Haiti makes headway against IDD
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Background
The Republic of Haiti is located on the second largest island, after Cuba, of the Great Antilles archipelago and, with 10.7 million inhabitants, is the second most populous country in the Caribbean. Haiti’s geography is marked by large contrasts between elevations, with fertile valleys interspersed between tall mountain ranges. The presence of iodine deficiency in Haiti was first confirmed in the 1990s. A national iodine deficiency survey, which followed in 2004–2005, reported a median urinary iodine concentration of 84 μg/L (optimal range: 100–299 μg/L), putting Haiti on the list of priority countries for IDD control (see IDD Newsletter 4/2012). Several smaller studies over the course of the past two decades have verified that the problem of iodine deficiency in Haiti is widespread, also noting considerable geographical variation in iodine status partly attributable to the differences in elevation.

IDD prevention through salt iodization
Haiti’s economy has been rocked by numerous natural disasters, some in recent past. Most notably, the 2010 earthquake undermined agricultural production, infrastructure, and the public health system and prompted a national recovery plan supported by the international community. In this challenging context, efforts to improve iodine nutrition through salt iodization have been slow. An important constraint has been the structure of the local salt industry, with many small-scale artisanal salt farmers producing low-quality raw salt. Steps taken to improve the salt industry, establish national mandatory legislation, and stoke consumer demand have had only limited impact on household coverage of iodized salt: only 18% in 2012, almost twice as high in urban as in rural areas (26.1% vs 12.6%) and almost three times higher in the wealthiest than in the poorest households (29.9% vs 11.0% in the top vs bottom wealth quintile) (1).

Yet, there has been important progress in nutrition programs. A new national nutrition policy was adopted in January 2011, and draft legislation for food fortification, which includes iodized salt, is in the final stages of approval. Once adopted, it will provide a legal and regulatory framework for more robust monitoring of iodized salt imports and production. A critical consideration will be how to leverage the legislation to ensure that all salt used in the production of processed foods and condiments is iodized in accordance with national standards.

Iodine status is improving
Despite the slow progress in scaling up salt iodization, a recent small-scale survey suggests that iodine status may be improving. Conducted by Boston University and Boston Children’s Hospital in 2015 (March–June), a cross-sectional study of 299 Haitian pre-school children aged 9 months to 6 years across three different geographical regions has reported an overall median UIC of 128 μg/L, with regional variation: highest in the urban site (187 μg/L) and coastal region (145 μg/L), and lowest in the mountains (89 μg/L) (3). Although these findings are not statistically representative of the country as a whole and should not be generalized to the entire population, they do suggest that the iodine intake may be optimal in some areas.

New data suggests that Haitian pre-school children may have adequate iodine intakes, but a national survey is needed to confirm this finding.
Iodized salt in processed foods

In spite of the current low household coverage of adequately iodized salt, there may be other sources of iodine in the diet, albeit which still rely on iodized salt. The use of bouillon cubes, a staple condiment in Haiti used in the preparation of principal meals, has increased in recent years. Bouillon contains salt as a major ingredient, and if the salt used in its manufacture is adequately iodized, it may be an additional source of iodine to the diet. Sufficient iodine in the diet has been observed in other countries where the coverage of iodized salt in households is low, but where iodized salt is present in widely consumed processed foods, such as instant noodles or bread, as well as condiments, including bouillon and tomato ketchup. A 2005 assessment conducted by the World Food Program and the Micronutrient Initiative indicated that per capita consumption of bouillon cubes in Haiti was, on average, around 2.25 g/day, equaling approximately 1.2 g/day of salt (4). Given this level of intake, bouillon could be a major source of iodine, although it is important to manage communications and not to promote increased consumption of this product as the sodium intake is already feared as high. Preliminary analyses of two out of several common bouillon brands on the Haitian market indicate that the El Criolitto brand (manufactured in the Dominican Republic) contains 153 μg iodine/cube, while the local Nina brand contains <10 μg iodine/cube. While it is believed that other brands may contain similar or higher quantities, they are yet to be tested.

Joint visit to review the IDD program in Haiti

A joint mission was undertaken by USAID, UNICEF, and the Iodine Global Network to review the current universal salt iodization (USI) program in Haiti. Over four days (26–29 July), an inter-agency team, working under the leadership and guidance of Dr. Joseline Pierre Marhone, Director of Nutrition in the MSPP, held a series of discussions and meetings with key stakeholders (including government staff, development partners, as well as salt processing and trade industry representatives). The following are some of the key recommendations arising from the meeting:

1. Ratify and publish the national legislation on staple foods fortification (salt, flour, and cooking oil), and enable and strengthen enforcement.
2. Conduct a national survey of iodine status (including measurement of urinary sodium and determination of major dietary sources of sodium). The survey should help to provide additional evidence on the iodine status of women of reproductive age and the consumption patterns of salt and of iodine. The sodium content of the Haitian diet has historically been difficult to measure but is generally considered to be high, and the country has a high rate of morbidity and mortality linked to hypertension (5). To achieve and sustain optimal iodine nutrition among all population groups, iodine should be added to all salt available for human consumption (including all salt used in bread baking, as well as in the production of condiments and processed foods), and the iodine levels should be adjusted if salt intakes fall.
3. Measure the iodine content in branded bouillon cubes and in discretionary salt to estimate their contribution to the iodine intake in Haiti.
4. Undertake a comprehensive study to review the salt situation and generate reliable data. The goal of this study will be to characterize the overall salt supply, including salt trade (import vs domestic production), building on existing reviews.
5. Schedule a national meeting following the iodine nutrition survey to validate survey results and refine a national action plan to optimize population iodine status based on outcomes of steps 2–4.
6. Explore the feasibility of using the iodized salt produced by the UNDHP/MoH to meet the national needs of the baking industry and food services (i.e. mostly school feeding programs).
7. Provide political support to UNDHP/MoH in its search for additional funds to consolidate the salt processing program in Haiti, not only to increase the availability of discretionary iodized salt but also as a source of income for the Haitian salt producers.

As the program continues to develop and there is a greater focus on the use of adequately iodized salt by the processed food industry, with particular attention on bouillon and bread, it will be imperative to strengthen regulatory monitoring activities. These can be significantly enhanced by the reduced number of actors, but they are important to have in place to ensure compliance and sufficient enforcement of the legislation. This will require a review of existing regulatory monitoring guidelines and protocols, as well as the capacity in place for their effective implementation. Where gaps are identified, efforts should be taken to build and further strengthen these systems.

References
5. Roger RJC. Challenges in Hypertension: The Haiti Experience. JCH February 2014, 16 (2).