WHO put the "harm" in harmonisation?

Global trade in irradiated foods

In September 2001 the Australia New Zealand Food Authority (now Food Standards Australia New Zealand, FSANZ) approved Australia's first application to irradiate foods for domestic sale. A second application, to allow the sale of irradiated tropical fruits, was approved in December 2002. The approvals process for food irradiation within Australia is moving quickly and silently, with little public debate.

A closer look at the global picture reveals that it was no isolated event when Australian Health Ministers lifted the Australian ban on food irradiation in 1999. It was one step in a process becoming increasingly apparent - of international 'harmonisation' of regulatory standards, an escalating phenomenon occurring in various areas of international regulatory frameworks, for the promotion of free trade through uniform standards and regulations.

Harmonisation is a process being unquestioningly pursued by the Australian Federal and State Governments in many sectors, and in this case relates to standards for food irradiation. The relationship between food irradiation and trade liberalisation, is that food irradiation is a technology that supports the increasing corporatisation, and centralisation of the food production and distribution system. It encourages commercialisation of irradiation facilities by facilitating international trade in food, creating overseas and domestic markets, and increasing transportation of foods.

Ultimately, harmonisation of regulatory standards results in these standards becoming less stringent, in line with removing 'barriers' to trade. Thus one of the criticisms of so-called 'free trade': as approvals regulations become less restrictive, risk and impact assessment becomes less thorough, and as ongoing regulation becomes more focused on industry 'self regulation', safety standards become compromised, and the public – the consumer – is put at risk.

With food irradiation, the major problem in standard regulatory assessment so far is its basis on a model of acceptance that specifically excludes proper assessment of the safety of irradiated foods, as well as excluding assessment of the practical justification of this technology. This is no coincidence, since food irradiation is unnecessary and its safety is under serious question. As the following information shows, the Australian Government's latest assessment is an example of the way harmonisation compromises meaningful assessment, putting consumers at risk and buying into the trend of a centralised food system.

who's in the driver's seat?

The context to Australia's recent regulatory decisions regarding food irradiation is the influence of international agencies heading the effort to increase trade in irradiated foods. The main agencies are:

- International Atomic Energy Agency (IAEA): independent body established under the UN, reliant on industry funding and expertise,
- International Consultative Group on Food Irradiation (ICGFI): Joint IAEA/World Health Organisation (WHO)/Food & Agriculture Organisation (FAO) advisory body to the CCFAC,
- Codex Alimetarius Commission: established to implement the FAO/WHO Food Standards Programme (enforceable under the WTO),
- Codex Committee on Food Additives and Contaminants (CCFAC): the specialist committee for the development of food irradiation standards of Codex.

The IAEA, WHO & FAO have been responsible for promoting the development of international trade in irradiated food, through a series of conferences, co-ordination meetings, financial support of domestic market research and development, and the development of consumer acceptance programs.

Their aspiration for harmonisation incorporates working towards consumer acceptance of irradiated foods in targeted markets (eg, Australia and various Asian countries), in conjunction with setting in place food standards approving sale in those countries. This requires uniform standards between countries so that import and export requirements can be easily met, and barriers to trade removed.

The ICGFI organised a workshop in Seoul in 1998 titled *Harmonised Regulation for Food Irradiation for Asia and the Pacific.* All ASEAN countries except Brunei and Laos concurred with the outcome of the workshop, which provided guidelines for nations to adopt as their domestic food irradiation regulations. A major feature of these standard guidelines is that they give approval of food by groups or classes. This is the approach FSANZ has adopted in assessing the first two applications to irradiate food in Australia.

Regulatory standards, and "safety assessment" developed from WHO/IAEA/FAO documents will not address serious safety concerns food irradiation poses, because the IAEA is primarily concerned with promoting the nuclear industry, not protecting public health. They have worked in conjunction with the WHO and FAO to produce documents on food irradiation that claim its "safety" and "wholesomeness". With help from the IAEA, domestic institutes for nuclear technology develop consumer "education" programs (which, not surprisingly, feature only

the claimed benefits). The IAEA then gains credibility through its connection with UN-based agencies like the WHO and FAO. For example, the Korea Atomic Energy Research Institute believes that "(t)he guidelines issued by international organisations are more effective than the domestic point of view as a persuasive power in promoting food irradiation."[1]

GATT & WTO

The food irradiation industry has another powerful and sympathetic institution as an ally. The GATT (General Agreement on Tariffs and Trade) Uruguay Round of 1993 produced an Agreement on the Application of Sanitary and Phytosanitary Measures (SPS). The World Trade Organisation (WTO) is pushing for a global standard on food sanitation and sterilisation that includes food irradiation.

Under the WTO's SPS measures, the choice that each country presently has over whether or not to allow the import of irradiated foods will be removed. Under the terms of the SPS agreement, governments will have to justify on 'scientific grounds' why a product should be exempted. The SPS agreement accepts international Codex Alimentarius Commission standards as the benchmark for the determination of trade disputes.

Another agreement under the WTO, the Technical Barriers to Trade (TBT) Agreement, also promotes 'conformity' with Codex standards, and can impact on Australian regulatory decisions and their enforcement.

who are the passengers?

Both Australia and New Zealand are members of the WTO and signatories to the SPS and TBT agreements. Within Australia, a memorandum of understanding binding all States and Territories to the agreements has been put in place by the COAG (Council of All Governments).[2]

In December 1995, the Australian and New Zealand Governments entered into an agreement to establish a system for the development of joint food standards. This agreement explicitly requires FSANZ to ensure that food standards are consistent with the WTO obligations of both countries.[3]

Issue may arise here if irradiation standards are less restrictive in another country, for example, if higher dose limits are allowed. Australia's present prohibition of irradiation of additional classes of foods, like vegetables, cereals/grains, meat and seafood, may also become a target of trade dispute.

So far, Australian regulatory decisions regarding the irradiation of food are mindful of these international obligations, though an assessment method incorporating lower initial radiation dose limits, and beginning with the least controversial foods (herbs, spices, herbal teas/infusions, and some nuts) has made this less obvious. Given these international pressures, and the content of FSANZ's assessment reports to date, the Australian Government is unlikely to argue that additional classes of foods should continue to be exempt from import/domestic sale restrictions on 'scientific grounds'. Rather, it is more likely that FSANZ will begin to consider additional applications for the inclusion of more classes of irradiated foods in our Food Standards Code.

The currently low level of consumer acceptance of irradiated foods may affect the timeliness of these applications, however companies investing in the construction of new irradiation facilities will almost certainly be pushing to expand the list of foods approved for irradiation, to make facilities commercially viable. It should also be noted that a range of organisations in the food sector provided submissions to FSANZ in 1999, in favour of the ban on food irradiation being lifted. These include: the New Zealand Pork Industry, Meat Industry Association of New Zealand, New Zealand Dairy Board, Australian Food Council, and the Food and Beverage Importers Association.

Harmonised regulations for food irradiation are likely to apply to the way applications are considered by FSANZ for permission to irradiate the following 'classes' of food:

1. Bulbs, roots and tubers
2. Fresh fruits and vegetables
3. Cereals and their milled products, nuts, oil seeds, pulses, fried fruits
4. Fish, seafood and their products (fresh or frozen)
5. Dry vegetables, spices, condiments, fry herbs and herbal teas
6. Dried food of animal origin.[4]

Assessment and acceptance of the irradiation of these classes of foods by regulatory agencies like FSANZ is achieved through the use of "Chemiclearance" [5] - a WHO/IAEA/FAO derived tool for circumventing the need for thorough toxicological and nutritional studies on each food item being considered.

The concept is that foods in similar classes will react to irradiation in similar ways, and therefore clearance is given for a whole class of foods on the basis of studies on one food. For example, mango is the only fruit studied, in the studies listed by FSANZ justifying their approval of the irradiation of eight other types of fruit. No further studies would be required.

FSANZ has relied entirely on WHO/IAEA/FAO documents in their assessment of the safety and wholesomeness of irradiated foods. They have not attempted to undertake independent assessment, seek the results of alternative studies, or request further studies to determine the safety of the consumption of these foods. Public concern that arose during the initial phase of public consultation around the irradiation of tropical fruits was addressed through these (WHO/IAEA/FAO) documents.

FSANZ even went so far as to suggest that information on the benefits of irradiated foods should be included on labels.[6]

With regard to labeling, it seems that the deterioration of the consumers' right to know extends to the likelihood that unscrupulous food processors can flout the law, and stock irradiated food products that lack the required labeling. There is evidence that this is happening in the UK. The Food Standards Agency in the UK has conducted a survey

[1] IAEA (2001) Consumer acceptance and market development of irradiated food in Asia and the Pacific Proceedings of a final Research Co-ordination Meeting organised by the Joint FAO/IAEA Division of Nuclear Techniques in Food and Agriculture. Bangkok, Thailand, 21-25 September 1998, p48

[2] ANZFA, 2000, p 6

[3] ANZFA, Review of Standard A17 – Irradiation of Food, Full Assessment Report, Proposal P223, August 2000, p 6

[4] ANZFA, Inquiry Report P94 – Food Irradiation, July 1999, p12.

[5] WHO (1981) Wholesomeness of irradiated food. Report from a Joint FAO/IAEA/WHO Expert Committee. WHO Technical Report Series 659

[6] ANZFA, 26 June 2002, Draft Assessment Report, A443, Irradiation of Tropical Fruits Breadfruit, Carambola, Custard Apple, Litchi, Longan, Mango, Mangosteen, Payaya and Rambutan, p20.

revealing the illegal trade of irradiated ginseng. Their latest survey of herbs, spices, food supplements, prawns and shrimps has shown that unlabelled irradiated products in each of these food categories are still reaching UK shop shelves.[7] It is highly probable that these abuses are occurring worldwide – even in Australia.

A recent study by a French-German research group into the potential toxicity of 2-ACBs (chemical by-products in food – unique to the irradiation process) shows considerable grounds for caution. As recently as last year, the European Parliament voted to overturn an amendment recommending that more foods be added to the EU-wide list of foods authorised for irradiation because of these concerns. At present only herbs, spices and vegetable seasonings can be irradiated. Both FSANZ and the WHO, however, have chosen to declare the consumption of irradiated foods safe, despite the case that concerns over toxicity have never been adequately addressed.

the ratchet effect: radiation up, safety down, food all over the shop...

Compared with irradiation dose limits sought by the pro-food irradiation lobby, relatively low dose limits are used in FSANZ's draft standards to conclude that public risk is acceptable, even though potential harmful effects are still significant, or at the very least still largely unknown.

However the food irradiation industry is already pushing for higher dose limits. Higher dose levels will have increased effects on food in relation to nutritional content and chemical by-products.

Concern around enforcement of maximum dose levels was

the SMALL and the SOUTH lose again

The additional cost of irradiation processing requires mass production in order for companies to make profits. It demands the cultivation of monoculture cash crops controlled by companies big enough to be able to efficiently irradiate and cheaply ship this product overseas. This corporatisation of agriculture forces smaller farmers off their land, and decreases domestic self-sufficiency.

As is the case with most "free-trade" sales pitches, the reality is that the hardest hit will still be those in "south" countries. Though they may commercialise food irradiation on the promise of export markets, they too will be forced under WTO rules to accept imported irradiated produce, their markets flooded by cheaper irradiated foods produced on subsidised, highly mechanised farms in the US and Europe.

Environmental impacts include the land degradation and loss of wildlife habitat impacts of industrial agriculture, the contamination impacts of the production, use, transportation and storage of radioactive materials for nuclear irradiation facilities, and the effects of increased fuel consumption through increased transportation.

ALTERNATIVES exist

Good hygiene practices in food production, processing, handling and storage can alleviate problems of rodent droppings, bird excreta, insects and any other causes of food contamination. The physical disinfestation method should be used wherever possible. Other alternatives include temperature control, oxygen deprivation/controlled atmosphere, steam treatment and steam sterilisation/encapsulation.

There are several known ways of killing insect pests. These may vary according to the type of fruit, because of the different tolerances for different treatments. Some of these are cold storage, heat/steam, hot water dips, and atmospheric control such as with oxygen, carbon dioxide and nitrogen. There are also physical disinfestation methods and inspection and culling of infected fruits. Combinations of these methods may also be used.

If countries are already suffering from food 'losses', often what is instead needed in these countries is better storage and transport infrastructure for food produced and sold domestically. The alternative to longer shelf life or storage time is the support of local production, distribution and consumption of fresh foods. A decentralised food system is both socially and economically empowering for communities.

in the final analysis...

The trade-liberalisation push for food irradiation is a campaign for a certain model of food production. It is a campaign for a capital-intensive, trade-orientated and global model and against local, autonomous and sustainable models.

Commercial food irradiation requires centralisation and highly capital-intensive infrastructure, whilst compromising simpler systems of food hygiene. The losers are consumers, small-scale farmers, and communities with unwanted developments forced upon them.

Food irradiation prevents us from tackling the root problems of poor hygiene. In most cases the technology required to improve food hygiene is far more basic than irradiation, which can be used to maintain or even worsen poor standards.

With protests against the World Trade Organisation (WTO) and its policies mounting, the spotlight is focusing on so-called "free-trade" agendas, and their effects on local communities. Food irradiation could well be included on the list of issues of public concern. We have a government body, FSANZ, that was set up to consider issues of public safety in relation to food[11], ignoring public concern and instead facilitating the needs of an unsafe, unnecessary industry.

Food Irradiation Project
Friends of the Earth Brisbane

Food irradiation (FI) is a process through which food is exposed to very high levels of ionising radiation. Ionising radiation significantly alters the food exposed because it alters the atomic structure of the food. Electrons are knocked out of their orbit, leaving negatively and positively charged ions in the food, which are chemically very active. Irradiation is NOT like using a microwave – microwaves are a much lower type of radiation and are not ionising.

FI can kill, or at least sterilise, living insects or bacteria in the food load (ie. food and packaging). It can also prevent sprouting in foods like potatoes, onion and garlic, and extend the shelf life, or storage time, of the food. Industry groups and some international bodies are promoting it as the answer to the growing problem of food poisoning, and as a means to combat world hunger by reducing spoilage and extending food shelf life.

There are several ways to irradiate food commercially, and all have the same effects on food. The food can be bombarded with gamma rays from a radioactive source (Cobalt 60 or Cesium 137), high-energy electrons can be directed at the food (E-beam), or high-energy electrons can be targeted onto metal plates, creating x-rays, and food irradiated with these.

Irradiation can result in loss of nutrients; for example vitamin E levels can be reduced by 25% after irradiation and vitamin C by 5-10%. This is compounded by the longer storage times of irradiated foods, and by loss of nutrients during cooking, which can result in the food finally eaten by the consumer containing little nutrient value. The long-term impacts on consumers' health of increasing diets of irradiated foods remain unknown. Far more research is required prior to exposing populations to such a diet. Significant public health and safety concerns also remain around the radiolytic by-products that are often formed in irradiated food. Very few of these chemicals have been adequately studied for toxicity. One such chemical - 2-DCB - can cause DNA damage in rat colon cells at high doses.

HOW CAN WE STOP IT?

- **Write letters to health ministers, your local member, and your local food outlets.**
- **Donate to the campaign (Friends of the Earth, PO Box 5702, West End, QLD 4101)**
- **Help with the FoE Brisbane Food Irradiation Project or join the Stop Food Irradiation Alliance**
- **Support the organic food industry**

[11] As set out in Section 10(1) of the ANZFA Act.