

Salt iodization and salt reduction programs

EXPANDING COLLABORATION,
SYNCHRONIZING STRATEGIES AND
SUSTAINING IMPROVED HEALTH OUTCOMES



- ▷ For decades, successful national salt iodization programs have been essential to preventing brain damage and other lifelong disabilities caused by iodine deficiency disorders (IDD). However, in South Asia, it is worrying that the attainment of sustained public health benefits of iodized salt is at risk due to gaps in quality and coverage of programs.
- ▷ Public health programs to reduce people's salt intake aim at reducing sodium intake, a leading cause of high blood pressure (hypertension), heart disease, stroke and early death. Although hypertension is an increasingly significant factor associated with cardiovascular-related deaths in South Asia, only one out of eight countries has established a mandatory sodium reduction policy.
- ▷ Salt iodization and salt reduction are two cost-effective public health strategies that should go hand in hand. However, misalignment due to insufficient integration of programs, unclear institutional mandates and responsibilities and lack of consultation may contribute to the misconception that salt iodization and salt reduction programs are at odds.
- ▷ South Asian policymakers, academics, civil society and the region's food industries have a golden opportunity to improve and save lives by creating synergies between salt iodization and salt reduction programs. Policy integration, consistent public messaging, reformulation of processed food, improvements to overall food environments and monitoring are essential to ensure that salt iodization efforts are sustained alongside salt reduction strategies.

1 Bridging salt iodization with salt reduction programs

The World Health Organization (WHO) recommends that all salt used in households and for food processing should be fortified with iodine as a safe and effective strategy for the prevention of IDD. The worldwide effort to make universal salt iodization mandatory has dramatically raised the proportion of households consuming iodized salt from less than 20% in 1990 to 89% in 2021 globally¹ and 89.7% in South Asia². As a result, millions of children have been saved from a major cause of permanent brain damage and other lifelong disabilities.

WHO recommends a sodium intake of less than 2 grams per day (equivalent to just under 5 grams or a teaspoon of salt). However, the global average intake of sodium is more than twice the recommended level. Excess sodium consumption is a major cause of high blood pressure and is a main risk factor for cardiovascular diseases such as heart attack and stroke. Some 1.89 million deaths globally each year are associated with excessive sodium intake. The importance of reducing sodium intake is reflected in the global non communicable disease (NCD) target of a 30% relative reduction in sodium intake by 2025.

It is important to note that the iodine level in salt can easily be adapted to ensure adequate iodine intake while simultaneously reducing salt

consumption – perfectly enabling both critical public health objectives.

2 The use of iodized salt in processed food: A key entry point for alignment and synergy

All South Asian countries have made commitments towards the prevention of IDD, and, except for the Maldives, all have mandated salt iodization and incorporating iodine nutrition into national policies, strategies and programs. As a result, iodized table salt is generally available and widely used in households. However, increasingly, home-cooked meals – an important source of iodine – are being replaced by processed food.

WHO uses nutrient profiling as a scientific method to categorize food and beverages based on their nutritional composition, which, broadly speaking, depends on whether they are part of a healthy diet or if they contribute to excess consumption of energy, saturated fats, trans fats, salt or sugar. Ultra-processed foods are particularly concerning because they are high in

fat, salt, and sugar (HFSS) and low in proteins, vitamins, minerals and dietary fibre³.

Over the past decade, there has been a rapid increase in the production and consumption of processed foods globally. In 2020, the global processed food industry was valued at US\$1,925.7 billion and is projected to reach \$3,407.2 billion by 2030. The expansion is particularly noticeable in low- and middle-income countries. In South Asia and elsewhere, this shift is driven by rising incomes, urbanization, and the growth of modern food retail³. For consumers, processed foods represent convenience, have longer shelf life and are enticing because they tend to be cheap, hyper-palatable, and heavily marketed⁴.

While Bangladesh, India and Sri Lanka have specified the mandatory use of iodized salt in processed food in their law, other countries have not made this requirement explicit, leaving room for interpretation and no action. Findings of an initial review by the Iodine Global Network (IGN) and the United Nations Children’s Fund (UNICEF) Regional Office for South Asia (ROSA) reveal that, in practice, there is little

Table 1: Status of Implementation of the use of iodized salt in processed food in South Asia

		Afghanistan	Bangladesh	Bhutan	India	Maldives	Nepal	Pakistan	Sri Lanka
The use of iodized salt in processed food according to legislation									
Widely consumed salt-containing processed foods targeted for reformulation	Bakery products (e.g. biscuits, cakes, pastries)								
	Dairy products (e.g., butter, buttermilk, cheese)								
	Savoury snacks (e.g., crackers, nuts, potato/maize chips)								
	Ready-made meals (e.g., composite and convenience foods)								
	Frozen foods (e.g., fish, meat)								
	Condiments (e.g., dressings, sauces)								
	Other (e.g., dried fruit)								

Source: *International Market Analysis Research and Consulting Group, Review of Regional Trade Standards Pertaining to Processed Foods (in which Iodised Salt is used) and Iodised Salt in South Asia.*: IGN and UNICEF, 2020

Legend

- Use of iodized salt in salt-containing processed food is mandated by legislation
- Use of iodized salt in processed food is not explicitly mentioned in legislation, but importation and distribution allow only iodized salt
- No existing legislation on the use of iodized salt in processed food
- Processed food evaluated contained only iodized salt
- Processed food evaluated predominantly used iodized salt
- Processed food evaluated contained only non-iodized salt
- The outcome of the evaluation unknown
- Category of processed food not widely available or consumed and excluded from the evaluation

enforcement and inspection of the type of salt in processed foods that are manufactured, exported or imported across South Asian countries, even in countries where the use of iodized salt in processed food is mandated (see **Table 1**).

The examples of processed food items that were evaluated in this multi-country study are also those that are targeted for salt reduction and can be reformulated so they become healthier options. By ensuring that the salt used in their production is always iodized and reducing the amount of salt, both goals can be served at the same time.

3 Synergies between salt iodization and salt reduction programs

3.1 Amplifying results through comprehensive “best buy” interventions

WHO refers to both salt iodization and salt intake reduction as brilliant examples of “best buys”: cost-effective, evidence-based public health strategies aimed at reducing risk factors and healthcare costs associated with NCDs. The long-term impact of these interventions on national economies and healthcare systems is undeniable:

- Global coverage of iodine consumption through salt iodization ensures the improvement in children’s cognitive development. In terms of future earnings, the potential global economic benefit is estimated to be nearly US\$ 33 billion.

- Every dollar invested in sodium reduction brings an estimated return on investment of US\$ 13-78, and reducing the global average sodium intake to the WHO-recommended limit of 2 grams per day could prevent at least 3 million premature deaths⁵.

Despite the overwhelming evidence to support the profound impact that salt reduction can have on public health outcomes, six out of eight South Asian countries achieved the lowest scores in implementing these WHO-recommended interventions to reduce salt intake – and one country could not be rated due to the lack of information (see **Table 2**).

Strengthening the implementation of salt reduction policies while sustaining public health gains achieved through salt iodization requires a comprehensive approach. For example:

- **Raising public awareness** through mass media and targeted multi-channel education campaigns to engage individuals and encourage them to reduce their sodium intake is also an opportunity to educate individuals about the importance of using iodized salt to prevent IDD. A central message is: “Use less salt, but make sure it is iodized!”. By including information about both iodine and sodium in these campaigns, consumers can make informed choices about salt consumption.

Table 2: Status of key best buy strategies in salt reduction across South Asia

	Afghanistan	Bangladesh	Bhutan	India	Maldives	Nepal	Pakistan	Sri Lanka
Mass media campaigns	no	no	voluntary	voluntary	no	no	no information	voluntary
Public food procurement and service	no	no	no	no	no	no	no information	no
Reformulation	no	voluntary	no	no	no	no	no information	no
Front-of-pack labelling	no	no	no	no	no	no	no information	mandatory
Declaration of sodium	no	mandatory	no	mandatory	no	no	no information	mandatory
Overall score	Score 1	Score 2	Score 2	Score 2	Score 1	Score 1		Score 3

Source: World Health Organization, *WHO global report on sodium intake reduction*, WHO: 2023

Legend

- Score 1 Commitment at policy level only
- Score 2 At least one voluntary policy has been established
- Score 3 At least one mandatory policy has been established, and sodium is declared on pre-packaged foods
- Score 4 At least two mandatory policies have been established; sodium is declared on pre-packaged foods; all WHO sodium-related best buys have been implemented

- Implementing policies within **public institutions and food service** settings to reduce sodium content in food served and sold in schools, hospitals, and other government institutions can, at the same time, ensure the use of iodized salt. This integrated approach ensures that individuals are getting sufficient iodine while also reducing sodium intake.
- Engaging the food industry to **reformulate products** to lower the levels of salt and ensure that all salt used in the manufacturing process is iodized. In countries where the use of only iodized salt in processed food is mandatory, the reformulation of products provides an opportunity for industry to confirm their compliance with legislation.
- Adopting **front-of-pack labelling** that includes information on sodium content can easily incorporate information on iodine content. This provides consumers with a more holistic understanding of the salt they are consuming and helps them to make informed choices about the salt content of food products.

3.2 Increasing impact through joint monitoring systems, surveys and surveillance

Government agencies and regulatory bodies are responsible for monitoring and enforcing standards in salt iodization and salt reduction. They may conduct inspections, collect samples, and audit manufacturers to ensure compliance with regulations related to iodine content and sodium levels in salt products.

Salt iodization programs require regular monitoring to reveal the current iodine levels of a population. Iodine status across a population may shift according to changes in how much salt people consume. Typically, the iodine level used in the salt iodization process is adjusted based on the population's iodine status.

A joint, cost-effective approach to monitoring could carry out surveys and surveillance that cover both levels of iodine in salt and iodine and sodium intake. Combined dietary surveys provide an evidence base to enable the adjustment of iodine concentrations in salt considering population sodium intake⁶. A comprehensive public health strategy that integrates salt reduction and salt iodization programs is more likely to have

robust data and evidence demonstrating the impact of their efforts.

3.3 Improving outcomes through better coordination

In addition to monitoring and data collection, there are many other important opportunities for better institutional **coordination** at the management level between the two programs:

- **Coordinated policies** related to salt iodization and salt reduction will enable governments to create a comprehensive and coherent national health strategy to address both issues. This approach ensures that the efforts of various government agencies and stakeholders – including the food industry – are coordinated and mutually reinforcing and will include establishing and enforcing salt iodization and salt reduction standards in processed foods.
- **Coordinated advocacy** and communication strategies will avoid conflicting messages and ensure clear and consistent information on the importance of sustaining optimal levels of iodine in salt and reducing sodium intake. Countries advocating for both salt reduction and salt iodization within a broader public health strategy demonstrate a comprehensive approach to achieving significant public health goals and a commitment to long-term health improvements.
- **Coordinated investment** will drive efforts of policy and program experts in salt iodization and sodium reduction – to identify common goals and synergies across health and food systems. Integrated programs can maximize the impact of their investment and resources, as the infrastructure and resources needed for one program can often be leveraged for another.
- **Joint coordination meetings** serve as a platform for communication, collaboration, and alignment among different stakeholders. They promote synergy, prevent duplication, and ultimately lead to more effective and efficient work, as well as the creation of stronger alliances to address common goals and challenges.

4 Priorities and actions for policymakers, program managers, academia and the food industry

Programs promoting salt iodization and programs to reduce sodium intake should go hand in hand. IGN and UNICEF ROSA have identified four top priorities for South Asian policymakers, academics, and the region's food industry.

4.1 Improve and sustain the collection and quality of data on salt iodization and salt reduction

The collection and quality of data on salt iodization and salt reduction inform decision-making, enable progress monitoring, target interventions, allow resources to be allocated effectively, facilitate international comparisons, hold government and other direct stakeholders accountable, support research and innovation and aid long-term planning for improved public health outcomes. High-quality data is timely, sufficiently disaggregated, reliable and consistent. The handling and sharing of data must comply with confidentiality and privacy rules.

Governments are urged to:

- Increase and sustain investments to produce high-quality data and improve the coordination of investments to avoid duplication and maximize synergies.
- Define priorities for data collection in national plans.
- Review and optimize national data collection systems in line with international standards.

Academia is urged to:

- Identify and expand opportunities to collect, optimize and diversify data collection.

4.2 Explore healthier reformulation of processed food

Reformulating processed foods to lower the salt content helps in reducing sodium intake, which is essential for preventing hypertension and related cardiovascular diseases. If processed foods contain non-iodized salt, reformulation provides an opportunity to use iodized salt so that the product is compliant with the country's salt iodization policy. Collaboration between governments, the food industry, and health organizations is usually needed to implement

effective salt reduction and iodization programs. Reformulation can be monitored and assessed over time to evaluate its impact on salt intake and iodine levels, and these findings can contribute to informed decision-making.

Food producers and companies providing catering services are urged to:

- Adopt recommended nutrition labelling to indicate levels of sodium and iodine contained in the food product.
- Review their product portfolio and reduce salt in products containing excessive amounts of sodium.
- Adhere to government policies on reducing salt intake and ensuring the use of iodized salt in processed food.
- In institutional feeding programs such as school feeding, provide reduced salt content in meals and ensure iodized salt is provided in these services.
- Use social safety net programs to inform participants about salt reduction and salt iodization, and when commodities are provided, ensure low salt content and iodized salt.
- Provide information on salt iodization and salt reduction to students, consumers, and participants of social safety net programs.

4.3 Create greater stakeholder awareness on salt iodization and salt reduction

Informed stakeholders are better equipped to support effective policies, leading to more successful policy implementation and enforcement. Greater awareness fosters transparency in government and industry practices related to salt iodization and salt reduction.

Governments are urged to:

- Strengthen regulatory enforcement systems and ensure all stakeholders (including health professionals) are kept informed about new data.
- Establish or strengthen effective national multisectoral and multistakeholder governing bodies responsible for program planning linked to salt iodization and salt reduction.
- Promote and facilitate dialogue and cooperation among a broad range of relevant

stakeholders at the national and subnational levels.

- Include salt iodization and salt reduction provisions in school curricula and in the professional education of health and medical staff.

Academia is urged to:

- Support the government to regularly produce and disseminate user-friendly data that will facilitate decision-making.
- Work with national and international training institutions to create and promote e-learning and ongoing education on applying data related to salt iodization and salt reduction.

4.4 Increase collaboration and harmonization to improve and promote collecting and sharing data on salt iodization and salt reduction

Increased collaboration among stakeholders to harmonize methods, improve data quality, and share data for the public good contributes to more

accurate, comprehensive, and reliable information. It supports better decision-making, innovation, and the collective effort to address complex issues.

Governments are urged to:

- Establish a joint commission to secure stakeholder cooperation and standardize data collection.
- Disseminate data to support policy and research purposes.
- Promote the use and integration of salt iodization and salt reduction data generated by the private sector, communities, civil society organizations and other sources.

Academia is urged to:

- Design and innovate analytic models and data collection approaches relevant to salt iodization and salt consumption.
- Develop technology and refine tools that streamline and simplify data collection while improving data quality.

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Reference

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- ⁵ World Health Organization, Universal salt iodization and sodium intake reduction: compatible, cost-effective strategies of great public health benefit, 2022, (<https://www.who.int/publications/i/item/9789240053717>).
- ⁶ Existing monitoring tools include, for example, WHO's STEPwise approach to NCD risk factor surveillance (STEPS) is a simple, standardized method for collecting, analyzing and disseminating data on key NCD risk factors in countries. The survey instrument covers key behavioural risk factors: tobacco use, alcohol use, physical inactivity, unhealthy diet, as well as key biological risk factors: overweight and obesity, raised blood pressure, raised blood glucose, and abnormal blood lipids. Through the use of expanded modules, the survey instrument can be expanded to cover a range of topics beyond these risk factors, such as oral health, sexual health and road safety. (<https://www.who.int/teams/noncommunicable-diseases/surveillance/systems-tools/steps>).