festo Kavishe
  - Tanzania

- **South Asia**
  - Renuka Jayatissa
  - Sri Lanka

- **China and East Asia**
  - Ming Qian
  - China

- **South East Asia and Pacific**
  - Edward Otico
  - Philippines

**Our team**

The vital role of regional and national coordinators
National coordinators

**Central America and the Caribbean**

- **Eftychia Koukkou**
  - Greece
- **Natalia Largaespada**
  - Belize
- **Victor Manuel Pacheco**
  - Ecuador
- **Endre Nagy**
  - Hungary
- **Carolina Martinez**
  - Costa Rica
- **Jorge Jara**
  - Paraguay
- **Ingibjörg Gunnarsdottir**
  - Iceland
- **Monica Guamuch**
  - Costa Rica
- **Walter Vilchez**
  - Peru
- **Jayne Woodside**
  - Ireland
- **Blanca Terry**
  - Cuba
- **Carlos Salveraglio**
  - Uruguay
- **Aron Troen**
  - Israel
- **Janet Velez**
  - Dominican Republic
- **Massimo Tonacchera**
  - Italy
- **Carolina Martinez**
  - El Salvador
- **Agron Ylli**
  - Albania
- **Tahire Gjergji**
  - Kosovo
- **Amira Kurtaran**
  - Austria
- **Valdis Pirags**
  - Latvia
- **Joseline Marhone Pierre**
  - Haiti
- **Ludmilla Ivanova**
  - Bulgaria
- **Bechara Georges Ziade**
  - Luxembourg
- **Elka Gonzalez**
  - Panama
- **Line Moellehave**
  - Denmark
- **Monica Gheorghiu**
  - Romania
- **Sergio Moreno Huitron**
  - Mexico
- **Vaclav Zamrazil**
  - Czech Republic
- **Alicja Hubalewska-Dydejczyk**
  - Poland
- **Elke Gonzalez (New)**
  - Guatemala
- **Georgios Georgiades**
  - Cyprus
- **Llis Vila**
  - Spain

**South America**

- **Natalia Largacappa**
  - Bolivia
- **Carolina Martinez**
  - Costa Rica
- **Monica Guamuch**
  - Costa Rica
- **Blanca Terry**
  - Cuba
- **Monica Guamuch**
  - El Salvador
- **Carlos Salveraglio**
  - Uruguay
- **Aron Troen**
  - Israel
- **Janet Velez**
  - Dominican Republic
- **Massimo Tonacchera**
  - Italy
- **Carolina Martinez**
  - El Salvador
- **Agron Ylli**
  - Albania
- **Tahire Gjergji**
  - Kosovo
- **Amira Kurtaran**
  - Austria
- **Valdis Pirags**
  - Latvia
- **Joseline Marhone Pierre**
  - Haiti
- **Ludmilla Ivanova**
  - Bulgaria
- **Bechara Georges Ziade**
  - Luxembourg
- **Elka Gonzalez**
  - Panama
- **Line Moellehave**
  - Denmark
- **Monica Gheorghiu**
  - Romania
- **Sergio Moreno Huitron**
  - Mexico
- **Vaclav Zamrazil**
  - Czech Republic
- **Alicja Hubalewska-Dydejczyk**
  - Poland
- **Elke Gonzalez (New)**
  - Guatemala
- **Georgios Georgiades**
  - Cyprus
- **Llis Vila**
  - Spain

**Eastern and Southern Africa**

- **Helena Filipsson**
  - Sweden
- **Victor Kravchenko**
  - Ukraine
- **Marjorie Roumbou (New)**
  - Burkina Faso
- **Lynel Nsibidi**
  - IC Team Member
- **Carrie Irons**
  - IC Team Member
- **Marieanne Mostert**
  - Namibia
- **Lisbeth Dahl**
  - Norway
- **Murodjon Rashitov (New)**
  - Uzbekistan
- **Munirah van Wyk**
  - Namibia
- **Andres Schecken**
  - Romania
- **Matseleng Molulela**
  - Lesotho
- **Fayrouz Ospanova**
  - Kazakhstan
- **Thithidi Ma-Isaaka Diaho**
  - Lesotho
- **Ms. Gladys Chirwa Kabaghe**
  - Zambia
- **Ekaterina Troshina**
  - Deputy Regional Coordinator
- **Alou Handrea Njoro**
  - Zimbabwe
- **Ms. Rebone Ntsie**
  - South Africa
- **Farhaan Mohammed**
  - Somalia
- **Mr. Rehman Noor**
  - South Africa
- **Dr. Mahad Smiley (New)**
  - South Africa
- **Rahmaa Ayoob Mihaka**
  - South Sudan
- **Ouattara Dion**
  - Senegal
- **Fernando Abadilla**
  - Uganda
- **Natasha Thambo**
  - Uganda
- **Mr. Gashwilo Chilwa Netherlands**
  - Angola
- **Hedayat Aslayan**
  - Armenia
- **Lenkwetse Boolane**
  - Botswana
- **Feruza Ospanova**
  - Kazakhstan
- **John Maina Mwai Kiriro**
  - Kenya
- **Fatma Abdallah**
  - United Republic of Tanzania
- **Rosa Sultanalieva**
  - Kyrgyzstan
- **Thithidi Ma-Isaaka Diaho**
  - Lesotho
- **Samalie Namukose**
  - Uganda
- **Ekaterina Troshina**
  - Deputy Regional Coordinator
- **Anamurat Nazarov**
  - Turkmenistan

Our team

The vital role of regional and national coordinators

**Iodine Global Network Annual Report**

52

53

Our team

The vital role of regional and national coordinators
Our Board of Directors is responsible for overseeing the organization’s strategic direction and ensuring that our operations align with our mission and values.

Chair
Michael B. Zimmermann
Zurich, Switzerland

Treasurer
Sophia Weber
Ottawa, Canada

Secretary
Daniel Levac
Ottawa, Canada

Maria Andersson
Zurich University Children’s Hospital
Zurich, Switzerland

Mandana Arabi
Nutrition International
Canada

Rishi Kansagra
Purebond Ltd
Nigeria

Srinivasan Krishnamachari
St. John’s Medical College
Bangalore, India

Mary L’Abbe
University of TORONTO
Toronto, Canada

Moa Li
University of Sydney
Sydney, Australia

Peng Liu
CDC, China
Harbin, China

Penjani Mkambula
GAIN
London, England

Sergio Moreno
AMISAC
Mexico City, Mexico

Saskia Osendarp
Micronutrient Forum
Wageningen, Netherlands

Cria Perrine
U.S. CDC
Atlanta, USA

Rumishael Shoo
Tanzania

Stan D. Soderstrom
Kiwanis
Indianapolis, IN, USA

Vilma Tyler
UNICEF
New York, USA

Lisa Rogers
WHO
Geneva, Switzerland

—an observer—

National coordinators

Western and Central Africa

Dudimpsy Adouh (Benin)
Doudou N’Dri (Senegal)

Middle and North Africa

Mohammed Ali Abubakar (Nigeria)
Abdelmoumene Abdesselam (Algeria)

Southeast Asia and the Pacific

Vamathevan Krishnamachari
St John’s Medical College, Bangalore, India

Mary L’Abbe
University of Toronto, Toronto, Canada

Moa Li
University of Sydney, Sydney, Australia

Peng Liu
CDC, China, Harbin, China

Penjani Mkambula
GAIN, London, England

Sergio Moreno
AMISAC, Mexico City, Mexico

Saskia Osendarp
Micronutrient Forum, Wageningen, Netherlands

Cria Perrine
U.S. CDC, Atlanta, USA

Rumishael Shoo
Tanzania

Stan D. Soderstrom
Kiwanis, Indianapolis, IN, USA

Vilma Tyler
UNICEF, New York, USA

Lisa Rogers
WHO, Geneva, Switzerland

—an observer—

South Asia

Abdolazem Ashraf (Afghanistan)
Naorem Shankar (Bangladesh)
Hariprasad Prakash (India)
Kapil Yadav (India)
Ashkum Sath (Bhutan)
Gomati Shankha (Nepal)
Faruqul Islam (Pakistan)
Tushar Kirtane (Sri Lanka)

China and East Asia

Zu Pei Chen
China

Boya Ana (China)

—an observer—

Boubacar Issa (Niger)
Ala I. F. Abu Al-Rub (Palestine)
Paul Yen (Singapore)

Victor Temple
Solomon Islands

Boiló Sao Tome

—an observer—

Seventeen Krishnamachari
St John’s Medical College, Bangalore, India

Mary L’Abbe
University of Toronto, Toronto, Canada

Moa Li
University of Sydney, Sydney, Australia

Peng Liu
CDC, China, Harbin, China

Penjani Mkambula
GAIN, London, England

Sergio Moreno
AMISAC, Mexico City, Mexico

Saskia Osendarp
Micronutrient Forum, Wageningen, Netherlands

Cria Perrine
U.S. CDC, Atlanta, USA

Rumishael Shoo
Tanzania

Stan D. Soderstrom
Kiwanis, Indianapolis, IN, USA

Vilma Tyler
UNICEF, New York, USA

Lisa Rogers
WHO, Geneva, Switzerland

—an observer—

Board of Directors
Financial statements
For the year ended December 31, 2022

<table>
<thead>
<tr>
<th>Description</th>
<th>2022</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenues</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grants and contributions from non-governmental sources</td>
<td>$814,104</td>
<td>$906,736</td>
</tr>
<tr>
<td>Grants and contributions - UNICEF</td>
<td>$473,934</td>
<td>$831,119</td>
</tr>
<tr>
<td>Donations and other</td>
<td>$466,946</td>
<td>$263,444</td>
</tr>
<tr>
<td>Total</td>
<td>$1,754,984</td>
<td>$2,061,299</td>
</tr>
<tr>
<td>Operating expenses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Project expenses</td>
<td>$1,159,232</td>
<td>$1,440,215</td>
</tr>
<tr>
<td>Regional support</td>
<td>$283,525</td>
<td>$209,355</td>
</tr>
<tr>
<td>General administration</td>
<td>$173,027</td>
<td>$168,009</td>
</tr>
<tr>
<td>Total</td>
<td>$1,615,784</td>
<td>$1,817,579</td>
</tr>
<tr>
<td>Operating expenses</td>
<td>$139,200</td>
<td>$183,720</td>
</tr>
</tbody>
</table>

(In U.S. dollars)