



FACTS

against

MYTHS

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INFORMATION BULLETIN

Being True to One's Own Salt : The Myths of the Universal Salt Iodisation

COMMENT

In 1994, India adopted the policy of Universal Iodisation of Salt (UIS), first launched in 1954 by WHO. Since then the market for iodised salt has increased, adversely affecting the ready availability of 'common salt', an essential item of Indian culinary tradition since ages. Further, on January 28, 1998 through an Executive Order, the Central Government's Food and Agriculture Ministry banned the storage, sale and use of common salt, making it a criminal offence punishable by a fine of Rs. 1000/- and/or imprisonment upto 6 months. The ban has come in force not through a Central Act but by invoking Clause IV of Section 7 of the Prevention of Food Adulteration Act 1954. Such a major decision involving millions of Indians has thus been taken and imposed upon them totally by-passing the parliamentary procedure.

The ban has been imposed on the grounds that almost all states of India are endemic to a range of Iodine Deficiency Disorders (IDD), the most prominent of these being goitre, the swelling of thyroid gland in the throat. It is also being argued that iodisation of salt is the most effective method of controlling and reversing IDD as salt is used by all people in their diet in more or less the same quantity. The move of UIS is backed by UNICEF, International Council for Control of Iodine Deficiency Disorders (ICCID) and a section of Indian scientists.

Strategy of IDD Control

Although goitre and its treatment is mentioned in ancient Ayurvedic texts, organised efforts based the modern approach to goitre control were initiated in India in 1955 through adoption of National Goitre Control Programme (NGCP). They concentrated on endemic pockets in the 2000 km stretch of land from sub Himalayan range to North-Eastern states. Based on the evidence from European countries, deficiency

of iodine was presumed to be the sole cause of IDD; and hence the supply of iodised salt was employed as the only strategy to counter IDD. In 1983, an investigative report by Nutritional Foundation of India (NFI) severely criticised the government for the failure of NGCP. The Central Government in response appointed a Task Force under the chairmanship of the then Salt Commissioner, P. Subramaniam. The Task Force recommended UIS by 1990 on the following grounds :-

- i. Difficulty in keeping out non-iodised salt from endemic areas;
- ii. Prevalence of IDD throughout the country;
- iii. Lack of ill-effects of iodised salt in normal individuals.

Interestingly, a new 'mapping' of IDD-endemic areas carried out just before the Task Force Report showed that IDD has spread to almost all States, including coastal areas rich in Iodine. Although a number of nutritionists, endocrinologists, biochemists, physicians and voluntary agencies challenged the veracity of the criteria on which the decision of UIS was taken, the government ignored all their pleas, and finally initiated the implementation of UIS throughout India w.e.f. May 28, 1998. The government and the monopoly houses selling branded iodised salt have initiated high pitched media campaigns to warn people that consumption of 'common' salt would result in goitre, mental retardation and hamper intellectual development of children.

A major fallout of these developments is the massive erosion of the market of 'common salt' rendering lakhs of people engaged in its manufacture, trading and salt jobless. The skyrocketing of prices of salt has immensely benefited large monopoly houses selling 'branded' iodised salt. Most affected have been the poor especially the actual or potential victims of IDD. Fishworkers who have been using crystalline salt for preservation of fish find powdered, 'branded' salt too

expensive and inappropriate for their daily needs. Thus, UIS would greatly affect the traditional fishing industry.

All these developments affecting peoples lives raises a number of disturbing questions regarding the whole campaign of the so-called UIS programme. It is imperative to therefore scrutinise the programme and demystify its relevance to peoples health. The first step however in this direction is the outright dismantling of the various myths being propagated by vested interests in the promotion of iodised salt. For this let us acquaint ourselves with the basic facts related to this issue.

MYTH : *Iodine deficiency is prevelant in all parts of India and hence the entire nation is endemic to IDD. That is why UIS is a must.*

FACT : Not so! The claim must be challenged on conceptual and methodological grounds. The inferences drawn and extrapolation made from available data have been proved to be highly exaggerated, misleading and biased.

A study shows that in the last few years, coinciding with the new proposed policy of universal iodisation, the figures for Goitre and cretinism have been grossly exaggerated. The very definition of an "endemic district", as put in practise by the National Goitre Control Programme is totally faulty in that "A district is considered endemic when the prevalence rate of Goitre is 10% or more". But what about the remaining population of 90%? And what about the impact of iodine over-use?

Regarding the IDD affected population consider the following:

- ❖ *During 1950-70, 40 million were onsidered to be at risk of IDD, with 9 million affected in India;*
- ❖ *In 1981-82, WHO reported 150 million to be at risk of IDD, with 54 m. having actual Goitre, 2.2 m. suffering from cretinism, and 6.6 m. affected by milder neurological defects attributed to iodine deficiency;*
- ❖ *In 1997, even higher figures of 300 million exposed and 60 m. having Goitre were quoted.*

Scientific evidence to support these figures, however, is non-existent. Further, these figures have not been arrived at on the basis of detailed studies but highly questionable mathematical models and callous administrative methods (like taking 10% of Goitre prevalence for declaring a district as "endemic"). Consequently, the maps demonstrating Goitre endemic areas are patently false. For example, a few isolated pockets in Maharastra have been surveyed. This led to the whole state being shaded and shown as "endemic goitrous". This undoubtedly is a faulty design of survey at work. Similarly, the figures for M.P. too are false. There are other glaring examples, viz.,

Iodine is a micro-nutrient needed by the body for performing various vital functions. The daily requirement of iodine depends upon age and is slightly higher in pregnancy/lactation. (Cf. Table below)

Recommended Daily intake of Iodine	
Age	Intake (micrograms)
0-6 months	40
6-12 months	50
1-10 years	70-120
11 years-adulthood	120-150
Pregnancy	175
Lactation	200

Source : ICMR Bull, Vol. 26, No. 6
(A Microgram (mg) is a thousandth part of a milligram-mg)

The requirement of iodine is almost same for people living in different parts of world. The total iodine required by an individual in the lifetime would be accommodated on tip of a pin. However, like other micronutrients, e.g. vitamins, iodine needs to be supplied to body everyday. An intake of excess iodine at one time is not useful as the body excretes the excess iodine immediately. High excess (daily 1 mg or more) if taken regularly can cause toxic reactions. However, intramuscular injections of iodised oil can serve as a depot which releases iodine slowly over a period of 2-4 years.

Sources of Iodine

Iodine is mainly deposited in soil and water. Large amounts of iodine have been leached from the surface soil by glaciation, snow and rain and carried by wind and rivers. Hence, the ocean is the biggest reservoir of iodine. Each litre of sea water contains 50-60 mg of iodine. Water from deep wells and oil well effluents are also rich in iodine.

Iodine occurs as iodide ions in nature. In presence of sunlight, iodide is oxidised to elemental iodine, which escapes into the atmosphere. Every year about 4 lakh tons of iodine is lost from seas to the atmosphere where its concentration is much lower (about 0.7 mg/m³). Through rain and snow, it is deposited on the mountain tops and soil and is ultimately carried back to the ocean. Hence, salt prepared from sea water 'naturally' naturally contains 5.8 mg. of iodine per gm. of salt (without any fortification).

❖ *The most quoted study involves comparison of only 26 goitrous subjects in the Himalayas with controls in England! The levels of both T_3 as well as TSH in subjects were found to be higher than controls. Although this data suggests near normal functioning of thyroid, the inferences drawn from it were totally misleading;*

❖ *Although only 1% children in goitre-prone areas suffer from cretinism, it was reported that 15% of children suffer from varying degrees of mental retardation using misleading terms like 'subclinical cretinism'. One such study involved comparison of 26 children of goitrous mothers with 20 controls, using a highly subjective and racist tool of Intelligence Quotient (IQ) and Development Quotient (DQ). Although the result revealed mean DQ of 98.4 and 94.4 for control and other group respectively the minor difference between both sets of DQ was blown out of proportion by faulty use of statistics;*

Aravindan puts estimate of people affected as follows : total goitre cases - 10 m, visible goitre - 1 m, and those producing clinical problems 0.15 m. Some sources cite even lower numbers.

MYTH : *Iodine deficiency is the single major cause of goitre and other problems related to thyroid disfunctioning.*

FACT : This myth is based on the knee-jerk reference to experiments conducted in the West. For instance, experiments conducted in Debbyshire and Switzerland are often quoted. However, these studies carried out in temperate countries may not apply to countries like India with tropical climate.

Although the relationship between iodine-deficiency and problems related to thyroid disfunctions e.g. goitre has been well-established, several other goitrogens have been identified in recent years. They include thiocyanates, Propyl Thiouracil and Methyl Mercapto Imidazole. They occur in as diverse and common sources as plant foods e.g. certain tubers, insecticides, pesticides and potable water contaminated with sewage, environmental pollutants and medicines like tetracyclines and sulphonamides too affect thyroid functioning.

Thyroid-related problems are also on the rise in most industrialised nations and also in urban India, specially among women. The advocates of UIS programme claim that all states and union territories in India to be goitre-prone but they have not traced the goitrogenic agents responsible for it. A 1986 ICMR Survey of 10 States show that the diet of average Indians including lower income families contains iodine equal to 2-3 times the Recommended Daily Allowance (RDA) of 150 microgram (daily intake of even 50 microgram can prevent goitre). Residents in coastal areas definitely consume iodine in quantities greater than RDA. Hence, either excess of iodine supplied through iodised salt or some other goitrogen may be responsible for the

However, regions exposed to prolonged leaching remain deficient in iodine as the return of iodine to soil through natural cycle is incomplete. Hence, in India the Himalayan slopes, the Gangetic plain and the North Eastern States show persistent iodine deficiency. All crops grown in this soil and hence the human and animal population which grows on it become iodine-deficient. Iodine content of plants in iodine-deficient soil is much lower (upto 10 mg/kg) than in other regions (1mg/kg) both on dry weight basis. Similarly iodine levels in water in iodine deficient area was found to be below 2 mg/litre as compared to that of 9 mg/litre in, for instance, Delhi which is not iodine deficient.

Iodine Content of Foods

For those residing in non-iodine deficient areas, normal diet (vegetarian or non-vegetarian) can supply sufficient iodine. The average iodine content of foods is shown in the following Table:

Average Iodine Content of Foods (in microgram)

Food	Fresh basis		Dry basis	
	Mean	Range	Mean	Range
Fish (freshwater)	30	17-40	116	68-194
Fish (marine)	832	163-3180	3715	471-4591
Shellfish	798	308-1300	386	1292-4987
Meat	50	27-97	-	-
Milk	47	35-56	-	-
Eggs	93	-	-	-
Cereal Grains	47	22-72	65	34-92
Fruits	18	10-29	154	62-277
Legumes	30	23-36	234	223-245
Vegetables	20	12-201	385	204-1636

Quoted in Hetzel 1989

It should however be noted that large amount of iodine evaporates during cooking. A study shows such losses to be 20% through frying, 23% through grilling, and 58% through boiling. However, figures may vary depending upon duration of cooking, temperature, addition of other ingredients etc. *Similarly, data on the iodine content of foodstuff from different regions of the country is lacking.* As per the 1986-87 Report of the National Institute of Nutrition (NIN), Hyderabad, the daily average diet of people from 15 States, including Gujarat,

occurrence of IDD in this region. National Institute for Nutrition (NIN) has identified some goitrogens in plant foods. It is claimed that there are other sources for the origin of Goitre viz., cauliflower, cabbage, turnip, and mustard contain Piourea which adds to the growth of Goitre. Plants of Basica family, groundnut and soyabeans have also been implicated in Goitre. The current trend of fast-food consumption also leads to the increase in incidences of Goitre because of preservatives added in such food.

The hardness of water could be yet another reason for Goitre. As early as in 1954, experiments carried out on rats showed that despite regular intake of iodine, Goitre can emerge if the food contains more than two percent of calcium carbonate. It will be relevant to state that the main constituent causing heaviness of water is calcium.

MYTH : *Excess iodine causes no health hazards. And intake of even 400 micrograms is both safe salubrious.*

FACT : The risk-benefit ratio in areas where cretinism is an acute problem may be favourable to use iodized salt even by paying a price of such hazardous effects. But it is patently illogical to subject our entire population to such risks where the use of iodized salt is unwarranted.

❖ *Milder forms of endemic goitre were observed as a result of prophylaxis with iodised salt in US, Iran and Iraq. Iodine-induced hyperthyroidism has been reported in US, Tasmania (Australia), Europe and South America. This problem is common in people above 40 years of age. Hence, it has been suggested that this age-group should not be included in iodine - supplementation programmes;*

❖ *'Sunday Observer' of September 15, 1996 carried a report of Kunkum Somani of Mumbai who is fighting a battle against Hashimoto's disease (caused by the use of iodised salt) and against the government which did not issue any warnings about the possibility of occurrence of such adverse reactions;*

❖ *Academy of Nutrition Improvement, Nagpur has published several case studies of people whose health was affected by the use of iodised salt viz;*

❖ *S. D. Pathak, Raipur Dist. M. P., used iodised salt for 10-15 years. For 4 years, he suffered from recurrent fever every 8th day, pain in feet, sleeplessness and shivering of hands etc. No treatment helped but the symptoms receded and health improved after discontinuation of iodised salt;*

❖ *Haribhau Wate, Hinganghat, Dist. Wardha, suffered from black rashes on hands and feet and internal disorders after the use of iodised salt on medical advice;*

❖ *The promotion of iodized salt as a 'restorative tonic' or 'health food' might also result in increased intake of salt; which might precipitate problems like hypertension;*

Maharastra, M.P.,Karnataka, Kerala, Orissa, U.P., Tamil Nadu and West Bengal contained more than adequate quantities of iodine. It needs to be emphasised that

1) 150 microgram is the quantity of iodine to be supplied to body. *Actual iodine content of foods should be greater than 150 microgram to account for loss in cooking, exposure to atmosphere etc.* Moreover, our diet may contain goitrogens (agents causing goitre), which increase our requirement of iodine;

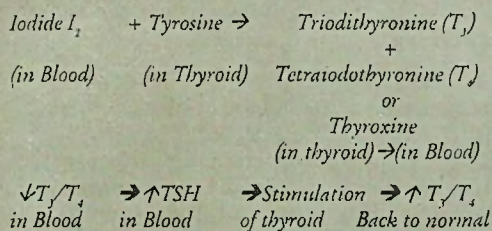
2) Our bodies have a capacity to store iodine and to excrete its excess. So, the figure of 150 microgram should not be taken on its face value. IDD appear only when the diet is consistently deficient in iodine for a prolonged period. *Mean daily intake of 50 micrograms or less can precipitate goitre; its severity depends upon the degree of iodine deficit.*

Functions and Metabolism of Iodine

Iodine, in form of iodide, supplied through food and water is rapidly absorbed in blood through the gut. Everyday about 60 microgram of iodine is trapped by thyroid gland, which is the largest depot of iodine in the body. The entire human body contains 15-20 mg of iodine, 70-80% of which is stored in the thyroid. Excess iodine is excreted through urine.

Thyroid secretes *thyroxi*, a hormone essential for growth and development. It plays an important role in production of energy, regulation of Basal Metabolic Rate (BMR), growth and maturation of tissues, activities of brain etc.

The functioning of Thyroid is regulated by intake (and hence blood level) of iodine and Thyroid Stimulating Hormone (TSH) secreted by the pituitary gland as shown below :-



❖ *In Holland, a daily prophylactic dose of only 100 micrograms resulted in increased incidences of thyrotoxicosis, within 6 months of onset of iodine prophylaxis program. The effect persisted for as long as 10 years. Hence, the risk of supplying about 150 micrograms of iodine through salt to a population consuming*

adequate/more than adequate quantitisim through diet, should not be underestimated.

MYTH : *Iodate is a stable and safe source of iodine for human consumption in tropical countries.*

FACT : Iodate is more stable than iodide in tropical climate but its safety is dubious. It is not used for human consumption in any other parts of the world, particularly in countries of the North as it is a poison. The Ministry of Enviroment, Government of India had also opposed the move of 'UIS' as potassium iodate is shown to be toxic.

Studies in Australia to evaluate the impact of fortification of bread with iodate had shown high incidence of 'thyrotoxicosis'. While some experts maintain that iodate breaks down and gets assimilated rapidly into the body, its safety remains suspect for lack of data on long-term use and because it is an oxidising agent. Normal food contains only reducing agents.

MYTH : *Iodised salt being low-cost is affordabale to even the poor in maximum need of iodine and its cost is not much higher than common salt.*

FACT : The claim is based on the logic that as the goverment is subsidising the cost of potassium iodate to all manufacturers of iodised salt and helping small-scale manufacturers to set up iodisation plants, the price of iodised salt would not be much higher than that of ordinary salt.

Ground realities however present an altogether different perspective. Prior to compulsory iodisation of salt, common salt was available to consumers at 50 paise/kg.

The cost of powdering salt, mixing it with iodate and packaging it cannot exceed 30-40 paise per kg. Hence, the steep rise in price of salt in recent years can only be attributed to the unscrupulous profiteering by private monopoly houses. The following table is self explanatory.

Escalating Price of Salt			
Year	Brand	Type of Manufacturer	Retail Price Rs./Kg
1989	(uniodised) Tata Sambhar	Small Scale	0.50
		Large Scale	1.50 to 2.00
1995	Tata Captain Cook Catch	-----	4.50
		-----	4.50
		-----	35.00
1998	Tata Captain Cook Kisan	-----	6.00
		-----	6.00
		MNC/Large Scale	6.00

Source : From Ref 6 and Market Survey

Thus, iodine occus in bound form, as T₃ and T₄ in thyroid, part of which is also secreted in blood. Iodine deficit stimulates TSH secretion which stimulates thyroid to produce more T₃ and T₄, and bring their levels back to normal. Thus, hypothyroidism (decreased functioning of thyroid) is caused by low iodine intake and is charaterised by lower levels of T₃ and T₄ and higher levels of TSH. It is manifested through goitre and other IDD.

Hyperthyroidism (enhanced functions of thyroid) is caused by excess of iodine (or by adequate iodine supplementation to elderly people with a long history of iodine deficiency). It is characterised by increased T₃ and T₄ levels and lowered values of TSH. It is manifested through thyrotoxicosis.

IDD

The entire spectrum of IDD for all age groups is shown in the Table below. Of these, goitre, is well-known. But the less known IDD like cretinism are more damaging. It needs to be noted that *pregnant and lactating women are the most susceptible to iodine deficiency*. The mothers iodine deficiency is passed on to the offsprings which, in turn, affects its mental and physical development. The IDD can be reduced or reversed by adequate supply of iodine, specially in children.

The Spectrum of Iodine-deficiency Disorders

State of Dev.	Disorder
Foetus	Abortions Stillbirths Congenital anomalies, Increased perinatal mortality Increased infant mortality Neurological cretinism (mental deficiency, deaf mutism, spastic diplegia, squint) Myxoedematous cretinism (dwarfism, mental deficiency) Psychomotor defects
Neonate	Neonatal goitre Neonatal hypothyroidism
Child & adolescent	Goitre Juvenile Hypothyroidism Impaired mental function Retarded physical development
Adult	Goitre with its complications Hypothyroidism Impaired mental function Iodine-induced hyperthyroidism
All Ages	Increased susceptibility to nuclear radiation

As per 1989 estimates, consumers had to pay Rs. 500 crores for iodisation. The present figure is around Rs. 2500 crores. Salt being an essential commodity, is required by all, almost to the same extent. Hence, such a drastic rise in its price hits the poor the hardest. People in remote hilly areas need iodized salt the most. The earlier efforts to eradicate IDD endemic in hilly areas were defeated, precisely because the poor could not afford the higher price (which is much less than today's prices) of salt and hence they preferred to buy cheap non-iodised salt. Even today, Adivasis buy salt on barter system. It is mostly a one-time purchase of large quantity. With severe cash constraints, purchase of expensive iodized salt is beyond their means. Often salt containing little or no amount of iodine is peddled in these areas as iodized salt. The expensive iodized salt has captured the market of big cities, where most people do not need it. But iodised salt required by the needy would either not reach them, or it reaches them late when most iodine has been lost to atmosphere.

MYTH : *Large number of small-scale salt manufacturers are the real obstacles to the success of the salt iodisation programme.*

FACT : In 1987, about 8000 small scale manufacturers produced about 60% of edible salt, from sea water. For iodisation, it is necessary to produce the crystalline salt, mix it with potassium iodate and pack it in sufficiently strong polyethene bags to prevent iodine-loss. Although lowcost technology for iodisation at small scale is available, small manufacturers cannot afford to use it without consistent government support. These small scale manufacturers cannot survive against the high-pitched ad campaigns of large scale manufacturers. Hence, their share in the market is continuously declining, resulting in loss of employment to lakhs of people (workers in salt farms as well as sellers).

The real hindrance in success of iodised salt programme is lack of focus on genuinely affected areas, the unregulated private sector, the absence of health education and the centralised, trickle-down approach of the programme.

MYTH : *Iodised Salt sold by large-scale manufacturers is far superior in quality, (prepared more hygienically, with correct iodine content) than common salt sold by small scale manufacturers.*

FACT : A study of 10 brands of iodised salt carried out by CERC, Ahmedabad in 1995 revealed that 2 had too less, 1 had borderline and 6 had excess of iodine as compared to the legally stipulated limit (30 ppm at manufacturers end). One product showed 6% less weight of product as compared to the labeled claim (Even the labeled claim of 900 gm. is misleading as most people would buy it as a standard 1kg. pack). 6 products contained a few impurities, 1 was lumpy, 3 had both black particles and lumps, 1 had white particles and 2 had dirt particles.

Other Dimensions

Even according to these proponents of UIS, 'one of the reasons for appearance of goitre in new areas may be excessive flooding and changing course of rivers brought about by extensive deforestation. It is now also known that large dams cause floods, deforestation and change in course of rivers.

Goitrogens: Several chemicals, found in food, pesticides, and insecticides have been shown to cause goitre. In their presence, body requires more iodine to prevent goitre.

Poverty and Resultant Mal-nourishment is an important causative factor for IDD. A 1989 Report about NGCP in Maharashtra clearly stated that goitre was the result of malnutrition and hunger. The poor residing in non-endemic areas may be affected by IDD if they cannot afford to buy food in iodine. In the endemic areas, the worst affected are the poor.

A salt substitute 'B.P. Salt', priced at Rs. 64.65/kg. claimed to be the 'right choice for the right Blood Pressure' and carried a picture of heart and of ECG on its label; thereby indicating its utility in heart problems. It claimed to have made use of Tata salt, in which 50% sodium chloride was replaced by potassium iodide. Actual analysis revealed 80% potassium and 20% sodium. Such large doses of potassium may cause gastro-intestinal irritation, purging, weakness and circulatory disorders. It is specially hazardous for those suffering from certain heart and kidney diseases. The product carried no warning on its label that it was not to be used freely or on a routine basis.

Most 'refined', branded products are either by-products of chemical industries or are derived from sea salt by removing all minerals (except sodium chloride) from it. For a very large majority of Indians, iodine supplied by 'common' salt would be sufficient, without extra fortification with iodide/iodate. The micronutrients are a bonus. While iodine added externally to salt would be lost on storage (in about 9 months) and exposure to atmosphere, iodine naturally occurring in it is retained.

MYTH : *The government has a well equipped, efficient and modern machinery required to safeguard and control the quality of iodised salt.*

FACT: Ground realities indicate an altogether different picture. For instance,

❖ *The task of detailed mapping of areas of high IDD occurrence, based on reliable scientific criteria, has not even begun;*

❖ *The question of identifying goitrogens responsible for goitre in iodine-rich areas has also not been addressed. As*

the problem of IDD is not placed in proper perspective, its solution is bound to remain elusive;

❖ *The commitment of providing and sensitizing the infrastructure laid down in the Act and Rules has not been fulfilled. For the Ministry of Health and Family Welfare, its role is over the moment legal measures were announced. As the result of testing of marketed brands of salt by CERC and other agencies indicate there are glaring lacunae in the implementation—iodine content is not monitored, non-iodised salt is freely available in hilly regions most prone to IDD; labelling requirements are flouted; exaggerated and unsubstantiated claims are being made in the mass media and on labels. There is no price control.*

It has failed in its commitment—through exemplary action—against erring manufacturers. The only area where it has shown unnecessary alacrity is in closing down the business of small scale producers and sellers of common salt. Field level reports even from much-acclaimed 'success' areas (e.g. M.P.) reveal several failures of the government programme. As is common in any government programme, data would be 'cooked' or 'doctored' and a facade of successful implementation of Act would continue for some time. A government which cannot even stop the production and marketing of drugs banned (adulterated/substandard/unsafe) by it cannot be expected to monitor the quality of such a widely used commodity like salt. The ultimate effectiveness of government machinery would be judged by the actual impact of government programme on the prevalence of IDD.

MYTH : *Compulsory Universal iodisation of salt is the only effective way to ensure success of IDD control programme.*

FACT : It has been established and accepted that noniodised salt was used by people in highly endemic areas resulting in failure of IDD control programme. It would have been a better strategy to concentrate on this highly endemic, hilly, inaccessible areas and to use a multi-pronged approach in such areas e.g. by making iodised salt available at subsidised price through ration shops, to improve vigilance and prevent entry of non-iodised iodine through barter or sale, educating people, coordinating the transportation network to ensure availability of iodised salt etc. Instead, UIS has created mere problems.

Iodized oil injection provides iodine sufficient for 2-4 years. Its use could be tried out in selected areas, using the government's public health machinery or NGOs. However, proper precautions must be observed to rule out the propagation of AIDs through inadequate sterilisation of syringes and other related complications.

It has been shown that even a small step like building a road has significantly reduced the prevalence of IDD in certain areas.

Study of food consumed by goitre-prone population for presence of goitrogens, improving availability of iodine-rich food and monitoring the level of iodine at the ultimate use level are approaches which can help curb IDD's, if not totally eradicate them.

MYTH: *'Free flow' ability is the most important characteristic of salt.*

FACT: This is an ad-induced, elitist, corporate claim!

A study made by Consumer Education and Research Centre (CERC), Ahmedabad in 1989 revealed that Tata Iodised salt contained Potassium Ferrocyanide (prohibited by law) as anti-cooking agent. The natural salt obtained from sea contains, apart from sodium chloride, sizeable amount of magnesium, calcium, potassium and other micronutrients which are beneficial to human health. They need to be removed for making salt 'free flowing'.

For the poor especially those living in inaccessible (and goitre endemic) areas, price remains the single most important criteria for buying salt. The fishworkers who need large quantities of crystalline salt for preserving fish find the 'refined' powdered salt too expensive and inefficient for their operations. And some voices from the kitchen complain that the salt sold under expensive brands is not salty enough. They require much larger (or variable) quantities of it to get the required taste.

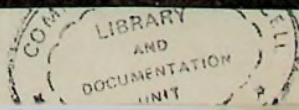
Conclusions

Rather than being a solution, the UIS scheme has caused more problems. Hence, iodisation of salt be restricted and rigorously implemented in the earlier known endemic regions in North and East India. Mapping of India for IDD, based on sound scientific principles should be carried out. Research on other goitrogenic agents, causes of iodine depletion, amount of iodine in foodstuffs and diets in different regions should be carried out.

In the long term, the destruction of the ecosystem through unscrupulous use of pesticides/insecticides, building of large dams and deforestation must be stopped. Suitable measures should be adopted for flood control and improving quality of soil.

People should be involved in all decisions related to their health and wellbeing. It must be remembered that complex public health issues rooted in socio-economic reality have no simplistic, technical solutions. IDD can be removed only by eradicating poverty and malnourishment.

In 1930, the British government had imposed a tax on production of salt, resulting in hike in its price. However, the fistful of salt became a symbol of people's resolve for independence when Gandhiji launched the salt Satyagraha at Dandi. The nation-wide mass-action forced the British to repeal its order. For several



decades the price of salt has remained very low in accordance with Gandhiji's directives to independent India's ministry.

In 1998, however, salt has again become a symbol of struggle between the common people and the combined might of government and monopoly houses, especially the MNCs. It is salt today, it could be drinking water tomorrow. If science remains subservient to commerce, we might be compelled to drink 'bottled', purified water on the grounds that 'ordinary' water is hazardous to our health! What is at stake is our right to harness and use our natural resources. It is time to launch the Second Salt Satyagraha without waiting for the arrival of any Mahatma. Should we not be loyal to our own salt?

Save Our Sovereignty Save Our Salt



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A P P E A L

For information/support to campaign against UIS, contact the following

* National Alliance of Peoples Movements (NAPM)

* Serva Seva Sangh, Sevagram, Wardha, 442 101
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For reporting adverse/toxic effects of iodised salt, contact :

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