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Distribution: General

Elimination of Iodine Deficiency Disorders in South-East Asia

*Report of an expert consultative meeting
Bangkok, Thailand, 25–26 June 2007*

Supplemented with

Recommendations made by the Joint Health Secretaries/
Consultative Committee for Programme Development and
Management meeting (2-6 July 2007) to the Sixtieth session of the
Regional Committee



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New Delhi, March 2008

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1. Introduction

Iodine Deficiency Disorders (IDD) are a major challenge to the health and development of the people in the South-East Asia Region. In addition to causing **goitre**, dwarfism and other anomalies, it may result in stillbirth and miscarriage, brain damage and intellectual impairment. Despite several actions undertaken in the Region, the achievements among Member countries vary significantly.

In a resolution adopted by the WHO Regional Committee for South-East Asia at its Fifty-seventh session in September 2004, Member States were urged to reaffirm their commitment to early and sustainable elimination of IDD by ensuring universal salt iodization including required iodine content at the consumer level through harmonizing partnerships with salt manufacturers, and to take urgent measures to accelerate the implementation of IDD prevention and control **programmes** so as to eliminate IDD at the earliest.

The resolution also requested the Regional Director to strengthen cooperation with Member States, and with international organizations, in providing technical assistance for training, and establishing/strengthening quality control assurance systems in close collaboration with the salt industry, including facilitation of networking of reference laboratories for iodine estimation; to strengthen advocacy efforts for renewed commitments to these **programmes**, including, where possible, appropriate research with relevant partners; to provide technical support for the development/adaptation of different methodologies required to strengthen the **programme**, preparation of guidelines, and promotion of exchange of information and creating awareness to increase public demand for iodized salt for human and animal consumption, and to report on the results achieved in implementing this resolution to the Sixtieth session of the Regional Committee in 2007.

In response to the resolution, Member countries and WHO have together accelerated the cooperative attempts to achieve the elimination of Iodine Deficiency Disorders (IDD) in the Region, working in partnership

with other United Nations and international organizations, mainly UNICEF, FAO, WFP, ICCIDD (International Council for Control of Iodine Deficiency Disorders) and MI (Micronutrient Initiatives).

Member countries have developed workplans for elimination of IDD and WHO has assisted in several activities. During the 2006-2007 biennium, seven countries (Bangladesh, Bhutan, India, Maldives, Myanmar, Sri Lanka and Timor-Leste) have developed workplans to include IDD elimination as a component of over all nutrition programmes such as strengthening integrated nutrition policy and plans, awareness campaigns and micronutrient deficiency prevention and control programmes. In addition, five countries (Bhutan, India, Nepal, Sri Lanka and Timor-Leste) have implemented workplans specifically targeted for elimination of Iodine Deficiency Disorders.

The preferred strategy for IDD control is universal salt iodization (USI) which consists in iodine fortification of all the salt used for human and animal consumption. Nine of the 11 Member countries were implementing universal salt iodization programmes in 2004. In 2007, Timor-Leste reached the state of drafting a decree for universal salt iodization. However, Timor-Leste as well as Maldives are yet to implement the USI programme.

The progress made in the Region during 2004-2006 has been assessed based on the reports by countries on the questionnaires from SEARO on attainment of goals recommended in the Guidelines for Assessment of Iodine Deficiency Disorders and Monitoring their Elimination (WHO/UNICEF/ICCIDD, 2001). A draft progress report on IDD elimination status was prepared and verified in this expert consultative meeting held in Bangkok during 25-26 June 2007.

The meeting reviewed the IDD situation in the Member countries and recommended action towards sustainable elimination. Concerned staff from the Regional Office and WHO/HQ, served as the secretariat assisted by the Institute of Nutrition at Mahidol University (INMU), Bangkok, a WHO Collaborating Centre for Nutrition as the local organizer.

The summary report of the meeting was presented to the joint meeting of Health Secretaries and the Consultative Committee for Programme Development and Management (Joint HS/CCPDM) held in the Regional Office, New Delhi, during 2-6 July 2007.

2. Inauguration

Dr Pattanee Winichagoon, Associate Professor, Institute of Nutrition, Mahidol University welcomed the participants. Dr P.T. Jayawickramarajah, WHO Representative to Thailand, delivered the inaugural message of Dr. Samlee Pilangbangchang, WHO Regional Director for South-East Asia. Dr. Samlee pointed out that iodine deficiency, as the world's greatest cause of preventable cognitive impairment, was recognized by the World Health Assembly in 1990 which endorsed the goal of eliminating iodine deficiency disorders (IDD) as a public health problem. This goal was reaffirmed through various resolutions adopted subsequently by the World Health Assembly and by the Regional Committee for South-East Asia. Member countries have accelerated workplans for elimination of IDD and WHO has assisted in several activities. Despite efforts by all concerned, progress toward achievement of IDD elimination in the Region seems to be relatively slow. The Regional Director urged the experts from Member countries, WHO Collaborating Centres and the concerned agencies to address this important problem in a more systematic and concerted manner towards sustainable elimination of IDD from this Region.

Dr Aye Thwin, Nutrition for Health and Development unit, (NHD-WHO/SEARO) introduced the participants. A total of 19 experts from 10 Member countries, WHO Collaborating Centres, partner organizations; UNICEF, ICCIDD (International Council for Control of Iodine Deficiency Disorders), WFP and Micronutrient Initiatives (MI) participated in the meeting. Please see list of participants in Annex 1.

Prof Dr Fatima Parveen Chawdhury, Director, Institute of Public Health Nutrition and Line Director, Micronutrient (Bangladesh) was nominated as Chairperson; Dr Sangsom Sinawat, Senior Medical Officer (Nutrition), Ministry of Public Health (Thailand) as Co-chairperson, and Mr Gyambo Sithey, National Programme Manager (Food and Nutrition), Ministry of Health (Bhutan) as Rapporteur. Please see Annex 2 for the programme.

3. Objectives

The general objective of the consultation was to review the IDD situation in the Member countries and to recommend future steps towards sustainable elimination. The specific objectives were:

- To review the elimination status of Iodine Deficiency Disorders in the Region based on the analysis report by NHD-SEARO
- To identify gaps, challenges and opportunities to achieve and sustain IDD elimination
- To formulate the required actions, and recommend appropriate and practical strategies and activities for sustainable elimination of Iodine Deficiency Disorders in the Region.

4. Proceedings

Preliminary report on the situation analysis of the situation of IDD elimination in SEAR countries

Dr. Aye Thwin presented the preliminary report on the detailed analysis of the situation of IDD elimination in SEAR countries. The situation of the countries was presented in terms of achieving each goal for sustainable elimination of Iodine Deficiency Disorders, namely:

- Goal number one: Proportion of households using adequately iodized salt (with an iodine content of 15 parts per million (ppm) or more – coverage should be more than 90%)
- Goal number two: Less than 50% of the population should have Urinary Iodine Excretion (UIE) below 100 µg per liter and less than 20% of the population should have below 50 µg per liter, as indicated by UIE among school-age children
- Goal number three: at least eight out of ten specified programmatic indicators should be met.

During the discussion, it was agreed that verification of the data should be verified during the consultation because countries conducted the assessments with different methodologies, using different instruments and different indicators. Examples were:

- Some countries used qualitative assessment to report quantitative data on the indicator for adequately iodized salt.
- Thailand used value of Urinary Iodine Excretion (UIE) among pregnant women of which the cut-off level for normality was assumed to be (and not definitely recommended yet) different from (higher than; 150 µg per litre Vs 100 µg per litre) the recommended population group, rather than UIE among school-age children.

Verification of data

A significant advantage of the meeting was apparent when some of the reported data were found to be outdated or inaccurate and the consultation gave the opportunity to technically clarify and verify the available data. In consultation with national programme managers and the main players in the field; WHO (SEARO and HQ), UNICEF, ICCIDD and MI, clarification of the data, sources, methodology and epidemiological verification of data was done for each country. The clarified data were presented and further verified in the plenary session. Please see Annex 3 for details.

Group discussion

Dr Aye Thwin presented the guidelines for the discussions, based on the goals for sustainable IDD elimination and the identified facts in the situation analysis by SEARO and verified during the first sessions.

The countries were divided into three groups, based on the similarity of constraints and challenges in their IDD elimination programmes. During the first day, groups discussed the gaps, challenges and opportunities identified for elimination of IDD.

Gaps, challenges and opportunities

The gaps identified for IDD elimination were common in most countries in the area of the coverage of adequately iodized salt.

Common challenges appeared in the areas of political commitment, effective functioning of multisectoral bodies, cooperation from the salt

sector, quality control of salt from small-scale salt producers, regular monitoring and quality control, impact study for support of policy and programmes, guidelines and protocol for monitoring and quality control.

The availability of potassium-iodate or iodine and cross-border issues regarding salt trade and quality control were cited as the emerging concerns by Member countries.

The opportunities which can be utilized as effective vehicles for future implementation were identified as:

- Existence of and well functioning national level multisectoral coordinating body for IDD Elimination Programme in eight out of 11 Member countries except Bangladesh, Maldives, and Timor-Leste.
- Existence of legislation for Universal Salt Iodization in nine out of 11 Member countries except Maldives and Timor-Leste.

5. Conclusion and recommendations

The consultation made the following recommendations on the future strategies and activities for sustainable elimination of Iodine Deficiency Disorders in the Region:

- The expert consultative meeting endorsed the findings of the draft paper, "Review of Iodine Deficiency Disorders in the South-East Asia Region", to be reported with updated data together with its methodological interpretation
- WHO and partners should support the Member countries with guidance on iodine requirements/cut-off for different population groups like pregnant and lactating mothers
- WHO and partners should assist the Member countries in developing a simple and valid quality assurance protocol for monitoring iodized salt at production level
- Member countries should monitor and report on both low and high level of iodine content in salt (quantitative) and urine, and ascertain the causes

- A sub-regional meeting involving Bangladesh, Bhutan, India and Nepal is needed for solving cross-border issues
- Further sub-regional meetings should be planned as necessary
- Partners should assist Member countries to access iodine or potassium iodate from regional producers
- WHO and partners should assist in programme analysis, identification of action plans and implementation activities for accelerating and sustaining IDD elimination
- The intercountry IDD meetings should be held at least once in two years.

6. Joint HS/CCPDM meeting (2-6 July 2007, SEARO, New Delhi)

At the Joint HSM/CCPDM meeting held on 2-6 July 2007 at the Regional Office in New Delhi, India, the Secretariat presented the progress report on the elimination of iodine deficiency disorders in the South-East Asia Region as a follow-up to resolution SEA/RC57/R4 adopted by the Regional Committee at its Fifty-seventh session. The report was based on the assessment of the reported information made according to the guidelines by WHO/UNICEF/ICCIDD and was updated and verified at the expert consultative meeting held during 25-26 June 2007 at Bangkok. Considerable progress has been recorded in the Region. The population with insufficient iodine intake declined from 556 million in 2004 to 443 million in 2006. Sri Lanka reported achieving IDD elimination in 2007. In 2004, only Bhutan had achieved IDD elimination. The number of countries having a national intersectoral coordinating body increased to 10 in 2006 from eight in 2004. The number of countries that had salt iodization legislation in place reached eight in 2006, while the remaining three countries from the Region have advanced towards the process of achieving it. Nine countries now have laboratory facilities for monitoring salt quality and programmes compared with seven that had these facilities in 2004. In spite of the remarkable progress made, the report also highlighted the need to maintain and enhance commitment among stakeholders, sustain the gains made, strengthen existing national bodies and bolster implementation of effective regulation on universal salt iodization. It also stressed the need for strengthening regular monitoring of Urinary Iodine Excretion (UIE) and assessment of the iodized salt production and distribution process.

Discussion points

- Access to regional sources for potassium-iodate or iodine supply;

Delegates from Myanmar and Thailand highlighted the importance of the availability of potassium-iodate (or its precursor iodine), which is the major vehicle for universal salt iodization. The difficulty of procuring and transporting potassium-iodate was a major obstacle and a drastic drawback for IDD elimination in Myanmar, which had almost achieved IDD elimination in 2005. The availability of the item from regional sources will help to solve this issue.
- Quality control protocols for monitoring iodized salt at the production level. The delegate from Thailand pointed out the need to establish protocols for quality control measures at the salt production level. Bangladesh, Bhutan, India, Myanmar, Nepal and Sri Lanka also shared their experiences in the importance of quality control for iodized salt.
- Issues of cross-border trade in iodized salt;

Delegates from Nepal and Bhutan discussed the issue of cross-border trading of low-quality iodized and non-iodized salt in their remote border areas. The Secretariat said that this issue has been discussed in the expert consultative meeting in Bangkok on 25-26 June this year, with the concerned countries being Bhutan, Bangladesh, India, Myanmar and Nepal.
- Issues of monitoring for sustainability of results achieved;

Delegates from Bhutan and Thailand called attention to the importance of maintaining efforts to sustain the elimination of IDD. They shared their experiences in deviation of priorities from IDD elimination after encouraging achievements. Because IDD cannot be eradicated like some diseases but can only be eliminated, it requires a continuous process of maintaining the goals. The necessity of regular monitoring for sustainability was highlighted. Delegates from Bangladesh, India, Myanmar, Nepal, and Sri Lanka shared their commitments to IDD elimination and experiences in monitoring. They highlighted the importance of data/information for policy and programme analysis. The Director, Programme Management, WHO/SEARO, noted the importance of monitoring for sustainability and suggested sentinel surveillance with most sensitive indicators. He also pointed out the need for sub-analysis of national data to identify

areas with excess and insufficient iodine intake. He assured the meeting of continued WHO technical assistance in these areas with the help of WHO Collaborating Centres.

Recommendations

Action by Member States

To revitalize and strengthen IDD programmes to ensure sustainable elimination of IDD problems, monitor progress through the application of urinary iodine excretion tests and ensure access to adequately iodized salt.

Action by WHO-SEARO

- (1) To facilitate access to affordable potassium-iodate or iodine from regional sources in collaboration with other partners.
- (2) To support Member States in development of quality control protocols for production of iodized salt in collaboration with the other partners and WHO Collaborating Centres.
- (3) To support, through the application of multicountry activities in Member States, tackling of the cross-border IDD, including quality control of iodized salt.
- (4) To support the Member States by:
 - (a) Strengthening the availability of data related to IDD for policy and programme analysis;
 - (b) Establishing IDD sentinel surveillance by using most sensitive indicators; and
 - (c) Sub-analysis of the data from national surveys to identify the areas of excess and insufficient iodine intake.

The final report on the status of "Iodine Deficiency Disorders in the South-East Asia Region" incorporated with the recommendations of HS/CCPDM meeting was submitted to the Sixtieth session of the Regional Committee (Annex 4).

Annex 1

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Annex 2

Programme

Day 1 – Monday 25 June 2007

- 08:30 Registration of participants
- 09:00 Opening Ceremony
- Welcome by – Director, INMU
 - Inaugural address of Regional Director, WHO-SEARO – read by Dr. P.T. Jayawickramarajah, WR-Thailand
 - Introduction of participants
 - Selection of Chair; Co-Chair and Rapporteur
 - Workshop objectives by *Dr Aye Thwin*
 - Announcement by Organizing Committee
- 09:30 *Refreshment*
- 10:00 Brief presentation of the report on the current status of IDD Elimination in the Region – by WHO-SEARO
- 10:15 General discussion on the report
- 10:45 Grouping – grouping of countries based on common problems; guidelines for group discussion
- 11:15 Group discussions on gaps, challenges and opportunities
- 12:30 *Lunch*
- 13:30 Group discussion continued
- 15:00 *Coffee/tea break*
- 15:15 Presentations on gaps, challenges and opportunities by groups in terms of common and country-specific information
- 16:15–17:00 Discussion on group presentations

Day 2 – Tuesday 26 June 2007

- 08:30 Summary of gaps, challenges and opportunities in member countries
- 08:45 Identifications of countries for attainment level on each indicators;
Grouping by mixture of countries with high and low attainments on indicators.
- 09:00 Brief presentations by ICCIDD, UNICEF and MI on experiences and success stories
- 09:45 Discussion on presentations
- 10:15 *Coffee/Tea break*
- 10:45 Group discussions on country specific action plans to achieve sustainable elimination of IDD
- 12:30 *Lunch*
- 13:30 Group discussions continued
- 14:30 Presentations on country specific recommended action plans
- 16:00 Plenary Session
- 16:30 – 17:00 Concluding Session

Annex 3
Indicators for IDD Elimination Status in Member Countries of SEAR –
Data Verification Matrix (WHO/UNICEF/ICCIDD/MI)

Country	Coverage with salt with any iodine/RTK (Oppm)	Coverage with adequately iodized salt (>15ppm)	Source	Median UIE	UIE < 100µg/L	UIE < 50µg/L	UIE > 200µg/L	UIE > 300µg/L	Source	Notes
Bangladesh	81.4	51.2	USI Survey Report 2004-5	163.0	33.8	16.0	41.7	27.1	USI Survey Report 2004-5	Salt assessment by titration. Any iodine is >5ppm.
Bhutan	99.0	95.0	2001 Cyclic monitoring.	298.0	22.0	<15	N/A	N/A	2001 Cyclic monitoring.	Cyclic monitoring 98, 99, 2000 and 2001 so data presented is most recent. 2001 data includes data from all 20 districts. All titration only.
DPR Korea	40.2		2004 National Nutrition Survey	N/A	N/A	N/A	N/A	N/A		Rapid test kit only
India	83.0	57.0	Coverage Evaluation Survey 2005							CES nationally representative. No national survey for urinary iodine. Data for six provinces available.
Indonesia	86.8	N/A	2005 Susenas	229.0	16.3	0.0	48.2	35.4	2003 National IDD Survey	Salt assessment by RTK only – figure for any iodine includes salt with enough iodine and 'not enough' iodine.
Maldives	71.6	62.3	2002 National IDD Survey	115.0	43.1	18.0	N/A	N/A	2002 National IDD Survey	Salt assessment by titration and test kit.

Country	Coverage with salt with any iodine/RTK (0ppm)	Coverage with adequately iodized salt (> 15ppm)	Source	Median UIE	UIE < 100µg/L	UIE < 50µg/L	UIE > 200µg/L	UIE > 300µg/L	Source	Notes
Myanmar	87.3	41.4	Urinary Iodine Excretion Survey 2006 (July)	123.5	34.4	8.2	N/A	N/A	Urinary Iodine Excretion Survey 2006 (July)	Salt assessment avail with both titration and RTK. Results for 'any iodine' are based on RTK result and for 'adequately iodized' are based on titration only.
Nepal	95.0	58.0	2005 Nepal IDD Status Survey	188.0	27.4	9.5	N/A	N/A	2005 Nepal IDD Status Survey	Salt assessment by titration and test kit.
Sri Lanka	99.0	91.2	2005 National IDD Survey (MRI)	154.4	29.9	7.5	35.5	16.8	2005 National IDD Survey (MRI)	
Thailand	57.6	47.2	2005-6 MICS	101.6	49.3	19.4	N/A	N/A	MOH Cyclical Monitoring System data for 2004	Salt assessment avail with both WYD and RTK. Results for 'any iodine' are based on RTK result and for 'adequately iodized' are based on WYD only. UIE data is for pregnant women.
Timor-Leste	72.6	N/A	2002 MICS	N/A	N/A	N/A	N/A	N/A		Salt assessment from RTK only.

Annex 4

Follow-up on selected resolutions/decisions* of the last three years: Iodine Deficiency Disorders in South-East Asia Region

The WHO Regional Committee resolution (SEA/R C57/R4 – Iodine Deficiency Disorders in the South-East Asia Region) adopted in 2004 urges Member States to reaffirm their commitment to early and sustainable elimination of Iodine Deficiency Disorders (IDD) and requests the Regional Director to provide technical assistance and support to Member countries for the same and to report on the achievements to the Sixtieth session of the Regional Committee in 2007. This background document was prepared as the progress report for the meeting.

The progress made in the SEA Region during the reporting period (2004-2007) was assessed by WHO/SEARO on the basis of the guidelines for assessment of iodine deficiency disorders and monitoring their elimination (WHO/UNICEF/ICCIDD, 2001). The assessment was further verified at the Expert Consultative Meeting in Bangkok held on 25-26 June 2007.

Countries of the South-East Asia Region have recorded considerable progress in eliminating IDD. The population with insufficient iodine intake in eight reporting countries declined from 556 million in 2004 to 443 million in 2006. In 2004, Bhutan was the only country that had achieved elimination status. Sri Lanka too has reported achieving this in 2007.

There has also been progress in achieving programmatic indicators. The number of countries having a national inter-sectoral coordinating body increased to 10 in 2006 from eight in 2004. The number of countries which had salt iodization legislation in place reached eight in 2006 while the remaining three from the Region have advanced towards the process of achieving it. Nine countries now have laboratory facilities for monitoring salt quality and programmes compared to seven which had these facilities in 2004.

* Originally issued as RC document SEA/RC/60/16.1.

The report has been discussed in the Joint meeting of Health Secretaries of Countries of WHO SEA Region (HSM) and the Consultative Committee for Programme Development and Management (CCPDM) held in WHO/SEARO, New Delhi, on 2-6 July 2007. The joint meeting recommended that Member States should take measures to revitalize and strengthen IDD programmes to ensure sustainable elimination of IDD, monitor progress and universal access to iodized salt. WHO/SEARO was requested to, inter alia, facilitate access to potassium iodate or iodine, provide technical support for development of simplified quality control protocols for production of iodized salt, to support multicountry activities to resolve cross-border issues related to iodized salt and support countries for IDD data collection and analysis.

The agenda item is now submitted to the Regional Committee for review and consideration.

Background

- (1) Iodine deficiency is the greatest cause, globally, of preventable physical and intellectual impairment. Recognizing its harmful effects on the health and development of the population, the WHO Regional Committee for South-East Asia, adopted a resolution (SEA/RC57/R4) on Iodine Deficiency Disorders in the South-East Asia Region, at its 57th session in 2004 (Annex 1). The resolution urged Member States, to reaffirm their commitment to early and sustainable elimination of IDD and requested the Regional Director to provide technical assistance and support to the countries and to report on the results achieved in implementing this resolution to the sixtieth session of the Regional Committee in 2007.
- (2) In response to the Regional Committee resolution, Member countries and WHO have together accelerated efforts to achieve the elimination of Iodine Deficiency Disorders (IDD) in the Region, working in partnership with other United Nations and international organizations, mainly UNICEF, FAO, WFP, International Council for Control of Iodine Deficiency Disorders (ICCIDD) and Micronutrient Initiative (MI).
- (3) Member countries have developed workplans for elimination of IDD and WHO has assisted in several activities. During the 2006-2007 biennium, seven countries (Bangladesh, Bhutan, India, Maldives, Myanmar, Sri Lanka and Timor-Leste) developed workplans to contribute to IDD elimination as a component of overall nutrition programmes such as strengthening integrated

nutrition policy and plans, awareness campaigns and micronutrient deficiency prevention and control programmes. In addition, five countries (Bhutan, India, Nepal, Sri Lanka and Timor-Leste) implemented workplans specifically targeted at elimination of IDD.

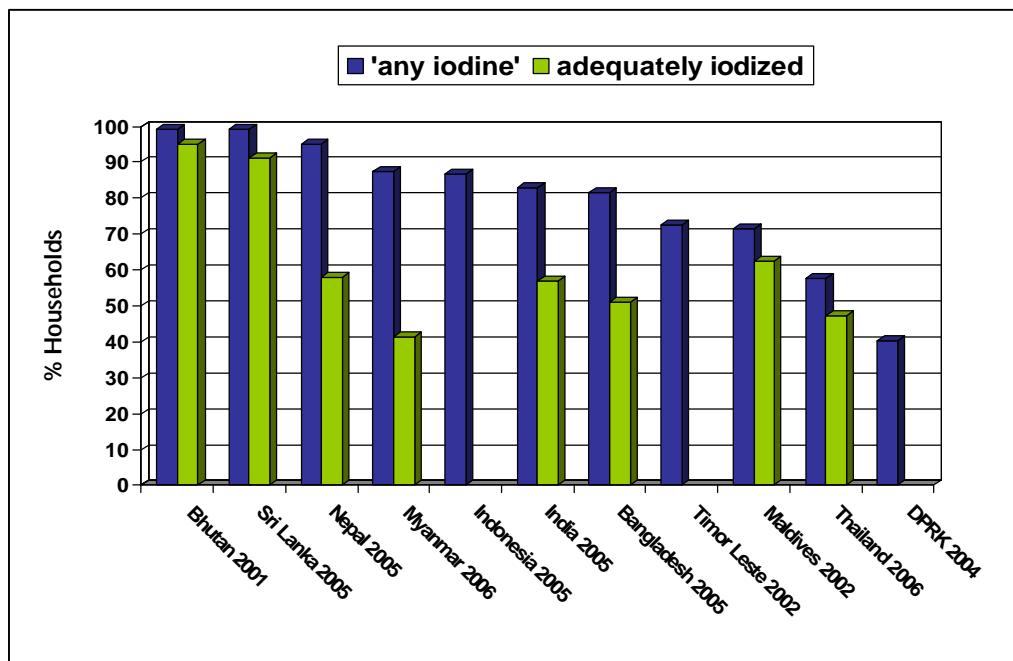
- (4) World Health Assembly resolution WHA58.24 also required a progress report to be prepared on the global situation on prevention and control of iodine deficiency. After discussing the report, the 60th World Health Assembly in 2007 adopted resolution WHA60.21 which urged Member States to redouble their efforts to reach those not yet protected from iodine deficiency disorders and to sustain successful programmes on a continuous basis and to implement the recommendation in resolution WHA58.24 to establish multidisciplinary national coalitions in order to monitor the state of iodine nutrition every three years. The Resolution WHA60.21 strengthens the South-East Asia Region's commitment to the elimination of iodine deficiency in the Region.

The progress

- (5) The progress made in the Region during the reporting period (2004-2007) has been assessed by WHO/SEARO on the basis of the guidelines for assessment of iodine deficiency disorders and monitoring their elimination (WHO/UNICEF/ICCIDD, 2001), as reported by Member countries during the period of November 2006 through March 2007. The assessment was again updated and verified at the Expert Consultative Meeting in Bangkok during 25-26 June 2007, which was attended by experts from 10 Member countries and partner agencies.
- (6) The sustainable elimination of IDD requires that the following indicators are met:
- Proportion of households using adequately iodized salt (with an iodine content of 15 parts per million (ppm) or more) – coverage should be more than 90%.
 - Median urinary iodine excretion (UIE) should be at least 100 µg/l with less than 20% of values below 50 µg/l.
 - Programmatic indicators – At least 8 out of the 10 specified indicators should be met.

- (7) It is to be noted that while Bhutan has already been acknowledged as having reached the status of sustainable elimination of iodine deficiency, Sri Lanka reported achieving all required goals for sustainable elimination of iodine deficiencies, as assessed by the WHO/UNICEF/ICCIDD guidelines in 2007.
- (8) The preferred strategy for IDD control is universal salt iodization (USI) which consists of iodine fortification of all the salt used for human and animal consumption. Salt was chosen as a vehicle for fortification because its consumption is fairly stable throughout the year and iodization technology is cheap and easy to implement. In the South-East Asia Region, the progress made through the concerted efforts of Member countries, WHO and other partners in implementing this strategy is noticeable. The number of countries having a national inter-sectoral coordination body increased to 10 in 2006 from eight in 2004. The number of countries which have salt iodization legislation already in place reached eight in 2006 while the remaining three have taken the process ahead. Nine countries now have laboratory facilities for monitoring salt quality and programmes while only seven had these facilities in 2004.
- (9) While access to iodized salt was reported by nearly 66% of households in the Region in 2004, the figure rose to 79% in 2006. However, it is important to note that in several instances the reported iodine content of salt was measured only by qualitative methods. The goal for iodized salt consumption is described in terms of the proportion of households consuming adequately iodized salt which should be monitored by quantitative assessment. In 2006 two countries in the Region, Bhutan and Sri Lanka, reported reaching the target of 90% coverage, while in 2004 it was only Bhutan.

Figure 1: **Proportion of households consuming salt with 'any iodine' and adequately iodized salt**



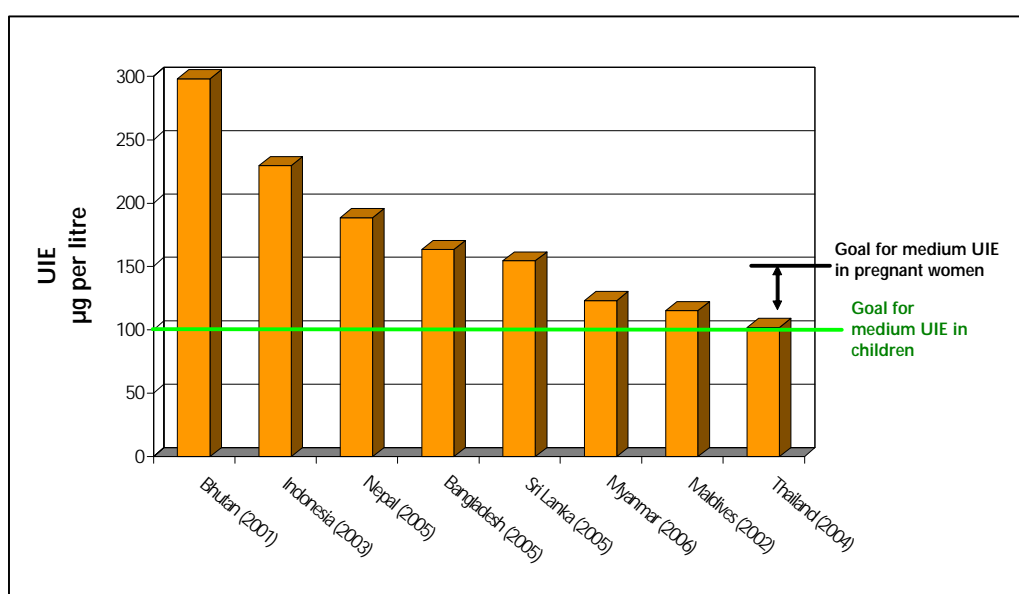
Source: Countries' reported data from national surveys

(10) The dates of the most recent surveys conducted vary in the countries, ranging from 2001 (Bhutan), 2002 (Timor-Leste and Maldives) and 2005-06 (Bangladesh, India, Indonesia, Myanmar, Nepal, Sri Lanka and Thailand). This indicates that regular monitoring of iodized salt still poses a challenge in some countries. Quantitative data on adequately iodized salt is not available for DPR Korea, Indonesia and Timor-Leste. Of the reporting countries, Bangladesh, India, Myanmar, Nepal and Thailand have 50-60% coverage of adequately iodized salt, while in Myanmar and Thailand the figure hovers between 40% and 50% (Figure 1).

(11) The adequacy of iodine intake is indicated by median urinary iodine excretion (UIE) of the population. It is described as adequate at ($100\mu\text{g/L} < \text{UI} < 199 \mu\text{g/L}$), above recommended iodine intakes ($200 \mu\text{g/L} < \text{UI} < 299\mu\text{g/L}$) or excessive ($\text{UI} > 300 \mu\text{g/L}$). The goal is to achieve adequate iodine intake in the population. Data for Median Urinary Iodine Excretion is not available for DPR Korea, India and Timor-Leste. Out of eight reporting countries seven have reached the target of adequate iodine intake indicated

by median UIE among school-age children being at least 100 µg per litre. Thailand reports median UIE in pregnant women. The reported level in pregnant women in that country is 102 µg /L (recommended level is 150-249 µg /L). Median UIE in Bhutan and Indonesia is at a level above recommended intakes of iodine, thereby exposing susceptible groups to a risk of hyperthyroidism (Figure 2). Although Sri Lanka and Bangladesh report a median within the adequate range a significant proportion of the population (30%-40%) have UIE above recommended levels.

Figure 2: Median urinary iodine excretion among children aged 6-12 years



Source: Countries' reported data from national surveys.

(12) Analysis of available data from eight countries of the SEA Region shows that in spite of an increase in the total population, the number of individuals with insufficient iodine intake (as indicated by the population proportion among school-age children having UIE less than 100 µg per litre) decreased from 556 million in 2004 to 443 million in 2006 (Table 1). However, according to the report submitted to the Sixtieth World Health Assembly in 2007, the SEA Region still accounts for 26% of the global population with insufficient iodine intake.

Table 1: South-East Asia Region
Proportion of population and number of individuals in the general population with insufficient iodine intake as indicated by population of school-age children having UIE less than 100 µg per litre

Year	2004	2006	2004		2006	
Country	tl pop ^a (‘000)	tl pop ^a (‘000)	Proportion ^b	Total number (‘000)	Proportion ^b	Total number (‘000)
BAN	131,050	140,000	43	56,352	34	47,320
BHU	658	753	12	79	22	166
IND	1,015,923	1,094,600	33	335,255	30	328,380
INO	210,421	222,050	64	134,669	16	36,194
MAV	276	299	43	119	43	129
MMR	47,749	55,400	38	18,145	34	19,058
NEP	23,043	25,100	35	8,065	27	6,877
SRL	19,359	19,460	22	4,259	30	5,819
Total of eight countries				556,942		443,942

^aBased on population figures reported by countries for updated WHO-SEARO nutrition profile

^bCountries’ reported data from national surveys

(13) The sustainability of IDD elimination is judged by the minimum attainment of eight out of ten programmatic indicators. Five countries (Bhutan, Indonesia, Nepal, Sri Lanka and Thailand) were construed to attaining all ten programmatic indicators. Four countries (Bangladesh, DPR Korea, India and Myanmar) reported attaining eight or more programmatic indicators, thus reaching the goal. Maldives reached three and Timor-Leste met two indicators.

The challenges and the way ahead

(14) A number of actions have been carried out in the Region over the past three years. Member countries, working in partnership with WHO and other partners, have gained momentum in areas like assessment and adjustment of

programmes, resulting in improvement of implementing Universal Salt Iodization, as seen by the progress in adequate iodine intake by a larger proportion of the population. However, challenges remain to achieve elimination of iodine deficiency and its sustainability in the Region. The trends of the progress vary among the countries. The major constraints that can be identified are ensuring effective regulation, ensuring outreach of adequately iodized salt to the most vulnerable population, and regular quality control and monitoring.

- (15) Cross-border salt trade and availability of iodine and/or potassium iodate in the Region are emerging concerns on the road to achieving IDD elimination.
- (16) The challenge is to sustain the current status of IDD elimination in Bhutan and Sri Lanka, while re-enforcing them in the remaining nine countries, especially in Myanmar and Thailand where access to adequately iodized salt has declined to less than 50%. Particular attention is needed in Maldives and Timor-Leste where both iodized salt coverage and most of the programmatic requirements are yet to be achieved at satisfactory level. Bangladesh, Bhutan, Indonesia and Sri Lanka, where high UIE has the potential of causing hyperthyroidism in susceptible population groups, need careful research, sub-analysis of available data and programme re-assessment.
- (17) Regular quality control, monitoring and impact evaluation according to the stipulated guidelines need to be reinforced in Member countries.

Annex 5

RC resolution (SEA/RC57/R4) on Iodine Deficiency Disorders in the South-East Asia Region

The Regional Committee,

Recalling World Health Assembly resolutions WHA49.13 and WHA52.24 on prevention and control of iodine deficiency disorders,

Concerned that iodine deficiency remains a major challenge to the health and development of the population in the South-East Asia Region, and that in addition to causing goitre, dwarfism and other anomalies, it may result in stillbirth and miscarriage, brain damage and intellectual impairment,

Recognizing that the elimination of iodine deficiency will herald a major public health triumph and contribute to national and regional economic development,

Noting further that many Member States have established IDD prevention and control programmes,

Mindful of the concern about existing salt iodine monitoring and quality control mechanisms and legislative procedures,

Concerned that the goal for IDD elimination is 2005, but that progress towards achieving this goal has slowed down, and

Taking into account that the amount of effort required to achieve the goal of IDD elimination will vary in countries,

1. URGES Member States:
 - (a) to reaffirm their commitment to early and sustainable elimination of IDD by ensuring universal salt iodization including required iodine content at the consumer level through harmonizing partnerships with salt manufacturers, and
 - (b) to take urgent measures to accelerate the implementation of IDD

prevention and control programmes by according due priority so as to eliminate IDD at the earliest, and

2. REQUESTS the Regional Director:

- (a) to strengthen cooperation with Member States, at their request, and with international organizations, in providing technical assistance for training, and establishing/strengthening quality control assurance systems in close collaboration with the salt industry, including facilitation of networking of reference laboratories for iodine estimation;
- (b) to strengthen advocacy efforts for renewed commitments to these programmes, including, where possible, appropriate research with relevant partners;
- (c) to provide technical support for the development/adaptation of different methodologies required to strengthen the programme, preparation of guidelines, and promotion of exchange of information and creating awareness to increase public demand for iodized salt for human and animal consumption, and
- (d) to report on the results achieved in implementing this resolution to the sixtieth session of the Regional Committee in 2007.

*Fifth Meeting,
9 September 2004*