Preventing Brain Damage from Iodine Deficiency Requires Partnership

DURING THE PAST DECADE, a major achievement in public health has been quietly unfolding. A unique combination of enlightened public policies, private sector action and civic commitment has resulted in unprecedented global progress towards iodizing all of the world's salt and thus ending iodine deficiency. To protect populations from losses in learning ability and from mental retardation that hampers the development of their citizens and their nations, more and more national leaders recognize the value of partnership with industry. Continuing to iodize salt and working to reach the 30 per cent of the world's population who do not yet have access to it can eliminate iodine deficiency forever. These challenges will require a stronger partnership than ever before.

A Decade of Progress

Iodine is a trace element found mostly in the soil, but soil in many parts of the world does not contain enough of this essential nutrient. Crops and livestock in these areas are therefore deficient, and the human diet that depends upon these food sources is thus also inadequate in iodine.

When a foetus does not receive adequate iodine, the developing brain cannot establish as dense a network of interconnections among the many brain cells. As a result, intellectual capacity is compromised for life. In areas of extreme deficiency, children can suffer severe mental retardation. But even in areas where iodine deficiency is not as high, children can suffer a reduction of 10–15 per cent in learning ability at school. The problem can be virtually invisible – in a geographic area with iodine deficiency, entire school classes will suffer lower educational achievement, with fewer students progressing to higher education.

The cumulative loss of brainpower is not only a tragedy for these children and their communities, but affects national economic and social development. Micronutrient deficiencies, including deficiencies in vitamin A, iron and iodine, can lead to a reduction in national economic growth of as much as 5 per cent. Conversely, a focus on early childhood development – on giving children the best possible start in life through good nutrition and care – contributes greatly to the economic and social well being of nations.

The human body requires less than a teaspoon of iodine throughout the lifetime. To combat iodine deficiency, minute amounts of iodine must be added to the diet. This is most efficiently done – and at very low or moderate cost – by iodizing all salt consumed by humans and animals.

National leaders at the 1990 World Summit for Children set the goal of virtual elimination of iodine deficiency disorders by the year 2000. A decade ago, one in about five households used iodized salt, but today, almost 70% of households in the world have access to iodized salt. And global progress towards universal salt iodization (USI) means that every year, more than 90 million newborn children's brains are protected against significant losses in learning ability.

The job is not finished, however. Around the world every year, 40 million children are born in households that do not use iodized salt. For this reason, the United Nations General Assembly Special Session on Children will press for reinvigorated efforts to eliminate the problem by 2005.

Lessons of the Decade

The past ten years has shown that coordinated action by all sectors of society is key to ensuring salt is iodized. Governments pursue policies to protect newborns from preventable brain damage by supporting and sustaining salt iodization, and by monitoring progress. Producers and vendors produce and sell adequately iodized salt at a fair price in all cities and villages every day. Civil society assists in public education about the dangers of iodine deficiency and helps strengthen public will to ensure that iodized salt is – and remains – available.

Progress over the past decade has clearly established the great advantages of close collaboration both nationally and internationally, among public, private, civic, scientific and other groups, acting as one cohesive force that channels and coordinates advocacy and technical support activities. The significant progress towards USI in country upon country also demonstrated that national "ownership" is key to permanent success. Where persistent national oversight was in evidence, iodine deficiency virtually disappeared.

Setting up coalitions or "National Watches" composed of all the national lead entities involved – government ministers of industry and health, the salt industry, scientific groups, and civil society, can ensure that salt iodization is sustained. These "National Watches" would permanently oversee that high-quality iodized salt is produced, that only iodized salt is sold in all markets, that political commitment to ending iodine deficiency is periodically renewed, and that the public remains aware of the dangers of iodine deficiency and the need to consume only iodized salt.

The Network for Sustained Elimination of Iodine Deficiency

In May 2000, at the World Salt Symposium ("Salt 2000") in The Hague, The Netherlands, executives of the salt industry met with leaders of governments and NGOs and directors of international organizations to look at how they could better collaborate to accelerate global progress towards ending iodine deficiency forever. An agreement was reached to form the Network for Sustained Elimination of Iodine Deficiency, a collaborative coalition of public, private, international and civic organizations.

The Network's mandate is to support national efforts to eliminate iodine deficiency – and to sustain elimination – by promoting collaboration among public, private and civic organizations.

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The Network's mandate is to support national efforts to eliminate iodine deficiency – and to sustain elimination – by promoting collaboration among public, private and civic organizations. These partner organizations are committed to ensuring that USI is sustained in all countries, and that recurrence of brain damage from iodine deficiency will be prevented.

The Network is unique in bringing together such a broad range of partners – especially the salt industry.

Network Members

The network is made up of organizational members from leading salt producers' associations, international organizations and bilateral agencies, international non-governmental organizations, research institutions, civil associations, professional bodies and private foundations. Present Board members include officers from the United Nations Children's Fund (UNICEF), the World Health Organization (WHO), Kiwanis International, the Salt Institute (SI), the European Salt Producers' Association (ESPA), the Chinese Salt Industry Association, the Micronutrient Initiative (MI), the International Council for the Control of Iodine Deficiency Disorders (ICCIDD), the Rollins School of Public Health at Emory University and the United States Centers for Disease Control (CDC).

Through the work of the partner organizations and their alliances, the Network will advocate for creating the conditions necessary to sustain the national elimination of iodine deficiency and offer technical backstopping as needed. A small Secretariat serves as a clearinghouse, collecting, processing and sharing information to support these efforts within the partnership and beyond. At global level, the partner organizations will harmonize their activities to better assist national programmes. Nationally, the partners will encourage the creation and strengthening of "National Watches" to ensure national vigilance for permanent USI.

How can the Network help?

Using the resources and technical expertise of its members, the Network can provide support to salt producers, public officials and public interest groups in countries where progress toward elimination is lagging. In countries where access to iodized salt has been assured for the large majority of the population, the Network can contribute in various ways to

- Confirming success and recommending on how to sustain it
- Confirming progress and advising on how to accelerate it
- Analyzing the current situation and recommending ways to improve it
- Recruiting and placing technical expertise
- Sharing information and technical knowledge

The Network is particularly well positioned to assist in raising the national mandate for investments in ending iodine deficiency and to help foster national resilience against slippage when foreign aid inevitably is withdrawn. Through a broad information repository, the Network will also widen international exchanges via both public and private channels between national entities. These exchanges will provide information on incentives for quality iodized salt production, strengthened marketing and promotion, educational efforts and stimulation of consumer demand.

Contacting the Network

A small Secretariat has been created to facilitate the work of the Network. Requests for information or assistance should be addressed to:

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About the Network Organizations

Salt Producers and Salt Producers' Associations

China National Salt Industry Corporation (**CNSIC**) was established in 1950 and is responsible for the administration of salt production and the management of the salt industry in China. It plays a leading role in the process of salt production, distribution and storage. Working with the Chinese Government, CNSIC is responsible for the salt ionization project, as well as supervision and inspection of the quality of iodized salt. **China Salt Industry Association** (**CSIA**) was set up in 1988 as a nationwide transregion, transdepartment and transystem organization of salt industry enterprises and institutions on a voluntary basis. CSIA acts as a bridge between government and enterprises. The China Salt Industry Association is committed to contributing to the Network by sharing China's experiences with other developing countries.

The **European Salt Producers' Association** (**ESPA**) was established in 1957 to provide a forum for salt producers throughout Europe, to promote the industry and to manage technical and regulatory issues. ESPA has links with major international organizations such as the World Health Organization and UNICEF, as well as other industry groups and the European Commission. ESPA is committed to playing an active role in the elimination of iodine deficiency through universal salt iodization, believing that experience has shown that coordination and cooperation between all parties involved in salt iodization is the only way to achieve this goal.

The **Salt Institute** is the world's leading salt industry trade association, based in North America with a global membership. It is dedicated to helping people enjoy the benefits made possible through the more than 14,000 known uses of sodium chloride. Prominent among those uses, of course, is dietary salt, an essential nutrient which people consume in relatively predictable amounts, when available. Because everyone eats salt, for the past 75 years, public health authorities have promoted the addition of iodine to dietary salt as the most economical and effective means of achieving adequate population intakes of iodine. The Salt Institute has supported this effort by mobilizing its salt producer members to add iodine to salt used for human food consumption and to identify consultants to train less sophisticated salt producers in the technology to add iodine to salt, improve their packaging and conduct effective marketing for iodine-fortified salt.

International Agencies and Organizations

The **United Nations Children's Fund** (**UNICEF**) has been involved in efforts to eliminate iodine deficiency since the 1950s. Through persuasive advocacy and active fundraising, UNICEF's efforts have provided essential support to global iodine deficiency elimination efforts. UNICEF has participated in high-level consultations in all regions and has been particularly committed to advocacy at all levels, realizing that those in decision-making roles must be fully aware of the significance of IDD. UNICEF also directly assists countries in implementing

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programmes to eliminate iodine deficiency, including the purchase of salt iodization equipment and potassium iodate.

Since the mid-1980s, when IDD was first recognized as a major global public health problem, the **World Health Organization (WHO)** has coordinated the international response to IDD. WHO has provided programme managers with strategic guidance on salt iodization, established criteria for determining the severity of IDD, and developed indicators for assessing and monitoring progress achieved towards it elimination. WHO tracks progress made towards elimination of iodine deficiency using a global surveillance system specially designed for the purpose. WHO will work to ensure that salt iodization is introduced in all target communities, particularly the most disadvantaged, and to establish effective surveillance and monitoring systems that will help to ensure both appropriate salt quality and adequate individual iodine status.

Government Agencies

The **Centers for Disease Control and Prevention (CDC)**, a division of the United States Department of Health and Human Services, is committed to helping people everywhere live safer and healthier lives. CDC is sharing its expertise in field epidemiology, laboratory analysis, surveillance techniques and health communication with the Network. The CDC is currently hard at work in a number of countries, enhancing the skills of IDD programme staff. CDC's goal is to work in consort with the Network to build the technical capacity in all countries to measure, track progress and thereby ensure that iodine deficiency is eliminated forever.

International Non-Government Organizations

The **International Council for Control of Iodine Deficiency Disorders (ICCIDD)** is the only international technical organization specifically set up to promote the elimination of iodine deficiency disorders (IDD). In addition to administrative offices in the U.S. and Canada, ICCIDD maintains a network of regional and sub-regional coordinators in all regions of the world. ICCIDD's multi-disciplinary global network of some 500 specialists from more than 80 countries include scientists in the medical and nutrition fields, public health administrators, development managers, technologists, communications specialists, economists, salt technologists and other industry experts. All of them are committed to assisting governments and international agencies in developing national programmes to eliminate IDD. ICCIDD was formed in 1986 in order to bridge the gap between available knowledge and its application in solving the problem of IDD for the millions at risk. ICCIDD has played a major role in communicating the IDD threat to decision-makers of national governments and international agencies and to a variety of health professionals and planners. ICCIDD is a non-profit, non-governmental organization (NGO) with official consultant status with the World Health Organization and the United Nations system, and is an official participant in the annual World Health Assembly.

Kiwanis International's 600,000 members in its family of clubs throughout the world have dedicated themselves to helping to eliminate iodine deficiency, and have raised millions of dollars to fund UNICEF projects in more than 80 countries. Kiwanians in IDD-affected countries continue to provide active support for national programmes to eliminate IDD in their own nations and regions. Kiwanis is committed to the Network because it has learned that the job cannot be done by only one or two segments of society. Success can only be achieved when governments, salt producers, public health experts, citizen advocates and others work together. By bringing together the expertise of salt producers, international organizations and concerned citizens, we are laying the foundation for a better world. The result will be seen in the millions of newborns each year, each generation and beyond who will live better lives because of what we do together.

The Micronutrient Initiative (MI) is a non-profit development agency created as a result of commitments made by world leaders at the 1990 World Summit for Children to leverage efforts to control micronutrient deficiencies through a combination of technical and financial assistance. MI works to ensure that this commitment to eliminate micronutrient malnutrition in developing countries is translated into action through national policies and programmes that provide appropriate and affordable fortified staple food and supplements. MI has been an important player in the global effort to end iodine deficiency through universal salt iodization. Today, iodized salt is protecting millions of children from losses in learning ability, but MI recognizes that significant challenges remain. MI believes that this global partnership has great potential to achieve remarkable progress and results, enabling us to reach the remaining 30 per cent of the world's population that does not have access to iodized salt.

Academic Centers

Since the time of the World Summit for Children in 1990, the Department of International Health of the Rollins **School of Public Health of Emory University** in Atlanta, Georgia, USA has provided a dedicated support basis for accelerating national efforts to eliminate vitamin and mineral deficiencies. During the previous decade, over 600 professionals from more than 70 countries participated in training programmes, workshops and meetings stimulated by the work by the Department. This has escalated the application of proven technologies, knowledge and information to improve the micronutrient status of populations, enhanced the development of effective public policy; and improved quality assurance systems aimed at preserving the success of elimination, once achieved. Institutional collaborators in these efforts have included, among others, CARE, Wageningen Agricultural University, the U.S. Centers for Disease Control and Prevention, International Agricultural Centre in The Netherlands and the Task Force for Child Survival and Development at the Carter Presidential Center. Support, in part, has been provided by the United Nations Children's Fund, the Dutch Ministry of Foreign Affairs, the United States Agency for International Development, and the Micronutrient Initiative.

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