Transforming the salt industry in Tanzania to remove obstacles to USI

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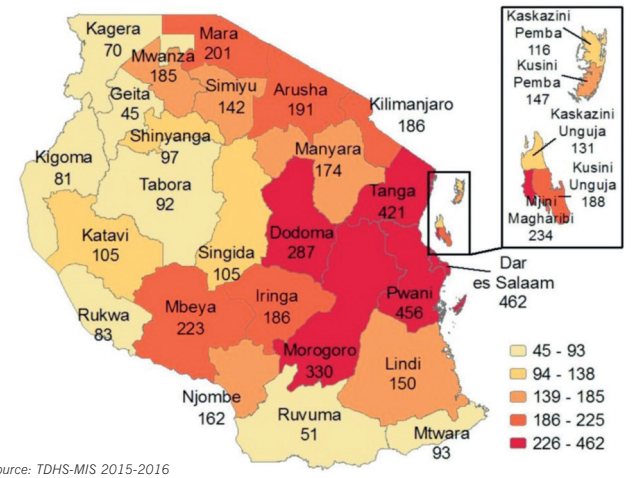
In December 2016, the Iodine Global Network with support from Nutrition International, and in partnership with UNICEF, GAIN, TFNC and other national stakeholders, conducted a comprehensive review of Tanzania's IDD program to determine its current status, identify gaps, and recommend steps to improve the supply and use of adequately iodized salt.

Tanzania has made remarkable progress in addressing iodine deficiency, initially with iodized oil capsules in the late 1980s (as a short-term measure in highly endemic areas), and later on with iodized salt, a sustainable long-term solution (1,2). Today, Tanzania is iodine sufficient at a national level, as demonstrated by a median urinary iodine concentration (UIC) of 180 µg/L in women of reproductive age (3). This reflects decades of efforts, strong policies and legislation, and a strong enabling environment to ensure that all salt for human consumption can be iodized. Thus, the foundations for sustainable IDD elimination are in place.

Fragmented salt industry slows progress

Yet, there are gaps remaining: the 2015–2016 TDHS-MIS indicates that eight of the country's 30 regions may have sub-optimal iodine intakes (Figure 1). Universal salt iodization (USI) has also not been achieved, with only 61% of households using salt with adequate iodine levels, as measured by titration (the goal for USI is >90% households). Much of the difficulty lies in ensuring adequate salt iodization among small- and medium-scale producers (i.e. those with an output <10,000 MT/year). Tanzania has over 6,000 small and artisanal producers, and fewer than a dozen medium-to-large producers. With the exception of one producer, all iodization is carried out using knapsack sprayers, which are known to produce inconsistent levels of iodization. The annual salt use (including domestic and exports) is estimated to be around 270,000 MT (Table 1).

FIGURE 1 Median urinary iodine concentration (UIC) in women of reproductive age (15–49 yrs) in Tanzania by region. Median values (µg/L) below 100 indicate insufficient iodine intakes.



Source: TDHS-MIS 2015-2016

Tanzania has a well-established coordination and program support mechanism that engages all stakeholders in all aspects of the national IDD program, which was recently integrated into the National Multisectoral Nutrition Action Plan (NMNAP) 2016–2021. To improve coverage of adequately iodized salt, the Tanzanian Food and Nutrition Center (TFNC), along with the Salt Producers Associations, UNICEF, NI, GAIN, and other partners, have focused their efforts on the regions served by small producers. This has included communication and advocacy efforts, provision of KIO3 (free to small producers, purchased through a revolving fund by medium and large producers), and technical assistance with production and business management. These efforts have been moderately successful in building awareness among government officials, producers, retailers, and consumers, and have helped establish iodization capacity among some of the small producers. However, they have not been sufficient to ensure optimal iodine intakes for the entire population of Tanzania. To complicate matters further, changing trade agreements and liberalization have resulted in an influx of refined iodized Kenyan salt creating a more competitive environment for local producers. The current landscape leaves stakeholders with complex decisions about what to do next.

National program assessment

In December 2016, the IGN team undertook a national IDD program assessment in Tanzania, with the following objectives:

- Build on the recent momentum created by the development of the NMNAP, and identify the top-priority programmatic and structural changes that will enable faster progress toward national USI.

- Examine the current iodine status, and the provision and use of iodized salt, and determine the key components of a long-term sustainable program.
- Develop recommendations and Action Plan to address program limitations, for consideration by TFNC and other key partners.

TABLE 1 Salt demand in Tanzania, 2014–2015

Type of use	Requirement (MT/year)
Direct human consumption (Population of about 55 million at 10 g per person per day)	202,000
Fish processing	11,000
Hide preservation	18,000
Confirmed exports (Uvinza Salt to Burundi)	32,000
Estimated exports (DRC, additional Burundi, Rwanda)	10,000
Total	**273,000**

Sources FAO, UNIDO, TASPA and UNCTAD

The assessment team performed an extensive desk review, conducted discussions at the national, regional and district levels with key stakeholders, paid field visits to three salt production areas, and gathered information on the sources of salt in retail markets in several regions. Here are their key findings:

- Market penetration of fine and packaged iodized salt from Kenya is extensive and appears to be on the rise, reaching most regions of Tanzania, including those with a low median UIC (<100 µg/L);
- Although the small/medium- and micro-scale (<10 MT/yr) producers have received KIO3 and training, they still face several challenges including low-quality raw salt, inconsistent iodization levels when using the knapsack spaying method, high production cost because of low efficiency, and poor access to markets, among others;
- Going the last mile to reach USI requires comprehensive strengthening of effective capacity for program coordination, monitoring, legal enforcement and communication.

To achieve USI, the following actions are possible:

Option 1. Do no further work with small producers; monitor the market.

This option assumes that the imported well-iodized Kenyan salt will eventually saturate the market and ensure optimal iodine intakes. While this may be inevitable, it is not assured, and this option risks inadequate iodine intake in areas where local non-iodized salt persists in the market. Close monitoring of imported salt would be necessary to ensure that it meets the iodization standards.

Option 2. Continue supporting small producers in areas with low household use of adequately iodized salt, and improve Quality Assurance (QA)/Quality Control (QC).

This option represents the status quo—with external partners and government assisting small producers with iodization equipment and capacity needs, subsidies for KIO3, and monitoring for large and medium producers to improve their iodization technology. This option needs to be backed up by a clear government plan with specific time-bound targets for USI.

Option 3. Consolidate and centralize iodization to provide a secure market for small producers while achieving economy of scale.

This is a novel approach, which is seen as the best mechanism to leverage the capacity of domestic salt producers through a more robust business model. The risk is that the consolidated business would not be able to compete with larger producers and the evolving import market, and thus not succeed. It should also be noted that the consolidation model will be almost impossible to implement in the areas of artisanal production due to the large number of micro-scale producers and the low quality of the salt produced. The consolidation and strengthening of status quo options are not mutually exclusive.

To explore the viability of the consolidation option, the team recommends further studies to determine the required level of investment and government support, and if such a model would be feasible. With this goal in mind, the team recommends generation of more data to better understand the supply and demand, the quality of raw salt, and the current salt market, including price structure, trading mechanisms, and customer preferences.

In addition, the team recommends that TFNC and the NMNAP coordination mechanism are strengthened to ensure USI remains on the national agenda, the different sectors and partners involved in USI are effectively coordinated, and a favorable policy and legislative environment is maintained, enforced, and communicated.

Dissemination and follow-up

TFNC with support from the IGN and NI organized a multi-stakeholder meeting on 25 May, 2017 to follow up on the mission recommendations. It was attended by around 30 participants from TFNC, Government Ministries, UNICEF, NI (country and regional), TASPA and the regulatory bodies of TFDA and TBS. Together with Nutrition International and other partners, we are excited to be moving ahead with the implementation of recommendations stemming from this review, and developing a proposal to follow-up on the key action items.

Tanzania has over 6,000 artisanal producers, who make salt by boiling. Water is filtered through a series of pots filled with salt-bearing soil. The resulting brine is concentrated and evaporated to get salt. Significant amounts of this salt reach the market uniodized.

References

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