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# Rapid Appraisal of Recent Progress towards Sustainable Elimination of Iodine Deficiency Disorders (IDD) in Countries of the South-East Asia Region

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# **Executive summary**

## **Introduction**

Until now, only Bhutan has achieved elimination of iodine deficiency disorders (IDD) in the South-East Asia (SEA) Region of the World Health Organization (WHO). While some countries are making encouraging progress (e.g. Indonesia, Myanmar, Nepal and Sri Lanka), others will need to make increased efforts. This desk review was therefore commissioned to find out the status in this regard in various countries so as to help accelerate the progress. The review forms part of the process which was started following an IDD inter-agency meeting held in India in 2005. A draft report was prepared based on the completed questionnaires received from 10 countries. The first draft was presented at the First Meeting of the Regional Working Group (RWG) for IDD Elimination held at the Regional Office, New Delhi, India, on 29-30 September 2005 as a working document for discussions. The relevant conclusions of the meeting have also been incorporated into this final report.

## **Objectives of the desk review**

The objectives of the desk review were to: (i) Assess the recent progress made by all the countries in the SEA Region (except Timor-Leste); (ii) Identify constraints/gaps that retarded progress towards achieving Universal Salt Iodization (USI), and (iii) Determine the critical actions to be taken to achieve the goal of IDD elimination by 2007.

## **Key interventions being implemented by countries of the SEA Region to accelerate progress towards reaching universal salt iodization (USI)**

### **Policy formulation/implementation and programme management**

Reinforcement of IDD/USI coordination mechanism; Strengthening enforcement of USI policy/legislation; and capacity strengthening of key stakeholders, including salt producers and distributors, IDD teams and health workers, etc.

## **Information, communication and advocacy**

Advocacy and re-advocacy at national and sub-national levels to strengthen government commitment to eliminate IDD; and enhancing public awareness to increase demand for iodized salt, including targeting of audience segments (schoolchildren, pregnant women, consumers, salt producers, traders, public officials) and increasing the use of mass media.

## **Universal salt iodization**

Supporting the salt industry to increase and improve iodized salt production, including improvement of management process, appropriate technology and incentives; and improving iodized salt distribution (coverage, packaging, marketing, warehousing and control).

## **Monitoring system**

Improving the monitoring of iodized salt at all levels (strengthening laboratory capacities and improving reporting and feedback); and conducting IDD surveys to track progress towards IDD elimination and inform policies.

## **Critical gaps/constraints faced by country (iodine deficiency disorder elimination)**

### **IDDE programmes**

### **Policy formulation/implementation and programme management**

Weak enforcement of existing USI legislation is by far the most important weakness in this area; weakening of coordination or lack of a multisectoral body (DPR Korea and Thailand); lack of qualified manpower (Maldives Islands), high staff turnover (Thailand) or inadequate human resource capacity at local level (Indonesia); and lack of financial resources (Bhutan).

## **Information, communication and advocacy**

Lack of awareness on IDD and the importance of USI on the part of stakeholders (public, salt producers and traders and officials, etc.) is the most important weakness in this area coupled with low demand for quality iodized salt and preference for cheaper crystal salt or low-grade salts.

## **Universal salt iodization**

Large number of small salt producers not iodizing salts or not adhering to iodization standards is the most important constraint in this area; inadequate market incentives to salt industry; iodized salt not included in the public distribution system; dilapidated or worn-out salt iodization plants resulting in low production capacity; certain recurrent costs still supported by external agencies (potassium iodate, packing materials, etc.), and whether cost should be shifted to consumers or subsidized?

## **Monitoring system**

Inadequate/non-efficient mechanism linking monitoring to enforcement is the most important weakness in this area coupled with cross-border infiltration of non-iodized or inadequately iodized salt and leakage through road transportation system in India.

## **Critical actions needed to achieve USI by 2007**

### **Policy formulation/implementation and programme management**

Setting up/expanding/reactivating national and sub-national alliances for IDD elimination in order to strengthen central government commitment and multisectoral partnership (including salt industry, media, civil society, consumer associations and representatives from various ministries); need to raise IDD as a priority issue on the political agenda; ministries of health to strengthen their collaboration and support to the ministry responsible for salt industry. Existing USI legislation at all levels should be enforced by developing/adapting/implementing regulations. Adequate financial resources/budget (internal and external) should be ensured, and staff capacity at all levels, especially for monitoring, should be strengthened.

### **Information, communication and advocacy**

A comprehensive communication strategy should be developed to strengthen advocacy efforts and increase public awareness through community-based social mobilization campaign, school awareness

campaign, awareness through pre-natal care contacts, and mass communication (radio, television, mobile phone, etc.)

### **Universal salt iodization**

Plans should be made for sustainable production of iodized salt, including support to small salt producers; measures to reach the remaining population not consuming iodized salt should be implemented; distribution and marketing efforts undertaken; salt iodization plants should be constructed/rehabilitated to sustain/increase iodization capacity; and iodization levels should be rationalized to ensure cost-effectiveness of the process.

### **Monitoring system**

Monitoring system (at production, retail and household levels, as well as inland transport level and points of entry) should be improved by linking it to enforcement procedures; and operational research with relevant partners, should be supported.

### **Work Plan 2005-2007**

A Workplan was developed by participants of the First IDD RWG Meeting and is included in this report.

## Abbreviations

BAN	Bangladesh
BHU	Bhutan
DPRK	The Democratic People's Republic of Korea
HO	Health Office
HC	Health Centre
ICCIDD	International Council for the Control of Iodine Deficiency Disorders
IDD	Iodine Deficiency Disorders
IDDE	IDD Elimination
IDDCP	IDD Control Programme
IND	India
INO	Indonesia
IS	Iodized salt
MAL	Maldives Islands
MMR	Myanmar
MoH	Ministry of Health
Mol	Ministry of Industries
MT	Metric Tonne
NA	Information Not Available
NEP	Nepal
ppm	Parts per million
RWG	Regional Working Group
SEA	South-East Asia
SEAR	South-East Asia Region
SIP	Salt Iodization Plant
SRL	Sri Lanka

*Abbreviations*

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STK	Spot Testing Kit (for rapid iodized salt testing)
THA	Thailand
TLS	Timor-Leste
UNICEF	United Nations Children's Fund
USI	Universal Salt Iodization
WHO	World Health Organization

## **Acknowledgements**

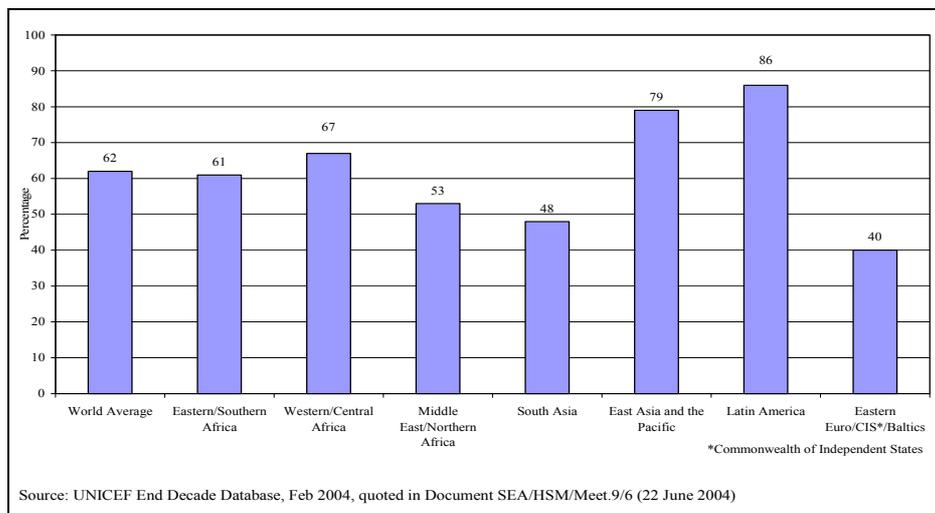
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# 1. Introduction

As many countries worldwide did not reach the global target for the elimination of IDD by 2000, the new target was set for 2005 at the United Nation’s General Assembly Special Session (UNGASS) on Children, held in 2002. Until now, only Bhutan has achieved the new goal in the SEA Region. In other countries, however, the progress towards achieving this goal seems to have slowed down. There are several reasons for this, important among them being complacency and a false sense of having implemented the salt iodization programme aiming at a decrease in the visible signs of iodine deficiency, e.g. goitre. As the consumption of adequately iodized salt by the whole population is the main strategy for the sustainable elimination of IDD in the Region, achieving USI would be a major sub-goal. Figure 1 below compares the consumption prevalence of iodized salt of the SEA Region with the rest of the world.

Figure 1. Worldwide consumption of iodized salt



The objective of this rapid appraisal, therefore, is to assess the recent progress made by the Member countries of the SEA Region regarding their IDD elimination programmes, identify key constraints/gaps, and determine critical actions that need to be taken in order to achieve the IDD elimination goal by 2007.

## **2. Findings of rapid appraisal**

Completed questionnaires were received from 10 countries, as Timor-Leste does not yet have an IDD control programme. So, the analysis of the findings of this study refers to 10 countries in SEAR (excluding Timor-Leste).

The participants of the First Meeting of the Regional Working Group for IDD Elimination held at the Regional Office, New Delhi, India on 29-30 September 2005 used the first draft of this report as a working document for discussions; relevant conclusions of the meeting have been incorporated into this report.

### **2.1 Policy formulation/implementation and programme management**

A synthesis of the main findings is presented below. Please refer to Table 1 for country-specific details.

#### ***Ministry responsible for IDD Control Programme***

The Ministry of Health is normally the primary government agency responsible for Iodine Deficiency Disorders Control Programme (IDDCP) in all countries surveyed except in DPR Korea where the responsible agency is the State Planning Commission. In several countries, the MoH shares this responsibility with the ministry responsible for the salt industry, e.g. with the Ministry of Industries in Bangladesh and with the Ministry of Mines in Myanmar. While the MoH has the primary responsibility for policy oversight and overall programme management, the other partner ministry focuses on the different aspects of salt iodization (e.g. production, import, marketing, quality control, legislation enforcement, etc.). However, the working relationship between the two agencies tends to weaken in most countries.

Comments: More efforts are required by the MoH and government to fully engage the key role of the partner ministry responsible for the salt industry as well as other partners within the framework of a national alliance for sustained iodine nutrition.

### ***Person responsible for IDD control programme***

In all countries in the Region, a government official is responsible for management of the IDD Control Programme. While in seven countries these officials are specifically responsible for IDDCP, in the remaining three countries (DPR Korea, Indonesia and Myanmar), IDD is only one of their responsibilities. The former, who act as IDDCP managers, have been in position for many years (2½ to 15 years) and will be staying in that position for a few more years. However, the latter are usually administrators and likely to be replaced more often.

Comments: Many very experienced IDD managers will be retiring in a few years and it should be ensured that this does not weaken the National IDD Control Programme in the future; i.e. a second person should be trained. In countries with no specific or full-time IDDCP managers, WHO/UNICEF should strengthen their technical support to government. Timor-Leste should appoint a national focal point for IDD elimination.

### ***USI legislation/regulation***

Legislations and/or regulations making salt iodization mandatory are in place in all 10 countries; as early as 1984 in Bhutan, but mostly since the 1990s, the latest ones being Democratic People's Republic of Korea (DPR Korea), Myanmar and Nepal. According to the statements of National IDD Control Programme (NIDDCP) managers, the level of enforcement of USI legislation is considered to be low in two countries (Nepal and Thailand), medium in seven countries, and high in one country (Bhutan). *The enforcement mechanism in Sri Lanka lacks uniformity, with mobile courts carrying out increased number of prosecutions.* In most countries, either the contraveners have not been prosecuted, or else no information is available thereon, except for Sri Lanka (with a high prosecution rate) and to some extent Bangladesh and Myanmar. Nepal is presently finalizing its USI implementing regulations.

Comments: All countries should make increased efforts to effectively enforce existing legislations, particularly through the development of clear and operational implementing regulation and mechanism. e.g. what follow-up actions should be taken against salt producers or traders contravening the USI legislation? Bangladesh could make better use of the mobile courts to enforce USI legislation.

**Table 1.** Policy implementation and programme management

Actions	BAN	BHU	DPRK	IND	INO	MAV	MMR	NEP	SRL	THA
1 Ministry responsible for IDD	MOH/ Ministry of Industries	MOH	State Planning Commission	MOH	MOH	MOH	MOH/ Ministry of Mines	MOH	MOH	MOH
2 Person identified for IDDCP: Years in position/years to go:	Yes (PM) 2 1/2/5	Yes (PM) 11/few	Yes* (NS) NA	Yes (PM) 13/few	Yes (NS) NA	Yes (PM) 8/3	Yes (NS) NA	Yes (PM) 12/few	Yes (PM) 4/many	Yes (PM) 15/2
3 USI legislation/regulation: Year passed: How effective is enforcement? <sup>1</sup> No. of prosecutions? % of contraveners who are prosecuted % prosecuted who are convicted	Yes 1989 Medium 352* NA 95	Yes 1984 High Nil 0 0	Yes 2000 Medium NA - -	Yes 1997 Medium NA NA NA	Yes 1994 Medium Nil --- -	Yes 1996 Medium NA NA NA	Yes 1998 Medium 5 % - -	Yes 1999* Low Nil Nil -	Yes 1993 Medium 13(2004) 90% 40%	Yes 1994* Low NA NA NA
4 National IDD council/chair? Nat'l IDD cttee or TF/chair? No. of meetings in 2004	Yes/MOH* Yes/MOI 1/12	Yes/MOH* Yes/MOH* 1/3	No No Nil	Yes/MOH 1/-	- Yes/Plan* -/2	- Yes/MOH -/1	Yes/MOH - 2/-	Yes/MOH Yes/MOH ?/3	Yes/MOH* - -/4	No No --
5 Follow-up/implementation of recommendations Annual progress report?	Thru CIDD Project No*	IDD task-force Yes	No No No	Quarterly tech. report Yes	TF f/u NAP Yes	MOH task-force Yes	Sub-committees ?	Nutr.Sectn/IDD TF Yes	At NSC meetings No	- Yes

<sup>1</sup> In the opinion of the IDD program managers

\* See Annex 1 for further country specific details.

NA = Information not available; NAP = National Action Plan; NSC = National Steering Committee; PM = IDD Programme manager; TF = Task Force

### **IDD council or committee**

Eight countries have an IDD Council (for policy coordination) and/or an IDD committee or task-force (for technical coordination), with three countries having both bodies (Bangladesh, Bhutan and Nepal). These bodies are chaired by the MoH in all countries except in Bangladesh and Indonesia, where the technical coordination committees are chaired by senior officials of the Ministry of Industry (Mol) and the National Planning Board respectively. The IDD Council is normally chaired by the Minister or the Chief Executive of the MoH, and the IDD Committee/Taskforce by a senior official. The Council usually meets once or twice a year, while the Committee meets two to four times a year in most cases (monthly for Bangladesh). DPR Korea and Thailand have no IDD coordination body at all.

Generally, the mechanism for follow-up on the directives or recommendations of the Council or Committee is not well-defined and seems rather weak. Only six countries issue annual progress reports on IDD/USI (Bhutan, India, Indonesia, Maldives, Nepal and Thailand) but it is not clear whether they lead to any corrective action.

Comments: All countries should aim to have at least quarterly coordination meetings at technical level and an annual “higher policy-level” meeting with an effective feedback mechanism to follow-up on progress towards the achievement of USI and to take corrective action.

## **2.2 Information, communication and advocacy**

A synthesis of the main findings of the rapid appraisal is presented below. Please refer to Table 2 for country-specific details.

Most countries do not have a specific IDD elimination communication strategy, although they do have a component on IDD awareness included in their overall IDD, nutrition or health communication programmes. DPR Korea and Sri Lanka have no IDD communication programme. Nepal and Thailand have developed an IDD communication strategy. So have UNICEF-India and Bangladesh. Several countries have made efforts to target messages at different segments of the audience, like mothers, pregnant women, school-children, salt producers, wholesalers and retailers, etc. although a few (Maldives, Nepal and Thailand) aimed the messages at the general public. Primary schools with their high coverage in most countries provide an excellent channel to propagate health messages.

Thus, most countries have included IDD messages in the primary school curriculum, except DPR Korea and Indonesia. India and Thailand, however, introduce IDD/USI messages only at secondary level (Grade 9). Notwithstanding this, all countries have produced various IDD advocacy materials, including printed materials, CDs, audio-visuals and radio/TV spots. In addition, the Regional Office of SEA Region and ICCIDD have prepared a CD-ROM compiling all IEC materials (including those of the private sector), and the logos used.

It is interesting to note that except for India, none of the other countries have had to face any significant adverse publicity or anti-campaign regarding salt iodization. In India, the anti-USI campaign was carried out by NGOs using the media and public meetings, leading to removal of the Central ban on the production and sale of non-iodized salt. This was countered by massive advocacy efforts and political will, which finally reinstated the Central ban. In Sri Lanka, concerns have been raised recently over salt iodization and its purported linkage with thyroid cancer.

Comments: All countries should draw and/or immediately implement a communication plan targeting key segments of society to increase demand of, access to and supply of iodized salt. In most cases, this may only require a revamping of relevant components of existing communication strategies, mobilizing the mass media as well as community-based interventions.

### **2.3 Salt iodization**

A synthesis of the main findings is presented below. Please refer to Table 3 for country-specific details.

All 10 countries have a salt iodization programme and have adopted legislation regarding salt iodization [(Maldives's USI programme component is included the Nutrition Action-plan (1997-2000) and the National Nutrition Strategic Plan (2002-2006)]. These USI programmes are under the responsibility of the Ministry of Industry or Mines or other ministry responsible for the salt industry, but they all coordinate closely with the MoH. The oldest programme is that of India which dates back to 1968, and the latest one is that of DPR Korea (late 1990s). It is of concern that only five countries (Bhutan, Indonesia, Myanmar, Nepal and Thailand) produce and/or import adequate amounts of iodized salt to satisfy their estimated requirements for human consumption. This means that inadequate availability of iodized salt in the market may be the most important single

factor hampering the elimination of IDD in the five other countries. However, several countries (e.g. India) have the installed capacity to produce higher quantities of iodized salt to meet the estimated requirements for human consumption.

Reliable data on production of iodized salt in Bangladesh are not available as producers grossly underestimate production to evade income tax. Maldives has not made any estimate of iodized salt requirement for human consumption. Four countries (DPR Korea, Indonesia, Maldives and Thailand) do not have estimates of iodized salt requirement for livestock.

Bangladesh, India, Indonesia, Myanmar, Sri Lanka and Thailand have large numbers of salt producers (although Sri Lanka has only four or five iodized major salt importers/producers) while Bhutan, DPR Korea, Maldives and Nepal have to deal with only one, or a few iodized salt importers or factories that are easily coordinated from the central level. The former group have put in place mechanisms for coordination with iodized salt producers at both central and regional levels; Indonesia has a good decentralised system in place for coordination with salt producers and Thailand has a mechanism for support to iodized salt producers. The coordination mechanisms of most countries are not being used to their optimum capacity to follow up and ensure implementation of recommendations and directives.

Countries differ widely in their regulatory iodine requirements at production or point of entry (30-100 parts per million (ppm), retail (15-40 ppm) and household (10-30 ppm) levels. Wide variations in iodization levels at production are common occurrences in several countries. With the experience gained so far, these levels should now be harmonized in order to cut down on iodization cost, as well as to ensure the minimum content of 15 ppm of iodine in salt at household level in order to ensure adequate iodine nutrition of household members.

Comments: (i) Countries can be grouped into two categories: five that have adequate iodized salt supplies to meet human requirements and can more easily reach the goal, and six with inadequate supplies and that will need greater efforts. DPR Korea has only a few iodized salt factories and needs special support to increase its effective salt iodization capacity; (ii) Iodization levels at production/import, retail and household levels in all countries should be rationalized for cost-efficiency, (iii) Networking with iodized salt producers should be strengthened for improved coordination, control and support.

Table 2. Information, communication and advocacy

	BAN	BHU	DPRK	IND	INO	MAL	MMR	NEP	SRL	THA
1. Is there a specific communication strategy for IDD elimination? Year issued?	No*  Planned	No*  --	No  -	Yes*  2004	No*  -	No*  -	No*  2001	Yes*  1999	No  -	Yes  1989
2. Target audiences for IDD/USI messages?	Factory owners; wholesalers; retailers; H/H; school children	All segments	-	Entire population esp. pregnant women & children	All segments	General Public	All segments	General Public	H/H esp. mothers & school children	H/H (80-90% reached)
3. IDD included in school curriculum? Which standard (primary)?	Yes Std. 5	Yes Std. 5	No	Yes Std. 9+	No	Yes Gr.1-7	Yes Std. 4	Yes Std. 7	Yes Std. 6-11	Yes Gr. 9*
4. IDD advocacy materials produced:	Various + AV	Various	Televised video	Various + AV	Various + CD*	Printed	Various	Various	Booklets Posters	Various + AV
5. Any adverse publicity or concern raised over USI? By whom? How carried out? How tackled?	No	No	No	Yes NGO's Media, literature, meetings. Advocacy and political will	No	No	No	No	Yes* New regulation on USI*	No

\* See Annex 1 for further country-specific details.

Table 3. Salt iodization

	Actions	BAN	BHU	DPRK	IND	INO	MAL	MMR	NEP	SRL	THA
1	Salt iodization policy/programme? Since when?	Yes 1989	Yes 1984	Yes Late 1990's	Yes 1984*	Yes ??	Yes* 1997	Yes 1973	Yes 1973	Yes 1993	Yes 1965
2	Total salt requirement for human consumption (MT/year)?	798,000	7,000	43,000*	5,200,000	1,025,000	NA	197,000	120,000	69,350	160,965
3	Total salt requirement for livestock need (MT/year)?	153,000		NA	1,600,000	NA	NA	60,000	30,000	1,160	NA
4	Total MT of raw salt: Produced indigenously: Imported:	937,000 100,000	Nil 7,000*	180,000 Nil	13,000,000 Nil	1,362,000 1,522,000	Nil 2,740	400,000 Nil	Negligible Nil	85,110 Nil	1,900,000 Nil
5	Total quantity of iodized salt: Produced in country? Imported?	NA* NA*	7,000 Nil	22,500* 0	4,600,000 Nil	1,157,700 ?	Nil 661	300,000 0	Negligible 150,000	31,200 5,440*	195,000 Nil
6	% iodized salt produced by category: Small producers? Medium producers? Large producers? Total iodized salt producers:	NA NA NA 275	Nil Nil 100 % 1*	? ? ? 7*	48 % 8 % 44 % 10,347	60 % 18 % 22 % 376	? ? ? 1,020	? ? ? 1*	Nil Nil Nil 1*	30-40% ? 60-70% 324*	51 % 23 % 26 % 189
7	Iodine requirement (PPM): Production level? Retailer level? Household level?	45-50 20 15	60 25 10	50 Not set 15	30 15 15	30 30 30	NA NA NA	40-60 15-30 >=15	50* 30 15	50 40 25	50-100 30-50 >=30
8	Coordination mechanism with salt producers? Level: central/regional	Yes C/R*	No* -	No -	Yes C/R*	Yes C/R*	No -	Yes C/R	No* -	Yes* C/R	No* -

\* See Annex 1 for further country specific details.

**Table 4.** Monitoring system

	Actions	BAN	BHU	DPRK	IND	INO	MAL	MMR	NEP	SRL	THA
1.	USI monitoring plan? Since when?	Yes Being revised*	Yes 1984	No —	Yes* 1984	Yes 1995*	No	Yes 2001-06	Yes 2000*	Yes 1995	Yes 1989
2.	Central or ref. lab/s for iodized salt monitoring?	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes*	Yes	Yes*
3.	Regional labs for iodized salt monitoring?	Yes (Reg.)	Yes (Distr.)	Yes (Prov.)	Yes* (Distr?)	Yes (Reg.)	No	Yes	Yes (Reg.)	Yes	Yes*
4.	IS testing methods (STK or titration): Production/import level? Retailer level? Household level?	Both	Titration	STK	Titration	Titration	STK	Titration	Both	Titration	Titration
5.	How results of monitoring system published and distributed?	Shared at monthly meetings with factory owners*	Quarterly reports + tables	No	Annual reports + tables	Bi-annual reports + tables and maps	No	Monthly reports + tables	Bi-annual reports + tables and maps	No	Annual reports + tables
6.	Mechanism for follow-up on monitoring data and enforcement?	Through* BSCIC & DSC structures (monthly)	By health & trade officers*	No	??	By local govt. + community & salt producers	Reports from health institutions only	By health and Min. of Mines officers	Nutr. Section (MOH) f/u with traders	No	Thru provincial HO's and regional HC's to salt producers

HO= Health offices; HC = Health centres; Reg = Regional; Distr = District; Prov = Provincial  
\* See Annex 1 for further country specific details.

**Table 5.** National and regional IDD surveys

Year of study	BAN	BHU	DPRK	IND	INO	MAL	MMR	NEP	SRL	THA	TLS
2005				N*					N*		
2004	N		N*	R*				R*		N*	
2003				N*	N		N*		?	N	
2002		N*	N*	N*	N	N*				N	
2001		R*		R*	N	N**		N**	N	N	
2000		R*			N		N			N	
1999	N	R*									
1998		R*									
1997											
1996		N									
1991		N									
1983		N									

N = National; R = Regional

\*/\*\* See Annex 1 for further country specific details.

## 2.4 Monitoring system

A synthesis of the main findings of the rapid appraisal is presented below. Please refer to Tables 4-6 for country-specific details.

All countries have USI monitoring plans that have been in place for five years or more, except DPR Korea and Maldives (see Table 4). They also have a network of central/reference laboratories and/or regional laboratories for quality assurance of iodized salt. All countries use the titration method for iodine testing at production level [except DPR Korea that uses Spot Testing Kit (STK)], titration and/or STK at retail level, and STK at household level (except Bangladesh that uses both methods at retail level and DPR Korea that does not carry out iodine tests at retail and household levels). All countries have regular reporting of their monitoring data (annual, bi-annual, quarterly or monthly reports) as well as a mechanism for follow-up and enforcement (except DPR Korea, Maldives and Sri Lanka); however

the effectiveness of these systems is variable. Bangladesh, India, Indonesia and Thailand have quite an elaborate decentralized monitoring system. Bangladesh is in the process of revising its monitoring system so as to better link monitoring with reporting and enforcement.

All countries have conducted national and regional IDD surveys over the past five years (see Table 5). These surveys provide data on urinary iodine excretion, total goitre rates and household prevalence of iodized salt consumption; however there still is confusion on the interpretation of consumption of adequately iodized salt and the cut-off to be used<sup>1</sup>. Indonesia and Thailand use a cut-off of  $\geq 30$  ppm while other countries use a cut-off of  $\geq 15$  ppm to define adequately iodized salt at household level. DPR Korea does not have a specific cut-off. Bhutan and Thailand have adopted a cyclic monitoring system, while India surveyed 40 districts in 23 states in 2003-2004.

Table 6 summarises the latest information provided by countries regarding the key indicators of iodized salt coverage and urinary iodine excretion (UIE). The 11 countries have been divided into two groups, viz. Group 1 comprises those having adequate supplies of iodized salt to meet human requirement, and Group 2 countries are those with inadequate supplies of iodized salt. All the recent data presented in the table have been provided in the completed country questionnaires. Only data for Timor-Leste have been quoted from the UNICEF database (2004).

It is surprising that all countries (except DPR Korea and Timor-Leste that do not have data), whether they have adequate iodized salt supplies or not, have a prevalence of UIE  $< 100$   $\mu\text{g/L}$  of less than 50% (being one of the WHO/UNICEF/ICCIDD criteria for monitoring progress). In all countries the median UIE is above 100  $\mu\text{g/L}$ . Until now, only Bhutan has reached an adequately iodized salt coverage of 95%, and Sri Lanka 90%. Adequately iodized salt coverage for Indonesia and Thailand is likely to be higher than the figure quoted in Table 6, as those countries used a higher cut-off of 30 ppm. Sri Lanka offers an interesting example of a country having reached the main goals while iodized salt supplies are deemed inadequate, viz. 90% of adequately iodized salt coverage at household level, mean UIE of 153  $\mu\text{g/L}$  and 30% of its population with an UIE  $< 100$   $\mu\text{g/L}$ , while iodized salt supplies are estimated at only 53% of human requirement. Members of the

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<sup>1</sup> The WHO/UNICEF/ICCIDD recommended cut-off is " $\geq 15$  ppm of iodine at household level". See "Assessment of Iodine Deficiency Disorders and Monitoring their Elimination", Doc. WHO/NHD/01.1, 2nd edition, 2001, page 59.

First IDD RWG meeting have in fact expressed the need for an expert meeting to review the global IDDE indicators, and to make new recommendations regarding their interpretation.

**Table 6:** Summary of key IDD/USI indicators

Country	iodized salt supplies as % of human requirement	% iodized salt coverage at h/h level ( $\geq 15$ ppm)	Median UIE ( $\mu\text{g/L}$ )	% pop. having UIE $< 100 \mu\text{g/L}$	Remarks
<b>Group 1: countries having adequate iodized salt supplies</b>					
Bhutan	100	95	298	12	Achieved IDD elimination goal in 2003
Indonesia*	113	$> 73$	229	16	IS coverage was 73% with iodine content $\geq 30$ ppm; median UIE was 229 $\mu\text{g/l}$ and 16% of popln had UIE $< 100 \mu\text{g/L}$ (2003). IS coverage with $\geq 15$ ppm iodine would be more than 73%
Myanmar*	152	86	136	22	Country with the highest IS supplies with respect to estimated requirement
Nepal	125	63	144	28	IS coverage of 84% from a regional survey (2004).
Thailand*	121	$> 56$	102	49	Iodized salt ( $\geq 30$ ppm) coverage 56% and 71% coverage for iodized salt ( $\geq 10$ ppm) on 2004. ). IS coverage with $\geq 15$ ppm iodine would be more than 56%
<b>Group 2: countries having inadequate iodized salt supplies</b>					
Bangladesh*	?	51	162	34	IS supplies data are not available. Other data from the 2004/05 IDD Survey
DPR Korea	53	$? < 40$	?	?	40% with some level of iodine (2004) IS coverage $\geq 15$ ppm iodine would be less than 40%
India*	88	57	133	31	IS coverage from the 2005 UNICEF Coverage Evaluation Study
Maldives	?	67	115	25	IS supplies and requirement data not available.
Sri Lanka*	53	90	153	30	IS coverage & UIE data from the 2005 Survey IDD survey
Timor-Leste	?	**73	?	?	IS supplies and requirement data not available.

**Source of data in this table:** Country questionnaires providing reports of recent national/regional surveys (See Tables 3 & 5, and Annex 1) and UNICEF End Decade Database, 2004 (\*\*)

? Data not available or not confirmed

\* Countries having a large number of salt producers

Figure 2: Adequately iodised salt coverage and UIE based on recent surveys reported in this rapid appraisal (see Table 6)

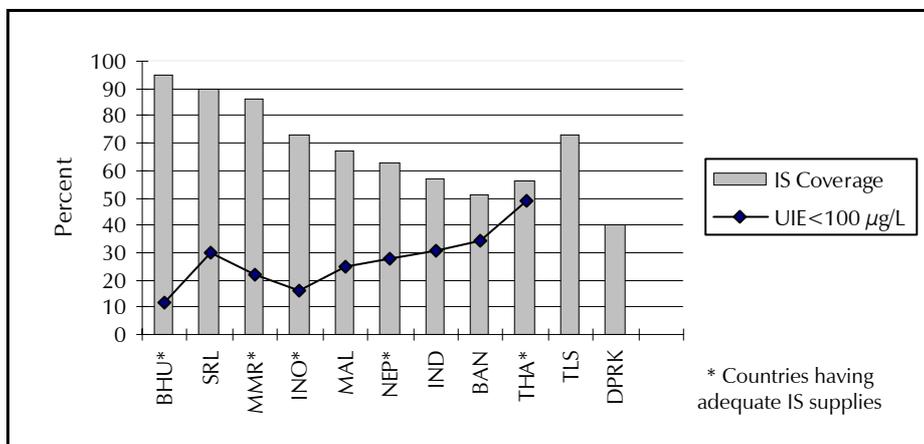


Figure 2 shows the percent coverage of adequately iodized salt and the proportion of population with UIE below 100 microgram/L. As expected, the proportion with UIE < 100 µg/L generally decreases with increasing coverage of adequately iodized salt (compare Bhutan with Bangladesh). The case of Thailand is surprising with an iodized salt coverage of 56% with iodine concentration  $\geq 30$ ppm (and surely a prevalence higher than 56% with a concentration of  $\geq 15$ ppm) but having a rather high proportion of 49% of population (pregnant women) with UIE below 100 µg/L. UIE data were not available for DPR Korea and Timor-Leste.

Comments: (i) All countries should improve the regular reporting and feedback of iodized salt monitoring data (to stakeholders, NGOs and public) as well as linkage with enforcement of USI legislation; (ii) DPR Korea needs special support to improve the overall iodized salt monitoring system and Sri Lanka for reporting and enforcement; (iii) The definition of adequately iodized salt used in reporting survey data should be clarified; and (iv) An expert meeting should be called to provide new guidelines regarding the definition and interpretation of IDDE indicators.

### 3. Key interventions being carried out to accelerate progress towards reaching USI

A synthesis of the main findings of the rapid appraisal is presented below. Please refer to Table 7 for country-specific details.

Key interventions are being carried out by all countries in order to accelerate progress towards reaching USI. These interventions can be grouped under four headings as follows:

### **3.1 Policy formulation/implementation and programme management**

- Reinforcement of IDD/USI coordination mechanism;
- Strengthening the enforcement of USI policy/legislation, and
- Capacity strengthening of key stakeholders (salt producers and distributors, IDD teams, health workers) to implement the USI programme.

Thailand is also developing a long-term USI action plan, while Indonesia is addressing budgetary allocation for IDDCP and strengthening a centre of excellence for IDD control. Maldives has launched a National Nutrition Strategic Plan (NNSP) 2002-2006 to further strengthen its IDDE programme. Bangladesh is in the process of amending its USI legislation which will include the mandatory iodization of salt for animal consumption and food processing. Sri Lanka is also revising its USI legislation to tighten control and enforcement.

Comment: Countries are focusing on critical weaknesses of policy implementation like multisectoral coordination and enforcement of USI legislation while addressing capacity building of stakeholders.

### **3.2 Information, communication and advocacy**

- Advocacy and re-advocacy at national and sub-national levels to strengthen USI, and
- Enhancing public awareness to promote iodized salt consumption.

Many countries target their audience segments (schoolchildren, pregnant women, consumers, salt producers, traders, public officials) and increasingly use multimedia facilities to expand coverage. A special IDD awareness week or month is also organized every year.

Comment: Countries are recognizing the need for continued advocacy and communication in order to sustain commitment of stakeholders and increase public demand for iodized salt.

### 3.3 Universal salt iodization

- Supporting the salt industry to increase the quantity, and improve the quality of iodized salt through improved management, technology and incentives, and
- Improving iodized salt distribution (coverage, packaging, marketing, warehousing, control).

Bangladesh and Indonesia are also empowering small salt farmers to improve their management and technology. DPR Korea is the only country still distributing iodized oil capsules as a short-term measure. Thailand provides free KIO<sub>3</sub> to salt producers. Several countries use the public distribution system or subsidies to make iodized salt accessible to low-income groups or remote/difficult-to-reach areas.

Comments: Supplies of and access to adequately iodized salt are the main bottlenecks hampering the progress towards USI in many countries. Increased efforts are being made to facilitate the salt industry and the commercial sector towards achieving this goal.

### 3.4 Monitoring system

- Improving the monitoring of iodized salt at all levels (household, retail, production and point of entry ), and
- Conducting IDD surveys to track the progress towards IDD elimination.

Many countries are strengthening their laboratory capacities in terms of networking, training and equipment. Indonesia's actions include improving both the monitoring and evaluation of its IDDCP. Bangladesh is revising its external monitoring system in order to ensure timely feedback and linkage to enforcement. Bhutan, Indonesia and Myanmar have very good monitoring systems although those of Bhutan and Indonesia seem rather complex and expensive.

Comments: All countries are laying emphasis on improving the monitoring of iodized salt at all levels, realizing the need to link monitoring and reporting to timely feedback and enforcement for better results.

**Table 7:** Key interventions being carried out to accelerate progress towards reaching USI

Actions	BAN	BHU	DPRK	IND	INO	MAL	MMR	NEP	SRL	THA
<b>Policy formulation/implementation and programme management</b>										
Development of a long-term USI action plan										X
Reinforcement of IDD/USI coordination mechanism	X	X			X					
Strengthening enforcement of USI policy and legislation	X				X			X	X	X
Capacity strengthening of key stakeholders (salt producers and distributors, IDD teams, health workers)					X				X	X
Strengthening of centre of excellence for IDD control					X					
Provision of adequate budget allocation for IDDCP					X					
<b>Information, communication and advocacy</b>										
Advocacy and re-advocacy at national and sub-national levels to strengthen USI			X	X	X	X	X	X		X
Enhancing public awareness to promote iodized salt consumption		X		X		X	X	X	X	X*

Actions	BAN	BHU	DPRK	IND	INO	MAL	MMR	NEP	SRL	THA
<b>Universal salt iodization</b>										
Supporting salt industry to increase and improve iodized salt production	X		X		X					
Empowering small salt farmers (organization, productivity, technology, marketing)					X					
Improving iodized salt distribution (coverage, marketing, warehousing, control)					X			X		
Distribution of iodized oil capsules (short-term)			X							
<b>Monitoring system</b>										
Improving monitoring of iodized salt at all levels (H/H, retail, production and point of entry )	X	H/H R,PE*			R P	X	H/H R	PE		H/H*
Improving evaluation of IDDCP					X					
Conducting IDD surveys to track progress towards IDD elimination		X	X	X	X	X	X	X		X

Monitoring system: Best: Bhutan\*, Indonesia\* and Myanmar.  
H/H = household; R = retail; P = production; PE = point of entry  
\*See Annex 1 for further country specific details.

## 4. Critical gaps/constraints

A synthesis of the main findings of the rapid appraisal is presented below. Please refer to Table 8 for country-specific details.

Countries have identified the following critical gaps and constraints that are hampering the progress towards reaching USI:

#### **4.1 Policy formulation/implementation and programme management**

- Weak enforcement of existing USI legislation is by far the most important constraint;
- Lack of financial resources to support IDD elimination activities or sustain achievements;
- Weakening of coordination or lack of a multisectoral body for coordination at policy level (DPR Korea and Thailand), and
- Lack of qualified manpower (Maldives), high staff turnover (Thailand) or inadequate human resource capacity at local level (Indonesia).

#### **4.2 Information, communication and advocacy**

- Lack of awareness of the importance of IDD elimination and iodized salt consumption (public, salt producers and traders, and officials, etc.) is the most important constraint, and
- Low demand for quality iodized salt and preference for cheaper crystal salt or low-grade salts.

#### **4.3 Universal salt iodization**

- Small salt producers/farmers not iodizing their salts or not adhering to iodization standards is the most important constraint;
- Inadequate market incentives<sup>2</sup> to the salt industry so that iodized salt production and trade is seen as a profitable business;
- iodized salt not included in public distribution system (particularly where the marketing structure of food commodities is weak);
- Dilapidated or worn-out salt iodization plants (leading to low production capacity) requiring rehabilitation or replacement, and
- Certain recurrent costs still supported by external agencies (potassium iodate, packing materials and monitoring, etc.) – and whether cost should be shifted to consumers or subsidised?

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<sup>2</sup> Market incentives will include improvement of private sector performance in salt iodization, capacity development for small scale iodization, reduction of leakage of non-iodized salt (within and across border), strict control of imported salt, ensuring profitability at reasonable cost to the consumer and construction/rehabilitation/modernisation of salt iodization plants.

#### 4.4 Monitoring system

- Inadequate/non-efficient system and/or mechanism for enforcement (most important constraint), and
- Cross-border infiltration of non-iodized or inadequately iodized salt (including leakage through road transportation in India).

**Table 8:** Critical gaps/constraints

Critical gaps/constraints	BAN	BHU	DPRK	IND	INO	MAV	MMR	NEP	SRL	THA
<b>Policy formulation/implementation and programme management</b>										
No functional multisectoral body (commission) for co-ordination at policy level			X							X
Weak enforcement of existing USI legislation			X	X				X*	X	X
Non-adoption of USI legislations and regulations at local level					X					
Insufficient human resource capacity at local level					X					
Lack of qualified manpower (MAV) or high staff turn-over (THA)						X				X
Lack of financial resources to support IDD activities/sustain achievements		X			X*	X*				X
<b>Information, communication and advocacy</b>										
Lack of awareness of the importance of IDD elimination and iodized salt consumption (public, salt producers and traders, officials, etc.)	X			X	X		X		X	

Critical gaps/constraints	BAN	BHU	DPRK	IND	INO	MAV	MMR	NEP	SRL	THA
Low demand for quality iodized salt and preference for cheaper crystal salt or low grade salts								X	X	
<b>Universal salt iodization</b>										
Inadequate market incentives to salt industry	X									
Dilapidated salt iodization plants requiring rehabilitation – low production capacity			X							
Is iodized salt included in the Public Distribution System?			No	Yes						
Certain recurrent costs still supported by external agencies (potassium iodate, packing materials ...) – to be shifted to consumers/subsidized?			X							
Small salt producers/farmers not iodizing their salts or not adhering to iodization standards	X			X*			X*			
<b>Monitoring system</b>										
Inadequate/non-efficient system and/or mechanism for enforcement	X		X	X					X	
Cross-border infiltration of non or inadequately iodized salt								X*		

\* See Annex 1 for further country specific details.

Participants of the First IDD RWG on their part identified the priority constraints for the two groups of countries (i.e. those with adequate and inadequate supplies of iodized salt respectively) as follows:

**Group 1 – Countries having adequate supplies of iodized salt**

*Policy formulation/implementation and programme management:*

- Waning interest of collaborating partners and policy-makers on IDD;
- Poor enforcement of USI legislation regarding iodine standards, and
- Shifting of priority from nutrition to food safety.

*Information, communication and advocacy*

- Need to improve demand for iodized salt, and
- Decrease in demand of iodized salt with disappearance of visible IDD.

*Universal salt iodization*

- Existence of large number of small salt producers, which leads to difficulty in monitoring and standardization, and
- Multiple food items iodized in some countries. This has raised the issue of iodine excess.

*Monitoring system*

- Cross-border movement of non-iodized or inadequately iodized salt;
- Quality monitoring at production level is poor, leading to improper iodine level;
- Iodine excess in salt raised as an issue by several countries like Bhutan, Indonesia, Sri Lanka and Thailand;
- Lack of standard iodine-level requirement in salt at production, retail and household levels, and
- Lack of recommendation for an upper limit for iodine content of salt.

**Group 2 – Countries having inadequate supplies of iodized salt**

*Policy formulation/implementation and programme management*

- Poor coordination;
- Low priority leading to poor enforcement of legislation, and
- No link between monitoring and enforcement.

*Information, communication and advocacy*

- Lack of comprehensive and effective IEC strategies;
- Inadequate communication channels, and
- Lack of funds to roll out communication strategies.

*Universal salt iodization*

- Large number of small-scale producers;
- Increasing cost of KIO<sub>3</sub>, Salt Iodization Plant (SIP), maintenance and training;
- Weak market signal to the producer;
- Inadequate know-how about salt iodization;
- Inadequate iodization capacity (e.g. Sri Lanka), and
- Low availability of iodized salt in rural and remote areas.

*Monitoring system*

- Infiltration of non-iodized salts;
- Improper monitoring at all levels from production to consumption;
- Lack of adequate manpower for monitoring, and
- Inadequate monitoring information network.

The specific opportunities and challenges for the two different groups of countries are summarized in Table 9.

Comments: The main constraints impeding the attainment of USI are situated at four levels: (i) waning commitment and poor coordination; (ii) inadequacy of effective demand for adequately iodized salt; (iii) weak enforcement of USI legislation, and (iv) non-optimization of the monitoring system.

The lack of an effective multisectoral body results in poor coordination of all stakeholders as well as the different components of the programme. The presence of large numbers of small salt producers/farmers, presents a specific challenge for some countries (poor organization and management, outdated technology, low quality of salt, non-iodized or inadequately iodized salt, competitive market, inadequate incentives, etc.). In view of the fact that in most countries adequately iodized salt, non-adequately iodized salt and non-iodized salt are available in the market, consumers need to be properly informed and protected. With the ageing of the IDD elimination programme, the issues of funding and manpower, and new problems (AIDS, avian flu, natural disasters) may begin to create additional challenges and divert the interest away from IDD in some countries. Existing opportunities in different countries should also be leveraged in order to effectively address the challenges regarding IDD elimination.

**Table 9:** Summary of opportunities and challenges

Countries	Opportunities	Challenges
<b>Group 1: countries having adequate iodized salt supplies</b>		
Bhutan	<ul style="list-style-type: none"> <li>- All salts are imported and iodized by one SIP only</li> <li>- Existence of few iodized salt producers</li> <li>- New monitoring protocol</li> </ul>	<ul style="list-style-type: none"> <li>- Lack of funds to sustain programme</li> <li>- High level advocacy needed to sustain gains</li> </ul>
Indonesia*	<ul style="list-style-type: none"> <li>- Just developed a National Plan of Action for IDD elimination, 2005-2010.</li> <li>- Existence of decentralized IDD teams for monitoring and enforcement</li> <li>- 'Social norm enforcement' wherein USI is seen as a fight for human rights.</li> </ul>	<ul style="list-style-type: none"> <li>- Large number of small producers</li> <li>- There is no dedicated IDD manager</li> <li>- Local level capacity inadequate</li> </ul>

Countries	Opportunities	Challenges
Myanmar*	<ul style="list-style-type: none"> <li>- Monitoring system being strengthened for f/u actions and enforcement of USI law</li> </ul>	<ul style="list-style-type: none"> <li>- Large number of small producers</li> <li>- There is no dedicated IDD manager</li> </ul>
Nepal	<ul style="list-style-type: none"> <li>- All salts are imported only</li> <li>- There are few iodized salt producers</li> <li>- Existence of IDD communication strategy</li> </ul>	<ul style="list-style-type: none"> <li>- Cross-border infiltration of non-iodized or inadequately iodized salt from India</li> </ul>
Thailand*	<ul style="list-style-type: none"> <li>- Long term USI plan being developed</li> <li>- KIO3 distributed free to all producers</li> <li>- IDD communication strategy exists?</li> </ul>	<ul style="list-style-type: none"> <li>- Large number of small producers</li> <li>- There is no coordination body</li> <li>- High staff turn-over</li> </ul>
<b>Group 2: countries having inadequate iodized salt supplies</b>		
Bangladesh*	<ul style="list-style-type: none"> <li>- Revising monitoring system for better enforcement</li> <li>- Planning a communication strategy</li> <li>- Mobile courts for prosecution producers contravening USI legislation</li> </ul>	<ul style="list-style-type: none"> <li>- Lack of incentives to small producers</li> <li>- Low iodized salt coverage</li> <li>- Low demand for iodized salt</li> <li>- Poor quality of iodized salt</li> </ul>
DPR Korea	<ul style="list-style-type: none"> <li>- Centralized salt iodization plants (but inadequate);</li> </ul>	<ul style="list-style-type: none"> <li>- No IDD manager</li> <li>- No coordination body for IDD programme</li> <li>- No IDD communication programme</li> <li>- No monitoring plan &amp; f/u mechanism</li> <li>- No titration method for monitoring</li> </ul>
India*	<ul style="list-style-type: none"> <li>- An IDD communication strategy exists</li> <li>- Central ban on sale of non-iodized salt reinstated?</li> <li>- Use of PDS to reach difficult-to-reach groups</li> <li>- Over-capacity of SIPs for iodized salt production</li> <li>- Implementation of the rural health strategy</li> </ul>	<ul style="list-style-type: none"> <li>- Inadequate demand for iodized salt</li> <li>- Existence of large number of small salt producers</li> <li>- Adverse publicity on iodized salt</li> <li>- Interpretation of data from India IDD surveys to estimate national trend towards IDD elimination</li> </ul>
Maldives	<ul style="list-style-type: none"> <li>- NNSP 2002-06 includes IDDE</li> <li>- Salts imported only</li> <li>- Few iodized salt traders</li> </ul>	<ul style="list-style-type: none"> <li>- No monitoring plan &amp; f/u mechanism</li> <li>- Lack of qualified manpower</li> </ul>

Countries	Opportunities	Challenges
Sri Lanka*	– There is a potential for the few large producers to cover gap in iodized salt production	<ul style="list-style-type: none"> <li>▪ Inadequate iodization capacity</li> <li>– Large number of small salt producers;</li> <li>– Salt iodization by cottage industries</li> <li>– No IDD communication programme</li> <li>– Poor monitoring, f/u &amp; enforcement;</li> <li>– No recent IDD survey</li> </ul>
Timor-Leste	– There is an IDD consultancy report?	– No IDDCP developed

\* Countries having a large number of salt producers

## 5. Critical actions needed to achieve USI by 2007

A synthesis of the main findings is presented below. Please refer to Table 10 for country-specific details.

Achieving USI is the pre-condition to reaching the IDD elimination goal. Critical actions that need to be implemented by countries of the SEA Region in order to achieve USI by 2007 are as follows:

### 5.1 Policy formulation/implementation and programme management

- Set up/expand/reactivate national and sub-national alliances for IDD elimination in order to strengthen Central Government commitment and multisectoral partnership (including salt industry, the media, civil society, consumer associations and representatives from various ministries); need to raise IDD as a priority issue on the political agenda; MoH to strengthen its collaboration and support to the ministry responsible for salt industry;
- Strengthen the enforcement of existing USI legislation at production and distribution levels (central, district and local) including the adoption of implementing regulations;
- Provide financial resources/budget to support IDD activities and sustain achievements (from internal and external resources), and
- Strengthen the capacity of staff at all levels to be able to implement the IDDCP.

## **5.2 Information, communication and advocacy**

- Develop and implement a comprehensive communication strategy/plan to strengthen advocacy efforts and increase public awareness on IDD and iodized salt consumption;
- Carry out an intensive community-based social mobilization campaign;
- Strengthen advocacy by targeting key stakeholders from central to local levels, and
- Carry out school awareness campaign on IDD and USI.

## **5.3 Universal salt iodization**

- Develop/strengthen plans for sustainable production of quality iodized salt, including support to small salt producers;
- Implement measures to reach the remaining population not consuming iodized salt: distribution and marketing;
- Construct/rehabilitate salt iodization plants;
- Rationalize iodization levels to ensure cost-effectiveness of the process; and ensure access to affordable KIO<sub>3</sub> by small salt producers, and
- Address cross-border infiltration of non-iodized or inadequately iodized salt (e.g. India/Nepal).

## **5.4 Monitoring system and operational research**

- Improve the monitoring system (production, retail and household levels, and inland transport and points of entry) and its linkage to enforcement procedures;
- Call a global expert meeting to provide new guidelines regarding the definition and interpretation of IDDE indicators, and review recommended salt iodine concentrations at all levels (production, retail and consumption) in order to ensure safe and adequate iodine nutrition of all members of the family, and

- Support operational research with relevant partners (required salt iodine concentrations at different levels, safe upper limits for UIE level, implication of iodization of multiple foods, relationships between UIE and iodized salt coverage, use of iodized oil or alternative methods of providing iodine in specific situations, etc.).

The Box below shows the 11 countries of the Region divided into two groups according to the adequacy of their iodized salt supplies compared to human requirement. The universal consumption of iodized salt depends on two key factors: supplies of adequately iodized salt and effective demand for adequately iodized salt by consumers. Although all countries will have to take a number of critical actions mentioned above in order to reach USI, the first group of countries will need to focus more on increasing the effective demand while the second group will also have to address the key issue of adequate supplies. In other words, the second group of countries will need to make more efforts.

Group 1 countries (with adequate supplies of iodized salt) are: Bhutan, Indonesia\*, Myanmar\*, Nepal and Thailand\*

Group 2 countries (with inadequate supplies of iodized salt) are: Bangladesh\*, DPR Korea, India\*, Maldives, Sri Lanka\* and Timor-Leste.

\*Those countries also have a large number of salt producers.

The iodized salt coverage and supplies status of the 11 countries has been summarized earlier in Table 6. Operationally it could be easier for Group 1 countries to reach USI, as they already have adequate supplies of iodized salt to meet human needs and will only need to focus on ensuring access to affordable and adequately iodized salt to the whole population and creating effective demand for adequately iodized salt. Thailand seems to be an exception: it has a low coverage (51%) despite having adequate supplies (121% of requirement for human consumption). We may have to wait for the analysis of recent coverage data from Thailand. Sri Lanka, Myanmar and Nepal may well be on the way towards USI, while Indonesia will need to concentrate on critical actions already identified in Table 10.

Group 2 countries on the other hand will need additional efforts to reach USI as they have inadequate iodized salt supplies to meet human requirements. Sri Lanka and Timor-Leste have fairly high coverage and can

more easily reach the USI goal by focusing on critical actions identified in Table 10. Bangladesh, Maldives and Timor-Leste do not have estimates for iodized salt supplies; Maldives and Timor-Leste should be able to estimate human requirements for iodized salt using population data<sup>3</sup>. Bangladesh, India and Sri Lanka will urgently need to address issues related to iodized salt production with their large number of small salt producers drawing from experiences of Indonesia, Myanmar and Thailand of Group 1 countries. DPR Korea will need special support to catch up with other countries as it is still a long way from the USI goal. It should be noted that all these countries are producing enough raw salt indigenously to meet salt iodization requirement for human consumption (except for the Maldives and Timor-Leste for which data are not available); Bangladesh also imports large quantities of raw salt but it has no data on quantities of iodized salt produced locally and imported. It is interesting though that Sri Lanka has reached 90% iodized salt coverage with only 53% of required supplies; other countries from this group will be able to draw on this experience as they all have iodized salt supplies of at least 53% of estimated requirements (see Table 6).

**Table 10:** Critical actions needed to achieve USI by 2007

Actions needed	BAN	BHU	DPRK	IND	INO	MAL	MMR	NEP	SRL	THA
<b>Policy formulation/implementation and programme management</b>										
Set up/reactivate National Alliance for IDD Elimination (policy coordination) in order to strengthen central government commitment and multisectoral partnership			X		X					X
Establish or expand existing IDD task-forces into a multidisciplinary national coalition that include the salt industry and the education and media sectors								X		X

<sup>3</sup> Based on a potential human demand of 4 to 5 kg/person/year.

Actions needed	BAN	BHU	DPRK	IND	INO	MAL	MMR	NEP	SRL	THA
Strengthen enforcement of existing USI legislation at production and distribution levels (central, district and local levels)			X	X	X		X		X	X
Provide financial resources/budget to support IDD activities and sustain achievements		X			X	X		X		X
Strengthen staff capacity					X	X				X
<b>Information, communication and advocacy</b>										
Develop and implement a comprehensive communication strategy/plan to strengthen advocacy efforts and increase public awareness on IDD and iodized salt consumption	X		X	X					X	
Strengthen advocacy from central to local levels					X		X			
Carry out intensive community-based social mobilization campaign					X			X	X	
Carry out school awareness campaign								X		
<b>Universal salt iodization</b>										
Construct/rehabilitate salt iodization plants			X							
Develop/strengthen plan for sustainable production of iodized salt, including support to small salt producers	X		X							

Actions needed	BAN	BHU	DPRK	IND	INO	MAL	MMR	NEP	SRL	THA
Implement measures to reach the remaining population not consuming iodized salt: distribution and marketing	X		X							
<b>Monitoring system</b>										
Improve monitoring system (production, retail and household levels, and inland transport and points of entry), including linkage to enforcement procedures	X		X	X	X		X	PE	X	
Support operational research with relevant partners		X								

## 6. Workplan 2005-2007

A workplan was developed by participants of the First IDD RWG. It identified the following key areas for focus by countries and support by agencies:

### 6.1 Advocacy

- (1) A Regional Office-level re-advocacy meeting aimed at political leadership either as a stand-alone meeting or piggy backed on another public health/development meeting;
- (2) National-level re-advocacy meetings in countries of the Region aimed at high officials, programme managers and decision-makers in relevant sectors, and
- (3) Reactivation of national and sub-national level alliances for IDD elimination (including consumer/civil society/education and salt producers).

## **6.2 Quality assurance (QA) of iodized salt and monitoring system**

- (1) Review if existing QA procedures are in place at iodized salt-production level, for national and regional laboratories, and support capacity building (including protocol improvement, training and technical support);
- (2) Standardize/harmonize salt-iodine levels and UIE levels within the parameters set by WHO/UNICEF/ICCIDD guidelines, and
- (3) Link the monitoring system to corrective action, where needed.

## **6.3 Communication**

- (1) Change the focus of communication from goitre control to prevention of brain damage, and
- (2) Develop/implement comprehensive communication strategy (see UNICEF-India IDD communication strategy).

## **6.4 Small producers**

- (1) Training of small producers in process of iodization
- (2) Explore the possibility of establishing the KIO<sub>3</sub> facility at regional level;
- (3) Marketing support/strategy for small producers;
- (4) Form salt producers' cooperatives or associations;
- (5) Replacement/maintenance of salt iodization plants, and
- (6) Improving the distribution of iodized salt to difficult-to-reach groups or areas.

See Annex 2 for the detailed workplan.

## Annex 1

### **Additional country-specific information related to specific tables in the main report**

Please note that the key relevant information from this Annex has already been integrated into the main report.

#### ***Additional notes to Table 1: Policy implementation and programme management***

##### *Bangladesh*

Item 3 – There have been 17 court cases and 335 mobile court cases since July 2000. The 335 mobile court cases were presented at 151 mobile sessions. Of all the cases, five court cases and 209 mobile court cases (60 mobile courts) were held between July 2004 and June 2005, reflecting accelerated action by CIDD project to prosecute defaulters. No information is available on the rate of conviction.

Item 4 – National Salt Committee (for policy coordination); Chair: Joint Secretary (JS) MoH and members are JS or high officials. No annual report but minutes circulated among members of NSC. Also CIDD Project implementation committee (for technical coordination) – meets monthly: chairperson is Chairman of BSCIC (Bangladesh Small and Cottage Industries).

##### *Bhutan*

Items 4/5 – The IDD Commission intervenes only on policy issues. Otherwise, it is the IDD Control Programme (IDDCP) that implements and presents the report to the Director of Public Health. The IDDCP presents an annual progress report to the Ministry of Health. However, currently there is no feedback system for the commission or the task force - this will be considered in the future.

### *DPR Korea*

Item 4 – In DPR Korea, there is no national manager for IDD. There is a focal person for salt iodization in the State Planning Commission (SPC). The Ministry of Public Health is responsible only for distribution of iodized oil capsules, which is currently being undertaken as a temporary measure in a few selected areas.

### *India*

Item 3 – USI legislation – under PFA (Prevention of Food Adulteration) Act 1955; specifications for iodized salt were brought under the PFA Act in 1968 and under the revised PFA Act in 1988. A policy decision for USI was taken in 1984 and a central ban on sale of non-iodized salt was issued in 1997, lifted in 2000 and reintroduced on 17 May 2006.

### *Indonesia*

Item 4 – Chairperson is Deputy Director, Human Resources, National Development Planning Board (Bappenas). Salt iodization programme is coordinated by the Ministry of Industry as part of IDDCP.

### *Myanmar*

Item 1 – In collaboration with the Ministry of Mines.

### *Nepal*

Item 3 – USI implementing regulation has been drafted and is being finalized.

### *Sri Lanka*

Item 3 – Though an organizational infrastructure and an enforcement mechanism are available, implementation lacks uniformity. Of the samples collected, 60% are unsatisfactory; of these, 90% are prosecuted with 40% conviction. In 2004, 13 prosecutions were made. The level of enforcement of USI legislation is considered to be moderately effective.

Item 4 – National Steering Committee (NSC) for salt iodization.

### *Thailand*

Item 3 – This is a Salt legislation regarding salt iodization (not USI legislation).

### *Timor-Leste*

There is no IDD control programme, nor has an IDD focal person been identified. The report of a UNICEF consultancy undertaken was not available.

### ***Additional notes to Table 2: Information, communication and advocacy***

#### *Bangladesh*

Item 6 – The development of a communication strategy is planned. Although a strategy is not yet in place, a number of communication materials have been developed over the past five years.

#### *Bhutan*

Item 6 – There is no specific IDD communication strategy document but IDD messages have been part of the overall health communication (IEC materials, campaigns, etc.) since 1985.

#### *India*

Item 6 – The IEC activities on IDD are integrated components of the National IDD Control Programme since 2001. The programme is being implemented through health education and various agencies, such as National TV, All India Radio, Song and Drama Division, Directorate of Field Publicity and Directorate of Advertisement and Visual Publicity. However, a specific IDD communication Strategy (June 2004) has been developed by UNICEF-India.

#### *Indonesia*

Item 6 – There is no specific IDD communication strategy document. But since 2002, a number of communication materials (bulletins, journals,

guidelines, etc.) have been issued to promote IDD intervention and to target a varied audience from policy-makers and government institutions to salt producers, NGOs and the community.

### *Maldives*

Item 6 – The National Nutrition Strategic Plan (2002-2006) contains a communication component on IDD elimination.

### **Myanmar**

Item 6 – Communication on IDD has been included in the IDD Elimination Project of the National Health Plan for the period 2001-2006.

### *Nepal*

Item 6 – Iodized Salt Social Marketing Campaign (ISSMAC), 1999.

### *Sri Lanka*

Item 10 – Recently concerns have been raised on over-iodization which has been attributed as a cause of thyroid cancer. The median UI content of more than 200 µg/dl has been found only in North Central Province but was less than 300 µg/dl. A new regulation on iodization of salt has already been gazetted and will come into effect on 31 December 2005 that contains provisions for monitoring the manufacturing practices through issue of permit system. In addition the salt container has to be transparent so that the consumer will be able to visualize the salt in the container.

### *Thailand*

Item 6 – Not clear if there is really a specific IDD communication strategy although various IDD communication activities are being carried out?

Item 8 – In Grade 9 (secondary school); IDD is not reflected in the primary school's curriculum.

### **Additional notes to Table 3: Salt iodization**

#### *Bangladesh*

Item 15 – Reliable data on production of iodized salt are not available as producers grossly underestimate production to evade income tax.

Item 18 – At the central level, through the National Executive Committee of Bangladesh Salt Mill Owners' Association. At the local level, through eight zonal committees of Salt Mill Owners' Association.

#### *Bhutan*

Items 14/16 – All raw salt is imported from India and iodized in Bhutan. There is only one salt iodization plant (SIP) which is run by the Bhutan Salt Enterprise. The SIP is visited monthly by the district laboratory staff for sample collection and testing. Also, the Central Public Health Laboratory staff visit the plant every quarter. In case of any problem, the salt producer is called for discussion. Also the MoH trains the SIP laboratory technician and sponsors the proprietor to attend regional meetings and seminars on IDD.

The only salt iodization plant (SIP) was started in 1985 as a joint government/private venture but eventually became totally private in 1994 (Bhutan Salt Enterprise).

Item 18: The only SIP is monitored directly by the government.

#### *DPR Korea*

Item 12 – Salt used for direct consumption, i.e. excluding salt used for food processing (fermented vegetable (“*Kimchi*”), soya sauce, bean paste, etc.).

Item 15 – One plant, which is being rehabilitated, is expected to produce 16,000 MT annually after completion of work (bringing the total production of iodized salt to  $22\,500 + 16\,000 = 38\,500$  MT).

Items 16/18 – Seven dilapidated salt iodization plants; all state-owned. one being rehabilitated; two more planned.

### *Nepal*

Items 16/18 – There are no producers but the Salt Trading Corporation has supply depot offices all around the country; monitored by the MoH.

### *India*

Item 11 – The NDDCP formerly known as the National Goitre Control Programme (NGCP) is being implemented since 1962. The Central Council of Health and Family Welfare decided in 1984 to implement compulsory iodization of salt for human consumption in the entire country. Salt iodization is carried out under the auspices of the Salt Department of the Ministry of Industrial Promotion through 930 salt manufacturing units. The annual production and distribution of iodized salt in 2004-2005 was around 4.6 million tons.

Item 18 – The national level discussions were held with salt producers in February 2004. At the local level, discussions are held regularly among regional officers of the Salt Department.

### *Indonesia*

Item 18 – Each level of government (from central to district) has an IDD team that consists of involved sectors (MoH, MoIT, MoHA) and Salt Producers Organization (APROGAKOP).

### *Maldives*

Item 11 – Salt iodization forms part of the Nutrition Action Plan (1997-2000) and the National Nutrition Strategic Plan (2002-2006).

### *Nepal*

Item 16 – There is only one salt importer, the Salt Trading Corporation Limited, a government-private partnership.

Item 17 – Iodine level of 50 PPM at point of entry.

### *Sri Lanka*

Item 15 – There are about four-five iodized salt importers.

Item 16 – In Sri Lanka, there are only three major producers but even they have an inadequate capacity to iodize salt. Hence, the salt is sent to the cottage industry for iodization, packaging and distribution. But 70% of iodized salt requirement can be iodized by the three major salt producers.

Item 18 – Carried out through the National Steering Committee (NSC) for salt iodization.

### *Thailand*

Item 18 – There is no proper coordination mechanism but there is a mechanism for technical support, training, periodical supervision and free KIO<sub>3</sub> distribution.

### ***Additional notes to Table 4: Monitoring system***

### *Bangladesh*

Item 19 – The monitoring system is being revised this year, to better link monitoring with reporting and enforcement.

Item 23 – To date, results of monitoring system have only been shared at meetings with factory owners. As part of the revised monitoring system, there are plans to make the results publicly available.

Item 24 – This is an elaborate mechanism involving the BSCIC Regional Directors, ISC Heads, District Salt Committee (DSC), the Bangladesh Standard Testing Institute (BSTI), issue of warning to factories and prosecutions at mobile courts.

### *Bhutan*

In case there are samples with inadequate iodine, the district medical officer and the regional trade officer are notified for further investigation and follow-up actions.

### *India*

Item 19 – See booklet entitled “Policy Guidelines on NIDDCP (1997) – reprinted 2003.

Item 21 – At the production level, there are nine quality control laboratories and at the state level there is one IDD monitoring lab in each state besides one National Reference Laboratory for IDD monitoring. Data for the year 2004 suggest that 70%-80% of salt samples conform to regulatory standards.

### *Indonesia*

Item 19 – Annual report for iodized salt consumption at household level, national survey integrated into the national socio-economic survey by the Central Bureau of Statistics since 1995.

### *Nepal*

Item 19 – Biannual mini-survey.

Item 20 – Department of Food Technology and Quality Control (DFTQC) controls the sub-standard iodized salt in the market under the Food Act BS2027.

Item 24 – The Nutrition Section (Child Health Division) follows up with traders for effective implementation of internal monitoring system and supply of adequately iodized salt, based on the findings of external monitoring activity and the biannual mini survey report.

### *Thailand*

Items 20 and 21 – Iodized salt monitored by FDA (food inspectors and school health volunteers) and DoH (Nutrition Division and Regional Health Promotion Centres).

There are four reference laboratories scattered over the country. Samples from the region are also analysed at those four reference laboratories.

**Additional notes to Table 5: IDD surveys**

*Bangladesh*

1993 IDD Survey: Median UIE 53 µg/L; 43% of population having UIE<100; total goitre rate (children) 49.9%.

1999: Adequately iodized ( $\geq 15$ ppm) coverage 55%; total goitre rate (children) 17.2%; median UIE 123 µg/L

2004/05 IDD Survey – adequately iodized salt ( $\geq 15$ ppm) coverage 51%; 34% of children aged 6-12 yrs have UIE<100 µg/L and 39% of women aged 15-44 yrs have UIE<100 µg/L; median UIE 53 µg/L total goitre rate (children) 16.2%

Note: the widely quoted iodized salt coverage of 70% refers to any amount of iodine and not to adequately iodized salt.

*Bhutan*

1998, 1999, 2000 and 2001: These four years cyclic monitoring was conducted using the 30-cluster sampling method. The survey covers five districts and 30 schools every year (n=1200).

2001: Cyclic monitoring results – iodized salt ( $\geq 15$ ppm) coverage 95%; 12% of population having UIE<100 µg/L; median UIE 298 µg/L

2003: External assessment of the Bhutan IDD Elimination Programme by WHO/UNICEF/ICCIDD/MI team that concluded: “The population’s iodine nutrition can be considered to be adequate according to the criteria set up by WHO, UNICEF AND ICCIDD.”

*DPR Korea*

The 2004 survey showed that 40% of households were consuming salt with some level of iodine (2% in 2002).

*India*

2001: The Kerala IDD Survey.

2002/2003: The IDD Prevalence Survey in 40 districts in 23 states – median UIE 133 µg/L; 31% of population with UIE <100 µg/L.

2004: Uttaranchal, Punjab, Orissa

2005: The UNICEF Coverage Evaluation Study showed a household coverage of adequately iodized salt of 57%.

### *Indonesia*

2003 IDD Survey – iodized salt ( $\geq 30$  ppm) coverage 73%; national average UIE 229 µg/l; 16% of population having UIE <100 µg/L; TGR in school children 11.1% (27.7% in 1980).

### *Maldives*

\*\*MICS 2001/MOH – TGR 23.6%; adequately iodized salt coverage 44%; median UIE 115 µg/L

\*IDD Survey 2002/MOH – TGR 25.7%; adequately iodized ( $\geq 15$  ppm) salt coverage 67%; 25% of population having UIE <100 µg/L.

### *Myanmar*

2000 survey showed TGR 12%; iodized salt coverage 79% of H/H; prevalence of UIE <100 mcg/l is 38.3%; median UIE 136 µg/L.

2003 survey showed TGR 5.5%; iodized salt coverage 86% of H/H; prevalence of UIE <100 µcg/L is 22.3%.

### *Nepal*

1998 IDD Survey – Median UIE 144 µg/L; 35% of population having UIE <100 µcg/L

\*\*Between Census Household Information Monitoring and Evaluation Survey, Central Bureau of Statistics, Nepal, 2001(National Survey) – adequately iodized ( $\geq 15$ ppm) salt coverage 63%.

\* Assessment of Current Status of Iodine Deficiency Disorder (IDD) for the development of future control Programme, Central Development Region, Ministry of Health Nepal / Institute of Medicine/ Japan International Cooperation Agency, 2004 (Regional Survey) – adequately iodized salt coverage 84%; 28% of population with UIE < 100 µg/L

### *Sri Lanka*

Key findings from the 2005 Survey on Iodine Nutrition Status in Sri Lanka: adequately ( $\geq 15$  ppm) iodized salt coverage at household level = 90.1% (by titration); goitre rate = 3.8%; proportion of population with UIE < 100 µg/L = 30.0 %; proportion of population with UIE < 50 µg/L = 7.3 %; proportion of population with UIE > 300 µg/L = 15.6 %; median UIE 153 µg/L.

### *Thailand*

2000 – 2004: Tracking progress towards the sustainable elimination of iodine deficiency disorders (IDD) in Thailand: the cyclical IDD surveillance. Surveyed 75 provinces, 15 provinces per year. The study population comprised pregnant women.

In the 2004 survey: median UIE 102 µg/L; 49% of pregnant women with UIE < 100 µg/L; iodized salt ( $\geq 30$  ppm) coverage 56% and 71% coverage for iodized salt ( $\geq 10$  ppm). But there are wide regional differences.

### *Timor-Leste*

No recent survey data reported.

### ***Additional notes to Table 7: Key interventions being carried out to accelerate progress towards reaching USI***

#### *Bangladesh*

Policy: National oversight of USI by the National Salt Committee and enforcement of the Salt Law by the District Salt Committees (ongoing). A series of amendments to the Salt Law, which include mandatory iodization

of salt for animal consumption and food processing, are currently being processed (ongoing).

USI: Promotion of new technologies to improve the quality of iodized salt, including the use of polythene sheeting during the production of crude salt and centrifuges for drying salt prior to iodization, through demonstration and training (ongoing)

Monitoring: Revision of external monitoring system of the government to enable efficient monitoring of iodized salt at production, distribution, food processing and market levels with timely feedback, adjustment mechanisms and enforcement that allow for continuous improvement of salt iodization (ongoing)

### *Bhutan*

There were three main recommendations of the International Assessment Team (16-25 January 2003): (i) To expand the National IDD commission; (ii) To concentrate salt monitoring at the southern entry points, and (iii) To conduct operational research. All recommendations have been implemented except the operational research on urinary iodine distribution among schoolchildren and pregnant women.

### *DPR Korea*

Iodized salt production: support to rehabilitation of iodization plants.

### *India*

IEC campaigns through electronic, print and folk media.

### *Indonesia*

Facilitating and controlling iodized salt producers and distributors.

### *Maldives*

The National Nutrition Strategic Plan (NSP) to further strengthen IDDE Programme is to be launched by the Prime Minister in 2005. Key actions

include: (i) Develop a mass-media Behaviour Change Communication intervention on IDD and USI through TV, radio and press; prepare an IDD and USI flyer/brochure; publish information on IDD/USI in newspapers; create a comic strip character for children, developed by children called "Super Salt Man/ Woman"; (ii) Organize community-based iodized salt testing with pocket testing kits; make testing kits available to school principals, teachers and schoolchildren; health centre and health post staff; shopkeepers, etc.; (iii) Create awareness among resorts; provide salt testing kits, establish monitoring system with salt testing kits to ensure that iodized salt is used.

### *Myanmar*

H/H Monitoring: training of health staff, effective reporting and follow-up actions; retail monitoring: especially where iodized salt consumption is low. Strengthen laboratory facilities at central and township levels (training and equipment).

Communication: USI promotion through National Nutrition Promotion Week Campaign in the first week of September every year.

### *Nepal*

Communication: Awareness-creation among schoolchildren. Advocacy meetings are held with customs officers and high officials. Furthermore, advocacy programmes for grassroot level workers and iodized salt social marketing campaigns are also undertaken in focus border districts. Use of USI logo. Celebration of IDD month as part of awareness campaign.

Enforcement of USI legislation through multisectoral joint supervision or border districts affected with non-iodized and inadequately iodized salt and preparation of implementing regulations for Iodized Salt Act 1999.

Salt iodization: iodized salt distribution to remote and inaccessible districts at subsidized rates, along with constructing warehouses for storage of iodized salt.

Monitoring: Periodic monitoring visits to salt entry points in every quarter in order to verify the operation of internal monitoring system in traders' warehouses.

### *Sri Lanka*

Revision of salt iodization regulations: Registration of salt producers; tracking of non iodized salt; changing the packaging requirements to reduce the price gap. Publicity programmes and training of health workers are being enhanced.

### *Thailand*

H/H salt monitoring prior to a national IDD campaign.

### ***Additional notes to Table 8: Critical gaps/constraints***

#### *Bangladesh*

Main constraints: duplicating effects of parallel external monitoring systems; lack of market incentives to salt producers; lack of a comprehensive advocacy and communication strategy targeting salt producers and traders as well as the public; and poor quality assurance in small salt iodization factories (salt with too little or too much iodine).

#### *India*

The constraints are mainly in the form of non-consumption of adequately iodized salt due to lack of awareness of the benefits of iodized salt consumption as well as the lack of quality control measures and enforcement of regulations governing the standards of iodized salt. This is especially the case for movement of large quantities of salt by road, since the Salt Commissioner is only capable of enforcing quality checks on salt moved by train before its despatch as no salt can be loaded on the railway racks without a certificate of authenticity issued by the Salt Department. There is no such bar on the salt moved by roads through trucks/lorries.

The committee feels that the main constraint is transportation of iodated salt by road which is not subject to stringent checks under the existing system of monitoring as well as existence of a large number of small producers who are not adhering to strict quality control.

#### *Indonesia*

Limited budget from local government related to various fiscal capacities.

### *Maldives*

Tsunami funds will be used.

### *Myanmar*

Very small salt farmers living along the coastline not iodizing their salts (mostly for own consumption), but amount of this salt estimated to be negligible (what is the consumption of iodine-rich sea foods of these coastal populations?)

### *Nepal*

The preference for iodized packet salt with government endorsed two-child logo in general population is still low. Its market share has increased from 25% in 2002 to 29% in 2004. The preference for *Phoda* crystal salt in the general population is still high and there is insignificant reduction in its demand. The USI monitoring plan is still to be strengthened through legislative measures.

### *Sri Lanka*

The law requires that the salt that is available for human consumption should be iodized. But there is wide variation in the levels of iodization from almost zero to very high levels due to lack of mechanisms to monitor salt producers. This has to be regularised to ensure quality production. Due to this reason, there are considerable price differentials in the market between good adequately iodized salt and other spurious products. Plain salt that is locally produced and that is imported for industrial use also finds its way into the market, thereby aggravating this situation. Public awareness is inadequate with regard to the choice of adequately iodized salt. Consumer demand has to be created to sufficient levels to discourage spurious products entering the market. An identity has to be established through a good marketing campaign within the regulatory framework for consumer choice. Monitoring mechanisms have to be streamlined to ensure quality at all levels and feedback of information.

***Additional notes to Table 10: Critical actions needed to achieve USI by 2007***

*Bangladesh*

Revision of external monitoring system of the government to enable efficient monitoring of iodized salt at production, distribution, food processing and market levels with timely feedback, adjustment mechanisms and enforcement that allow for continuous improvement of salt iodization (ongoing and planned).

Development of a comprehensive strategy to eliminate IDD in Bangladesh through improvised and responsible business processes and by increasing demand from informed consumers (planned).

A technical review of all aspects of salt production, including processing, iodization, packaging and quality assurance, to identify technological approaches that will improve the performance of salt factories in salt iodization (planned).

*Bhutan*

Operational research on urinary iodine distribution among schoolchildren and pregnant women.

*DPR Korea*

To include iodized salt in public distribution system (since marketing structure of food commodities is weak in DPR Korea).

Monitoring, especially at factory level.

*Indonesia*

The IDD Day 2005 and 2006 to focus on USI.

Monitoring: Apply an awarding system for the best performing districts.

## *Nepal*

To establish an India-Nepal joint project to tackle the infiltration of non-iodized and inadequately iodized salt across the international border between India and Nepal.

To initiate an intensive community-based social mobilization campaign on national scale.

To initiate an intensive school-based awareness-creation campaign on national scale.

The major problem lies in the irregular availability of funds to ensure sustainability of the IDD control programme and its activities.

(In 1999, a provision for establishing Iodine Deficiency Disorder Elimination Committee was introduced under the Iodized Salt (Production, Sale and Distribution) Act to coordinate all activities under the iodine deficiency disorder control programme. This Committee, which is in the re-organizational process, should be made more functional.

## Annex 2

### Workplan 2005-2007

First Meeting of the Regional Working Group for IDD Elimination,  
WHO-SEARO, New Delhi, India, 29-30 September 2005

Keys constraints	Key actions	Lead agencies	Time line
<p><b>Decreasing interest in IDD elimination</b></p> <ol style="list-style-type: none"> <li>At government level</li> <li>At international agency level</li> </ol>	<ol style="list-style-type: none"> <li>Regional (SEARO) level re-advocacy meeting aimed at political leadership either as a stand alone meeting or piggy backed on another public health/development meeting.</li> <li>National level re-advocacy meetings in SEAR countries aimed at high officials, programme managers and decision makers in relevant sectors</li> <li>Reactivate national and sub-national level alliances for IDD elimination (including consumer / civil society/media groups/education and salt producers)</li> </ol>	WHO UNICEF	Feb 06
<p><b>Quality assurance of iodized salt and monitoring system</b></p> <ol style="list-style-type: none"> <li>Excess and inadequate iodine in salt</li> <li>High median urinary iodine excretion</li> <li>Poor utilisation of monitoring system leading to corrective action</li> </ol>	<ol style="list-style-type: none"> <li>Review existing QA procedures in place at iodized salt production level, and for national and regional laboratories and support capacity building (including protocol improvement, training and technical support).</li> <li>Standardize/harmonize salt iodine levels and UIE levels within parameters set by WHO/UNICEF/ ICCIDD guidelines.</li> <li>Link monitoring system to corrective action where needed</li> </ol>	ICCIDD WHO UNICEF	Dec 2005

Keys constraints	Key actions	Lead agencies	Time line
<p><b>Communication</b></p> <p>Decreasing interest with disappearance of visible manifestations of iodine deficiency</p>	<ol style="list-style-type: none"> <li>1. Change focus of communication from goitre control to prevention of brain damage</li> <li>2. Develop/implement comprehensive communication strategy (see <i>UNICEF-India IDD communication strategy</i>)</li> </ol>	<p>WHO UNICEF</p>	<p>Sept 05</p>
<p><b>Small salt producers</b></p> <ol style="list-style-type: none"> <li>1. Lack of technical know how</li> <li>2. Lack of marketing skills</li> <li>3. Inability to access potassium iodate</li> </ol>	<ol style="list-style-type: none"> <li>1. Training of small producers in process of iodization</li> <li>2. Explore possibility of establishing KIO<sub>3</sub> facility at regional level</li> <li>3. Marketing support/strategy for small producers.</li> <li>4. Form salt producers' cooperatives or associations</li> <li>5. Replacement/maintenance of salt iodization plants</li> <li>6. Improving distribution of iodized salt to difficult to reach groups or areas.</li> </ol>	<p>MI and UNICEF (Country specific support). WHO/UNICEF would explore the possibility of involving UNIDO/UNDP and WFP.</p>	<p>Initiate Action by Dec 2005</p>