Supporting small-scale producers

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IODINE GLOBAL NETWORK is a nongovernmental organization dedicated to sustained optimal iodine nutrition and the elimination of iodine deficiency throughout the world.
Supporting small-scale producers: is it an impactful and sustainable strategy to achieve universal salt iodization and optimal iodine nutrition?

A review by Alister Shields & Werner Schultink

Global efforts to improve iodine nutrition through universal salt iodization have led to a public health success story. According to the latest data, 118 countries have an adequate iodine status. However, 21 countries remain deficient (IGN Global Scorecard 2021), and despite this overall success, in many countries substantial population groups still do not have access to adequately iodized salt, and therefore remain at risk of iodine deficiency. It should also be noted that not all countries have information on household use of iodized salt. Only 123 (62%) countries have data on household use of iodized salt, and 74 countries (38%) do not. In 33 out of the 123 countries with household coverage information, less than 70% of households surveyed used iodized salt (Maurel & Timmer, 2023).

One reason for this low level of coverage in a number of countries is that many households use salt from producers who work at a small scale and often use more traditional salt harvesting and production methods. This is the case, for example, in Senegal, Ghana, Tanzania, Mozambique, Haiti and Cambodia. These small scale producers face a variety of challenges which limit their ability to iodize.

In May 2007, David Haxton and Venkatesh Mannar published an article in the IDD Newsletter...
expressing the importance of providing development assistance to small-scale producers. They argued that the often-poorer part of the population served by these producers would not be protected from iodine deficiency in the foreseeable future, unless they would start to iodize their salt. They called upon governments and development agencies to assess the situation, include all producers in strategy discussions, provide support for purchase of equipment and access to fortificant, create cooperatives and revolving funds, and asked large scale salt producers to engage, as well as propose other strategies.

A major challenge faced by the salt iodization program today is that progress achieved based on the implementation strategies of the past decades is of uncertain sustainability, and it would therefore be useful to understand what type of support has been provided to small-scale producers and whether is has been effective and likely to be of sustained impact.

Challenges

The challenges in getting small-scale producers to iodize are significant. A major issue is the lack of financial capacity, which makes it difficult or impossible for them to fund the initial investment required for iodization and to absorb the ongoing costs. Their financial capacity is limited because:

• For small, traditional, family-based entities particularly, salt production is a secondary seasonal activity to generate income in the off season from primary activities such as agriculture, and it functions as a buffer against a poor return from the primary activity. The impetus for salt production is to achieve an immediate return and therefore producers are unwilling to invest in change.

• Small-scale producers often face lack of access to markets due to factors such as distance, poor infrastructure, and lack of funds or transport to the market. This leaves them dependent on traders, who can drive the price down, especially if there are multiple producers in one area.

Objectives and methods

Noting the lack of a systematic review of the results of the support provided to small-scale producers, IGN decided to carry out such an analysis. The review was based on reports obtained from development agencies, grey literature, and stakeholder interviews, personal experiences, and included work from Senegal, Ghana, Tanzania, Mozambique, Sudan, Haiti, Pakistan.

Results

Classification: The term small-scale producer has been defined by the quantity of salt produced, but there is no agreement on what level of production constitutes a small producer, and classification figures used in various contexts can range from 50 to 2000 tons per annum. In fact, production volume is a somewhat of a red herring. The term “small-scale producers” has, in part, become a catch all covering producers unable to effectively iodize their salt and who lack the capacity, support and/or willingness to make the changes necessary to do so.
Poor or no enforcement of regulations, whether due to lack of capacity/willingness or corruption, allows unscrupulous producers to continue to sell inadequately/non-iodized salt making it impossible for honest producers to sell their salt at a higher price to recover the costs of iodization.

Due to the informal nature of their businesses, even when producers are willing to iodize, they are unable to obtain funding from financial institutions to do so. Even where a formal business exists, the skills and records necessary to apply for such a loan may be lacking.

Due to the informal nature of their business and low levels of education and technical skills, producers often lack the administrative capacity and/or the will to keep records, maintain stock of iodate and carry out the calculations necessary for accurate dosing.

A challenge to iodize efficiently is also the fact that the salt they produce is often of poor quality due to production practices (e.g., single stage crystallisation in evaporation ponds) that result in high levels of moisture and hygroscopic contaminants and physical impurities (dirt, dust, stones). As a result, even when iodization takes place, iodine levels and retention may be low and inconsistent.

Support to overcome challenges

The review showed that areas of support provided to small-scale producers can be classified as follows:

**Support to improve production:** Tackling technical production issues such as improving purity and reducing humidity level of the salt. In reality most salt produced by small-scale producers is of poor quality and needs some form of processing. In the simplest case this may just be allowing time and space for the salt to dry naturally. This will not change the composition of the salt such that it will meet the usual standards for edible salt, but it will reduce the moisture content, thus improving iodine retention.

**Support to improve processing:** This includes the work required to adequately iodize and package the salt. Development agencies over the years have provided numerous iodization machines, packaging equipment, packaging material, fortificant (potassium iodate) and other supplies. Most standards require that iodized salt is packed in retail packaging i.e., sealed plastic pouches or in a woven sack with a plastic liner which is shut to improve iodine retention. However, the lined sacks are often not readily available, and salt is most often packed in unlined sacks. Because of the quantities necessary for salt iodization, iodate is invariably imported, placing it out of the reach of all but the largest individual producers. Iodate is normally supplied in packages of a minimum of 1kg, more than the entire amount small producers would use in a year (e.g., 500g per season for 10t production). This places
a financial burden on the producers and discourages them from iodizing. Even if they did buy it, it may have been stored in unsuitable conditions for one or more seasons, raising issues with the quality of the iodate.

- **Purchase of equipment** is also a financial burden, and the common provision of iodization equipment has proven to be helpful to the producers, but it has frequently faced sustainability challenges in terms of maintenance, spare parts and repair, management of use, and replacement of obsolete equipment. Technical capacity may be lacking to do repair work, or import of spare parts for machines is challenging, leading to prolonged or permanent disrepair.

- **Support to improve market access**: Small-scale producers may not fully understand the market to which their salt is sold, as they often sell to middlemen/traders who buy from many producers and consolidate the salt for export or transport to wholesalers in the domestic or international market. The producers thus don’t know the end price of the salt they sell and little or no idea of what the users require in terms of quantity, quality packaging and delivery. Especially where there are numerous producers, or an oversupply of salt, the traders can engage the producers in a sort of reverse auction. As the producers lack any knowledge of the market value of the salt this drives down the price, with traders buying only as much of the cheapest salt as they need.

The producers requiring as quick a return on their salt and unwilling to risk missing a sale accept these prices without question. As salt production is seasonally variable, this demand for an immediate return contributes to major price swings depending on the volume produced, as producers will not hold salt from a good season to a poor one to obtain a better price.

- **Support to improve quality control or monitoring of standards**: This support was provided to producers so that they have improved capacity to check the quality of their product, as well as to government allowing enforcement of legislation and national standards. Support consists of technical assistance to improve quality control implementation and management as well support for equipment and supplies. For example, many countries were provided with laboratory equipment or portable salt checking machines, but often supplies run out or machines become dysfunctional after the end of a support project.

Strategies or approaches used to provide support

**Consolidation through organization of cooperatives or groups or companies**

Consolidation in some form is key to achieving sustainable iodization. Salt production benefits from economies of scale that allow easier production of higher quality salt at a lower cost. One person can manage 10 ponds of 1 hectare each as almost as easily as 10 ponds with a total area of 1 hectare, but scales of economy affect salt production at all levels e.g., transport, packaging. By reducing the number of sellers in the market, consolidation strengthens their position to negotiate with buyers for a better selling price. Finally, it is simpler and more cost effective to provide all types of support, from equipment to training to, or through, a smaller number of cooperatives or groups of producers rather than to each producer individually.

One form of consolidation is to combine salt ponds from multiple owners into a single operating entity, consolidating the resources of all producers and operating as a single unit. This is effective due to economies of scale in production, simplified management and easier quality control of a single production stream. The daunting challenges to this approach revolve around the normally complex ownership structures of the existing producers. Many are family groups where the whole, often extended, family is involved. Multiplying this across many producers means large groups of people may have to be involved in the decision-making process.

Consolidation can also take place at processing or product improvement level; a central entity is set up to which all the producers agree to sell their entire production. This entity is then responsible for the iodization, any additional processing, packaging and sale of the final product. The strengths of this model are that it facilitates central management and purchase of supplies, and use of single pieces of equipment and allows for a large volume of adequately iodized product to be presented to the market or for salt to be held over across the season to gain a better price. This higher
price and the large turnover again make it easier to carry the capital and operation costs incurred in producing adequately iodized salt. The greatest weakness is in ensuring consistent quality, particularly moisture levels, in the salt received, which can be addressed via a sliding scale of payments based on salt quality. Another challenge is presented by producers selling directly to customers and undermining the market position of the consolidated body. Consolidation or cooperative formation around processing requires a strong management team who can focus on the effective operation of the entity in what can be complex social structure.

Producers can also maintain ownership of their salt but agree to sell via a central entity that negotiates with buyers and determines the price, charging a commission to covers its costs. The entity ensures that the salt meets the required standards. This model requires a strong and transparent management to track the sales and distribute sales income to the correct producers. By creating a single sales point for a salt producing area, it prevents the issues with buyers hunting the lowest offered price and, in general, gives the producers a better income. The entity faces the challenge of ensuring that the salt presented for sale is of consistent saleable quality and is at the mercy of the producers to present sufficient salt for sale at the appropriate time to meet the buyers needs and thus remains vulnerable to variations in production during and between seasons.

The various forms of consolidation all need investment and committed local ownership as well as strong government support and involvement. The investment should be based on a solid business case, which must include:

- A realistic assessment of the level of capital expenditure needed to establish the consolidation body.
- A detailed business plan for on-going operations, including realistic operating costs.
- Clearly identified markets for the salt produced that can provide the entity with sufficient income to both cover operation and borrowing costs and provide the shareholders or cooperative members and investors a return on their investment.
- A plan for the distribution of the ownership of the entity, whether via company shareholding or cooperative membership.

Where producers are to be involved in the ownership it is critical that they are required to contribute to the initial funding of the entity and not be given their share of the ownership at no cost. Experience has shown (e.g., iodization machines in some countries) that where something is given for free the beneficiaries tend not to value it, but when they have invested their own resources, they are more likely to use and maintain equipment correctly and to engage more positively with the consolidated entity.

Because of the public health benefits of salt iodization, development aid bodies often provided grants to small-scale producers to rapidly expand the availability of iodized salt. These grants have the advantage of providing relatively easy finance. However, the process of giving the grant often lacked a business focus and the rigour to fully assess the commercial viability and sustainability of the project. Furthermore, the grants were often focused on a short term, 1-3-year, grant period after which the future of the project was not seriously considered.

Improving access to fortificant

Support has also been provided to set up management systems to enable access to appropriate amounts of potassium iodate. Ideally producers or, more likely, producer groups would import their iodate directly from a supplier. This requires obtaining the necessary import documentation, make international payments and the financial strength to pay for or obtain funding to pay for the iodate. As orders need to be of a significant size to reduce the unit shipping costs this can require a
significant amount of money which may be beyond the means of all but the largest producers and producer groups. An official body to manage this whole process of import, purchase and distribution was set up in various countries.

If the producers themselves cannot obtain iodate, then the next model is to integrate iodate purchase with an existing business that operates in the salt production areas and can import products.

Another option, as most iodization programs are health driven, is to integrate the supply of user sized packages of iodate into the medicines supply chain with registered bodies or individuals able to purchase their iodate from their local health facility in areas where salt is produced. This has the advantage of working within an existing system which covers all producing areas but brings the challenges of working with health care systems which often struggle with maintaining stocks, and which are often not used to dealing with private sector.

Revolving funds were set up in various countries to initiate management systems for purchase of fortificant. These funds can function well, with good management, but can also face challenges due to price increases in the international market of potassium iodate, leading to continued dependency on external additional funding, and varying levels of demand and prediction of order quantity.

**Strengthening of regulation and monitoring**

In many countries, government bodies were trained and provided with equipment to enforce legislation and fortification standards through funding from external agencies. A big challenge in this area has been the lack of commitment by authorities to allocate adequate and appropriate resources (funding, trained staff, equipment etc.) once the external support period came to an end. Without commitment from government at all levels to provide sufficient testing to encourage the iodization of salt, and enough enforcement to discourage the production of poor salt, progress is almost impossible.

**Conclusion**

The call for action by Mannar and Haxton has been heeded by development agencies, and over the past decades, small-scale salt producers have been supported in many countries aiming to address the challenges they face through projects providing a combination of support areas and strategies as described above.

Whereas the objective of support, as proposed by Mannar and Haxton, was focussed on improved salt iodization, it should be noted that there can also be economic, social, or political reasons for provision of support to small-scale producers, and this influences the assessment of whether the provided support has been effective and created sustained improvement. From a political, social, and poverty alleviation perspective, working with small producers can be the right thing to do, including through efforts to build small businesses through social protection schemes.

In the initial years of the USI campaign, the focus was on getting salt iodized, and in markets where small-scale producers own a large share, it seemed to make sense to provide support. Unfortunately, as far as improving salt iodization is concerned, in many cases the projects often had a short-term impact and failed to lead to sustained and improved availability of iodized salt. Overall, it can be concluded that there are some interventions that have succeeded in getting small-scale producers to iodize, but as yet there is no evidence that these efforts were, or will be, sustainable after the withdrawal of external support. The review showed examples of equipment in disrepair, producers who have left groups or cooperatives, revolving funds which continue to depend on external input, and disruption of purchase of fortificant, monitoring equipment or other supplies.
However, support and programs are still ongoing, and in these countries it is too early to assess whether there will be a sustained improvement after the ending of these support periods.

A crucial issue for future efforts is that for improved iodization approaches to be scalable and sustainable, projects need to ensure that there is a greater focus on the commercial aspects of salt production and sales in order to develop viable businesses that do not need external support to produce iodized salt. This appeared to be lacking in many past efforts. The first step is to conduct a realistic review and economic analysis of the salt market, especially the areas of potential sales and profitability. If this shows promise for small producers, it should be followed by an assessment of the acceptability and real possibility of consolidation options, as well as the analysis of potential risks to success. For example, in some countries, many small-scale producers did or do not join consolidated groups or cooperatives, and this reduces efficiency of the effort. The social or economic reasons for this situation need to be understood and possibly addressed. After a solid assessment and informed decision making, the need for longer-term support and ultimate sustainability of these measures can be considered, setting small producers up for success as part of a sustainable program reaching households with quality iodized salt.

Project design needs to focus on sustainability and include exit strategies that allow support to be moved from producer group to producer group so that iodized salt production is scaled up quickly and iodized salt becomes widely available in the market. In parallel, significant marketing of iodized salt as a product needs to be carried out to create consumer demand for iodized salt and enforcement activities ramped up to increase the demand amongst those between the producers and the consumers. There needs to be active monitoring of the markets to ensure that supply and demand are matched both in terms of quantity, but also in making links between the producers and those seeking iodized salt. There also needs to be strong leadership and long-term commitment from government to ensure that activities are properly coordinated and that adequate resources are available to enforcement bodies.

So, are there alternatives in case a viable business perspective seems impossible? The objective of universal salt iodization is to improve iodine nutrition. In most countries in the world, changes in consumption patterns are leading to increased use of processed foods, many of which also contain salt. If these processed foods are produced with iodized salt, these foods also become a source of iodine, and in countries where in the foreseeable future improving the salt from small-scale producers continues to be a challenge, an alternative approach could be to ensure the availability of at least some widely consumed processed foods (e.g. bread) produced with iodized salt. It should also be noted that in some countries, consumers ultimately chose to purchase a high quality well packaged product from a large-scale producer rather than a lower quality product, and that coverage of well iodized salt increased in that way.

A last consideration is that iodization programs have tended to be stand-alone, and while there seems to be growing integration with other food fortification programs, learning from these other programs, and working within a broader area of industrial development, can be useful in creating viable consolidation options.

References
IGN Global Scorecard
Basil Hetzel Award recognizes two recipients in 2023

A pioneer in the recognition of the scope of iodine deficiency, Dr. Basil Hetzel is remembered for his groundbreaking research in the 1960s that helped reveal the link between iodine deficiency and brain development. His work demonstrated that the inclusion of iodized salt in diets could help address the problem of iodine deficiency, preventing millions of cases of intellectual impairment and neurodevelopmental disorders.

Driven by his dedication to promoting optimal iodine nutrition, Dr. Hetzel was a prominent public health campaigner, advocating for the widespread adoption of iodized salt to address iodine deficiency on a global scale.

In 1985, Dr. Hetzel founded the International Council for the Control of Iodine Deficiency Disorders (ICCIDD), now the Iodine Global Network (IGN). Dr. Hetzel's vision for the ICCIDD was to ensure that the latest scientific advancements were translated into practical solutions, particularly in developing countries where iodine deficiency posed a significant health challenge. Serving as Executive Director from 1985 to 1995 and as Chairman until 2001, Dr. Hetzel played a vital role in shaping the organization's mission and fostering collaborative efforts to combat IDD globally.

To celebrate and protect this legacy, Dr. Hetzel’s family created the Basil Hetzel Award, to recognize and honor individuals who have demonstrated exemplary commitment and made significant contributions to furthering IDD elimination through impactful public reportage. The award serves as a platform to inspire, encourage, and amplify the voices of those committed to IDD elimination and to inspire others to follow their lead and to foster collaboration, innovation, and the sharing of best practices in the field of iodine nutrition and public health communication.

This year’s honorees

This year, IGN presented the Basil Hetzel award to two individuals whose work has greatly advanced awareness and understanding of the importance of iodine nutrition.

In his recent opinion piece published in the national Sunday newspapers, the Sun Herald and The Age, Professor Creswell Eastman passionately advocated for universal access to optimal iodine nutrition, with a specific focus on women of reproductive age and their crucial iodine needs during pregnancy to prevent neurodevelopmental damage to their babies. The timeliness of his article coincided with extensive media coverage on the shift towards plant-based milk substitutes, allowing Dr. Eastman’s message to reach millions of viewers through national TV broadcasts and radio interviews. Dr. Eastman’s dedicated efforts and effective communication have played a pivotal role in addressing iodine deficiency and promoting optimal iodine nutrition in Australia, particularly in the face of opposition from the food industry. His advocacy aligns with the current state of iodine nutrition in Australia, where mandatory iodized salt in bread ensures adequate iodine intake for the general population, while supplementation is recommended for pregnant women due to increased requirements. Despite these guidelines, studies indicate that only approximately 50% of pregnant women have adopted the recommended iodine supplementation. Dr. Eastman’s impactful work sheds light on this issue and emphasizes the importance of education and awareness regarding iodine requirements during pregnancy. Some of Dr. Eastman’s work is reproduced in this newsletter thanks to the Australian Thyroid Foundation.

Jonah Goodman specializes in long form journalism and his work has been published in
many prestigious publications, including The Atlantic magazine. His research on the impact of iodized salt on the lives of the Swiss population led him on a mission to uncover the historical roots of this transformative public health intervention. Through meticulous research, encompassing in-depth interviews with medical historians, scientific and medical experts, and visits to archives throughout Switzerland, he compiled a comprehensive account of the introduction of iodized salt to the Swiss public.

Goodman’s article portrays the reality faced by the Swiss population before the advent of iodized salt. He delves into the impact of iodine deficiency disorders and cretinism, highlighting the devastating toll they exacted on the health of individuals and the financial burden borne by affected families. Furthermore, the article provides an intricate overview of the tireless efforts of three visionary general practitioners who, against formidable opposition from the medical community, championed salt iodization as a solution. Published in Das Magazin, the monthly magazine of Tages-Anzeiger, one of the most influential and widely read newspapers in German-speaking Switzerland, the piece quickly gained popularity, becoming one of the most-read articles during its publication weekend. Readers were overwhelmingly moved by its historical significance, with comments pouring in, praising the depth of the article and its contribution to the collective memory of Switzerland’s medical history. You can read the article here: [www.tagesanzeiger.ch/wie-drei-heldenhafte-aerzte-die-schweiz-vom-kropf-erloesten-58175482295](http://www.tagesanzeiger.ch/wie-drei-heldenhafte-aerzte-die-schweiz-vom-kropf-erloesten-58175482295).

Through their public reportage, Creswell Eastman and Jonah Goodman have made significant contributions in raising awareness, promoting universal access to optimal iodine nutrition, and shedding light on the transformative power of this public health triumph. As we celebrate the winners of the Basil Hetzel Award, we pay tribute to Dr. Basil Hetzel’s legacy and renew our commitment to achieving a world where iodine deficiency disorders are consigned to history.

**Presentation**

The presentation of the award to Professor Eastman was made by IGN Board Member, Professor Mu Li and Professor Andrew Bleasel, Head of Westmead Clinical School, Faculty of Medicine and Health at the University of Sydney on August 31.

IGN Board Member Dr. Maria Andersson presented the award to Jonah Goodman in Switzerland in August.

We are reprinting two of Dr. Eastman’s articles courtesy of the Australian Thyroid Foundation.
Standing in the queue for my morning cappuccino has recently become a troubling experience for me. It is because of the frequent requests I hear from young women, particularly those who are obviously pregnant. They are asking for an almond, soy or oat milk coffee as an alternative to standard cow’s milk.

I am troubled because these women are very likely putting the developing brains of their unborn babies at risk of suffering intellectual impairment and other neurological disorders. Not because the plant-based alternative milks are naturally harmful, but unlike dairy milk, these products do not contain the micronutrient iodine that is essential for optimal maternal thyroid gland function which regulates normal foetal brain development.

As Angus Dalton highlighted in his article “I’ll have a half-oat, half-soy decaf” in The Sun-Herald last week, a quarter of the customers in the cafes he canvassed had ditched dairy milk in their coffees for plant-based alternatives. This causes me a great deal of concern for future generations of Australian children.

The World Health Organisation states iodine deficiency during pregnancy and early infancy – the first 1000 days of life, when development of the human brain is so critical – is the commonest global cause of preventable intellectual disability.

Added to this, there is also good evidence implicating iodine deficiency during pregnancy – as a causal or possible contributory factor – in the development of other neurological disorders such as ADHD and autism, which are on the increase in Australia without any plausible explanation. These consequences are not simply theoretical. Recent studies performed in Tasmania, where dietary iodine deficiency has been more prominent than elsewhere in Australia, have confirmed that children born to women with mild iodine deficiency during pregnancy had a 10 per cent reduction in literacy and numeracy performance, compared with children born to mothers who had a sufficient iodine intake.

Unfortunately, follow-up of these children has shown impaired school performance has persisted and is irreversible. So, it is not unreasonable to ask: is iodine deficiency the reason for the continuing decline in the academic standards of Australian schoolchildren compared with their peers in many other countries? As with the increased rates of ADHD and autism, no plausible explanation has been advanced for the comparatively poor performances in these international examinations.

Iodine in the Australian diet comes mainly from dairy milk, iodised salt, and to a lesser extent seafoods. There is good evidence from studies of pregnant women in Sydney that dairy milk has been the main source of iodine for the great majority not taking an iodine supplement.

Iodine deficiency re-emerged in Australia several decades ago because of a decline in the content of iodine in dairy products, coupled with decreased household use of iodised salt and it not being used by the food manufacturing industry.

This problem continues as it is frequently difficult to find any iodised table salt on display in our grocery stores, where the shelves are dominated by uniodised crude, pink crystalline salts imported from salt mines in Pakistan and labelled as “Himalayan salt” – somehow conveying some mystic qualities on these products. When I get the opportunity, I furtively look for the iodised salt products and bring them to the front of the shelf and push the un-iodised products to the back.

In response to a national survey of children in 2005-06 by Westmead Hospital and Sydney University, which established widespread insufficient dietary iodine intake in the Australian population, WHO labelled Australia as an iodine-deficient country. State and federal health departments eventually mandated iodine fortification of food in 2009, requiring that all salt used in the making of bread and such products must be iodised salt.

While this initiative has been successful in raising the intake of iodine to satisfactory levels in most of the population, it is insufficient to meet the natural increased requirements of iodine during pregnancy and breastfeeding.

To address this deficit in 2009, our National Health and Medical Research Council recommended a daily supplement of 150 ug of iodine for women during pregnancy and breastfeeding. Unfortunately, this message has not been well promoted as current research indicates about 50 per cent of pregnant women in Australia are still not getting enough iodine.

We know from very good studies conducted in pregnant women before mandatory fortification of bread with iodised salt in 2009, that the principal source of iodine in the diet of pregnant women in Australia was dairy products.

Given the increasing preference for plant-based milks it is likely that this new fad, coupled with the consumer preference for noniodised salt in the home and by the food industry, will likely contribute to a further decline in iodine intake in vulnerable sections of our population.

It is unquestionable that the outcome will be some degree of impairment of normal brain development in the most critical first 1000 days of life, leading to lower IQs, lifelong disability and disadvantage in a large section of our population, unless we take action to prevent it. We know what the problem is, how to fix it, and we should do it now.

Creswell Eastman is a professor of medicine at Sydney University Medical School, principal of the Sydney Thyroid Clinic and consultant emeritus to the Westmead Hospital.

To learn about the benefits of good thyroid health visit: www.thyroidfoundation.org.au
What are the facts about Himalayan pink salt?*

If you are looking to purchase table salt in a supermarket for household use or want to add edible salt (sodium chloride - chemical formula NaCl) to your food in a restaurant, your choices are often limited to one of the multiple varieties of Himalayan Pink Salt that dominate the display shelves in supermarkets and the dining tables in cafes and restaurants. Magazine articles, social media and many celebrity chefs promote these Himalayan salts, claiming they have superior taste and health benefits as they also contain a wide variety of different minerals that contaminate these pink salt crystals. Many promoters even ascribe ill-defined, mystical properties to these salts because of a claimed association with the Himalayan mountains that are in effect a long way from the salt mines that provide these salts. Sadly, despite all these imaginary false claims of health benefits, these salts are not iodised and if used as a replacement for iodised salt they will have the opposite effect and have the potential to indirectly contribute to ill health by not preventing iodine deficiency and not supporting good thyroid health. It is intriguing and ironic that the first detailed descriptions of the devastating disorder of Neurological Cretinism, the most severe adverse outcome of severe iodine deficiency during pregnancy, was made over a century ago by Major McCarrson, a British Army Medical Officer, in a region close by where Himalayan Pink Salt is now being mined.

Let us examine some of these claims about these salts.

1. The pink salts marketed as Himalayan salts do not come from the Himalayan mountains at all, but are mined from huge underground, crystalline rock salt deposits in Pakistan, not far from the capital city of Islamabad and many hundreds of kilometres from the Himalayan mountains.

The pink colour is due to contamination by the metal compounds in the salt crystals, especially the iron content. In a recent comprehensive chemical analysis of Himalayan pink salt by Australian scientists they concluded that an individual would need to ingest about 30 grams (6 teaspoons of salt) daily to make any meaningful contribution to nutrient intake, a level that would provide excessive sodium intake and potential harmful effects (Flavia Fayet-Moore, Foods 2020). This expert analysis by Dr Flavia Fayet-Moore’s team did not find evidence for unacceptable heavy metal contamination and that is reassuring, but contrasts with our findings in the Himalayan region of Tibet when we collected and analysed many different pink salts from the eastern region of the Himalayas while implementing a successful Iodine Deficiency Disorders (IDD) eradication program in the Tibet Autonomous Region over a decade ago. Nonetheless, these scientists did not conclude that “the risk to public health from potentially harmful non-nutritive minerals should be addressed by Australian food regulations. Pink salt consumption should not exceed the nutrient reference values for Australia”.

2. The claimed health benefits of Himalayan pink salt over other ordinary table salts sold in Australia, specifically ascribing health benefits to the large number of chemicals contaminating the pink salt crystals, have no scientific evidence to support these claims. In my view, these health claims are nonsense and have been developed and promulgated as advertising stunts to promote sales of the product and to rationalise the fact that these crystalline deposits are not purified, as they should be, before being prepared and sold as edible salt. It should be emphasised that most of the white table salts manufactured and sold in Australia are sea salts, derived by evaporation and purification of sea water to eliminate unwanted contaminants in the production of quality, edible sodium chloride products that are safe for human ingestion.

3. In addition to table salt, Himalayan pink salt is also promoted for use in spas and for making lamps with the claims of contributing to “wellness” in those using these products. While I am not able to provide expert commentary on these claims, I am unable to find published scientific evidence to support them.

Food fortification is recognised worldwide as the most effective method of preventing micronutrient deficiencies such as iodine deficiency. The adoption of mandatory universal salt iodisation (USI) of edible salt, used by both humans and animals, has seen normalisation of thyroid function, especially during pregnancy and infancy, and the subsequent eradication of iodine deficiency disorders (IDD) by many countries thereby safeguarding the brain development of millions of children in our world. Promotion of non-iodised salt should be condemned because experience has shown that when this occurs iodine intake declines and iodine deficiency re-emerges in communities or countries with a consequent resurgence of IDD and all its devastating manifestations.

We must be careful in promoting the benefits of using iodised salt, such that this message is not misinterpreted as promoting increased salt intake. There is indisputable evidence that excessive salt intake, regardless of its source, is injurious to human health by precipitating or exacerbating cardiovascular disorders, especially hypertension. Therefore, we need to reinforce this health message of encouraging people to eat less salt and to avoid high salt-containing, processed foods to prevent premature cardiovascular disease.

So, recommending iodised salt in preference to non-iodised salt should not contribute to increased salt intakes in humans. Given that iodised salt contains only infinitesimally small amounts of iodine at 20–40 µg iodine/kg of salt (that is 20–40 molecules of iodine to 1 million molecules of salt, or usually called 20ppm) it is very easy to adjust the amount of iodine during the production of iodised salt as the population adjusts to reduced salt intakes. As most of the salt we eat comes from processed foods, and not from discretionary salt we use domestically, we must continue to convince food manufacturers and distributors of the need to use purified iodised salt in the processing and distribution of foods that contain salt.

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* Disclaimer by the Australian Thyroid Foundation: the author provided this article at the request of the Australian Foundation and the views he has expressed are those of the author alone, based upon his research into iodine deficiency disorders and from implementing public health programs for prevention of these disorders in Australia and many Asian Pacific countries.

To learn about the benefits of good thyroid health visit: www.thyroidfoundation.org.au
A new challenge to iodine nutrition in the Philippines

By Edward Otico, IGN Regional Coordinator, South East Asia and Pacific

In December 1995, the Philippines passed the Republic Act 8172 “An Act Promoting Salt Iodization Nationwide and for Other Purposes” or the ASIN Law. Its Implementing Rules and Regulations (IRR) were issued in March 1996, paving the way to the mandatory iodization of all edible salt.

There were early challenges in the implementation of the law and its regulations. In 1998, the National Nutrition Survey (NNS) reported that the proportion of households using salt with any amount of iodine was only 24.8% and the median Urinary Iodine Concentration (mUIC) of school-age children (SAC) was 71ug/l, below the 100 ug/l cut-off for adequate iodine intake. The Philippines has since progressed. The 2018-2019 NNS reported the mUIC of children at 180 ug/l. However, the mUIC of lactating women was borderline at 103 ug/l (100ug/l cut-off) and low for pregnant women at 121 ug/l (150 ug/l cutoff). The NNS also reported that the median iodine content of household salt was only 7.9 ppm, with 37.2% of households using salt with at least 15ppm of iodine.

The continued presence of non-iodized and poorly iodized salt in households shows the need to improve quality assurance/quality control (QA/QC) at production level and strategic regulatory monitoring across the supply chain. Despite these needs, the iodization of household salt and the use of iodized salt in all processed foods continues to contribute to the improved iodine intake of Filipinos. The Food and Drug Administration (FDA) strictly requires the use of iodized salt by food manufacturers, which is declared in the ingredients list of packaging labels.

The Department of Health (DOH), through the National Nutrition Council (NNC), and partner national government agencies are strongly committed to USI and to addressing gaps and weaknesses in programming, especially the inadequate iodine intake of pregnant women and sub-national disparities. Five-year USI strategic plans are regularly prepared. A USI landscape analysis and the National Salt Iodization Program 2023-2028 are currently being drafted.

But a new challenge has emerged. Several bills to revive the local salt industry were filed in the House of Representatives (HOR) and the Senate of the Philippines, which essentially would exempt many or all of these producers from iodizing their salt.

In the HOR, in May 2023, the Committee on Food and Agriculture and Committee on Appropriations submitted a report and Bill HB 8278 aimed at revitalizing the salt industry, creating a comprehensive development plan, and providing incentives to salt farmers, producers and exporters. The bill was approved in its final and 3rd reading: (www.cnnphilippines.com/news/2023/5/30/House-bill-salt-industry-development.html).

HB 8278 will allow the exemption of local salt from mandatory iodization. It states “SEC. 34. Mandatory Salt Iodization; Exemptions and Incentives. – Imported food grade salt shall continue to comply with the mandatory iodization as provided for under the provisions of RA 8172. Domestically produced salt including industrial salt shall be exempt from said mandatory iodization. However, as provided under Section 6 (k) and (l) of this Act, PSIDC may exercise its power to require the mandatory iodization of domestically produced salt and may exempt the mandatory iodization of imported food grade salt.”

Meanwhile, in the Senate, the combined Committees on Agriculture, Food and Agrarian Reform; Trade, Commerce and Entrepreneurship; Finance; and Ways and Means has come up with a substitute bill SB 2243 aimed at strengthening the salt industry in the Philippines. It essentially makes the iodization of artisanal salt optional. It states “SEC. 25. National Iodization Program. Notwithstanding the provisions of Republic Act No. 8172 or the “ASIN Law”, iodization of salt that is not
intended for human consumption or local food production, as well as artisanal salt, is hereby rendered optional in the country. The bill defines artisanal salt as “SEC. 3. (a) Artisanal Salt refers to locally produced unrefined salt, derived directly from a living sea or ocean, using traditional methods. It retains natural traces of minerals coming from sea water, and is produced by traditional or community-based enterprises.” This definition of artisanal can still be interpreted very broadly to cover all local salt.

A major reason given for the exemption is that the salt iodization program caused the setbacks and hindered the development of the local salt industry. However, many other more significant factors contributed. Conversion of salt farms to housing and commercial use took place in the former major salt producing areas of Las Pinas, Cavite, Iloilo and Bulacan. Climate change led to unpredictable weather patterns and rains, which disrupted continuous brine concentration and salt crystallization, eventually lowering production volume. Local salt farmers lacked the desire to develop their distribution networks (see cover story for more details on challenges of small-scale production. Lack of import control and control of pricing by salt importers depressed local salt prices.

The percentage of households using local salt is significant. In 2013, salt samples collected for the National Nutrition Survey (NNS) were analyzed by the Global Alliance for Improved Nutrition (GAIN) and classified by type: local solar salt, cooked salt, pure vacuum dried salt, which is imported, and imported solar salt. 44% of the salt were local solar salt and cooked salt. It is notable that these salts, as observed in field visits, are dominant in households in some specific regions: Ilocos, Cagayan Valley, CAR and Central Luzon, MIMAROPA and Western Visayas. The approval of HB 8278 and SB 2243 could result in a substantial decrease in iodine intake from discretionary salt of households in these regions, and a decrease overall nationally.

The DOH, FDA and NNC are supportive of retaining the mandatory iodization of all edible salt. They are leading other national government agencies, partners and stakeholders in advocating for this, developing position statements clarifying the improvement of iodine intake of Filipinos because of mandatory salt iodization.

If local salt is exempted from mandatory iodization, the iodine intake of Filipinos will go down. This will be tragic, especially for lactating and pregnant women, and consequently for future generations.
The impact of landscape analysis on improving iodine nutrition in South Asia

By M. R. Maharjan, Renuka Jayatissa and Arnold Timmer

Introduction

From 2019 to 2020, the Iodine Global Network (IGN) in partnership with the UNICEF Regional Office for South Asia (ROSA) and other regional partners, embarked on a series of landscape analyses to understand the status of iodine nutrition and of USI policies and programs in Afghanistan, Bangladesh, Bhutan, India, the Maldives, Nepal, Pakistan and Sri Lanka. The major objectives of the landscape analyses were to map progress, identify key challenges, and help develop recommendations for further strengthening and sustaining both national and regional efforts to achieve and sustain optimal iodine nutrition.

Following the landscape analysis, an individual country brief and comprehensive regional report were shared with the partners for their review. This was followed by workshops conducted by the partners via webinars with key stakeholders in six out of eight countries (excluding Maldives and India) from February 2021 to early 2022. The aim was to disseminate and discuss the findings of the landscape analysis in each of these countries. The workshops were well attended and produced good interactions and exchanges between stakeholders as they worked to understand the analyses and next steps.

In March 2023, we undertook follow-up interactions, mainly with IGN National Coordinators (NCs) in six countries - Afghanistan, Bangladesh, Bhutan, Nepal, Pakistan, and Sri Lanka - to learn what has happened following the landscape analysis and dissemination workshop in each country. While face-to-face discussions were organized in Nepal, interactions with NCs in other countries were conducted separately through WhatsApp. Review of relevant documents were also undertaken to assess the situation. For all interactions, a semi-structured discussion guide was developed and utilized.

The interactions primarily aimed to explore three areas:

• What challenges and topics identified by the landscape analysis have mostly been discussed.
• What efforts have been made to improve the country’s USI program.
• What are the key next steps to address problems.

This brief report aims to present and discuss the key findings of the
interactions and the desk review.

**Results**

Most respondents reported that stakeholders have found the country briefs to be useful as they have gathered and presented information on all aspects of iodine nutrition program in one place. The reports and dissemination workshops led to discussions among the relevant stakeholders on the key challenges identified by the landscape analysis and to frame potential solutions to address them in each country. In most countries, some priority activities have also been undertaken to further strengthen the USI program.

**Afghanistan**

The activities outlined above led to discussions about most of the challenges mentioned in the country brief including the issue of lack of budget allocation for the program despite the government’s commitment to support it, as well as insufficient monitoring at national level. Coordination workshops took place in Afghanistan’s northern region in July 2021, and were planned for all provinces, but this activity did not continue after the change in government in August 2021. The country still faces challenges in effective monitoring at salt production and in markets, quality assurance and control, and capacity building.

**Bangladesh**

Challenges and potential solutions identified by the landscape analysis resulted in UNICEF, GAIN and Nutrition International identifying areas in which they could support the program. Following the landscape analysis, new legislation on iodized salt was approved and is expected to resolve several shortcomings and barriers to the program. The use of iodized salt in processed foods was assessed.

A second national micronutrient survey in 2019-2020 gathered data on iodine status in vulnerable populations, and further analysis could allow us to learn more about deficiency among different population groups, and there is a need for an updated assessment of household coverage of iodized salt.

**Bhutan**

In Bhutan, there were follow up discussions on the need for new data on population nutrition status, as well as continuing surveillance and enhancing reporting systems and mechanisms. This led to the decision to incorporate salt iodization into routine health monitoring systems in January 2023, as well as to assess USI and population iodine status as part of a comprehensive national health study this year. There was discussion with policymakers, stakeholders and funders about the problem of mild iodine deficiency in some districts, resulting in increased support for Bhutan’s USI program.
**Pakistan**

Discussions following the landscape analysis in Pakistan focused on the need for an assessment of the use of iodized salt in processed foods and challenges in price, procurement and supply of iodate. The processed food study has been conducted and UNICEF has created advocacy materials for the salt industry and government to ensure good quality control during production.

**Sri Lanka**

In Sri Lanka, a major point of discussion concerned addressing the iodine nutrition status of pregnant women, as well as to strengthen and sustain monitoring of salt iodization. A Plan of Action on USI was developed immediately after dissemination of the analysis. Monitoring of salt iodization at production and household level, as well as of the iodine status of pregnant women, are being integrated within government surveillance systems to ensure long-term sustainability. Consultations are under way to amend salt iodization standards to make the range of iodization more practical for producers.

**Nepal**

Development of the landscape analysis in Nepal led to two consultation meetings organized by government agencies to look at the need to revise the national salt iodization standard to prevent excessive iodine intake. The Ministry of Population and Health has shown a willingness to develop an action plan to tackle key findings of the analysis, such as better definition of the roles of federal, provincial and local governments and improving understanding of the role of processed foods in iodine nutrition. Discussions have begun on the construction of new covered iodized salt storage in remote areas.

Before this landscape analysis took place, the last comprehensive review of USI programs and iodine nutrition in South Asia had been carried out by UNICEF in 2008. Goitre had virtually disappeared, thanks to massive efforts in the initial phases of USI, and the problem became less visible, leading to complacency among key stakeholders. The 2019-20 landscape analysis in the region has been highly timely and instrumental in drawing fresh attention from government agencies as well as other partners towards the iodine nutrition agenda. The analyses and dissemination workshops led to improved communication and technical support between national stakeholders. The result has been a revitalization of the region’s USI program that will hopefully sustain optimal iodine nutrition in the years to come.

1 In the Maldives and India, efforts are being made to disseminate the findings of the landscape analysis.
Assessment on the use of iodized salt in processed foods in Pakistan

A summary by Arnold Timmer and Faiz Rasool

Editor’s note

IGN has been working in several countries and regions to understand the actual or potential contribution of iodized salt in processed foods to iodine intake. The issue of use of iodized salt in processed foods is complex, and has implications beyond iodine nutrition to issues of healthy diet, as well as legislation, program monitoring and advocacy. This report summarizes the experience in examining the processed food contribution in Pakistan, and highlights issues facing many countries.

Background

Pakistan has made major progress in recent decades towards achieving optimal iodine nutrition. Household coverage of iodized salt was 17% in 2001, increasing dramatically to 69% in 2011, and to 80% in 2018 (NNS). In 2018, household iodized salt consumption in urban households was 84% and 77% in rural areas.

Today, while at national level, iodine status among school age children and women of reproductive age is adequate, these statistics hide regional disparities and variability in the proportion of iodized salt used. Household use of iodized salt stands at 80%, but this is categorized as salt with any amount of iodine. A landscape analysis by IGN and UNICEF shows that the proportion that is adequately iodized is not known.

While iodine status in Pakistan has improved in the last two decades, the status among women of reproductive age (WRA) was borderline adequate at 111 µg/L in 2018. The 2018 study also identified three small regions – FATA, Azad Jammu Kashmir and Gilgit – where iodine nutrition was insufficient among both schoolchildren and women of reproductive age. NNS 2018 also revealed inadequate iodine nutrition status among pregnant women as their mUIC was just 108 µg/L (cut-off for pregnant women is a mUIC of 150 µg/L or above).

With these gaps, and the trend towards less home cooking and more use of processed foods, IGN and UNICEF decided to explore the potential for food products that are regularly and widely consumed by a large population to contribute to iodine nutrition through the use of iodized salt in their production. This is relevant especially if the population...
As little information is available on whether processed foods are made with iodized salt, as part of the UNICEF-IGN South Asia regional partnership, IGN commissioned the market research company IPSOS in Pakistan to carry out an assessment on the consumption, production and supply chain dynamics of major salt containing food items in the Pakistani diet. It is important to note that this study sought to obtain an initial understanding of the current situation and inform future actions.

**Approach**

The study aimed to identify widely consumed salt-containing processed foods that contribute to the salt intake of much of the population, and establish their importance for iodine intake if salt was already iodized and potential if this is not the case. This was followed by an exploration of their use and production origin, including trade dynamics (import and/or local production). The study sought to provide understanding of the legal and regulatory backdrop and the requirements in their manufacturing process.

This 2022 study used a combination of secondary research through IPSOS’ syndicated study of Consumer Multimedia Index (CMI) to assess coverage and consumption of the most common processed foods, coupled with visits to inspect these products in the retail market, with field teams checking labels on ingredients and product composition to see whether salt and/or iodine was mentioned. Based on the resulting shortlist of food products, in-depth qualitative research and key informant interviews with 12 industry players took place to understand perceptions, practices and challenges related to iodized salt usage.

### Results

#### Quantitative Analysis

The selection of key processed foods (Table 1) for further analysis was done using IPSOS Pakistan’s syndicated research CMI, Consumer Multimedia Index and the Review of Regional Trade Standards Pertaining to Processed Foods (in which Iodized Salt is used) and Iodized Salt in South Asia done in 2020. Ten food categories were selected for the study including biscuits, butter/margarine, plain spices, bread, breakfast cereals, frozen meat and ready-to-eat foods (e.g. koftey, seekh-kabab, chicken tikka botti, samosas, sausages), salted snacks (such as nimco), pickles, instant noodles, and tomato paste.

**Table 1: Processed Food categories & brands highly consumed in Pakistan**

<table>
<thead>
<tr>
<th>Branded bread</th>
<th>Pickles</th>
<th>Plain spices</th>
<th>Instant noodles</th>
<th>Tomato paste</th>
<th>Frozen meat</th>
<th>Biscuits</th>
<th>Butter</th>
<th>Breakfast Cereals</th>
<th>Salted snacks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dawn</td>
<td>National</td>
<td>National</td>
<td>Knorr</td>
<td>National</td>
<td>K&amp;N</td>
<td>Sooper</td>
<td>Blue Band</td>
<td>Nestle</td>
<td>Lays</td>
</tr>
<tr>
<td>Wonder</td>
<td>Shan</td>
<td>Shan</td>
<td>Maggi</td>
<td>Shangrila</td>
<td>Dawn</td>
<td>Bakery</td>
<td>Haleeb</td>
<td>Fauji</td>
<td>Balle</td>
</tr>
<tr>
<td>Sona</td>
<td>Shangrila</td>
<td>Mehran</td>
<td>Shoop</td>
<td>Shezan</td>
<td>Sufi</td>
<td>Candi</td>
<td>Nurpu</td>
<td>Familia</td>
<td>Kurkure</td>
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<tr>
<td>Sun Rise</td>
<td>Shezan</td>
<td>Meezan</td>
<td>Kolson</td>
<td>Mitchell’s</td>
<td>Shahi</td>
<td>Bravo</td>
<td>Flora</td>
<td>Heinz</td>
<td>Nimco</td>
</tr>
<tr>
<td>Sunnys</td>
<td>Ahmed</td>
<td>Habib</td>
<td>Indomie</td>
<td>Knorr</td>
<td>Fine Life</td>
<td>Café</td>
<td>Gourmet</td>
<td>Jenan</td>
<td>Kolson</td>
</tr>
</tbody>
</table>

For a complete list of brands, please refer to the document.
The next step was to identify the relative importance of these foods in terms of total salt intake. The penetration of processed food was combined to provide a score reflecting the number of people consuming it and how frequently, allowing comparison between food products. This score provides an idea of what product is consumed the most in Pakistan. The study did not document quantities consumed because this information was not available, but focused rather on the amount of product sold and frequency at which consumers bought these products.

The analysis presented in Table 2 shows that biscuits are rated the highest followed, by pickles and salted snacks.

**Retail visits**

Field teams checked product package labels for the presence of “salt” and “iodized salt”. All the packages mentioned “salt” as an ingredient, but none mentioned “iodized salt”, even though it could be confirmed that some products did contain it.

Secondly, the product composition table on the label was also checked. In most instances, sodium was mentioned, but in some tables sodium could not be found, even though salt was an ingredient of the product.

**Key informant interviews**

A random list of key informants from small, medium and large companies in each product category were selected for interview about the type of salt used in production of the food items, the barriers to using iodized salt in Pakistan and the impact of legislation and relevant provincial regulations on the use of iodized salt.

**Main findings**

Iodized salt is not commonly used for production of processed foods. Culinary companies that also sell iodized salt as a product mainly use iodized salt for production of processed foods as they have easy access to it. Companies cited various reasons for non-use, including cost considerations, procurement challenges, and the perception that the quantity of iodized salt in their products is too small to claim significant health benefits. Iodized salt is not used in commercial food processing, but those producing iodized salt for household use are not selling it commercially to food processors. Given the opportunity, they would want to do so to increase the use of iodized salt in Pakistan.

Reportedly, iodized salt is not commonly used in Pakistan for food production and is more expensive than non-iodized salt. Most manufacturers purchase the cheapest salt available in the market from the nearest vendor to avoid transportation costs. If only iodized salt is sold then this would be the salt used for food production, and vice versa.

Producers believed salt is a minor ingredient and therefore there is no point replacing it with iodized salt. No health claims can be used on the packaging. Iodized salt was reported to be more expensive. Changing ingredients implies more lengthy testing and approval processes.

A new national food fortification law has been developed, but due to political uncertainty it has not yet been passed. Awareness of the potential new law among the key stakeholders was low, with just one respondent mentioning it. The proposed law would supersede provincial regulations. Currently, each province has its own legislation on ingredients and labelling. Food manufacturers have organized themselves and communicated with the Pakistan Standards & Quality Control Authority (PSQCA) and
requested standardization. There are currently various regional approaches to inspection of production and product, leading to different labelling and claim practices on food products.

Producers had mixed feelings about the food authorities in each province. A few were openly critical, and others were more appreciative of their role. However, they feel that provincial food authorities need to focus on the unregulated sector, which is not following any standards.

**Limitations of the research**

The study provided a high-level picture of the main processed foods that are key from a salt and iodine intake perspective, who is producing them and what these producers know about iodized salt and iodine. It provided a broad overview of the processed food landscape, the gaps that exist and the opportunities to engage this sector in improving iodine intake for those still at risk of deficiency.

Additional research is needed to effectively plan for and address this important component of the USI program. Further study would facilitate understanding of actual consumption levels of key products to calculate salt intake and model iodine intake as a result.

While multiple companies were approached, some were reluctant to share information regarding their usage of ingredients. Others didn’t respond, perhaps indicating a low awareness of the importance of adequate iodine nutrition and the contribution they could make to improving it.

**Conclusion**

The research findings highlight the minimal usage of iodized salt in processed foods in Pakistan. Despite the proven benefits of iodine intake for public health, there are barriers to its adoption in the processed food industry. These barriers include the perception of iodized salt as a minor ingredient, cost and procurement challenges, and limited awareness among industry players. The absence of comprehensive legislation specifically addressing iodized salt usage further compounds the issue.
To address these challenges and improve iodine intake, it is essential to create an understanding of the importance of enacting federal mandatory legislation on salt iodization to enhance enforcement mechanisms to ensure compliance, and streamline regulations to create a unified approach across provinces. Secondly, it is critical for policy makers and program managers to understand the role certain processed foods can play in providing iodine to deficient populations. Third, it is key to raise awareness among industry players and consumers about the benefits of iodized salt. It is recommended to develop a more targeted assessment to provide information on the contribution that certain foods can make in the iodine intake, especially in rural areas where the use of non-iodized and poorly iodized salt is high, and develop an action agenda for programmatic implementation.

References
1. Mr. Arnold Timmer is Senior Advisor at Iodine Global Network (IGN)
2. Mr. Faiz Rasool – National Coordinator for Pakistan at Iodine Global Network (IGN) and is serving Global Alliance for Improved Nutrition (GAIN) as Sr. Policy Advisor under the function of Policy Advocacy and External Relations in Pakistan.
6. IMARC Services Private Limited (2020). Review of Regional Trade Standards Pertaining to Processed Foods (in which Iodised Salt is used) and Iodised Salt in South Asia: A Study Commissioned by IGN & UNICEF Regional Office for South Asia. Kathmandu: UNICEF Regional Office for South Asia.
News

The Micronutrient Forum’s Sixth Global Conference

The interdependence of nutrition and resilience was the focus of the Micronutrient Forum’s conference took place in The Hague, Netherlands from 16-20 October. The conference was a hybrid of in-person and visual in format and offered opportunities to advance integrated research, identify new policy priorities, highlight investments for micronutrient interventions, and accelerate progress towards global and nutrition development goals.

Along with this thematic content, the conference included its traditional four tracks, exploring the latest science across the micronutrient program lifecycle from biology through effectiveness and implementation to the enabling environment. Speakers from IGN included Executive Director Werner Schultink, who discussed current challenges and future directions of sustained adequate iodine nutrition, Regional Coordinator for Central America and the Caribbean, Ana Maria Higa and Regional Coordinator for South Asia, Renuka Jayatissa. The next issue of the newsletter will share highlights of their presentations.

For more information, visit mnforum2023.org

IGN and European Thyroid Association meeting in Milan

Member of the European Thyroid Association, researchers, IGN national coordinators and other guests participated in this annual event on September 9.

The meeting opened with a presentation by Maria Andersson (Switzerland) on a report to be released next year on iodine deficiency in the WHO European region. The report will provide a review of the current situation and guidance on strategies to improve iodine intake. It will look at the health consequences of mild iodine deficiency, the importance of dairy products with regard to dietary iodine, iodine status monitoring, prevention strategies, and directions of the control of iodine deficiency in the region. It will include a review of scientific data for all population groups to better understand the magnitude and economic impact of the problem.

During the first session, chaired by Silvia Gonzalez Martinez (Spain) and Ingibjorg Gunnarsdottir (Iceland), attendees heard presentations on the impact of iodine supplementation in mild and moderate deficiency on cognitive function from Peter Taylor of the United Kingdom; iodine nutrition and North Atlantic living by Stig Anderson, Denmark; and iodine prophylaxis in Poland by Alicja Hubalewska-Dydejczyk of Poland.

Session 2, which was chaired by Massimo Tonacchera (Italy), had presentations on iodine nutrition in Italy, Denmark and Israel, and a presentation from an industry perspective of opportunities and challenges related to iodized salt by Michael Durst of Unilever. Dr. Henry Volzke of Germany provided an update on the work of the EUthyroid 2 consortium being funded by Horizon Europe.

South Asia landscape analysis now available on IGN website

In 2019 and 2020 IGN in partnership with UNICEF, IGN carried out a series of landscape analyses on national iodine programs in Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan, and Sri Lanka. The review looked at the program evolution and current iodine status and salt iodization efforts. The main program domains of policy, legislation and enforcement, salt supply chain, awareness raising, monitoring, and coordination and management were examined to determine the main bottlenecks which hamper salt iodization scale and adequate population iodine status. Suggested solutions were included, and all of this information was then shared in country workshops, which were mainly virtual at the time of COVID pandemic, which formed the basis for national action agendas that are currently being pursued to create more equitable and sustainable iodine nutrition programs. The reports are available here.
In the works

First phase of Karen study completed

Remote populations face unique challenges in accessing essential healthcare services and vital nutrients. The 4 million indigenous Karen people who live along the borderlands of Thailand and Myanmar are an example of the crucial intersection of salt iodization, health equity, and the well-being of remote populations. Their access to basic healthcare and a diet that meets their nutritional needs has long been a challenge due to their geographical isolation.

Researchers from the Institute of Nutrition at Mahidol University, in collaboration with IGN and ETH University in Zurich, recognized the need to address potential iodine deficiency among the Karen population, and conducted a sentinel survey in the area. Their approach included engaging people interested in the project and building a researcher team in each village. Local researchers, including village health volunteers, were actively involved in data collection and received additional training.

While results are currently being analyzed, we know that the potential outcomes likely hold significant implications for the Karen community’s health and well-being, paving the way for health interventions such as salt iodization and education programs on the importance of iodine. The sentinel survey will also draw attention to the unique challenges faced by remote and indigenous communities in accessing health and nutrition initiatives.

Unlocking the potential of food fortification

A just-published report from the Harvard Kennedy School’s Corporate Responsibility Initiative identifies six opportunities that can help realize the potential of food fortification to enable for healthy, productive lives. This report is co-authored by Jane Nelson, Director, Corporate Responsibility Initiative at Harvard Kennedy School, and Christina Tewes-Gradl, Endeva and Richard Gilbert, Endeva. The report includes a partnership profile on IGN. You can read both the report and IGN’s profile on our website.

Review of regional trade standards on processed food and iodized salt in South Asia now available on IGN website

In 2019 – 2020, IGN and UNICEF embarked on a comprehensive review to the dynamics and barriers associated with trade of iodized salt and salt-containing processed foods in the South Asian region. The analysis was implemented in partnership with IMARC Services and encompassed various research methodologies, including a literature review, stakeholder and key informant interviews and industry data analysis.

The study was guided by a set of key questions aimed at deciphering the intricate dynamics of salt and processed food trade, harmonization of iodized salt standards, and avenues for strengthening regional trade for optimal iodine nutrition.

The study brought to light several significant insights. South Asia is self-sufficient in producing iodized salt, with mandatory salt iodization in seven of the eight countries. On processed foods, some nations are heavily reliant on imports, so trade of processed foods containing salt is of immense importance across the region. As dietary habits evolve, nutrient-rich processed foods could play a vital role in providing iodine supplementation to underserved populations. Strengthening monitoring systems and enhancing labelling will streamline trade and bolster consumer awareness of crucial nutritional content.

The study’s findings led to a series of targeted recommendations designed to harness the potential of trade and enhance iodine nutrition across the South Asian region: transparent labelling; nutrient-enriched processed foods; strengthen legislation; collaborative industry efforts; efficient inspection mechanisms; trade monitoring; reducing import duties; and accountable regulations.

Access the full report here.
The IDD Newsletter is published quarterly by the Iodine Global Network and distributed free of charge to email subscribers and appears on the Iodine Global Network’s website (www.ign.org). The Newsletter welcomes comments, new information, and relevant articles on all aspects of iodine nutrition, as well as human interest stories on IDD elimination in countries.

For further details about the IDD Newsletter, please contact: info@ign.org.

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