JFPR 9005: IMPROVING NUTRITION OF POOR MOTHERS AND CHILDREN IN ASIAN COUNTRIES IN TRANSITION

Issues Paper on Salt Iodization

Frits van der Haar
Associate Professor of Global Health
Emory University School of Public Health
Atlanta, Georgia, USA
August 2004

SUMMARY

1. The 3 years since the Almaty Forum in October 2001 have witnessed a significant improvement in the production of iodized household salt and its supply among poor populations of the JFPR9005 participating countries Azerbaijan, Kazakhstan, Kyrgyz Republic, Mongolia, Tajikistan and Uzbekistan (i.e., "the area"). The evidence is clear that IDD at the beginning of the Project period was highly prevalent in major segments of the populations in the area, and no more than 25% of households in the area were using adequately iodized salt by end 2000.

2. The JFPR9005 Project set out with a challenging target in each Country Investment Plan (CIP) to reach 66% iodization of the national human salt consumption. In pursuit of its target, the Project, working in close collaboration with partners in the area, provided comprehensive support to the national leaderships in improving their management capacity and expanding the delivery infrastructure and operational oversight. Documented outcomes of the Project included improvements of political will and oversight; enactments of appropriate legal instruments and procedures; more salt inspections by regulatory authorities; cost-efficient Trade & Tariff regulations; upgraded processing and marketing in salt supply channels; increased utilization by producers of fortificant, equipment and packaging materials; stronger and more communications designs and efforts to improve the acceptance of iodized salt by poor consumers; and enhanced monitoring & evaluation capacities.

3. From producer self-reports on the utilization of the JFPR9005-supplied fortificant, the calculated realization over the15-month period from January 2003 to March 2004 was 209 MT iodized salt, or 85% of the planned iodized salt production. Based on a global salt user rate estimate of 5kg/capita/year, the iodized salt production realized with JFPR9005 inputs was sufficient to supply 33.4 million people in the area with iodized salt, or 53% of the total population, thus providing protection to 600 thousand newborns each year against the brain damage of iodine deficiency that could have occurred otherwise.

4. The largest iodized salt production was reported in Kazakhstan, i.e., 78.2 MT, equivalent to the salt consumption needs of 12.5 million people per year. The utilization of JFPR9005-supplied potassium iodate (KIO_3), calculated from self-reported salt production data, ranged from 55% in Kyrgyz Republic to 165% in Tajikistan. Though the reimbursement of KIO_3 costs by the national salt industries was uneven and Tajikistan exempted due to economic hardships, overall 77% of the fortificant cost, or more than US$33 thousand, was recovered in the Project.

5. The progress of JFPR9005 in salt iodization summarized above took place along with a range of planned action components that were managed through Country Project Offices (CPO) located in the Ministries of Health in each participant country, and supported from a lean Regional Coordinating Administrative Office (RCAO), located in Almaty, which maintained constant close liaison with the ADB cognizant officer. Focused support was directed at the policy process of legislative and regulatory enactments, which led to harmonious salt iodization laws in all countries except Uzbekistan. Attendant regulations on Taxes & Tariffs were enacted in Kyrgyz Republic and Kazakhstan, and iodized salt standards at 40±15ppm iodine were promulgated in all but Uzbekistan. Chemical supplies and equipment was provided for salt and urine measurement; numerous rapid salt iodine field tests were performed at salt enterprises, retail outlets and in households. JFPR9005 financed the holding of a series of capacity building events and workshops, and it supported the design, development and printing of numerous communications and media materials, targeted at a wide array of beneficiary groups, learner audiences and stakeholders. National and international expert advice and travel was fielded on explicit need, and strong admin-finance support was maintained throughout. The comprehensive nature of support in establishing policy instruments, technology, capacity development and admin-finance are a model example for similar agency efforts elsewhere in efforts to reach the global IDD elimination goal on time.

6. Recommended next steps include the urgent enactment of the harmonized Universal Salt Iodization (USI) law and iodized salt standard in Uzbekistan, and appropriate attendant

Tariff & Trade regulations in Uzbekistan, Mongolia, Tajikistan and Azerbaijan. The status of household iodized salt use at end-of-Project should be surveyed, rapidly and on small scale, in Azerbaijan, Kazakhstan, Kyrgyz Republic (separating the domestic and outside sources of iodized salt) Mongolia and Tajikistan. While not urgent, a review of legislation is indicated in each country from the viewpoint of mandating the use of iodized salt in animal feed and selected food processing industries. National policy should be established in each country that alternative iodized food products are banned for purchase in consumer markets.

7. The area has been accumulating a formidable experience in the efforts to improve USI for iodine deficiency disorders (IDD) elimination. The time may be ripe for local professional associations and the Kazakh Academy of Nutrition to begin a process of improved international exchange in the scientific assessment of the benefits from IDD elimination on national development. One next step could be that the International Council for Control of Iodine Deficiency Disorders (ICCIDD) may respond favorably to an invitation for holding its next annual meeting in Central Asia.

8. The experience of JFPR9005 demonstrates that the salt manufacturers in the area, and their allies in the salt trade, have risen to the challenge of improving their iodized salt production and supplies. This positive response must be consolidated and expanded to encompass all edible salt within the next short time period. A next step should be that each producer conducts a review of their customer base to ascertain that customers serving the human consumption markets are all insistent on iodized salt. Salt producers also should increase more frequent, self-initiated, more imaginative promotion through the channels of their customer-traders, to complement the sustained public sector consumer education. From the viewpoint of reaching the national IDD elimination goal in a cost-effective way, it is important to acknowledge that “small-scale”, “far-flung”, “rudimentary-technology” and “low salt-quality” salt producers are not capable to face up to these tasks. National policies that keep these salt enterprises afloat do not promote self-sufficient and sustained achievements.

9. Finally, National Coalitions should be further developed and become established from the experience in this Project, through making the functions of the national Steering Committees more solid and permanent. The national oversight of ensured progress toward optimum iodine nutrition is rooted in a demand for monitoring information expressed from above. National decision-making requires that the leadership is being informed. National Coalitions should demand that they are being supplied with regular data and information from ongoing monitoring and evaluation of the efforts in sustained IDD elimination through USI.

I. BACKGROUND AND HISTORY

1. The Almaty Forum, held 8-12 October 2001 in Almaty, Kazakhstan, represented the culmination of a process set in motion when in late 2000 the Japan Fund for Poverty Reduction (JFPR) offered the Asian Development Bank (ADB) a $6 million grant to assist countries in Central Asia in the development of investment plans aimed at an increased delivery of fortified salt and flour to poor women and children. Early in this process, ADB sought close collaboration with the UNICEF network of country offices and technical support was connected with the Kazakh Academy of Nutrition (KAN), a reputed science resource in the area.

2. The total cost of the Project was budgeted at $7.09 million equivalent, $6.85 million of which was to be financed on a grant basis. Participating governments at the national and local levels, NGOs, and the private sector would finance the remaining $240 thousand mostly through in kind contributions. Parallel assistance through UNICEF was foreseen for capacity strengthening, policy advocacy, public education and surveillance in its role as lead development agency partner in Universal Salt Iodization (USI).

3. The overall aim of the JFPR9005 Project, launched at the Almaty Forum, was to improve the nutrition status and physical and mental capacity of the poor by piloting an umbrella regional program for delivering micronutrient-fortified salt and wheat flour to poor populations of participant countries. A Consensus Statement adopted at the Almaty Forum reflected the broad objectives in the Country Investment Plans (CIP) of participant countries in improving the required policy capacity, delivery patterns and operational competence. The CIPs of Kazakhstan, Mongolia and Uzbekistan were signed at the Forum, followed by those of Azerbaijan, Kyrgyz Republic and Tajikistan soon at a later date. Each CIP defined an ambitious target of 66% of household iodized salt use at end-of-project, in concert with an encompassing range of required supportive actions in high-level advocacy, public mobilization and education, legislative & regulatory enactments, standards and their enforcement, technology improvements in salt enterprises, capacity building in a broad variety of stakeholder and partner organizations, and assessment and monitoring of efforts and results. The Ministry of Health in each participating country was nominated as the national executing agency and a Country Project Office (CPO) was established in each Ministry. A small Regional Coordinating Administrative Office (RCAO) was established to support the CPOs in finance-admin issues and facilitate liaison among the CPOs, ADB and other partnering organizations.

Table 1. Pre-Project iodine nutrition in JFPR9005 countries

Country	Information cited in WHO database	Reference
Azerbaijan	Median UIE 45mcg/L. 347 8-14 year-old children of 9 regions; 2001	Markou KB
Kazakhstan	Median UIE 53mcg/L. 951 15-49 year-old females, nationwide; 1999	Ospanova F
Kyrgyz Rep	Median UIE 30-45mcg/L. 9-10 year-old boys, Bishkek, Osh and Naryn; 1999	Sultanalievea R
Mongolia	Median UIE 102mcg/L. 4 -16 year-old boys, nationwide; 2001	Bolormaa I
Tajikistan	Goiter rate 49-90%. School-aged boys at 3 survey sites; 1999	Kasymova S
Uzbekistan	UIE<100mcg/L among 97% school-aged children. National survey; 1998	Ismailov SI

Source: WHOSIS database, accessed 28 July 2004.

4. The serious nature and presence of IDD and the limited progress made toward USI in the area prior to the Project underscored its urgent need. While representative population data on IDD prevalence at Project start are scarce, IDD was a severe and clearly present threat in major segments of the populations in the area, as shown in Table 1. The salt iodization status at project start shows that the household use of iodized salt varied from 19% in Uzbekistan to 67.7% in Mongolia, with an average for the JFPR countries of 25% (Table 2). At the birth rates prevailing in 2000, the use of iodized salt in 25% of households meant that only 309 thousand of

1,185 thousand newborns every year were protected against the brain damage of iodine deficiency at Project beginning.

Table 2. Pre-Project USI situation in JFPR9005 countries

	Population in millions		Household Salt % iodized		Annual births in thousands			
	Total	ID	Value	Year	per 1,000 population	total number	numbers protected	numbers unprotected
JFPR9005 countries, end 2000 situation								
Uzbekistan	24.8	4.7	19	2000	23	569	108	461
Kazakhstan	14.9	4.3	29	1999	14	207	60	147
Tajikistan	6.4	1.3	20.2	2000	21	133	27	106
Kyrgyz Republic	4.9	1.3	27.2	1997	22	109	30	80
Azerbaijan	7.7	3.3	43	2000	15	115	50	66
Mongolia	2.5	1.7	67.7	1998	20	51	34	16
	66.4	21.4	25			1,185	309	876
Data sources: Salt Situation Assessment; UNICEF								74%

Population data from U.N. Population Reference Bureau, 2001 World Population Datasheet – www.prb.org.

5. As was the case during the preparatory period leading to the Project launch in October 2001, ADB continued maintaining close working relationships with UNICEF also in Project execution. To facilitate decisions on investments in salt iodization, UNICEF arranged for salt situation assessments in participating countries prior to the Almaty Forum, except in Mongolia where a similar analysis had just been concluded. UNICEF project officers in each country assisted in CIP development, and coordinated the exchange of information among partners and the country team members involved in drafting the CIP. During spring 2002, UNICEF recruited a micronutrient assistant project officer in each of the country offices of CARK and trained them in the specifics of food fortification, with special reference to the aims and anticipated progress of the Project. In Uzbekistan, UNICEF and JFPR supported a national salt producers meeting in October 2002 and in Kyrgyz Republic, a local NGO through the Swiss Red Cross supported widespread testing of iodized household salt in Naryn Oblast, and JFPR supported the hosting by the Kyrgyz Salt Producers Association of a regional salt producers meeting attended by UNICEF. In summary, the blending of talents in collaborative support has continued among various supportive agencies in the many efforts during the Project period, including strategy analysis, capacity development, monitoring support and technical exchanges.

II. APPRAISAL OF DECISIONMAKING AND PROGRESS

6. Reports and summaries of the Project's implementation benchmarks, the progress made and the achievements obtained are available and will not be repeated here.

7. This chapter focuses on an analysis of Project reports and summaries from a viewpoint of the national decision-making that took place in addressing iodine deficiency problems, and a preliminary assessment of the situation that materialized following upon these decisions. The reason for taking this approach is that it is not only desired to know what occurred and transpired in time with the Project, but also to assess how the decisions and outcomes took place in its particular way, so as to learn from the facts and circumstances that made it happen.

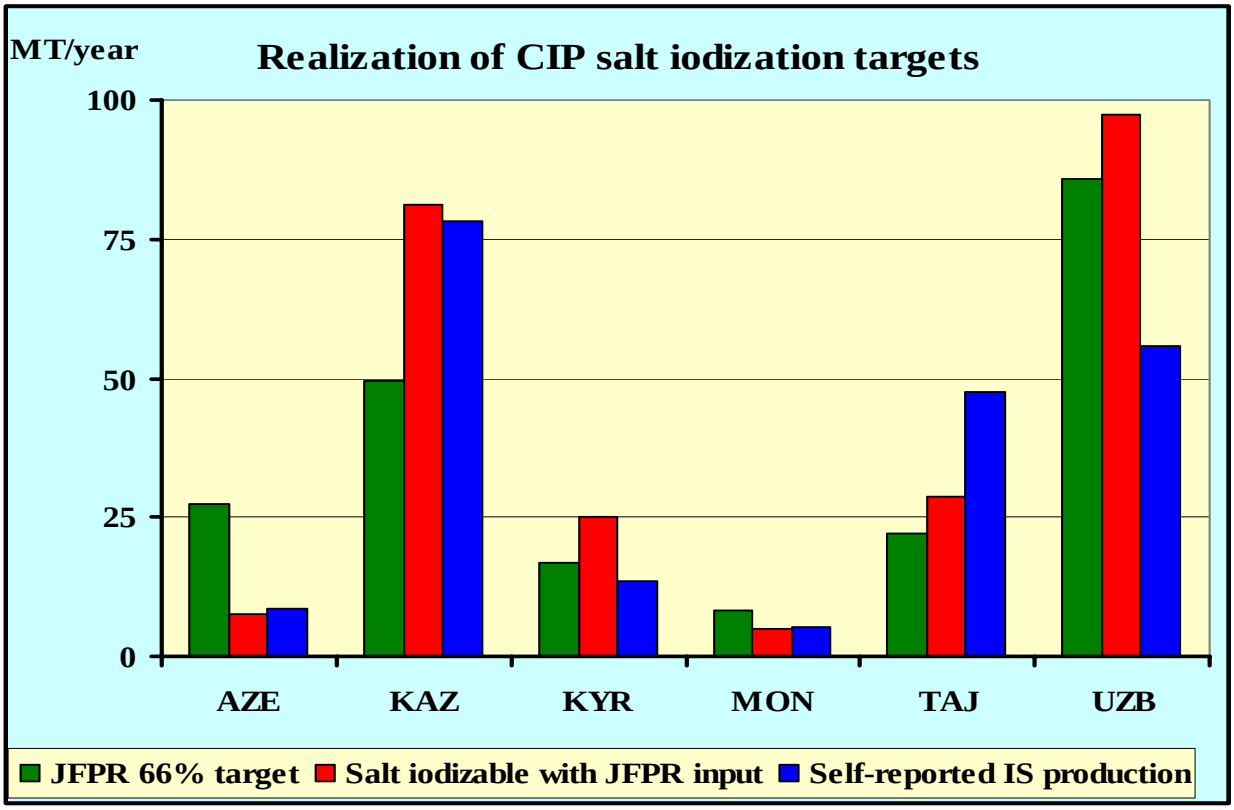
8. The following sections start out with data illustrations and a look at the outcomes of the Project, followed by comments on the progress in special Project elements. Rather than offering a comprehensive analysis of all elements, the paper reports on strategy considerations that present either a recognizable threat or a key opportunity to national leaderships for further improvements during the near future.

A. End of Project USI situation

9. Was the JFPR target of 66% population salt consumption reached? From producer reports, the answer (Chart 1) would appear clearly affirmative for Kazakhstan and Tajikistan, although the significant over-production in Tajikistan compared to the amount iodizable on basis of JFPR9005-supplied fortificant is somewhat puzzling. Although in Kyrgyz Republic the reported production fell short of the target and potential, the answer for Kyrgyz Republic is less certain because much of the national salt consumption is imported (mostly from Kazakhstan) and therefore, the household situation may differ significantly from the local production data. In Azerbaijan, Mongolia and Uzbekistan, however, it would appear from producer self-reporting that the CIP targets were not met.

10. Nevertheless, a tremendous improvement has taken place in iodized salt supplies in the area during the 3 years of JFPR9005. Overall from production reports, the realization between January 2003 and March 2004 is calculated at 209 MT iodized salt produced, or 85% of the target. Taking the global average consumption planning of 5 kg salt/person/year, this amount would suffice for the salt consumption needs of 33.4 million people, or 53% of the population in the area. And the aggregate supply estimate means that 600 thousand newborns per year were protected against the brain damage of iodine deficiency that might have occurred otherwise – almost double the number of 2000.

11. Household-based estimates in the area of the use of iodized salt, although not up-to-date in each country, would indicate that the above supply figures may be conservative, however. For example, Mongolia reports that in 2003 more than 77% of the salt in households was iodized and rapid household salt testing by 6 million primary schoolchildren in Uzbekistan in 2004 identified that 57% of the salt was iodized. Encouraging household user rates have also been reported from Tajikistan (43%; Beijing Conference) and Kyrgyz Republic (72.4%) in 2003. A UNICEF report cites 70% for 2003 in Azerbaijan, and extensive community surveys by NGOs in major parts of Kazakhstan in the same year indicate that 90% of the salt in markets and households was iodized. In conclusion therefore, the reported production data may underestimate the true use of iodized salt in households in the area. Collecting up-to-date estimates of household iodized salt use will be important to verify the attainment of the JFPR9005 target of 66% consumption.



B. Legislation

12. The investments and advocacy in the Project period took place against the background of a high-level policy agreement, concluded in Minsk on 31 May 2001, where the Heads of Government in the Commonwealth of Independent States pledged to collaborate in unified approaches for dealing with the serious IDD situation in their nations. An example of harmony is the adoption of the same standard level of iodization, and the choice of potassium iodate as the single fortificant in almost all CIS States. Also in cross-border salt trade, the Minsk agreement provided an urge for better cost-efficiencies in import/export through improved Tariff & Trade regulations, which is highly beneficial for the salt requirements of Kyrgyz Republic where no local salt sources exist, and is also relevant in serving the Kazakh salt markets located more closely to salt sources in Russian Federation.

13. Enactment of legislation and establishment of iodized salt standards, Tax & Tariff regulations and the associated food quality control applications in JFPR9005 countries are grounded in the broader institutional and operational arrangements with roots in history. Oversight of the appropriate compliance with legal requirements in salt production, trade channels and markets are under the responsibility of the Sanitary Epidemiological Services (SES). Observations in Kazakhstan indicate that once the SES inspectors, who are tasked with supervising the supply and use of salt in markets and shops, became convinced of the necessity of adequate support to USI, the insistence by traders on iodized salt in their purchase orders to the productive salt industry increased.

14. The key role of SES in assuring quality control also comes with special responsibilities. One issue, which is unique in the area and adjacent countries, is the aggressive promotion of food products that are being politically lobbied as alternatives for the USI strategy, but come along with either an unwarranted high profit margin, or are not a valued part of the regular, healthy consumption by all population segments.

15. Three observations apply directly to the present situation in the area as regards legislation and its follow-through. *Firstly*, a salt iodization law and standards has not been

enacted yet in Uzbekistan and in less than half of the JFPR9005 countries have attendant requirements on facilitating international trade been put in pace. *Secondly*, although the agreed-upon recommendation for sustained IDD elimination (UNICEF-WHO, 1994) states *universal* salt iodization (USI), the term "universal" does not merely apply to the acceptance of iodized salt in all households but also to the use of iodized salt in all relevant food processing industries and in animal feeding. The point is that reliance on only household salt iodization for IDD elimination in all strata of the population may turn out to be risky. *Thirdly*, survey information of the use of iodized salt in households is promising, but it does not yet show evidence that USI has been achieved fully and therefore, legal applications by quality control officials must be sustained for attaining success of the UNGASS goal on time. All involved may take a special encouragement from the global experience (Maberly et al, 2003) that true USI can lead to assurance of sustained IDD elimination, irrespective whether a country is small or large, rich or poor, salt producing or import dependent.

C. Iodized salt manufacturers

16. Given the history of intensive advocacy for USI and the accompanying investments in salt industry since the ECO Conference in mid 1994 (Begin, 1994), it is unlikely that the rapid gains in iodized salt supplies during the past 3 years would have occurred under continuation of the former permissive iodization policies. With such an approach, a producer who decides to bear the extra work and expense of supplying iodized salt is unprotected in the market from the competitor who does not respond to the national public health need.

17. Not all Project countries have yet passed USI legislation, however. In particular, Uzbekistan has not enacted a salt iodization law, despite the decision to hold the second JFPR9005 regional workshop on quality control and assurance issues, including legislative requirements and hold it in Tashkent, and the initiative by UNICEF to stimulate a National Salt Producers' Meeting in Tashkent in October 2002. Uzbekistan was a low achiever toward the common iodized salt supply target. The science of USI is known and clear, the practice of iodization is safe (WHO, 1994), there is abundant global experience of its benefits, and neither the technology nor the supplies or equipment are significant obstacles. Therefore, the issues in Uzbekistan would seem to be in management and public-private politics that are affecting the legislative process.

18. The structure of the salt industry in some JFPR9005 countries is diverse, but except in rare instances, the practice of adding iodine in salt processing is feasible and as profitable as salt manufacturing itself, regardless of scale, size or sophistication of the processing enterprises. The formation of a Salt Manufacturers Association may be helpful in ensuring equitable transfers and transparent sharing of knowledge and resources. In Kyrgyz Republic, the formation of an association was partly a response to the trade-off between the two scenarios of total dependence for domestic iodized salt from outside sources on the one hand, and of prohibition of iodized salt imports combined with mandatory iodization of all domestic needs in the country on the other. In Uzbekistan, despite vigorous stimulation by the agencies, the association continues to struggle in finding its true mandate and equitable functions.

19. As foreign aid is temporary by definition, the supply of KIO_3 fortificant will inevitably become the responsibility of the salt industry itself. It is encouraging to note that 33% of the fortificant costs in the Project were reimbursed by the producers, which indicates their capacity and political will to absorb this necessary expense. A manufacturer association may be helpful in maintaining stable and fairly-priced supplies of industry inputs, including the fortificant. The ideal situation, however, will be reached only when salt iodization is fully self-financing from the sales price paid by the ultimate consumer, and that ideal extends in principle also to the commercial purchase by producers of the fortificant. Experiences in other countries with special constructions such as revolving funds or agency-assisted procurements are generally disappointing. Thus, the solution should be found in the normal commercial pricing principles that determine the supply, markets and sales through traders to consumers.

20. With the progress of time in WTO agreements, it will not continue to be possible for the borders in iodized salt trade to remain closed, or for domestic differential taxing on salt imports to remain in place. In the future of improved cost-efficient markets and better quality salt, inevitably the smallest-scale, most rudimentary and far-flung, and least quality salt producers will not be able to compete and survive.

D. Public opinion and education

21. The Project reports show a solid amount of investments in improving the public opinion, and on education, training and informing stakeholders. It is impossible at a distance to assess the quality of the effort or its contribution in Project achievements, however. The communication issues paper may shed light on this question.

22. In influencing the public opinion on USI and the need for additional iodine consumption through salt, the real challenge is in making the public acceptance certain. Thus, education and promotion of USI differs from a situation in which consumer demand drives the supply, such as is the case in fortified flour. The need to raise demand for iodized salt, however, does apply to the purchases by traders –the immediate customers of producers- because it is at this stage in the salt channels that the real competition takes place.

23. Once salt iodization is mandatory, salt producers do not have discretion in pricing of their sales solely on basis of iodization. Because there is not a shortage of salt sources in the area, the price paid by traders for their iodized salt purchases depends much more likely on the salt quality per se. This principle has lessons for the prospects of long-term sustained endogenous salt production in most of the industry in Mongolia, as well as for the future of those producers who similarly cannot attain the agreed-upon quality standard for food-grade salt as defined in the Codex Alimentarius.

24. Two future directions in communication efforts are suggested: *Firstly*, sustained success of USI is improved from the insertion of the essential knowledge on IDD and USI in the primary/secondary school curriculum and in schooling of selected professions; *Secondly*, public education is as much a responsibility of the private sector as it is of public channels. Private producers and their allies in salt trade should be more active in imaginative promotion of the product for acceptance among their market segments.

25. Legislating USI means that the choice of salt as the effective and sufficient vehicle for delivering additional iodine to the population has been made. The fear that promotion of USI would cause an increase in salt consumption has not been followed by any evidence that this indeed took place anywhere, also not in Mongolia where a previous report was alleged to suggest such a connection (Yamada C, 1988 and 2001). Also the recent global WHO policy that presses for reduced salt consumption specifically mentions that salt for human consumption requires iodization.

E. National leadership

26. Project reports mention the existence of Steering Committees. It is not known whether their establishment is a temporary arrangement to mainly serve the needs for deciding on Project-related issues, or whether the Steering Committees are the beginnings of permanent forums for oversight in response to an imperative that the national success in elimination of iodine, iron and other micronutrient deficiencies must be sustained. The composition of each Steering Committee it is also not known to this observer. Because USI for IDD elimination rests on efforts based on divided (but balanced) roles and responsibilities, arrangements in public-private (and where possible, civic) partnership are required. The Steering Committees stimulated out of the JFPR9005 Project may be a seed for these partnerships to grow.

27. Sustaining the elimination of IDD comes from a persistent regular concern for assured quality and sufficiency. We shall need quality assurance of iodized salt production over time so that iodine levels in salt deliveries are always adequate, and we shall need sufficient supply for all at fair prices. We will need assured quality of performance by the various elements of national society that support these continuous efforts: political commitment must be regularly renewed and invigorated; communications must be open, transparent and persistent over time; finance is required for training and other support activity budgets –such as salt inspection, lab-based assessments, etc- and this needs constant management attention; public education must be penetrated so that all children learn of the needs for iodine and the dangers for brain cells of its deficiency; agriculture leaders need constant reminding of the value of iodine for domestic animal feeding. Persistent and professional measurement of the progress in human iodine nutrition is vital, its regular monitoring must be assured and the findings publicly announced.

28. Hence the justification and need for a National Coalition, which operates on the principle that oversight of all the imperatives mentioned above, and their continued realization, are the minimum and essential requirements for ensuring sustained success.

F. Scientific Underpinnings

29. In science-based work, the Project has invested in improved monitoring capacity as evidenced for instance by the great number of salt tests. Also, the Kazakh Academy of Nutrition has made outstanding substantive contributions in obtaining monitoring results, partly in response to a contractual arrangement under JFPR. Scientists from professional institutes in the area have been regularly attending at the series of regional workshop, national workshops, and trainings held during the Project period and in international forums on the progress toward sustained IDD elimination. Nevertheless, the efforts to improve the scientific insights on the benefits for national development from IDD elimination through USI, and the extension of this new knowledge into the broader professional body of supportive science in the area have been somewhat limited. From consideration of the stated Project aim, namely to improve the nutritional status and physical and mental capacity of the poor, it would seem that only documenting direct Project-related outcomes and measuring change in the underlying indicators of nutritional impact misses out on a prospect to determine the associated physical and mental function improvements. To give one example, it would seem that a verification of the statement “No more cretin born since USI” is an attainable indicator for measuring impact

30. The importance of developing more scientific understanding and consolidating the evidence of impact from IDD elimination within the countries itself extends beyond the regular need for expert advice on policy development and operational implementation, e.g. in monitoring & evaluation, or on justifying other nutrition investment for national health and development. The long-term value of exploring and consolidating the functional impacts of IDD elimination in endogenous science is also that, at any future time, local experience may be needed to remind the national leaderships of the imperative that progress in IDD elimination must be permanent and that hence, USI must be a constantly renewed habitual norm for every citizen, everywhere and for ever. Otherwise, IDD inevitably returns and along with it, the preventable mental retardation that underlies poverty in the area.

III. CONCLUSIONS

31. Tremendous progress took place in USI for IDD elimination in the area during the past 3 years. For the achievements to increase and endure, periodically renewed political will, persistent Government commitment and continued industry motivation are essential. The Minsk agreement, and the continued blending of the many talents, supportive resources and efforts in advocacy, investments and technical support work by all supportive groups have been conducive in positioning the countries of the area toward success in achieving the UNGASS goal of sustained IDD elimination. In all but one country, national laws and standards for iodization are in place, the beginnings are evident in improved Tax & Tariff applications. These new policy instruments are understood and respected by manufacturers and their allies in the

salt trade alike. Quality assurance at all levels, with particular emphasis at production, is a key for consolidation of progress.

32. To protect those who don't yet have access to additional iodine from salt iodization, a managerial assessment of the national resources dedicated to the USI efforts deserves priority attention. In doing so, the danger must be avoided of thinking that the problem is mainly one among the poor and rural; the challenge is national. Countries with major resource problems such as Tajikistan may need more help and longer duration support; others need vigorous follow-through and acceleration of the existing plans.

33. The production, supply and use of iodized salt for humans and animals should become the behavioral norm. The rationale includes the right of each child to reach his genetic intellectual potential. This is not just a moral imperative, but it has economic justification also, because the national investments in education will not be effective when USI is not in place and when newborns are not protected from the brain damage of iodine deficiency. Ensuring funds through established national budget lines is a vital and continuing component in sustained elimination.

34. The final proof of the benefits from IDD elimination is reflected in a reduction of the functional outcomes from preventable brain damage. The endogenous scientific community should become more active in monitoring and tracking these changes at regular intervals. This can be stimulated by international collaboration. Regular surveillance of the iodine nutrition status during early pregnancy is a key priority. The inevitable success in IDD elimination from true USI should be shared publicly.

35. The budding public-private-civic partnerships for ensuring sustained universal iodine supplies and consumption throughout the nation should continue to be improved. Each partner plays important roles. Salt producers and processors must assure supply and universal access. Governments must permanently support USI and monitor the situation. The social sector must insist on national supervision and guard against reversal. The public must understand and demand its right to adequate iodine nutrition. Therefore, National Coalitions that regularly demand accurate information and act on it are essential in next steps toward sustained IDD elimination in the area.

REFERENCES

Begin F, Haxton DP. Report of the Joint Workshop on the Elimination of Iodine Deficiency Disorders. Ashgebat, Turkmenistan, 15-16 June 1994

Bolormaa I, Enkhtuya P, Erdenbat, Enkhjargal T, Halzanhuu, Akiyama Y. Report on National Survey of Iodine Deficiency Disorders in Mongolia in 2001. Ulaanbaatar, Public Health Institute, Ministry of Health, 2001

Codex Alimentarius. Codex standard for food grade salt. CX-STAN 150/1985, Rev. 1-1997, Amend. 1-1999, Amend 2-2001. Rome, Food and Agriculture Organization of the United Nations.

Ismailov SI. Prevalence iodine deficiency disorders in Uzbekistan. Tashkent, Ministry of Health, 1998

Kasymova S. Prevalence of iodine deficiency disorders in Tajikistan. WHO CAR NEWS 6(23); 5, 2000

Maberly GF, Haxton DP, Van der Haar F. Iodine deficiency: Consequences and progress toward elimination. Fd Nutr Bull 24(4); S89-96, 2003

Markou KB, Georgopoulos NA, Makri M, Anastasiou E, Vlasopoulou B, Lazarou N, Deville L, Megreli C, Vagenakis GA, Sakellaropoulos GC, Jabbarov R, Kerimova MG, Mamedgasanov RM, Vagenakis AG. Iodine deficiency in Azerbaijan after the discontinuation of an iodine prophylaxis program: reassessment of iodine intake and goiter prevalence in schoolchildren. Thyroid 11(12); 1141-1146, 2001

Ospanova F. Iodine urine excretion as estimation of iodine status in reproductive age women [in Russian]. Astana Medical Journal; 109-111, 2001

Sultanalievea R, Mamutova S. [in Russian]. WHO CAR NEWS 6(23); 4-5, 2000

UNICEF. Report of the International Meeting for Sustained Elimination of Iodine Deficiency Disorders. Beijing, China, 15-17 October 2003. UNICEF, Bangkok [in print], 2004

UNICEF-WHO Joint Committee on Health Policy Special Session. World Summit for Children – Mid-decade Goal: Iodine deficiency disorders. Geneva, 27-28 January 1994. World Health Organization, Geneva, document JCHPSS/94/2.7

World Health Organization. Iodine and Health: Eliminating iodine deficiency disorders safely through salt iodization. A statement by the World Health Organization. WHO, Geneva, Doc WHO/NUT/94.4, 1994

Yamada C, Oyunchimeg D, Igari T, Buttumur D, Oyunbileg M, Umenai T. Knowledge, attitudes and practices of people in Ulaanbaatar, Mongolia, with regards to iodine deficiency disorders and iodized salt. Fd Ntr Bull 19(4); 353 – 358, 1998

Yamada C, Oyunchimeg D. Difference in goiter rates between regular and occasional users of iodized salt in Mongolia. Fd Nutr Bull 23(1); 89 – 93, 2002