

STAKEHOLDER INVOLVEMENT IN THE MANAGEMENT OF RURAL AREAS FOLLOWING A NUCLEAR ACCIDENT: THE “FARMING” NETWORK

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1. INTRODUCTION

The importance of the participation of stakeholders in the formulation of strategies for maintaining agricultural production and food safety following a nuclear accident, has been successfully demonstrated by the 'Agriculture and Food Countermeasures Working Group' (AFCWG). This group was set up in the UK by the National Radiological Protection Board (NRPB) and the then Ministry of Agriculture, Fisheries and Food in 1997 (Nisbet & Mondon, 2001). Before this time stakeholder organisations had not collectively considered the implications of contamination of the foodchain in the event of an accidental release of radioactivity.

With funding from the European Commission (EC) the UK approach to stakeholder engagement is being taken forward on a European basis during the period 2000-2004 through a project given the acronym FARMING (Food and Agriculture Restoration Management Involving Networked Groups). The overall objective of this project is to create a network of stakeholder working groups in 5 member states (UK, Belgium, Finland, France and Greece) to assist in the development of robust and practicable strategies for restoring and managing contaminated agricultural land and food products in a sustainable way. The initial intention was to involve at least 50 individual stakeholders.

Subsidiary objectives of the project and the approach taken have already been described by Nisbet & Mercer (2002). This paper outlines the current status of the FARMING network. NRPB co-ordinates the project and chairs the steering group which is responsible for overseeing the formation and management of the national stakeholder groups. NRPB is assisted by

- Institute National Agronomique Paris-Grignon (INA P-G), France.
- Radiation and Nuclear Safety Authority (STUK), Finland.
- Federal Nuclear Research Centre (SCK.CEN) assisted by the Belgian Federal Agency for Nuclear Control (FANC), Belgium.
- University of Ioannina (UOI) assisted by the Agriculture Research Station in Ioannina (NAGREF-ARSI), Greece.

A dedicated website (www.ec-farming.net) that provides the focus for the network was launched in June 2001.

2. THE STAKEHOLDERS

The criteria used for selecting stakeholders have been described elsewhere (Nisbet and Mercer, 2002). The types of organisations currently represented on the five national groups are summarised in Table 1. A wide range of disciplines is involved.

Table 1: Composition of the FARMING network, including similarities and differences between national stakeholder groups.

| | |
|-------------------------------|---|
| Government Organisations | <i>Food Standards Agency</i> <i>Ministry of Agriculture</i> <i>Radiological Advisers</i> Ministry of Social Affairs/Health Ministry of Trade and Industry Environment Agency Agricultural Advisers Local authority/Mayor |
| Non -Government Organisations | <i>Farming Unions</i> <i>Food Industry</i> <i>Consumers</i> <i>Veterinarians</i> <i>Experts: ecology/forestry/fishing</i> Retail/Marketing Water Industry Waste management Medical Environmentalist/Green Media Quality of life/families |

A distinction is made between Government (GO) and Non-Government Organisations (NGO). In some cases the same stakeholders are represented on each national group: these are indicated on the right hand side in Italics. National differences are also apparent with some organisations only present in one or two groups: these are indicated on the right hand side in normal type. Examples for which there are national differences include journalists (Finland and Greece) and environmentalists (UK, Finland and France), as well as representatives from the water industry (UK and Belgium), local authorities (UK and France) and waste management (Belgium only).

Chairmanship of the groups is provided by the Food Standards Agency (UK), Ministry of Agriculture (Finland and France) and a radiological expert (Belgium). The Greek Atomic Energy Commission and Ministry of Agriculture co-chair the Greek stakeholder group.

Overall there is a good balance of GOs and NGOs represented on the national groups (Figure 1). Some of the stakeholder organisations involved contribute more than one representative to the network because of the diversity of disciplines covered by some of the larger

organisations (e.g. Food Standards Agency, Ministry of Agriculture) or due to regional representation (e.g. devolved parliaments in UK, federal structure in Belgium).

The membership of national groups is kept under constant review and will evolve as the groups mature. At the start of the project, it was hoped that each stakeholder group would consist of at least 10 members. By the autumn of 2001, this target was exceeded. The overall membership of the network now exceeds 100.

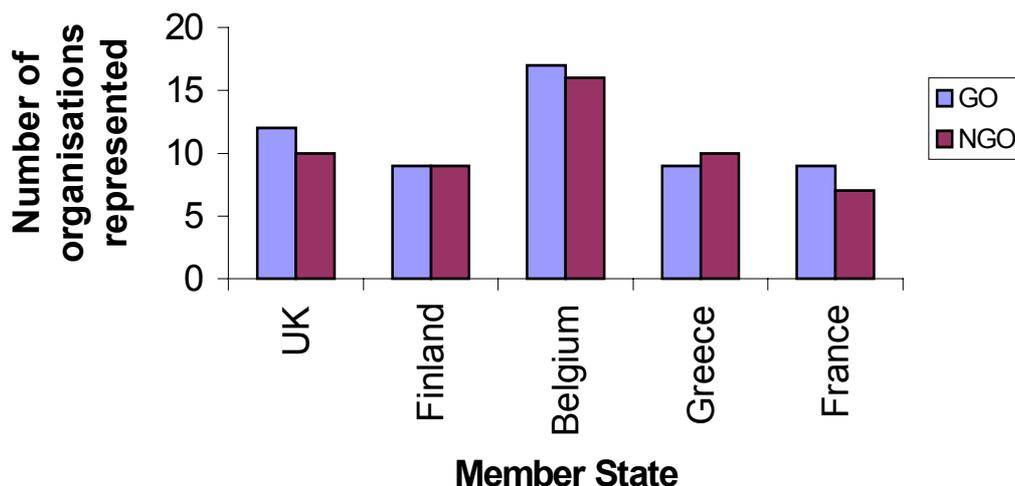


Figure 1: GO and NGO representation on national stakeholder groups.

3 FEEDBACK FROM THE NETWORK

The first series of meetings of the FARMING network took place in the autumn and winter of 2001. For those groups meeting for the first time (Belgium, Finland, France and Greece), there was an opportunity for stakeholders to discuss terms of reference and membership as well as organisations' responsibilities and concerns following a nuclear accident. Background information was provided on emergency preparedness and planning, countermeasures and restoration, and lessons learnt from other crises of the foodchain. Interesting and useful feedback was obtained from these groups at the end of the first year. This feedback is described in more detail in Nisbet et al (2002). Some of the key messages are given below:

- Provision of truthful information to all interested parties is key to the successful implementation of countermeasures. The FARMING network could potentially provide reliable information during the aftermath of a nuclear accident.
- There is an urgent need for information on countermeasures to be available in national languages for wider dissemination and to avoid misunderstanding.
- A well functioning and flexible measurement network forms the basis of effective restoration management. If only accredited laboratories are used there could be a shortfall in measurement capacity.
- Financial liability for implementing countermeasures is an important yet unresolved issue that could slow down restoration management.

- A nuclear accident causes not only a technical crisis but also problems of maintaining acceptable living conditions. The FARMING network provides an opportunity to bring together the relevant stakeholders so that partnerships are formed between the nuclear power and the agriculture industries, the food industry and consumers, decision-makers and inhabitants of contaminated areas.

The UK group, unlike the other four stakeholder groups, had met on five previous occasions. Consequently the agenda items for its 2001 meeting tended to focus on issues arising from its earlier meetings including discussion on how to take forward the work of its subgroups. In the UK, contamination of milk gives stakeholders most cause for concern. Three sub-groups are developing practical plans for either minimising the production of waste milk or identifying routes for its subsequent disposal. Feedback on the progress and plans of these groups is given below:

- The subgroup developing plans for the emergency monitoring of milk has recently been involved in the design and manufacture of a purpose-built kit. This would enable milk withdrawn under precautionary advice, but which is below the intervention levels specified by the EC, to be released back into the foodchain within 24 h of an accident (Mercer et al., 2002). The subgroup now plans to focus on the acquisition of additional monitoring kits, accreditation of equipment, procedures and personnel and options for the certification of clean milk.
- The subgroup developing site specific contingency plans for the landspreading of contaminated milk on farmland intends to clarify legislative uncertainties, carry out a detailed environmental impact assessment and to produce practical guidance for farmers.
- The subgroup dealing with the disposal of milk to sea is currently investigating legislative constraints. If the option is permissible in an emergency, site specific modelling will be carried out to determine the suitability of some long sea outfalls and transport plans will be drawn up to deliver the milk to the relevant discharge points. This option would only be considered in circumstances where milk could not be spread on land or treated at sewage treatment/dairy effluent plants.

The FARMING network provides a good opportunity for developing the role of stakeholder engagement in the decision making process following a nuclear accident. FARMING is not a research project however, and it must rely on links with other national and international projects for technical input. In this context, the link with the EC STRATEGY project (www.strategy-ec.org.uk) is particularly significant. This project will provide FARMING stakeholders with 41 datasheets on rural countermeasures in advance of their 2002 national meetings. The datasheets will provide the focus for discussion at these meetings. The countermeasures are divided into four main categories targeted at land and soil, crops, milk and meat. Waste disposal options are also included. The datasheets represent the most comprehensive collection of information currently available. They have a uniform format, with separate sections on effectiveness, feasibility, constraints, doses, intervention costs, side effects, social, ethical and communication issues. The FARMING network will use the datasheets as a basis for emergency planning in different member states.

4. THE FARMING WEBSITE

A user-friendly, interactive web-site (Figure 2) has been created that provides comprehensive and up to date information on all aspects of the FARMING network. It was designed and is being managed by NRPB with input from members of the steering group.

For ease of navigation the website is split into four different subject areas, namely, 'Project information', 'Steering Group', 'Stakeholder Groups' and 'Restoration'. Project information includes details of the project's objectives, work packages, status of deliverables and information about links between FARMING and other EC projects. The second section on the steering group gives the user access to meeting schedules and details on the members of the steering group and their organisations. The third section on stakeholder groups is split into five subsections dedicated to the five national groups. Each subsection gives information on the membership of the group, terms of reference, agendas and minutes/reports of meetings. Where appropriate, provisions have been made for information to be displayed in English and the group's native language(s), thereby facilitating information dissemination and exchange. Contact details for participating stakeholders are only available to members of the FARMING network. This ensures rapid communication between stakeholders in the event of an accidental release of radioactivity. The first web article consolidating the principal findings of the network from a European perspective has just been published (Nisbet et al, 2002).



Figure 2: The FARMING website homepage.

The restoration section of the website provides the user with comprehensive information on state-of-the-art countermeasure options for rural areas. These are grouped according to whether the countermeasure is targeted at land and soil, crops, milk or meat (Figure 3). By

selecting one of these categories a list of relevant countermeasures is then displayed on the bottom left hand corner of the screen. This list is broken down and displayed under the headings 'waste minimisation' or 'waste disposal' depending on the function of the countermeasure. When a countermeasure has been selected from this list a brief description of that option will appear on the right hand side of the screen. This enables the user to quickly trawl through the list of options until the most appropriate one(s) are identified.

This information has been compiled as part of Work Package 1 of the EC *STRATEGY* project

These pages are currently **under construction**, however, soon there will be a **datasheet** to accompany each countermeasure.

Click on a topic below to reveal a list of available countermeasures and short descriptions

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graph TD
    A[Countermeasures] --> B[Land & Soil]
    A --> C[Crops]
    A --> D[Milk]
    A --> E[Meat]
    
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Countermeasures aimed at 'Land & Soil'

| <u>Topsoil removal</u> | |
|--|--------------------------|
| Waste Minimisation | Waste Disposal |
| Shallow ploughing | Landfill |
| Deep ploughing | |
| Skim and burial ploughing | |
| Ploughing, fertilising and reseeded of unimproved pastures | |
| Application of potassium fertilisers to arable soils and grassland | |
| Application of lime to arable soils and grassland | |
| Select alternative land use | |

Shallow ploughing: An ordinary single-furrow mouldboard plough can be used to mix the top 20-30 cm of the soil profile following crop removal or incorporation. Much of the contamination at the surface will be buried more deeply in the vertical profile, so that direct exposure from the contaminants is reduced. Radionuclide uptake by plant roots may also be reduced depending on rooting behaviour.

Figure 3: The 'Restoration' section of FARMING website.

The user can then access the full set of datasheets (section 3) for any of the countermeasures or waste disposal options of interest. In this way, state-of-the-art information on restoration strategies is available to stakeholders in a fast and accessible form.

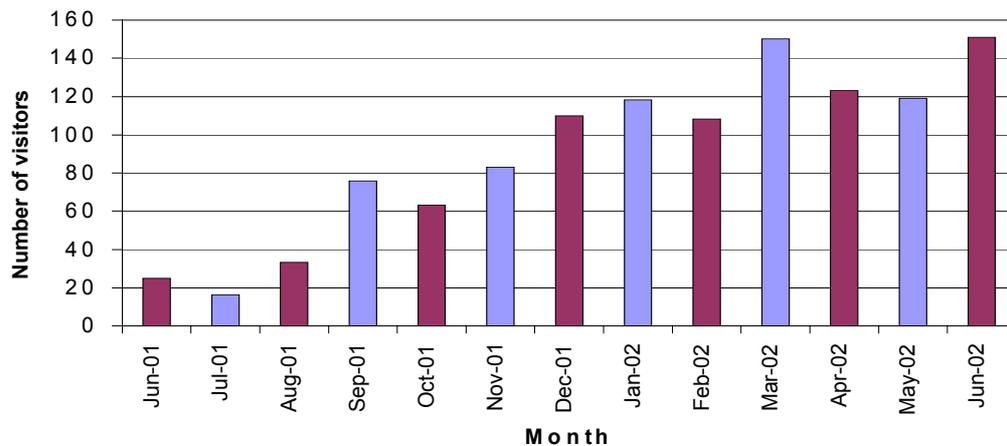


Figure 4: Number of visitors to the website since its launch

Since its launch in June 2001 the website continues to attract an increasing number of users (Figure 4). Not only is it well used by the members of the network but hits have also been received from countries outside Western Europe including Japan, Canada, Slovenia and the Czech Republic.

5 FUTURE PLANS

A Workshop to extend the Involvement of Stakeholders in Decisions On restoration Management (WISDOM) will take place at the New College, Oxford, UK in September 2003. The workshop will serve to consolidate the FARMING network by providing an opportunity for its stakeholders to meet to discuss issues of common interest. It will also bring together senior representatives from GOs and NGOs from a number of member states not currently participating in the FARMING project. There will be a sharing of knowledge and expertise that will increase awareness and interest in stakeholder engagement for the purposes of environmental restoration. The workshop should provide a platform for future expansion of the FARMING network in Europe.

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