

## Elimination of Iodine Deficiency Disorder (IDD) in Nigeria Using Dangote Iodized Edible Salt

M. S. Ladan – Baki

Dangote Group of Companies  
3, Osborne Road,  
Ikoyi,  
Lagos – Nigeria.

A deficiency of iodine has several important health consequences that together are called iodine deficiency disorders, or IDD. The effects are evident at all ages, but particularly in the fetal stage, the neonatal stage and infancy, which are periods of rapid growth.

### INTRODUCTION

It is an indisputable fact that Salt is an important ingredient in food seasoning, preservation of butter, cheese, fish, meat, water treatment, as well as freezing, bleaching and tanning etc. Salt is used as an article in all homes for cooking.

Iodine deficiency disorder (IDD) is one public health problem that is affecting 2.2 billion people worldwide. It has been reported that 740 million or 13% of the world's 5.857 billion population have goitre.

The indispensability of Salt in every home all over the world has made the United Nations and World Health Organisation to pronounce it as medium through which iodine can reach all homes.

UNICEF, in one of its studies, chronicled "The dangers associated with Iodine Deficiency", identifies lack iodine in a diet as one of the major nutritional problems which affects normal growth of approximately 50 million children (Egbuta J. 1992) and causes an estimated 100,000 infants a year to be born as cretins.

The reports stated further that in total, 2.2 billion people are at risk with consequences ranging from goitre to reduced mental and physical performance (IDD Newsletter Vol. 15 No.2 of May 1999).

The problem associated with iodine deficiency disorder and the need to provide quality edible salt to all homes in Nigeria, were reasons that necessitated Dangote Group to venture into salt production.

Dangote Group started producing Salt with its acquisition of majority shares in National Salt Company of Nigeria (NASCON) Plc., which is the first Salt Refinery in West Africa. The Company was established in 1973.

However, due to its limited capacity of 70,00 metric tons per annum, the Group expanded its Salt Division by the establishment of Dangote Salt Factory in Lagos in 1997 and a second plant in Calabar, nevertheless, within the few months of its operation, Dangote Salt has gained acceptance of National Agency for Food & Drug Administration and Control (NAFDAC), Standard Organisation of Nigeria (SON) and UNICEF. *As of today, without fear on contradiction, we are the only Salt Company which carry the full IDD logo on our Salt bags.*

The Dangote Fine Iodized Edible Salt is produced at Shed 8, Apapa Port, Lagos and Warehouse "B" Calabar – Nigeria. The washed coarse Salt (free of heavy metals is imported from Brazil. It is either iodized at the source or at the factory depending on the source and nature of the crude salt.

### IDD STATUS / ELIMINATION IN NIGERIA

Prevalence of goitre is 20% in Nigeria's population of 114 million, with the highest endemicity in the Mid-Southern and North-Central parts of the country. Nigerian population consumes 450,000 – 550,000 metric tons of salt per year computed at 5-7 grams per day. Dangote Salt factory

processes approximately 200,000 – 300,000 metric tons salt per year which represents about 50% of the Nigerian salt requirement per year. It is hoped that by the year 2000 the figure will improve significantly. The above figures do not include salt non-human usage.

### CRITERIA FOR THE SUSTAINABLE ELIMINATION OF IDD (ICC IDD)

To declare the sustainable elimination of iodine deficiency as a public health problem the following criteria should be met:

- sustained normal iodine status of the population, confirmed by the urinary iodine concentration in the following terms:
  - a. A medium value equal or above 100 µg/l.
  - b. While a medium of 100 µg/l would imply that 50% of the samples are below 100 µg/l, care must be taken to ensure that values below 50 µg/l are limited to less than 20%.
  - c. The most recent available monitoring data (national or regional) being collected in the last 2 years before the external evaluation.
- If iodized salt is the vehicle for iodine elimination, as in almost all countries, there must be guaranteed availability and consumption of adequately iodized salt, demonstrated by:

The proportion of households consuming effectively iodized salt is more than 90%.

Preconditions for this are:

- a. Local production and or importation of iodized salt in a quantity is sufficient to satisfy the potential human demand (about 4-5kg per person per year).
- b. 95% of salt for human consumption must be iodized according to government standards for iodine content, at production or imported level.
- c. The percent of food-grade salt with an iodine content of at least 15ppm, in a representative sample of households, must be equal to or greater than 90%.

The iodine estimation at production/import and retailer/consumer levels must be made by the titration method, while the household level, it could be made by either titration or certified kits.

- Evidence of sustainability, based on the following programmatic indicators: (ICC IDD)
  - a. An effective, functional national body (council or committee responsible to the government for the national programme for the elimination of IDD. This council should be multidisciplinary involving the relevant fields of nutrition, medicine, salt industry, education and the media, with a chairman appointed by the Minister of Health.
  - b. Evidence of political commitment to universal salt iodization and the elimination of IDD.
  - c. Appointment of a responsible executive officer for the IDD elimination programme.
  - d. Legislation or regulations on universal salt iodisation. (while, ideally regulations should cover both human and agricultural salt, if the latter is not covered this does not necessarily preclude a country from being certified as IDD-free).
  - e. Commitment to assessment and re-assessment of progress in the elimination of IDD, with access to laboratories able to provide data on salt and urine iodine.
  - f. A programme of public education and social mobilisation on the importance of IDD and the consumption of iodised salt.
  - g. Regular data on salt iodine at factory, retail and household level.
  - h. Regular laboratory data on urine iodine in school aged children with appropriate sampling for higher risk areas.
  - i. Co-operation from the salt industry in maintenance of quality control.
  - j. Database with recording of results or regular monitoring procedures, particularly for salt iodine, urine iodine and, if available, neonatal TSH.

The Company is capable of eliminating IDD in Nigeria using the distributive network establishment by the parent-company (Dangote Group). The Group has over 700 (40 tons) trucks in its fleet currently handling in the distribution of iodized salt throughout the country. The Group has warehouses and depots located in the following towns – Aba, Abeokuta, Akure, Benin, Calabar, Gombe, Gusau, Ibadan, Kano, Kaduna, Lagos, Maiduguri, Onitsha, Port-Harcourt, Sokoto, Uyo and Yola. The Company also maintains a large network of distributors and agents nationwide.

Dangote Group decided to build an additional factory at Calabar to enable the Company support elimination of IDD in the coastal area of the country where goitre is more prevalent. This is primarily due to the consumption of crude and non-iodized salt which is in abundance within the geographical area.

Rock Salt is produced locally in Abakaliki, hinterland of River State, Kafanchan, several areas of Plateau State and Kaena in Nasarawa State.

Dangote Salt is in the forward lead in the global campaign for the elimination of IDD, particularly in Nigeria. The efforts of the company towards elimination of IDD in Nigeria was recognized by UNICEF which encouraged the usage of its logo identifying iodized salt in all the company's brands of packaged salt.

The logo was jointly developed by the Federal Ministry of Health, Standard Organisation of Nigeria (SON), National Agency for Food and Drug Administration and Control (NAFDAC) and UNICEF.

The logo makes it easy to identify the salt that is iodized. Similarly, UNICEF has provided a few iodized field test kits to Dangote Salt which in turn, distributes the rest kits to its field Quality Control Personnel for effective monitoring of reduction in iodine content levels in the salt throughout the country in addition to its house established Laboratory where all analysis required on the salt is carried out.

## CONCLUSION

A community with disorders resulting from severe iodine deficiency suffers from serious socio-economic retardation. First, iodine deficiency has been shown to affect learning ability and school performance of children. Available data indicate that children from iodine deficient areas have poorer school performance and lower IQ's in comparison with children from non iodine deficient areas. In addition, people from iodine deficient areas are physically and mentally slower, and generally have lower productivity than people from non-iodine-deficient areas.

The coming of Dangote Salt into the Nigerian market, has really made a positive impact in the war to eliminate IDD in Nigeria. The reduction in the prevalent of goitre in Nigeria from 20% in 1998 to 11% in 1999, can be attributed to the coming of Dangote Salt into the Nigerian market.

The Dangote Group is also making efforts towards the participation in all IDD programmes in association with UNICEF and the appropriate authorities in Nigeria. It is worthy to note that Nigeria has attained 97% universal salt iodization.