

# **Independent Review of Foot and Mouth Disease in Northern Ireland**

**June 2002**

## **Acknowledgements**

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## **Note**

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# Abbreviations

BR	Bovine brucellosis
CEDCC	Central Epizootic Disease Control Centre
CSF	Classical Swine Fever
CVO	Chief Veterinary Officer
DAFRD	Department of Agriculture Food and Rural Development [Republic of Ireland]
DARD	Department of Agriculture and Rural Development [Northern Ireland]
DCVO	Deputy Chief Veterinary Officer
DEFRA	Department for Environment Food and Rural Affairs [United Kingdom]
DVO	Divisional Veterinary Office
EU	European Union
FAO	Food and Agriculture Organisation of the United Nations
FMD	Foot and Mouth Disease
GB	Great Britain
IDG	Inter-departmental Group
IFA	Irish Farmers' Association
LEDCC	Local Epizootic Disease Control Centre
LMC	Livestock and Meat Commission for Northern Ireland
MAFF	Ministry for Agriculture Food and Fisheries [Now DEFRA]
NI	Northern Ireland
NIAPA	Northern Ireland Agricultural Producers Association
NIDA	Northern Ireland Dairy Association
NIGTA	Northern Ireland Grain Trade Association
NSMC	North/South Ministerial Council
OFM/DFM	Office of First Minister/Deputy First Minister
OIE	Office International des Epizooties
PVPs	Private Veterinary Practitioners
PZ	Protection Zone
ROI	Republic of Ireland
RUAS	Royal Ulster Agricultural Society
SZ	Surveillance Zone
TB	Bovine tuberculosis
UFU	Ulster Farmers' Union
UK	United Kingdom
VOA	Veterinary Officers' Association
VOANI	Veterinary Officers' Association Northern Ireland
VSD	Veterinary Science Division

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# I Executive Summary

## The outbreak of FMD in Northern Ireland

1.1 Although primary agricultural production has declined in recent years in Northern Ireland, mainly due to a downturn in commodity prices across almost every production sector, it still is a significant contributor to regional GDP (2.5%) and provides employment to over 35,000 people. In particular, it forms the backbone of the rural economy. Primary production is dominated by livestock production and a large processing industry has been built on its output.

1.2 Maintenance of a high animal health status is therefore a key determinant of the future development of the agriculture industry. It also has implications for a wider spectrum of our economic and social life. Northern Ireland has traditionally had a good animal health record with few outbreaks of epizootic diseases in recent years.

1.3 The first outbreak of foot and mouth disease (FMD) in Great Britain was confirmed on 21 February 2001 and in response the Minister of Agriculture and Rural Development for Northern Ireland announced a ban on the import of animals and animal products to Northern Ireland. Despite this action, infected animals had already arrived in Northern Ireland and the first outbreak in Northern Ireland was confirmed a week later on 1 March 2001, at Meigh in County Armagh.

1.4 Three further cases were subsequently confirmed at Coagh in County Tyrone (on 13 April and on 22 April) and at Cushendall in County Antrim (on 19 April). However, no further cases occurred and on 7 June Northern Ireland was granted regionalisation status by the European Commission as an FMD-free area. This limited impact has been attributed to the prompt action of the Minister in sealing off ports of entry and the subsequent collaboration of the industry and the wider public in the containment and eradication effort.

1.5 Northern Ireland therefore escaped relatively lightly in terms of numbers of outbreaks compared with Great Britain.

Nevertheless, the efforts to eradicate the disease resulted in the slaughter of 50,000 animals, mainly sheep, on around 400 farms. The restrictions on movements of animals, people and vehicles in the countryside had a widespread impact not only on the agricultural industry but also on the food chain, on tourism and other businesses in rural areas and on the general life of the rural economy.

1.6 Dealing with the outbreak had major cost implications for the public sector in terms of compensation payments for culled livestock and mobilisation of personnel, amounting in total to over £24 million. A major cross-Departmental effort was involved to deal with all the consequences of the outbreak. The primary production sector as a whole did not suffer economically, as a result of prices remaining strong for most products and the availability of agri-money compensation. The net economic benefit to the sector has been estimated at £6.8 million. However, the indirect cost to the food chain, including auction markets, hauliers, dealers and abattoirs, has been estimated at £5.3 million.

## Terms of Reference

1.7 The Terms of Reference for this Review were as follows:

*To review the outbreak of Foot and Mouth Disease in Northern Ireland with particular reference to contingency plans, preparedness, cause, spread, handling, logistics, compensation, cross-border issues and trade implications and, in the light of the lessons learned, to make recommendations to the Minister on how any future outbreak of epizootic disease in Northern Ireland should be handled.*

1.8 An extensive range of research methods was employed by the Review Team in addressing this brief. Every effort was made to encourage and facilitate engagement with individuals and organisations impacted by FMD. This research included the following activities:

- five public meetings across Northern Ireland;
- over 40 depth interviews with key

stakeholders;

- focus group discussions with groups in outbreak areas;
- workshops with specific interest groups, including private vets and media representatives;
- telephone survey of 200 farmers; and
- over 60 written submissions.

1.9 This summary is set out under the headings of the key issues identified in our terms of reference:

- Pre-FMD arrangements at ports and airports to prevent the introduction of disease;
- The adequacy of existing legislation;
- Contingency plans and level of preparedness;
- How the disease entered and spread, and methods of containment/eradication;
- How the disease was handled: valuation, compensation, slaughter and disposal;
- Trade implications of the outbreak;
- Cross-border implications;
- Economic impact;
- Read-across to other reviews;
- Preparedness, reaction, co-operation input from stakeholders;
- Communications and media aspects; and
- Lessons learned, conclusions and recommendations.

## Pre-FMD arrangements at ports and airports

1.10 Due to the low incidence of epizootic disease in Northern Ireland there has been a perception that the sea barrier with Great Britain has acted as a natural defence to animal disease. However, it is quite clear, in retrospect, that with the increase in movement of animals, controls at ports and airports in Northern Ireland were quite inadequate to prevent the introduction of FMD. The practice of uncontrolled imports of sheep direct for slaughter created particular problems.

1.11 These controls were scaled down in the early 1990s with the introduction of the Single European Market. Continued globalisation and the free movement of goods and people, as

encouraged by the Single European Market, have been clearly beneficial to trade and commerce in general; however, they have also greatly increased the risk of spreading disease that can impact on animal and human health. The most effective means of controlling animal disease in Northern Ireland is to prevent its entry in the first place.

1.12 The Department has already recognised the need to considerably strengthen the controls at ports and airports compared to those pre-FMD and has consulted with industry stakeholders in relation to draft proposals. The improvements to controls at both airports and seaports within GB, especially in respect of the imports of meat and meat products, are also an essential element in reducing the future risk posed to Northern Ireland.

1.13 During the FMD outbreak, the introduction and enforcement of controls, and measures taken to increase awareness of them, on balance represented, in our view, a proportionate response, even though the effectiveness of the controls introduced was limited initially due to resource constraints.

## Adequacy of legislation

1.14 The assessment of the adequacy of the legislation that was in place prior to the outbreak to deal with the various situations that arose, draws on a detailed Working Paper prepared for our Review by Professor Joe McMahon, School of Law, Queen's University Belfast.

1.15 Legislation in this area is based on European Community Law, Directive 85/511/EEC and its amendments. Northern Ireland's implementation of Directive 85/511/EEC is through two separate pieces of legislation: the Disease of Animals (Northern Ireland) Order 1981 and the Foot and Mouth Disease Order (Northern Ireland) 1962.

1.16 The Foot and Mouth Disease Order (Northern Ireland) 1962 gives extensive powers to the Department to deal with an outbreak. Indeed it could be argued that these powers are too extensive as they allow for controls within the Infected Place, an Infected Area and a Controlled Area, whilst Article 36 also gives the Department a more general power to prevent the spread of the disease.

1.17 Considerable power is therefore vested in the Minister of Agriculture and Rural Development and in the Department. It is important that this power is exercised correctly according to well-known public or administrative law principles. These principles require, for example, that reasons for decisions may be publicly ascertained and that the powers are not exercised in an arbitrary or unreasonable manner.

1.18 This requires an accurate record to be maintained. In normal circumstances, it is easy to determine whether these public law principles have been followed. However, with the outbreak of FMD, the Department found itself in an emergency crisis situation and it is by no means certain that the public law principles were adhered to on a day-to-day basis.

1.19 In relation to human rights, the restrictions enacted as a result of the FMD outbreak interfered with the freedom of assembly and association. However, such restrictions were prescribed by law and the principle of proportionality was satisfied in the initial stages of the outbreak. If restrictions were applied for longer than necessary, it is more difficult to argue that the principle of proportionality continued to be satisfied.

## Contingency plans and levels of preparedness

1.20 European Community legislation requires Member States to draw up FMD Contingency Plans using approved criteria. The FMD Contingency Plan for Northern Ireland was drawn up in 1991 and approved by the European Commission as part of the UK plan in July 1993.

1.21 Based on this Review, it is clear that the Contingency Plan drafted in 1991 was for the most part unknown to the stakeholders outside of the Department's Veterinary Service. In addition, a number of other areas have been identified where the Contingency Plan was inadequate to deal with the full scale of the events which took place:

- the degree to which testing in the form of simulation had been undertaken in relation to the contingency plan;
- the usefulness of the work undertaken by the epidemiological team within the Veterinary Service regarding the maintenance of the Plan;

- the availability of personnel resources in relation to private veterinary practitioner participation;
- operational plans and manuals to support the implementation of the Plan; and
- biosecurity and the preparedness at farm level.

1.22 Thus, although technically a 'contingency plan' was in place, it was of limited use in practice. The Department was therefore left to co-ordinate the response on a reactive basis.

1.23 A number of high-level groups were established in DARD headquarters at Dundonald House to deal with strategy, policy and operations in relation to the outbreak. These groups liaised with a Central Epizootic Disease Control Unit, also in Dundonald House, which in turn communicated with Local Epizootic Disease Control Centres (LEDCCs) established at Divisional Veterinary Offices located near to infected premises.

1.24 In general this structure worked well and the Minister and the Chief Veterinary Officer took on a strong and effective leadership role which has been widely recognised. On the other hand, the lack of timely communication between this myriad of groups did cause problems, especially in respect of key decisions being disseminated to the LEDCCs. This sometimes resulted in third parties obtaining information before those responsible for dealing with the crisis on the ground.

1.25 In dealing with situations of this nature, the most effective structure is a clear command and control structure with instructions clearly and quickly communicated to all levels. This is not always easy in a relatively small community where informal networks work very effectively. Nevertheless, it needs to be considered in any future contingency plan.

1.26 In our view, the current structures within the Department (DARD) tend to encourage a 'silo mentality' between the various divisions, which limited the efficiency of the response to the FMD outbreak. We would therefore support the Minister's recent proposals to establish a Service Modernisation Directorate in the Department which should address this issue.



## Entry and spread of the disease and containment/eradication

1.27 Epidemiological investigations performed by DARD have confirmed that it was the importation of sheep purchased on 15 February 2001 through Longtown Market, near Carlisle in England, which introduced the virus to Northern Ireland, causing Outbreak 1 (Meigh, Co. Armagh). The sources of infection in respect of Outbreak 2 (Coagh, Co. Tyrone) and Outbreak 3 (Cushendall, Co. Antrim) remain unknown. However, extensive epidemiological information strongly suggests that they were due to the illegal importation of sheep from Great Britain in the period prior to the discovery of the first FMD outbreak in Northern Ireland. Outbreak 4 (Coagh, Co. Tyrone) has been linked to Outbreak 2, as a result of secondary infection – probably through personal contact.

1.28 A total of six cases have been sent to the DPP for prosecution as a result of the outbreak. Three of these cases relate to offences associated with the illegal importation of sheep and are still with the DPP for consideration. The other three cases relate to illegal internal movements of animals and have resulted in convictions with fines.

1.29 Two key issues have been identified from a review of the progression of these cases: there is considerable difficulty in making a strong case against individuals because of the weakness of the animal import and animal licensing legislation; and animal health cases may understandably not be perceived as a high priority with the DPP's office and therefore have taken longer to process.

1.30 The containment and eradication measures undertaken by DARD during the outbreak were implemented in accordance with the provisions of Council Directive 85/511/EEC. The European Commission, in its submission to the Review Team, confirmed this to be the case. The OIE also concurred with the approach taken by DARD to eradicate the disease, describing it as appropriate, timely and comprehensive.

1.31 The swift introduction of containment and eradication procedures is essential in preventing disease spread. The time interval between confirmation of the disease and

slaughter of the infected herds was less than 24 hours in all four cases. Of the farmers contacted for our telephone survey, 81% were quite or very satisfied with DARD's actions, while 80% believed DARD had acted quickly in the crisis.

1.32 The 'vaccination versus slaughter' debate is the direct focus of several reviews at national and European levels. Our Review does not seek to pre-empt the various scientific debates currently under way in this area and does not enter into a discussion of the merits or otherwise of adopting an emergency vaccination programme to deal with future outbreaks.

1.33 Due to the lack of robust epidemiological data and various difficulties in detecting clinical signs of the disease in sheep, DARD decided to carry out a national serological survey of sheep in Northern Ireland to ensure that no hidden infection was present. This was of great importance in achieving regionalisation. The Veterinary Science Division's laboratories in Belfast carried out this considerable exercise with the existing resources at their disposal.

## Handling of the disease

### Slaughter and disposal of animals

1.34 During the FMD outbreaks a total of just over 50,000 animals were slaughtered and destroyed, of which over 80% were sheep. The methods available for the slaughter of animals are determined by the European Directive 92/119/EEC. All animals at infected and contact farms were killed on-site and disposed of using pyres, while animals in the contiguous cull were transported to a designated cull site and subsequently disposed of at a rendering plant. The suitability of the Cushendall site was questionable due to its proximity to a main road and a populated area.

1.35 A number of problems were encountered with the slaughter process, particularly in the early stages of the outbreak. These included the availability of licensed weapons and ammunition, and welfare concerns surrounding some initial culls. As the slaughter process continued these issues were addressed. The USPCA observed a number of culls and was content with the methods being used.

1.36 The disposal process, in the main, operated effectively and was assisted considerably through the involvement of the Army in Coagh and Cushendall. Use of the security forces for disposal and movement controls was limited by the situation in the South Armagh area. A greater degree of preparedness both before the outbreak and after the first confirmed case could have been achieved with prior identification of burial sites and establishment of contracts with contractors identified for specific tasks.

### Valuation of animals and compensation

1.37 Almost £7.25 million was paid in direct compensation payments to farmers, representing the valuation of slaughtered livestock. The process and basis of valuing animals is provided for within the Disease of Animals (Northern Ireland) Act 1958 and the Foot and Mouth Disease Order (Northern Ireland) 1962.

1.38 A DARD Valuation Officer inspects the animals and makes an assessment of their individual value. This value should reflect the market price of the animals immediately prior to slaughter, or in the case of FMD-infected animals, their value immediately before infection.

1.39 The legislation also provides for an appeal process where the valuation is considered to be insufficient by the livestock owner and no agreement has been reached. In these instances the owner may select a valuer from a DARD-approved list to perform a second valuation, with the values attributed binding on both the owner and the Department.

1.40 A number of farmers who had their livestock culled suggested that they had not requested a second valuation, although they were unhappy with the values attributed, because they had not been aware of their ability to do so or felt under considerable pressure not to delay the cull. There was also a general consensus within outbreak areas that inconsistencies existed in the valuations performed, with the absence of agreed standard valuation parameters fuelling this perception.

1.41 The numbers of animals valued and slaughtered were checked by the Department against subsidy claims. Where discrepancies of

greater than 10% were identified, files were sent to the DARD Investigations Services Unit for investigation. In a total of 69 cases, all involving sheep annual premium claims, investigations resulted in penalties or files being sent to the DPP.

### **Control of movement of animals, people and vehicles**

1.42 Based on our analysis of the policies implemented in relation to control of movement of animals, people and vehicles, we consider that the Department was successful in acting decisively and speedily to effectively control the spread of the disease, although this was at a significant cost to the public sector.

1.43 The effectiveness of the importation bans on livestock, meat and meat products introduced by Minister Rodgers between GB and Northern Ireland represented one of the most important set of decisions taken by DARD during the crisis. The effective closing down of the points of entry into Northern Ireland allowed veterinary staff to respond fully to the task of eradicating the disease that had already entered Northern Ireland and also to prevent it spreading across further farm holdings in Northern Ireland.

1.44 Various internal animal movement restrictions were applied by the Department during the crisis, both on disease prevention and animal welfare grounds. These controls were based on scientific assessments and were both justifiable and proportional on this basis.

1.45 Despite the appropriateness of animal movement controls, the effectiveness of their implementation was restricted on occasion due to inadequate communication of the frequent changes, and a lack of individual animal identification.

1.46 The responsibility for prevention and eradication of animal disease lies equally with the industry and the importance of 'fortress farming' and farm/farmer biosecurity cannot be overestimated. Current farming practices and procedures which encourage the spread of disease include the widespread movement of animals and lax approaches to farm biosecurity. While it is recognised that some of these practices have resulted from the enormous pressures that farmers face in the current highly competitive market conditions, if measures are not taken by the industry and

individual farmers to address these problems, then the risk of animal health problems will worsen.

1.47 The Department took reasonable steps in respect of controls imposed on the movement of people and vehicles. In fact, the disinfecting of vehicles at roadblocks primarily served to instil a sense of the seriousness of the fight against the disease rather than acting as an effective means in itself of preventing disease spread. The support and co-operation of the Northern Ireland public in helping prevent further disease spread should not go unrecognised.

### **Trade implications**

1.48 Trade in live animals, fresh meat and untreated products from GB and Northern Ireland was banned by the EU with effect from 21 February 2001. This was followed by a complete ban on animal movements on 28 February 2001. Effectively this brought agricultural trade to a halt for the period of the outbreak.

1.49 It was 6 June before regionalisation status was again granted and on 1 July live sheep exports recommenced. Later in the month livestock marts reopened for sales of cattle, pigs and pedigree sheep. However, it was several months before the export of live animals to GB and the importation of meat recommenced on 12 December.

1.50 On 10 January 2002 the United States recognised Northern Ireland as free from FMD and lifted import restrictions. This was followed by the OIE, which on 22 January 2002 officially recognised the UK as being free of FMD.

1.51 Thus, for four months, trade in animal products was severely restricted with trade being distorted for a further six months. The impact of FMD on cattle prices during this period was minimal, primarily due to the fact that Northern Ireland had become accustomed to trading within an isolated UK market since the BSE crisis.

1.52 The same could not be said for the sheep trade, where there was a very definite impact on prices. An initial negative influence, due mainly to Northern Ireland's inability to export live sheep to the Republic of Ireland, was followed by a very positive influence. The

later positive impact on price was greater than the initial negative influence and resulted from the granting of regional status in June 2001, allowing trade with the undersupplied French market. A further boost was given in the late summer with the reopening of the live export trade to the Republic of Ireland.

### **Cross-border implications**

1.53 The agricultural sectors in both Northern Ireland and the Republic of Ireland have compelling reasons to co-operate in defending against FMD entering the island and subsequently on its containment and eradication from the island.

1.54 This is reflected in the fact that agriculture and animal health was identified as one of the areas agreed for co-operation under the provisions of the 1998 Good Friday Agreement. Under the framework of the North/South Ministerial Council (NSMC), a Strategic Steering Group was established to co-ordinate animal health policy on the island.

1.55 Cross-border co-operation was intensified across all parts of the industry including stakeholders, farming unions, private veterinary practitioners and milk processors. However, the co-operation tended to be on an 'as the need arose' basis.

1.56 Co-operation and communication between the relevant Agriculture Departments was frequent and across all levels. However, the communication was usually of an informal nature and as such was not documented. There is also no evidence of co-operation in the development of their respective epizootic contingency plans. Co-operation was facilitated by the fact that the worst outbreak was in Great Britain rather than on one side of the island or the other.

1.57 The formal structures of the NSMC had helped build relationships between key players in each Department prior to FMD. However, it was not established to deal with emergency situations and it is essential that operational plans are developed to formalise co-operation and communication between the Departments. It is also important to note that there has been limited stakeholder involvement to date within the formal structures created under the auspices of the NSMC.



1.58 The Review Team believes there is a need to utilise the opportunities created by the natural sea barrier around the island and to work towards consistent and complementary animal health strategies.

## Economic impact

1.59 The farm sector as a whole is estimated to have experienced a gain of £6.8m as a consequence of FMD. Agri-money compensation (which, in the absence of FMD, is unlikely to have been paid) more than offset the adverse effects of FMD.

1.60 These estimates exclude some important areas of the economic impact. Although these were not formally part of our Terms of Reference, we consider it important to draw attention to them. The estimated cost to the Northern Ireland public sector was £24.2m with staff costs (£11.5m) and culled livestock compensation (£7.4m) the most material components. Costs to other parts of the agrifood chain have been estimated at £5.3m.

1.61 It was not part of our Review to consider the economic impact outside the agricultural sector but in our view this should not be ignored. No firm estimates are available of the impact of FMD on the tourism industry in Northern Ireland; however, it is clear that the disease had a considerable negative impact.

1.62 The scale of the overall economic impact is generally quite small in relation to the size of the economy but nevertheless important, particularly to those businesses that suffered the greatest impact. In our view, farms and businesses in the outbreak areas suffered disproportionately from the effects of the disease compared to other parts of the country.

## Read-across to other reviews

1.63 The Review Team has reviewed reports and documents from other reviews and enquiries in relation to the 2001 FMD outbreak in the British Isles that have been completed or are currently under way at national and European levels. The Northern Ireland Review findings and recommendations are in keeping with many of the conclusions and suggestions for the future made by these other reviews.

1.64 The Northern Ireland ‘Vision for the Future of the Agrifood Industry’ requires specific mention, in particular the

recommendations made by the Foot and Mouth Disease Vision Sub-Group, all of which are either reflected in our recommendations or supported by the Review Team.

## Stakeholder inputs and interactions

1.65 In general, stakeholder interaction was good, given the need for DARD and others to act quickly and decisively. This is in part a function of the fact that many of the key stakeholders either know or know of each other.

1.66 The Minister, Mrs Bríd Rodgers, and the Chief Veterinary Officer, Dr Bob McCracken, appeared to form a very successful partnership in their personal handling of the outbreak. The Minister and CVO were supported by a small, high-level group of senior civil servants.

1.67 The internal Department decision-making process at this high level appears to have been effective, even though most of the arrangements were developed and implemented after the outbreak. It would be preferable to include these arrangements in the Contingency Plan. The dissemination of this information to individuals on the ground was at times problematic and this was exacerbated due to the need for a wide range of resources.

1.68 Initially, communication and co-ordination between DARD and the industry was perceived to be poor, but it appears that as the outbreak progressed DARD became much more effective in using the expertise of the industry and other stakeholders to combat problems. The farming unions, including UFU and NIAPA, played a crucial role in communicating the need for vigilance by farmers in preventing the spread of the disease.

1.69 The communication to and interaction with farmers in outbreak areas was one of the most difficult and also one of the least satisfactory elements of DARD’s handling of the crisis. The large-scale slaughter of animals in a locality is a distressing and traumatic experience for those involved. The Veterinary Service does not appear to have given adequate consideration to the necessity of keeping those involved fully informed. In addition, the level of support required by farmers directly affected seems to have exceeded that available. A factor contributing

to this situation was that none of the outbreak areas had strong farmers’ union membership.

1.70 The Northern Ireland Executive also played an important role, meeting on a number of occasions specifically to address the wide implications of the outbreak. An Inter-Departmental group was established to address these issues. The Assembly Committee was also briefed on a regular basis and provided advice and support. It is clear that the existence of a local administration was critically important to the successful dealing with the crisis.

## Communication and media aspects

1.71 Communication was paramount throughout all stages of the FMD crisis. The role of the media during the crisis was crucial, not only in disseminating information, but also in ensuring that scientific facts and basic policy guidance were reported effectively and comprehensively without hysteria, scare-mongering or sensationalism.

1.72 The responsibilities placed on DARD at the start of the crisis were significant. They related not only to operational logistics but also to the need to mount an effective educational communication campaign with the public and various stakeholders. DARD implemented structures in order to communicate with its staff and made considerable efforts to ensure that the public and the stakeholders were informed of the disease and its seriousness, and were updated on changes to policy and the development of the disease as the outbreak continued.

1.73 However, we have become aware of circumstances where various stakeholders, and indeed some DARD staff, felt that there were failings in the communication structures and processes implemented by DARD on the ground. For example, during the crisis, DARD’s ability to keep not only the public and stakeholders informed, but also its own staff, was at times limited by the failure to have adequately planned and provided for channels of communication that were necessary during the outbreak.

## Conclusions and recommendations

1.74 The conclusions and recommendations of the Review are set out in detail in Section VII of the report. Our Terms of Reference required us to make recommendations in relation to how any future outbreak of epizootic disease should be handled. However, in our view, prevention and detection of disease are equally important. We have therefore made two sets of recommendations:

- Contingency Planning; and
- Animal Health Strategy.

### Contingency planning

- The current contingency plan should be revised to include the development of a Resource Plan and Operational Manual.
- A Contingency Plan Director and Task Force should be appointed.
- There should be full consultation with other Government Departments, DEFRA, DAFRD, stakeholders and the military in respect of their roles within the reviewed Contingency Plan.
- There should be training for all staff, the organisation of regular simulation exercises and independent audits of the Contingency Plan.
- The Contingency Plan should be published and made widely available to all stakeholders.
- The Contingency Plan should be updated on a regular basis.

### Containment and eradication

- The capacity to undertake local screening of potential infected samples should be maintained.
- The Veterinary Service Enforcement Unit should be strengthened.

### Slaughter and disposal

- A team of vets should be specifically trained in weapons' use and slaughter techniques, with access to appropriate weapons and ammunition (we understand this process is under way).
- Contracts should be established in the form of a 'short notice' procedure to provide frameworks for the procurement of supplies, materials and contractors.

### Valuation of animals and compensation

- A reference-price schedule should be introduced to provide a range of valuations for types and categories of animals.
- Consideration should be given to

revising the basis of valuation so that values attributed on slaughter could be revised at the time when restocking is permitted.

- Payment of valuation/compensation to the farmers should be linked to compliance with biosecurity measures.
- The management structure within which DARD valuation officers operate should be reviewed.

### Control of animals, people and vehicle movements

- Current animal movement standstill policies should be maintained.
- A uniform approach should be developed to individual animal identification in order to achieve full traceability.

### Stakeholder interaction

- Veterinary Service officials should be trained in dealing with farmers who are subject to distress and trauma.
- Support should be provided to the various initiatives providing help to farmers suffering stress associated with farming.

### Communication and media aspects

- A detailed communications strategy should be developed as part of the future Contingency Plan.

### Animal health strategy

- A formal Animal Health Strategy for Northern Ireland should be drawn up. This would involve an up-to-date objective assessment of Northern Ireland's animal health status.
- A steering group (an Animal Health Strategy Group) should be established by DARD to oversee the development of the strategy.

### Port and airport controls

- DARD should review import controls in relation to livestock and meat products in association with DEFRA and DAFRD.
- There is a need to review and strengthen controls at UK level on both commercial and personal imports.
- A co-ordinated approach should be established between the various statutory bodies represented at ports and airports to enforce importation controls.
- There is a need to increase general public awareness of controls at ports and airports and their responsibilities in this regard.

### All-island animal health strategy

- An assessment of the animal health status of the island should be undertaken in parallel with the assessment in Northern Ireland proposed earlier.
- The development of an all-island animal health strategy should be progressed.
- There is a need to develop an operational plan formalising co-operation between DARD and DAFRD in any future emergency situation.
- A cross-border epizootic team should be established.

### Legislation

- There is a need to consolidate existing legislation in a new Animal Health Order for Northern Ireland. This could be accompanied by a new Animal Welfare Order.

### Biosecurity

1.75 We endorse the following Vision Group recommendations:

- All farm quality assurance schemes covering livestock should have significant animal health, welfare and farm biosecurity components.
- Model farms should be used to demonstrate the practice and benefits of high herd/flock health and welfare status.
- The industry should do all it can to mitigate the risks of importing disease.
- DARD should initiate an update and relaunch of the industry codes of practice for importing livestock.
- In addition we consider that the Department and industry should heighten inspection procedures at livestock marts and consider implementation of a system of livestock dealer registration.

1.76 It is crucial that individual farmers play their part in disease prevention, i.e. 'policing at the farm gate'. Biosecurity is complementary to, and a necessary component of, fortress farming. Fortress farming and biosecurity should encompass practices that are not just introduced at the time of an emergency or when an outbreak occurs, but should be an ongoing development within the industry if it is serious about prevention.

1.77 A number of these recommendations have resource implications which will need to be considered in moving forward.

## II Introduction

### Background

2.1 On 19 February 2001, an outbreak of foot and mouth disease (FMD) was detected among 2 cattle and 308 pigs at an abattoir in Essex in Great Britain. Having traced the initial source to a unit in Northumberland, it emerged that, as a result of the widespread movement of livestock, the virus had spread throughout much of Great Britain.

2.2 In view of the potentially devastating consequences for the agricultural industry, the Northern Ireland Minister for Agriculture and Rural Development (the Minister), on 21 and 23 February, announced a series of measures to prevent the spread of FMD to Northern Ireland. In addition to those measures, the Minister took further actions over the course of the outbreak, a number of which are detailed below:

- agreement to an EU proposal to impose temporary controls on intra-Community and third-country trade in live animals, meat, milk and other products from Great Britain and Northern Ireland;
- imposition of a ban on the importation of pigs, sheep and goats, cattle and semen to Northern Ireland;
- imposition of a ban on the importation of animal products from Great Britain;
- efforts to ensure the careful cleansing and disinfection of all livestock vehicles entering Northern Ireland from Great Britain;
- prohibition of the export to Great Britain of all live cattle, sheep, pigs and goats by withholding the necessary certification;
- requirement that all movement of cattle, sheep, goats and pigs within Northern Ireland could not take place without authorisation by DARD, including farm-to-farm and farm-to-slaughterhouse movements;
- encouragement of voluntary cessation of livestock markets and any other events involving gatherings of animals or people on farms;
- encouragement of farmers to adopt a 'fortress' attitude – no visitors other than essential visitors; one entrance/exit

to the farm where practical;

- acquisition of additional veterinary manpower by contracting private veterinary practitioners to carry out work for the Department;
- identification of additional Northern Ireland public sector manpower which could be mobilised if the need arose;
- provision of technical and moral support to farmers and rural communities via publication of helpline and counselling telephone numbers and by means of local liaison channels where farmers could get support if they needed it; and
- the commencement of an extensive programme of tracing imports from Great Britain into Northern Ireland since 2 January 2001.

2.3 Notwithstanding these efforts to stop the disease spreading to Northern Ireland, the first FMD case (in over sixty years) was confirmed on 1 March 2001 in Meigh, County Armagh. Upon confirmation of the disease, steps were immediately taken to contain its possible spread. An 'Exclusion Zone' was imposed around the infected premises and movements on or off the farm were controlled by the police and DARD officials. A complete and thorough disinfection was then carried out and infected and other susceptible animals were valued and slaughtered.

2.4 On 22 March, a case of the disease was confirmed in County Louth, in the Republic of Ireland. The outbreak itself was located within the exclusion zone that had been set up in direct response to the first outbreak in South Armagh. Despite hopes that the disease had been confined to the South Armagh/North Louth regions, three further Northern Ireland cases were confirmed on 13 and 22 April in Ardboe/Coagh, and on 15 April in Cushendall.

2.5 During the months of April and May, significant efforts were made to prevent the further spread of the disease within Northern Ireland. On 1 May the surveillance zone that had been put in place as a result of the South Armagh outbreak was removed. The remaining surveillance zones related to the other outbreaks were removed on 1 June.

2.6 On 7 June, Northern Ireland was granted regionalised status by the European Commission. In addition the Minister announced a relaxation of controls. Further relaxations in controls were made within the intervening period as the risk from GB lessened – the last outbreak in GB was on 30 September. On 12 December the export of live animals to Great Britain from Northern Ireland recommenced, effectively marking the end of the current outbreak. On 22 January 2002 the Office International Epizootique (OIE) officially recognised the UK, including Northern Ireland, as free from FMD.

2.7 Northern Ireland was fortunate to escape a widespread disease outbreak such as occurred in Great Britain. This has been attributed to the prompt decision to close the ports, the other measures described above, and to the collaboration of the agricultural industry in implementing a fortress-farming policy. However, the impact of the measures taken to limit the spread of the disease in Northern Ireland was severe for the industry and particularly for those farmers immediately affected in the outbreak areas.

2.8 As a result of the experience a number of issues emerged in relation to future handling of such outbreaks as well as to the general approach to animal health in Northern Ireland. The Minister therefore announced her intention in October 2001 to commission an independent review of the outbreak of FMD in Northern Ireland. In late February 2002, a team of consultants led by PricewaterhouseCoopers was appointed to carry out the Review.

## Terms of Reference

2.9 The Terms of Reference for this Review were as follows:

*To review the outbreak of Foot and Mouth Disease in Northern Ireland with particular reference to contingency plans, preparedness, cause, spread, handling, logistics, compensation, cross-border issues and trade implications and, in the light of the lessons learned, to make recommendations to the Minister on how any future outbreak of epizootic disease in Northern Ireland should be handled.*

2.10 In addition to these stated Terms of Reference, the independent Review Team were specifically asked to address the following issues during the course of the Review:

- pre-FMD arrangements at Northern Ireland ports and airports to prevent the introduction of epizootic disease;
- the adequacy of existing legislation including powers to take various actions, control of animal movements; vehicles and people; and animal identification;
- contingency plans for dealing with the disease and level of preparedness of DARD (including Departmental structures) and other agencies;
- how the disease entered Northern Ireland, how it spread and the methods used for its containment and eradication;
- how the disease was handled including the valuation of animals, compensation, slaughter arrangements and disposal;
- trade implications of the disease outbreak and the measures taken to contain it and the effectiveness and value of the measures taken to restore trade;
- cross-border implications, including the extent to which North/South co-operation was effective in dealing with the disease;
- economic impact (on the agriculture sector only);
- read-across to other Reviews, e.g. Scientific Study and Handling Review in GB, Review in ROI and Vision Report;
- preparedness, reaction, co-operation, input etc from stakeholders;
- communications and media aspects; and
- lessons learned, conclusions and recommendations.

2.11 In addressing these Terms of Reference the independent Review Team were conscious that this was a 'review' and not an inquiry or investigation. This meant that the function of the Review was not to pass judgement on the actions of individuals or group of individuals, but rather to identify areas where improvements could be made in the future.

2.12 It is also important to note that this Review was conducted over four months from late February to the end of May 2002. Our findings and conclusions are therefore based upon information available to the Review Team up to and including the end of May 2002. We are conscious that other reviews with reporting reference to the issues of FMD in 2001, and on the future of animal health, at national and European levels, are due to report later this year. These include the Lessons Learned Inquiry (chaired by Sir Iain Anderson), the Scientific Review by the Royal Society (chaired by Sir Brian Follet), the Royal Society of Edinburgh report and the National Audit Office report. As part of our research, we have reviewed the background documents relating to these reviews and their implications for our Review.

2.13 The 'vaccination versus slaughter' debate is the direct focus of several reviews at national and European levels. Our Review does not seek to pre-empt the various scientific debates which are currently under way in this area and does not enter into a discussion on the merits or otherwise of adoption of an emergency vaccination programme to deal with future outbreaks.

2.14 In relation to our conclusions and recommendations, we are aware that there have been recent developments following the FMD crisis concerning a number of areas

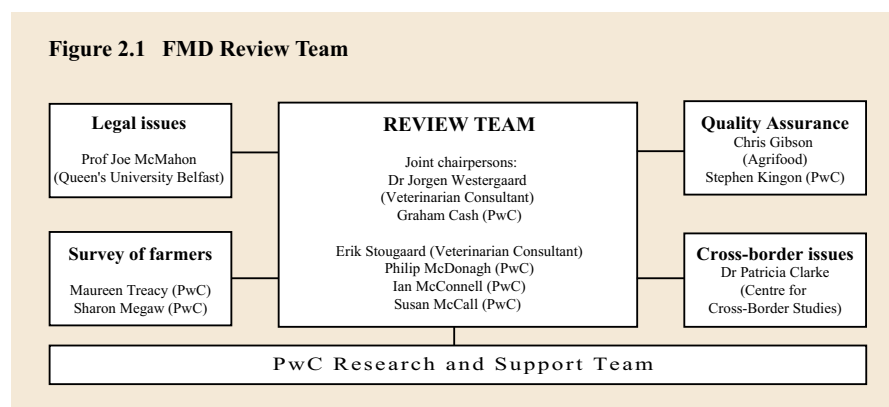
relevant to the Review. These include the following:

- proposals for continuing controls of imports at Northern Ireland ports and airports which are the subject of ongoing discussions between DARD and DEFRA;
- the restructuring of the Department of Agriculture and Rural Development and the recent proposals for a service modernisation initiative within the Department;
- the Department's proposals for a counter-fraud strategy; and
- the relationship between the Department and the industry and the Minister's recent proposals to set up a Stakeholders Forum.

2.15 Some of these developments reflect elements of the Review Team's recommendations, which have sought to link the lessons learned with practical and workable suggestions for a future approach to dealing with epizootic disease outbreaks.

2.16 Our Terms of Reference state that the Review was 'to make recommendations to the Minister on how any future outbreak of epizootic disease in Northern Ireland should be handled'. Our interpretation of this brief is that it requires us to address not just how to deal with future outbreaks, should they occur, but also measures taken to prevent disease entering in the first place and detecting it when it is present. Our Review therefore includes issues such as ongoing import control arrangements, biosecurity practices on farms in Northern Ireland and proposals for an all-island animal health strategy. However, the emphasis of the Review has been on strategies and plans for dealing with future outbreaks.

**Figure 2.1 FMD Review Team**





**Table 2.1 Elements of research programme**

Task	Description
A Desk-based research	Reviews of Department files and documents and of other ongoing FMD Reviews and Inquiries
B Public meetings	Five public meetings were held, including three in each of the outbreak areas and two in the east and west of Northern Ireland (Omagh and Belfast)
C Depth interviews	Over 40 interviews were carried out with a wide range of stakeholders including Department officials, farmers' unions, trade associations and others involved in the handling of the outbreak
D Focus group discussions	Three meetings were held with representative/support groups in each of the three outbreak areas to follow up specific issues relevant to their experiences
E Workshops	Four workshops were held with specific interest groups including DARD officials on the ground, private vets, the media and the Inter-Departmental Group
F Survey of farmers	A telephone survey of over 200 farmers, representative of all areas and sizes of farms, was carried out to establish views on the handling of the outbreak
G Written submissions	A public advertisement was placed inviting written submissions. Over 400 farmers in the FMD areas were sent a copy of the written submission form and invited to complete and return. Over 200 vets were also sent a copy of the written submission form and invited to complete and return.

**Table 2.2 Report structure**

Section	Terms of Reference
III Pre-FMD Arrangements in Northern Ireland	Pre-FMD arrangements at Northern Ireland ports and airports to prevent the introduction of epizootic disease  The adequacy of existing legislation, including powers to take various actions; control of animal movements; vehicles and people; and animal identification  Contingency plans for dealing with the disease and level of preparedness of DARD (including Departmental structures) and other agencies
IV The FMD Outbreak: operational issues	How the disease entered Northern Ireland, how it spread and the methods used for its containment and eradication  How the disease was handled, including the valuation of animals, compensation, slaughter arrangements and disposal
V FMD Outbreak: interaction with stakeholders	Preparedness, reaction, co-operation, input etc from stakeholders  Communications and media aspects  Cross-border implications including the extent to which North/South co-operation was effective in dealing with the disease
VI Post-FMD situation	Trade implications of the disease outbreak and the measures taken to contain it and the effectiveness and value of the measures taken to restore trade
VII Lessons learned and recommendations	Lessons learned, conclusions and recommendations

## Our approach

2.17 PricewaterhouseCoopers (PwC) brought together a senior and very experienced team of consultants and experts to perform this review. The team consisted of PwC consultants and a number of 'independent experts' (Figure 2.1).

2.18 Of the 'independent experts' involved in the review, Dr Jorgen Westergaard, Mr Erik Stougaard and Professor Joe McMahon have been of particular relevance.

2.19 **Dr Jorgen Westergaard** is a veterinarian with wide experience in the prevention and control of epizootic diseases. His experience has been gained during work in Africa, the US and Europe. Jorgen currently works as an independent animal health consultant. He retired from his position as Principal Administrator and Deputy Head of Animal Health in the European Commission in 2001. Prior to working for the Commission he was the Deputy Chief Veterinary Officer for Denmark (1977–1987) and was involved in all practical aspects of the disease control in the 1982/83 Danish outbreak of FMD.

2.20 **Erik Stougaard**, like Dr Westergaard, has considerable experience of epizootic diseases. From 1976–1999 Erik was the Chief Veterinary Officer (CVO) for Denmark and in association with Dr Westergaard (Deputy CVO at that time) was responsible for the eradication of FMD in Denmark after the 1982–83 outbreak. During this period Erik was a member of the European FMD commission, serving as president from 1991–1993. Since retiring from his position as Danish CVO he has provided assistance to the EU Commission and has acted as an expert consultant for the Danish government.

2.21 **Professor Joe McMahon** is Professor of International Trade Law at Queen's University Belfast. He is currently a member of various editorial boards, including the current development editor of the *International and Comparative Law Quarterly*. He has given presentations at several international and national conferences in recent years on the legal aspects of agriculture within the European Community and the World Trade Organisation.

2.22 The Research Programme undertaken by the Review Team reflects the methodology employed in order to conduct a comprehensive

and thorough review of the outbreak of FMD in Northern Ireland. The extensive research programme undertaken is summarised in Table 2.1 and further details of the research methodologies can be found in Appendix A.

2.23 Members of the Review Team met with the Minister of Agriculture and Rural Development, Mrs Bríd Rodgers, and the Chief Veterinary Officer, Dr Bob McCracken, during the course of the Review. We also had the opportunity of meeting with the Assembly Agriculture and Rural Development Committee to discuss the Review. All MLAs were advised of the Review by means of a press release.

2.24 During the course of the Review, we also had the benefit of a Reference Group set up by the Department and including officials of DARD and OFM/DFM. We met with the Reference Group on three occasions and they provided us with advice and observations. However, the responsibility for preparing this report lies entirely with the independent Review Team appointed to carry out the work.

2.25 The remainder of this report has been set out under Sections III–VII. Table 2.2 lists these Sections and links them with the Terms of Reference they address.



# III Pre-FMD arrangements in Northern Ireland

3.1 In this section of the report we review in broad terms the situation with respect to animal health and disease prevention in Northern Ireland, prior to the FMD outbreak in early 2001. This deals specifically with the following elements of our Terms of Reference:

- *pre-FMD arrangements at Northern Ireland ports and airports to prevent the introduction of epizootic disease;*
- *the adequacy of existing legislation including powers to take various actions; control of animal movements, vehicles and people; and animal identification; and*
- *contingency plans for dealing with the disease and level of preparedness of DARD (including Departmental structures) and other agencies.*

3.2 Our overview is set out under the following main headings:

- the importance of animal health to Northern Ireland;
- the history of epizootic disease in Northern Ireland;
- pre-FMD arrangements at ports and airports;
- adequacy of legislation; and
- contingency plans and level of preparedness.

## Importance of animal health to Northern Ireland

3.3 Although primary agricultural production has declined in recent years it still contributes over 2.5% to regional GDP in Northern Ireland, which is three times greater than the UK average of 0.8% but below the ROI figure of almost 4%. Employment amounts to over 35,000 people, which is over 5% of total employment in Northern Ireland.

3.4 The agricultural industry is dominated by livestock production. Approximately 90% of the land available for agricultural production in Northern Ireland is used for cattle (including dairying) and sheep. This compares to 35% in England, 64% in Scotland and 87% in Wales. Table 3.1 summarises the livestock numbers by type, in Northern Ireland.

**Table 3.1 Livestock numbers in Northern Ireland, June 2001**

Livestock type	Numbers (millions)
Cattle	1.68
Sheep	2.53
Pigs	0.39
Poultry	14.3

Source: Agricultural Census in Northern Ireland 2001, DARD

**Table 3.2 Estimated output of agriculture in Northern Ireland, 2001**

Sector	£m	%
Livestock and livestock products of which:	965.0	81.1
Finished cattle and calves	331.2	27.8
Finished sheep and lambs	82.7	7.0
Finished pigs	62.0	5.2
Poultry	105.2	8.8
Eggs	22.5	1.9
Milk	352.5	29.6
Minor products	8.9	0.7
Field crops	54.4	4.6
Horticultural products	61.4	5.2
Other	108.7	9.1
<b>Gross output</b>	<b>1,189.5</b>	<b>100</b>

Source: Statistical Review of Northern Ireland Agriculture, 2001

3.5 Livestock and livestock products account for over 80% of gross agricultural output in Northern Ireland, of which beef cattle (28%) and milk products (30%) are the major contributors. Sheep production accounts for around 7% of total output, pigs for 5% and poultry and eggs for almost 11% (Table 3.2).

3.6 Furthermore, a large processing industry is based on this output, producing £390m value added (2.4% of GDP) and employing 19,000 people. They include the key industries of dairy processing and meat production.

3.7 In addition, the agricultural industry still forms the backbone of the rural economy. Anything affecting the industry therefore has an impact on a wide spectrum of Northern Ireland's economic and social life.

3.8 Given the other major challenges that the industry is facing at the present time, it is important that the animal health status of Northern Ireland livestock should be maintained and if possible enhanced. This importance was recognised in the Vision Document *Vision for the Future of the Agri-Food Industry* (DARD 2001), which includes the following statement:

*Outbreaks of certain animal diseases, such as Classical Swine Fever or Newcastle Disease, can have devastating effects on the sectors concerned, while others, such as rabies, can have significant human health implications. Not all diseases (plant or animal) have such obvious or dramatic effects, but their introduction and spread can, nevertheless, affect agricultural productivity by reducing output or raising*

costs, thereby undermining the competitiveness of the industry. However, in terms of its economic impact, both directly on the agrifood sector and, reflecting the control measures associated with a slaughter policy, on the wider economy, there is no doubt that foot and mouth disease is of particular concern.

## History of epizootic disease in Northern Ireland

### What is an epizootic disease?

3.9 In general, and throughout this report, epizootic disease refers to animal diseases that spread rapidly through a population and are followed by a return to a disease-free state. In international veterinary terminology, there are

15 ‘List A’ epizootic diseases categorised by the Office International des Epizooties (OIE, World Organisation for Animal Health). List A diseases are defined by OIE as those which:

- *have the potential for very serious and rapid spread, irrespective of national borders;*
- *are of serious socio-economic or public health consequences; and*
- *are of major importance in the trade of animals and animal products.*

3.10 Most of the List A diseases are viral diseases. Northern Ireland has experienced the presence of six of these diseases as shown in Table 3.3, although only two have been present in the last 20 years – Newcastle Disease in 1997 and FMD in 2001.

3.11 Prior to the outbreak of FMD in 2001, the situation in the past decade in NI can be considered as very favourable compared to the situation reported in other parts of the EU (Table 3.4), where there have been a number of outbreaks of eight List A diseases.

3.12 Northern Ireland has for many years had a favourable status with regard to OIE List A diseases. This situation can be attributed to a number of factors:

- the geographical location of NI on the periphery of Europe and separated by a sea crossing, which at least prior to the recent FMD outbreak was viewed as an effective barrier to disease;
- the adopted rules for import of animals and animal products, which have ensured a degree of control; and
- a veterinary service that is separate from the rest of the UK and can act directly to control the risk of disease.

### OIE List B diseases

3.13 While Northern Ireland livestock (cattle, pigs and sheep) for many years have benefited from an ideal situation as regards OIE List A diseases, the same situation does not exist in relation to some of the notifiable diseases included in the OIE List B diseases. For the purpose of clarification, List B consists of some 80 diseases which are all transmissible. They are defined as diseases which:

*are considered to be of socio-economic and/or public health importance within countries and that are significant in the international trade of animals and animal products (OIE).*

**Table 3.3 List A diseases recorded in Northern Ireland**

OIE List A Diseases	Susceptible species	Last recorded in NI
Foot and mouth disease (FMD)	All cloven-hoofed livestock	2001
Swine vesicular disease (SVD)	Pigs	Never
Vesicular stomatitis	Horses, cattle pigs	Never
Peste des petits ruminants	Sheep and goats	Never
Lumpy skin disease	Cattle	Never
Bluetongue	Sheep and goats	Never
African horse sickness	Horses	Never
Classical swine fever (CSF)	Pigs	1958
African swine fever (ASF)	Pigs	Never
Rinderpest	Cattle	1900
Contagious Bovine Pleuropneumonia (CBPP)	Cattle	1893
Rift Valley fever	Cattle	Never
Sheep and goat pox	Sheep and goats	1850
Avian influenza (Fowl plague)	Poultry	Never
Newcastle disease (ND)	Poultry	1997

Source: OIE; Veterinary Service DARD

**Table 3.4 Reported outbreaks of OIE List A diseases in the EU, 1990–2000**

Diseases	Outbreaks (total number)	Year(s) 1990-2000	No. of reporting Member States
Foot and Mouth Disease (FMD)	205	1993, 94, 96, 2000	2
Swine Vesicular Disease (SVD)	168	1991-2000	5
African Swine Fever (ASF)	1,420	1990-2000	3
Classical Swine Fever (CSF)	1,398	1990-2000	8
Sheep pox	196	1994-98, 2000	1
Bluetongue	2,217	1998-2000	4
Avian influenza (Fowl plague)	379	1992, 94, 97-2000	3
Newcastle Disease (ND)	911	1990-2000	14

Source: European Commission, Animal Disease Notification System (ADNS)

3.14 Examples of List B diseases which are of importance for cattle and pig production in Northern Ireland and which create obstacles to free Intra-Community trade are: Bovine brucellosis, Bovine tuberculosis, Infectious bovine rhinotracheitis (IBR) and Aujeszky's disease. Efforts have been made for a number of years to eradicate these four diseases but the final goal of eradication has not yet been achieved. Information on the occurrence of Brucellosis, Tuberculosis, IBR and Aujeszky's disease within Northern Ireland, compared with other parts of the EU, is in Table 3.5.

3.15 The less favourable animal health situation with regard to certain OIE List B diseases, in particular Bovine tuberculosis and Bovine brucellosis, appears to be linked to the animal movement system and the lack of a strong co-ordinated approach by herd owners to disease eradication. FMD restrictions had a significant negative impact on the fight to control Tuberculosis and Brucellosis for the duration of the controls. This is because the Veterinary Service (VS) was unable to visit farms to carry out testing during this period.

3.16 Nevertheless, there is a perception that Northern Ireland is relatively disease-free, largely as a result of our geographical location. This perception may have been shaken by the FMD outbreak and we would support the Vision Group's recommendation that the Department and the industry should make:

*an objective assessment of the animal health status of Northern Ireland compared with GB and other EU Member States.*

### Foot and mouth disease

3.17 The growing international trade in meat and meat products, the increasing movement of livestock animals, the enlargement of trading blocs, such as the EU, and the increase in human travel, all contribute to the increased risk of the spread of epizootic disease.

3.18 FMD is regarded as one of the most contagious of the epizootic diseases. FMD seriously affects the health of adult animals and causes high mortality in young animals. FMD is regarded as endemic in the Middle East, South Asia and South East Asia. During the period 2000–01 the FMD Pan-Asian 'O' strain has spread over long distances and affected countries such as Japan, the Republic of Korea, Mongolia and South Africa, which had been free from the disease for a considerable period. The European outbreak in

**Table 3.5 Incidence of certain List B diseases within the EU**

Diseases	NI	GB	RoI	Other EU Member States
Bovine brucellosis	++	OBF	++	7 Member States OBF (Com Decision 1999/466/EC)
Bovine tuberculosis	++	++	++	8 Member States OTF (Com Decision 1999/467/EC)
IBR	++	++	++	4 Member States IBRF (Com Decision 93/42/EC)
Aujeszky's Disease	++	ADF	++	5 Member States (Com Decision 93/24/EC)

++ = considered infected; OBF = Officially Brucellosis free; OTF = Officially Tuberculosis free; IBRF = IBR free; ADF = free from Aujeszky's Disease  
Source: EU

**Figure 3.1 Examples of European outbreaks of FMD 1982-2002**



Source: FAO

2001, which affected predominantly the UK, but also France, Ireland and the Netherlands, was the latest in a worldwide outbreak.

3.19 Europe has had a number of FMD outbreaks over the last 20 years. Figure 3.1 identifies the countries affected, the year of the outbreaks and the number of cases involved.

3.20 The 2001 FMD outbreak was clearly the worst experienced by Great Britain since records began; the most recent FMD outbreaks in GB were in 1922, 1925, 1954–1962, 1965–1967 and 1981 (a single outbreak on the Isle of Wight). Prior to the 2001 outbreak, Northern Ireland and the Republic of Ireland had been free of FMD for some 60 years, with the

previous outbreak on the island of Ireland in 1941 having affected both jurisdictions. At the time, a total of 56 outbreaks were recorded in Northern Ireland, 556 in Ireland and 264 in GB. The number of animals in Northern Ireland reported to the OIE as being diseased was 844.

3.21 The risk of FMD was historically perceived to be low in Northern Ireland and the Republic of Ireland due to geography and the length of time since the previous outbreak. The fact that Northern Ireland avoided the disease outbreak experienced in GB in 1967 supported this confidence. However, in the meantime, much has changed since 1967: ■ in the late 1960s a ‘Fortress Northern

Ireland' approach reflected the 'normal controls' adopted at the ports of entry with livestock imports being subject to six months' quarantine and extensive testing;

- with the advent of the Single European Market in the early 1990s (referred to in the next section of the report) the majority of control measures were replaced by other measures and were relaxed or removed;
- the profile of the farming industry has also changed considerably with a reduction in the number of farms and full-time farmers, increased intensive farming methods and increased animal movements; and
- there has also been a significant growth in transport infrastructure and travel in general. Global markets and mass movements are now becoming the norm.

3.22 In retrospect, the above factors have increased the vulnerability of Northern Ireland to the disease. On the other hand, there was another important factor which had a positive impact on Northern Ireland's ability to deal with the 2001 outbreak. Devolved powers provided the Northern Ireland Executive with the ability to take timely local decisions. The ban on imports of animals and animal products was a prime example of this. In addition to the devolved administration, Northern Ireland has historically had its own Chief Veterinary Officer (CVO) while the rest of the UK has an overarching CVO to cover England, Scotland and Wales. Having our own CVO and Veterinary Service in Northern Ireland provided a further important element of autonomy.

3.23 In light of the above, we consider next the situation with respect to the control on movements of animals, people and vehicles, up to the outbreak of FMD.

## Pre-FMD arrangements at Northern Ireland ports and airports

3.24 Continued globalisation and the free movement of goods and people, encouraged by the Single European Market, have been clearly beneficial to trade and commerce in general. However, they have also greatly increased the risk of disease spreading over large distances

with a wider impact on animal and human health. The most effective means of controlling animal disease in Northern Ireland is to prevent its entry in the first place. As Northern Ireland is part of an island there is an opportunity for an 'island strategy' to be pursued. The exploitation of the natural line of defence provided by the sea offers the opportunity for an all-island response to animal health.

3.25 We look first at the powers of control in relation to livestock imports and meat and meat products. We then consider how these controls were implemented in practice by the Veterinary Service prior to FMD and finally at the specific problems relating to 'direct for slaughter' sheep imports which were the cause of the first outbreak in Northern Ireland. Our views are set out under the following headings:

- importation of livestock;
- imported meat and meat products;
- implementation of controls; and
- 'direct for slaughter' sheep imports.

### Importation of livestock

3.26 Prior to 1993, all live animals imported into Northern Ireland were subject to extensive checks. They were off-loaded at the port, animals were counted and numbers checked against the accompanying certification, and, if applicable, individual ear tag numbers were reconciled to certification. In addition, the animals' health status was reviewed. Since the introduction of the Single European Market, intra-Community livestock trade has been regulated through EU directives requiring transposition into the legislation of each member state.

3.27 For the purposes of the Common Agricultural Policy (CAP), DARD is a competent authority and therefore required to implement the controls laid down in trade directives in respect of imports from other EU member states. However, since NI is a region within a member state, the EU does not require intra-Community trade directives to be enforced on imports from GB. However, DARD do have in place controls on the import of animals from GB, and in addition, utilise the full EU intra-Community conditions required for certain species, although the level of control varies between species.

3.28 Importation of cattle and pigs does not represent a significant animal health risk. The

animal health risk associated with importation of cattle into Northern Ireland prior to FMD was lessened due to the fact that bovines were fully traceable as a result of individual identification. In relation to pigs, strict conditions, which equated to full EC trade directive requirements, had been agreed pre-FMD with MAFF/DEFRA in respect of pig importation.

3.29 The importation of sheep from GB to Northern Ireland is controlled under export licences which are issued under two Northern Ireland statutory instruments;

- The Disease of Animals (Northern Ireland) Order 1981; and
- The Importation of Animals (Northern Ireland) Order 1986.

3.30 The conditions for the importation of sheep from GB for **direct slaughter** were under the terms of the General Import Licence for Sheep for Direct Slaughter DANI/GEN/96/04. The conditions are summarised below:

- animals being imported must be accompanied by a valid Health Certificate and a Schedule giving details of the animals to which it relates. The Health Certificate must be signed by a DEFRA-appointed Local Veterinary Inspector to certify that within 24 hours of export the animals were examined and found to be healthy and fit to travel;
- one working day's advance notice of the movement must be provided to the DARD official at the Meat Plant/ Abattoir of the destination in Northern Ireland, including the total number of animals to be imported;
- immediately after landing, imported animals must be taken directly to the Meat Plant/Abattoir of destination on Northern Ireland; and
- on arrival at the Meat Plant/Abattoir the Health Certificate(s) which accompanies the animals should be presented to an officer of DARD or in the absence of an officer to an employee of the Meat Plant/Abattoir.

3.31 Later in this section we consider the extent to which these conditions were observed in practice in Northern Ireland prior to the FMD outbreak.

3.32 The conditions for the importation of sheep for **breeding and production** from GB

are under the terms of the General Import Licence for Breeding and Production Sheep DANI/GEN/96/05. Conditions vary depending on the accreditation of the source flock, but can involve pre-export testing and post-import isolation.

3.33 There appears to have been a reasonable degree of awareness of these regulations within the farming community. Almost 73% of farmers interviewed as part of our survey indicated that they were either quite aware or very aware of regulations for the importation of animals, 24% suggested they were not very aware, while only 3% indicated no knowledge.

3.34 On the other hand, there were also strong views amongst farmers about the adequacy of pre-FMD arrangements. Some 59% of respondents expressed the view that controls to prevent the illegal importation of livestock at NI seaports were inadequate, with 20% suggesting they were adequate, the remaining interviewees either indicated that they did not know or did not express a view.

Imported meat and meat products

3.35 It is also important to look at pre-FMD control arrangements in respect of meat and meat products. As the confirmed cause of the GB FMD outbreak demonstrates, the unauthorised importation of meat or meat products can pose a significant risk to animal health. Pre-FMD controls in force within the UK allowed individuals to import up to 10kg of meat or meat products from EU countries and up to 1kg of fully cooked meat or meat products from a non-EC country for personal use. Imports from a non-EC country had to be heat-treated in hermetically sealed containers.

3.36 There are relatively few direct passenger movements into NI from outside the EU and therefore one of the greatest threats from illegal food imports arises from passengers arriving into NI from airports in GB, such as Heathrow Airport. Concerns have been expressed to us both in respect of airport and indeed portal controls within GB with particular reference to the importation of meat and meat products.

3.37 Individuals interviewed as part of the research for this Review made reference to airport controls experienced elsewhere in the world, including the USA, Australia and New Zealand. For example, in the case of New

Zealand, ‘sniffer’ dogs check hand-luggage, and there is comprehensive signage in the arrivals area requiring declaration. In addition, all passengers meet a customs officer and all passengers have their luggage examined by hand or x-rayed.

3.38 Table 3.6 indicates the extent of the unauthorised imports of meat and meat products into Northern Ireland and demonstrates the significant increase in detentions since revised procedures were implemented at the commencement of the FMD outbreak. From the start of 2002 until the 26 April, Portal Inspectors had made 107 detentions, with the cumulative weight of the products detained being some 521kgs. Portal Inspectors were not stationed at Belfast City Airport until the outbreak of FMD in February 2001. The recording of detentions made at Belfast City Airport began in December 2001.

3.39 This analysis implies that prior to the outbreak there were significant quantities of unauthorised imports. This view is supported by around half the farmers in our survey. Some 49% of farmers surveyed indicated that, in their opinion, controls at airports pre-FMD were not adequate, 22% suggested controls were adequate, and the remaining 29% were either unaware or had no specific viewpoint.

3.40 Of those farmers who expressed the view that controls pre-FMD at seaports, airports or both were inadequate, 80% attributed this to either a lack of enforcement or insufficiently robust controls.

Implementation of controls

3.41 Officers from the DARD Veterinary Service Portal Office are responsible for the implementation of controls at Northern

Ireland’s ports and airports. This involves, for example, documentation and welfare checks, inspection of livestock vehicles for suitability, inspection of machinery imports and Border Inspection Post work, including manifest checks.

3.42 Prior to FMD, Portal Officers were present at Larne Harbour, Belfast Port, Belfast International Airport and also had a restricted presence at Warrenpoint Harbour. There was, however, no presence at Belfast City Airport, with cover also unavailable at Larne Harbour on a Sunday night, or at Belfast Port on Saturday nights and Sundays. The Portal Office had seen a period of contraction of posts following the introduction of the Single Market on 1 January 1993. Figure 3.2 summarises the change in numbers of portal staff in DARD over this period. A significant increase in manpower was arranged during the early months of the FMD crisis in order to resource the increased commitments. We understand that this level of manning has been maintained up to the date of this report.

3.43 The Portal Office, both prior to and during the FMD crisis, was located on the policy side of the Veterinary Service organisation structure and as such reported to the DCVO with responsibility for policy. During the course of our discussions with portal staff it became apparent that the timing of communication and dissemination of information from the field to portal staff had been inadequate. DARD has revised the structures which will, amongst other things, facilitate improved communication. The Portal Office has been regrouped as the ‘Portal Division’ and will operate on the implementation side of the Veterinary Service under the control of a Senior Principal

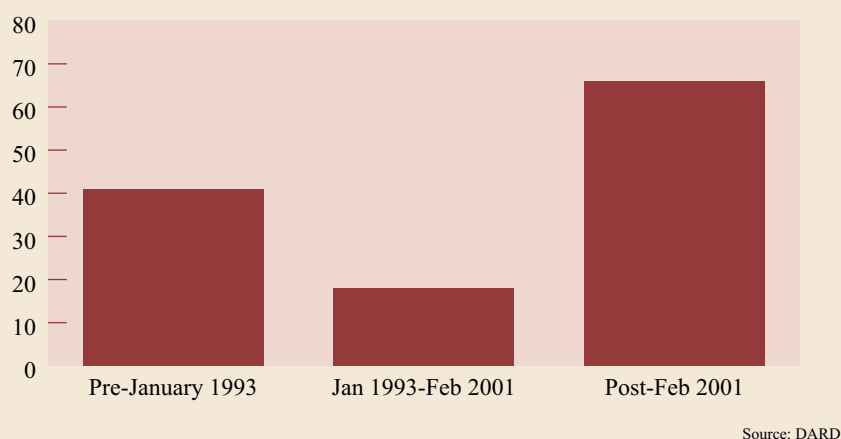
Table 3.6 Numbers of detentions made by Portal Inspectors at Belfast International Airport and Belfast City Airport

Period	Number of detentions			
	Belfast Int'l Airport	Belfast City Airport	TOTAL	Average per month
1999	10	0	10	1
2000	18	0	18	2
2001	62	20	82	7
2002 (Jan– Apr)	11	96	107	9

Source: DARD



**Figure 3.2 Trend in numbers of Portal Office staff**



Veterinary Officer, along with the majority of field staff. It is essential that clear channels of communication exist to fully integrate the Portal Division into the Veterinary Service.

3.44 In respect of sheep 'direct for slaughter' consignments the following procedures for import controls are laid down:

- Divisional Veterinary Office (DVO) nearest to the Meat Plant named as the point of destination receives an ANIMO (European standard computerised import /exports database) message that a consignment of sheep is due. The ANIMO message should be generated by a DVO in GB on receipt of information from the Veterinary Inspector who signed off the health certificate;
- Portal Inspectors intercept consignment, verify documentation and forward details of the livestock to the DVO by fax; and
- DVO organises collection of the health certificate from the DARD Meat Plant official and reconciles this to the ANIMO message on the imports/exports database and the information received from the Portal Inspector.

3.45 Discussions have indicated that ANIMO messages were rarely received by DVOs in Northern Ireland. The prior notification requirement was not enforced, with no correlation between consignments arriving at the ports with those actually being slaughtered. It is also evident that DVOs were not receiving or proactively identifying health certificates retained at the meat plants and therefore, in the absence of paperwork, were not updating the

imports/exports database, or more importantly, reconciling imports of 'direct for slaughter' sheep to records of those actually slaughtered. It has been suggested to the Review Team that lapses in compliance with these controls were largely as a result of the additional workload introduced with the advent of BSE in 1996, whereby importation controls had a much reduced priority.

#### **'Direct for slaughter' sheep imports**

3.46 In view of the importance of the procedures in place at the ports for 'direct for slaughter' sheep imports, we have reviewed in detail the events leading up to the first outbreak.

3.47 DARD was alerted to irregular activities at the ports by an anonymous telephone call in October 2000, which indicated that a specific haulier was importing sheep on 'direct for slaughter' certificates and that the sheep were not being slaughtered at the stated destination. DARD began an investigation that included the tailing of lorries from ports and the checking of portal records to those of meat plants. On 12 December 2000 an anonymous letter confirming suspicions was received. Investigations identified irregularities and confirmed that sheep were being diverted either to dealers in Northern Ireland or in the Republic of Ireland. One particular haulier was identified as representing a material element of the problem. He was, at the time, bringing in loads of between 300 and 400 hoggets up to five times per week. These loads were usually certified as going to a particular meat plant. A check at the meat plant revealed that recent loads had not been taken there. The haulier was informed that his activities were being

investigated and he received a cautioned interview. We understand from DARD that as a result there followed a significant reduction in such activities.

3.48 The motivation for this activity appears to be twofold. Firstly, while the export or import of Northern Ireland or Republic of Ireland sheep, to or from the Republic of Ireland, did not require health certification, sheep imported into the Republic of Ireland from GB for slaughter, unlike NI, did require Maedi-Visna certification. Therefore, by bringing the animals into NI on a 'direct for slaughter' certificate and diverting them to the Republic, the costs associated with this additional certification were avoided. Secondly, if sheep were smuggled into the Republic of Ireland they could be presented as locally-owned and therefore appear eligible for a VAT rebate of 4.3% that is claimed from the meat plant.

3.49 The Livestock and Meat Commission (LMC) have sought to put a quantitative estimate on the extent of this trade and they have provided us with data which suggest that this is a major problem. Putting together statistical information from official sources on the numbers of lambs imported for slaughter and separate statistics on numbers slaughtered at meat plants, the LMC estimates that in the year 2001 some 10,000 (61%) of the 16,400 lambs imported for slaughter did not arrive (Figure 3.3). In the year 2000 the number unaccounted for rose to 25,000 (63%) out of the total of almost 40,000 imported.

3.50 On the 11 January 2001, in response to the results of investigations carried out by the DARD Investigations Unit, DARD issued a revised notification to producers/hauliers in respect of controls surrounding the importation of sheep for direct slaughter. The revised controls introduced the enforcement of prior notification, which had always been available within the legislation but not enforced. Importers now were required to provide one working day's advance notice to the DARD official at the Meat Plant/Abattoir of destination in Northern Ireland of the impending arrival of a consignment, including the total number of animals to be imported.

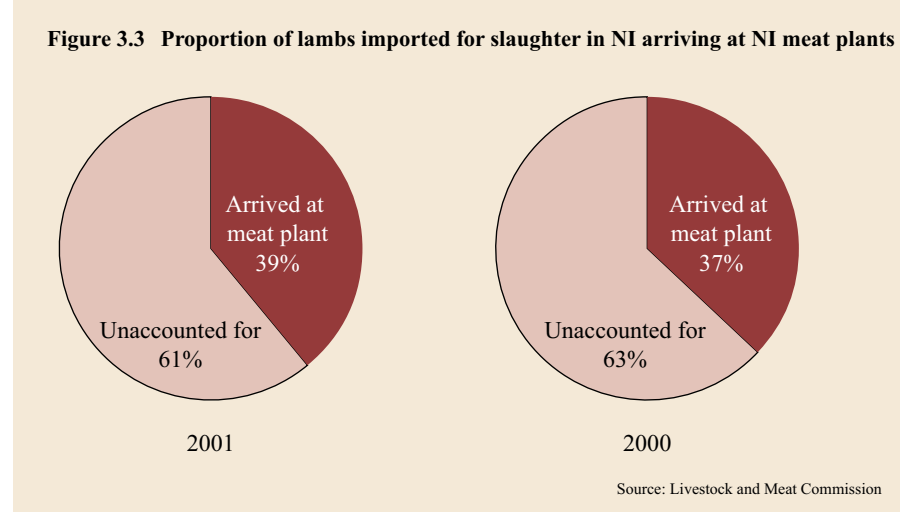
3.51 Revised staff instructions were issued to both DARD Meat Plant officials and Portal Inspectors. DARD Meat Plant Officials were



required to advise the Portal Office of any notified consignments and to also confirm the arrival and slaughter of all consignments. In addition, Portal Inspectors were asked to maintain an up-to-date list of all expected consignments (as per notifications) and, where a consignment was detected that had not previously been notified, they were to check the accompanying health certificates, and, if necessary, require the consignment to be off-loaded, examined, counted and, if necessary, to refuse importation. Portal Officers issued the notification to hauliers going through the ports by way of handbills for a period of almost two weeks before enforcing the new procedures on 24 January 2001.

3.52 However, a lack of resources (described earlier in this section) made the implementation of elements of these new arrangements difficult, with insufficient numbers of Portal Offices available on shifts to off-load animals for examination and culling, if considered necessary. At Belfast Port no lairage facilities exist to facilitate the off-loading of animals. In addition, at Belfast Port a lack of staff and under-implementation meant that shipments could arrive on weekend/evening sailings without being seen by Portal Officers. Although shipments that had arrived could be identified from ship manifests, no checks on the loads or health certificates would take place. One ‘direct for slaughter’ sheep consignment was returned in the weeks leading up to the confirmation of FMD in GB as no prior notification had been provided of the expected arrival of the shipment. In addition, the meat plant named as the point of destination indicated they were not purchasing imported sheep. Eighteen other ‘direct for slaughter’ consignments were identified and checked by Portal Officers during the period 24 January 2001 to 21 February 2001. Two of these consignments were destined for ROI and were found to have the appropriate health certification. The other 16 loads were destined for NI meat plants. In each instance Portal Officers had received prior notification of the consignment from DARD staff at the meat plants. Each of these consignments was allowed to proceed, however no evidence exists that point-of-destination checks were completed.

3.53 On 21 February 2001, the first outbreak of FMD was confirmed in Great Britain. DARD immediately announced a ban on the



imports of cloven-hoofed animals and their products from GB by revoking all import licences. The Ulster Farmers’ Union, in their written submission to this Review, described this decision as ‘ultimately the single most effective measure in averting a much more serious FMD outbreak in not only Northern Ireland but the Island of Ireland as a whole’. The implementation of this ban caused temporary difficulties for both retailers and consumers. General import licences remain revoked at the date of preparing this report.

3.54 In addition to the ban on imports, DARD began tracing all animals imported from GB into NI since 23 January 2001. This exercise identified a consignment of sheep that had sailed on the *Stenaline 22.10* (often referred to as the ‘Nightrider’) sailing on Sunday 18 February 2001 into Belfast Port. The defects in the arrangements at ports as described above had not been identified with the result that no Portal Inspectors were available to cover this particular sailing. The consignment consisted of 373 sheep which were being imported under a ‘direct for slaughter’ health certificate. The destination slaughterhouse named on the certificate never received the sheep. DARD investigations traced this consignment to Meigh, which subsequently was the source of the first outbreak of FMD in Northern Ireland. It is highly likely, given the revised procedures issued by DARD to the portal staff some weeks earlier, that the consignment would not have gained entry to Northern Ireland had Portal Inspectors been at the port to check it on arrival.

3.55 When the FMD ban was introduced, the

ports and airports became the first line of defence against the disease. Airlines and ferries were requested to make announcements on each of their flights and sailings to warn passengers of the need to take suitable precautions when returning from GB. The Civil Aviation Authority agreed to provide the same warnings on laminated cards in aeroplane seat pockets. Portal Officers have indicated that the good co-operation provided by the airline and shipping companies was paramount in the fight against entry of the disease.

3.56 Increased awareness and education programmes got under way using posters and leaflets. Disinfectant mats were made available and ports disinfected and cleansed all vehicles, initially using power-washers and within two months a bespoke, low-pressure sprayer. Legislation allowing limited personal meat and meat product imports and the import of hay and straw was revoked and certification was introduced for the cleansing and disinfection of machinery imports. In addition to these specific measures, a significant increase occurred in the levels of surveillance within the ports and airports, with Larne Harbour and Belfast Port subject to 24-hour cover.

3.57 Some 35% of farmers interviewed for our farmers’ survey indicated that, as a result of the actions taken during the crisis as described, the controls to prevent illegal importation of meat, meat products and livestock had improved. Of the remaining interviewees, 33% believed the effectiveness of controls had remained the same, 5% suggested they had declined and the remaining respondents indicated that they were unaware and therefore unable to make comment.

3.58 It is clear that the effectiveness of the measures introduced was at times reduced through requiring the agreement of individuals concerned. For example, officers do not have powers of stop and search unless they have grounds for reasonable suspicion and no powers of return exist if co-operation is refused. Sufficient powers and increased penalties should be considered, along with sufficient resources to implement them.

## Lessons learned and recommendations

3.59 As the next section of this report concludes, the outbreak occurred as a result of the illegal import of sheep for slaughter. Additional resources at the ports enforcing the existing controls and the effective restriction on the practice of diverting ‘direct for slaughter’ sheep could have prevented this. It is therefore essential that the lessons from this experience are learned and retained in future procedures.

3.60 Import controls in relation to livestock and meat products must be reviewed by DARD, in association with DEFRA and DAFRD, to ensure that they give the fullest protection to the local agricultural industry. The legislation necessary to achieve these standards must be in place together with the necessary resources. This may also require the involvement of the European Commission as NI is a region within a UK Member State and the imposition of such controls effectively means that Northern Ireland is treating the rest of the UK as a separate Member State.

3.61 For livestock imports at Northern Ireland ports and airports we suggest that there should be:

- 100% documentary checking on all consignments, accompanied by random identity and physical checks; and
- point of destination checks.

3.62 DARD have already recognised the need to considerably strengthen the controls at ports and airports compared to those pre-FMD and have consulted with industry stakeholders around draft proposals.

3.63 In relation to meat and meat product imports, in our view there is a need:

- to review and strengthen controls at UK level on both commercial and personal imports. We understand from other

reviews that this point has already been identified at UK government level; and to give additional appropriate powers to Portal Officers to search personal luggage and seize illegal imports and order their destruction. Such additional powers may be part of increased powers provided at a UK national level.

3.64 There are also some further issues that need to be addressed:

- there is a need for a co-ordinated approach between the various statutory bodies represented at ports and airports to enforce importation controls;
- the effectiveness of controls at ports and airports in the Republic of Ireland is also a critical dimension, if an all-island approach is adopted;
- there is a need to increase general public awareness of controls at ports and airports and their responsibilities in this regard;
- within the parameters of the legislative framework there is a need to develop protocols relating to the trade in livestock, meat and meat products between NI and GB. The approach should be based on a shared and agreed objective of maintaining biosecurity for the Northern Ireland industry.

3.65 There is a strong consensus within the industry that controls at ports and airports must play a pivotal role in preventing any further FMD outbreak on the island of Ireland. Their implementation will provide the necessary assurances to the industry and encourage the industry in general to implement other protective best practices, i.e. biosecurity at farms in Northern Ireland.

## Adequacy of legislation

3.66 We now consider the adequacy of the legislation that was in place prior to the outbreak to deal with the various situations that arose. This assessment draws on a detailed Working Paper prepared for the Review Team by Professor Joe McMahon, School of Law, Queen’s University Belfast.

3.67 Our assessment is set out under the following headings:

- Existing legislation;
- Adequacy of existing legislation;
- Animal welfare and human rights issues; and

- Lessons learned and recommendations.

## Existing legislation

3.68 Legislation in this area is based on European Community law which is transposed into national UK legislation. Since 1999 the Northern Ireland Assembly has been empowered to pass primary legislation in devolved areas which include agriculture. Legislation in relation to FMD therefore derives from Community law.

### *Community measures for the control of FMD*

3.69 Directive 85/511/EEC and its amendments establish Community control measures to be applied in case of an actual or suspected outbreak of FMD. The suspected or actual presence of the disease is to be notified to competent authorities and samples taken. The holding is to be placed under official surveillance and susceptible animals are to be kept isolated, and their place of confinement to be disinfected. Various movement restrictions are to be imposed on susceptible species and on other animals and animal products. Movement of treated milk, persons and vehicles can be authorised, otherwise restrictions are to remain in place until FMD has been ruled out.

3.70 However, if FMD is confirmed, a further series of measures can be taken, including:

- on-the-spot slaughter/destruction of susceptible animals (‘stamping out’);
- emergency vaccination if FMD is confirmed and it ‘threatens to become extensive’;
- cleansing and disinfection of all areas, vehicles and equipment likely to have been infected;
- no introduction of susceptible animals onto the holding for at least 21 days after cleansing and disinfection;
- establishment of a 3km protection zone around the infected holding, with no animals moving within the first fifteen days, unless moved under official supervision for direct slaughter; and
- other movement restrictions apply to breeding services and public events involving susceptible animals.

3.71 These restrictions within the protection zone must be maintained for at least 15 days. There are other measures which are in force

over a longer period of 30 days, including:

- the creation of a surveillance zone;
- restriction of FMD-susceptible animals on public roads, unless movement to pasture is authorised;
- susceptible animals are not to be removed from this zone within the first 15 days and thereafter may only be moved for direct slaughter once confirmed they are not infected; and
- other movement restrictions apply to breeding services and public events involving susceptible animals.

3.72 An epizootological inquiry should be carried out to address the question of the length of time FMD may have been present before being notified or suspected. It will also address the origin of FMD on the holding and the identification of other holdings that may be contaminated from the same source. This may result in other holdings being placed under official surveillance. Finally, the inquiry is to examine the movement of persons, vehicles and material that may have carried FMD to or from the holdings in question.

## Northern Ireland's implementation of Community FMD legislation

3.73 Northern Ireland's implementation of Directive 85/511/EEC was through the Disease of Animals (Northern Ireland) Order 1981 and the Foot and Mouth Disease Order (Northern Ireland) 1962, the latter consolidating all previous legislation on FMD.

3.74 By virtue of Article 4 of the 1962 Order every person who has a suspected or actual FMD-infected animal shall notify DARD 'with all practicable speed'. This is also the case for any veterinary surgeon who, on examination of an animal, is of the opinion that a case of FMD exists or has reasonable suspicion that it has existed within the preceding 56 days.

3.75 The following procedure is to be followed by the veterinary surgeon:

- a Form A notice should be served declaring the premises to be an 'Infected Place' if a veterinary inspector has reasonable grounds for believing that FMD exists or has existed in the previous 56 days;
- Form A to remain in place until it is withdrawn by the service of Form B; and

- when notice is given, no movement of persons or animals from the suspected holding is permitted for a period of 48 hours without the permission of an inspector. (This restriction does not apply to the veterinary surgeon, who is nevertheless required to take all reasonable precautions before leaving to prevent the spread of the disease.)

3.76 Under Schedule 3 of the Order on the declaration of an Infected Place, various measures are to be enforced, including:

- a licence for the movement of animals, animal products or animal-associated matter, including vehicles, from the Infected Place, although milk may be removed provided that it has been sterilised;
- the disinfection of all equine animals to be moved from the Infected Place;
- the cleansing and disinfection of all persons working with FMD-susceptible animals; and
- an obligation arises on all persons who have been on that land during the last seven days and/or who have moved animals or animal-associated matter from that land within the last 28 days, to notify the Police or DARD.

3.77 Where after an examination the veterinary inspector is of the opinion that an animal or carcass is diseased, the following procedure is to be followed:

- under Article 11 of the Order, a Form C, the 'Certificate of Suspected Disease', is issued making it unlawful for any person to move any animal out of an area lying within a five-mile radius of the Infected Place for a period of two full days after the day on which Form C is issued; and
- Form D – Notice to Owner prohibiting movement of animals applies.

3.78 There are, of course, exceptions to these restrictions on animal movement, such as movement within the area and movement under licence. This effort to prevent the spread of the disease through movement is reinforced through an obligation of complete disinfection imposed on anyone whose premises or vehicles have been in contact with a diseased animal. All matter an animal may have been in contact with must either be cleansed and disinfected or otherwise effectively destroyed.

3.79 The 1962 Order has no provision for dealing with the **slaughter of animals** infected by or suspected of being infected by FMD. The power to order the slaughter is contained Part I of Schedule 2 of the Disease of Animals (Northern Ireland) Order 1981. Directive 93/119/EEC on the protection of animals at time of slaughter or killing was implemented in Northern Ireland by the Welfare of Animals (Slaughter or Killing) Regulations 1996. A person engaged in the activities covered by the Regulations, which include movements, lairaging, restraint and stunning, in addition to slaughter or killing, must have the necessary knowledge and skills to perform the tasks humanely and efficiently. Article 4(1) provides that such persons are not to cause, or permit any animal to sustain, 'any avoidable excitement, pain or suffering'.

3.80 The Department may issue statutory codes of practice and the Regulations impose requirements on the occupiers of a slaughterhouse or knacker's yard to ensure that persons engaged in activities covered by the Regulations are acquainted with these welfare codes and the relevant legislation. Schedule 9 of these Regulations regulates the slaughter or killing of animals for the purpose of disease control by establishing the methods for such slaughter or killing.

3.81 With respect to **compensation for slaughtered animals**, Article 18 of the 1962 Order provides, in the first instance, that an inspector shall assess the value of any animal slaughtered and compensation will be paid if that assessment is accepted, by the owner of the animal through a written agreement. If the assessment is not accepted another valuer may or will be selected from a list approved by the Department. Part II of the Schedule 2 of the Disease of Animals (Northern Ireland) Order 1981 also outlined provisions dealing with compensation in respect of slaughtered animals. For FMD the compensation would be the value of the animal before it became infected with FMD where it was infected at the time of slaughter and in every other case, the value of the animal immediately before it was slaughtered. The apparent inconsistency in these two provisions was removed by Article 21 of the 1994 Agriculture (Miscellaneous Provisions) (Northern Ireland) Order, which provides that Part II of Schedule 2 of the 1981 Order shall cease to have effect.

3.82 The 1962 Order provides three methods for the **disposal of the carcass** of any animal that has died of FMD or been slaughtered. First the carcass may be buried at a depth of at least six feet and then covered with ‘a sufficient quantity of an approved disinfectant’. If buried, a licence is required to dig up the carcass. The second option allows the carcass to be burned. In both these cases, where practicable, both options will take place on the land of the owner of the animal. The final option is that the carcass will be disinfected and taken to a knackery where it will be destroyed through exposure to a high temperature or chemical agent.

3.83 Two further parts of the 1962 FMD Order are of particular interest – Part II on Infected Areas and Part III on Controlled Areas. The provisions of these parts allow for restrictions to be imposed if the Department has reason to suspect the existence of FMD within Northern Ireland (Infected Area) or when the Department considers it necessary or expedient to prevent the introduction or spread of the disease (Controlled Area). Once an Order is made declaring an area to be either Infected or Controlled, the provisions of Schedule 5 of the Order become effective. In addition to the movement restrictions contained in both parts of the Order, the provisions of the Schedule impose various rules for the movement of persons, animals and animal by-products and on various sporting activities and other public events within each type of area.

### Adequacy of existing legislation

3.84 The FMD Order (Northern Ireland) 1962 gives extensive powers to the Department to deal with an outbreak. Indeed it could be argued that these powers are too extensive as they allow for controls within the Infected Place, an Infected Area and a Controlled Area, whilst Article 36 also gives the Department a more general power to prevent the spread of the disease. The main body of the Order and Schedules, especially Schedule 5, gives the power to control movements of animals, people and vehicles, through the granting of licences, in an attempt to eradicate the disease. The requirement of a licence to import animals, imposed under the 1986 Importation of Animals Order, extends the power to restrict animal movements.

3.85 Considerable power is therefore vested in the Minister of Agriculture and Rural Development and in the Department. It is important that this power is exercised correctly according to well-known public or administrative law principles. These principles require, for example, that reasons for decisions may be publicly ascertained and that the powers are not exercised in an arbitrary or unreasonable manner.

3.86 This requires an accurate record to be maintained. In normal circumstances, it is easy to determine whether these public law principles have been followed. However, with the outbreak of FMD, DARD found itself in an emergency/crisis situation and it is by no means certain that the public law principles were adhered to on a day-to-day basis. Serious consideration should be given to the adoption of a Protocol for Action in Emergency Circumstances to ensure full respect for public law principles.

3.87 There are some inconsistencies between Community and Northern Ireland legislation. These are discussed in the detailed Working Paper and include definitions of the zones surrounding an outbreak and the use of emergency vaccination. Discussions about the future of Directive 85/511/EEC at European level will address the latter issue. A review of Northern Ireland legislation in respect of FMD outbreaks is required to deal with all the issues raised in this Review.

### Animal welfare and human rights issues

3.88 Community law offers protection to animals whether on farm, at slaughter or in transport and through various legislative measures Northern Ireland has adopted Community law in this area. However, one issue is the slaughter of animals at risk as part of the eradication. If the goal is to promote animal welfare, then one solution would be to slaughter only infected animals and vaccinate all other animals. While this would promote animal welfare, there are adverse consequences for resumption of trade, movement of animals and processing of products arising from vaccination.

3.89 In relation to human rights, the Working Paper considers the issues in some detail. This concludes that the restrictions imposed as a result of the FMD outbreak interfered with the

freedom of assembly and association, however such restrictions were prescribed by law and the principle of proportionality was satisfied in the initial stages of the outbreak. If restrictions were applied for longer than necessary, it is more difficult to argue that the principle of proportionality continued to be satisfied.

3.90 Another of the issues raised is in relation to compensation to farmers and others affected by the outbreak. Under the legislation, compensation to farmers is limited to the value of the animals at time of slaughter. The issue is whether compensation should have been offered for psychiatric damage/nervous shock suffered by farmers. This is a complex area of the law where the finding of the legal definition of negligence could prove problematic. Given the mission statement of the Department, a credible case could be made for changes to the existing legislation to ensure that all aspects of the rural economy are compensated in future FMD outbreaks. Clearly such changes would have significant implications for the Department.

3.91 At present, a specific legal base would be needed to provide such compensation, such as interference with economic freedom. Given the unanimity of scientific opinion on the need to eradicate FMD, it is unlikely that any of the measures taken by either the Community institutions or the Member States in implementation of Community law would amount to a breach of economic freedom.

### Lessons learned and recommendations

3.92 The review of Community FMD legislation provides the Community with an opportunity to appraise the scope of the existing legislation in light of the causes of the 2001 outbreak and to update it to reflect new developments. This legislation may include provisions in relation to the following:

- the disposal of carcasses to reflect environmental and public health;
- human rights including reference to the EU Charter of Fundamental Rights;
- animal welfare/rights given concerns raised by the slaughter of healthy animals and developments in vaccination; and
- compensation, including consideration of an assurance scheme or animal levy to alleviate the burden on the Community budget. The compensation



of non-agricultural economic operators may also be included.

3.93 With respect to future legislation, implementation of the Directive affords an opportunity to rationalise the myriad sources of legislation of relevance in this area. This should lead to a consolidation of existing legislation in a new **Animal Health Order**, which would deal with all diseases from diagnosis through treatment to the restrictions necessary to ensure the eradication of the disease. Such legislative changes will be brought through the NI Assembly.

3.94 Given the enhanced status of animal welfare/rights in the Community, the new Animal Health Order could be accompanied by a new **Animal Welfare Order** which could deal with such matters as animal identification and the transportation of animals.

3.95 The new Plan should also incorporate a **Protocol for Action in Emergency Circumstances** to ensure full respect for public law principles, the necessary co-ordination between Departments, and revised procedures for the disposal of carcasses.

3.96 There will clearly be an ongoing need for appropriate **training and development** of all DARD staff and stakeholders involved in the implementation of the matters identified above. This will include training in relation to the implications arising from the human rights legislation.

## Contingency plans and disease preparedness

3.97 We now consider the extent to which Northern Ireland was prepared for the emergency that arose following the outbreak of FMD. We have considered first the general background to contingency planning within the EU before making some observations on the situation in Northern Ireland.

3.98 The main objective of contingency planning is: 'to arrange in advance for an event that may or may not happen, especially an event that would cause problems if it did happen'. The need for a harmonised approach to FMD contingency plans within the European Community was decided in 1990 in connection with the adoption of the FMD non-vaccination policy. The legal base for the harmonised approach is given in Council

Directive 90/423/EEC. Article 5 states:

*Each Member State shall draw up a plan of warning, specifying the national measures to be implemented in the event of an outbreak of foot and mouth disease.*

3.99 This should allow access to the plant, equipment, personnel and all other appropriate materials necessary for the rapid and efficient eradication of an outbreak. It must give a precise indication of the vaccine requirements which each Member State considers that it needs in the event of the reinstatement of emergency vaccination. In the same article it is stated that the European Commission shall:

- lay down the criteria for drawing up plans;
- examine the plans presented by Member States in order to determine whether they permit the desired objective to be attained; and
- approve the plans, if necessary amended, by use of the Standing Veterinary Committee (SVC) procedure. This includes that the plan from each Member State shall be presented to the SVC for an opinion.

3.100 In accordance with the provisions of Council Directive 90/423/EEC, the European Commission adopted criteria (by Decision 91/42/EEC) for FMD contingency plans and the criteria are those shown below.

### Criteria for contingency plans

3.101 Contingency plans shall meet at least the following criteria:

- the establishment of a crisis centre at a national level, which shall co-ordinate all control measures in the Member State concerned;
- a list shall be provided of local disease control centres with adequate facilities to co-ordinate the disease control measures at local level;
- detailed information shall be given about the staff involved in control measures, their skills and their responsibilities;
- each local disease control centre must be able to contact rapidly persons/organisations which are directly or indirectly involved in an outbreak;
- equipment and materials shall be available to carry out the disease control measures properly;
- detailed instructions shall be provided

on action to be taken on suspicion and confirmation of infection or contamination, including proposed means of disposal of carcasses;

- training programmes shall be established to maintain and develop skills in the field and administrative procedures;

- diagnostic laboratories must have facilities for post-mortem examination, the necessary capacity for serology, histology, etc, and must maintain skills for rapid diagnosis. Arrangements must be made for rapid transportation of samples;

- details shall be provided of the quantity of FMD vaccine estimated to be required in the event of a reinstatement of emergency vaccination; and
- provisions shall be made to ensure the legal powers necessary for the implementation of the contingency plan.

3.102 In addition to the established criteria for FMD contingency plans, the European Commission has issued guidelines to assist Member States in drafting the plans. The FMD Contingency Plan for Northern Ireland was drawn up in 1991 and presented to the European Commission as a part of the UK Plan. The plan was approved by the European Commission on 23 July 1993 by Commission Decision 93/455/EEC.

### Contingency plans within the context of preparedness

3.103 A contingency plan is an important instrument in the preparation for and handling of a disease emergency. In brief, the objectives of a FMD contingency plan include that:

- the national veterinary service shall be able to deal quickly, efficiently and effectively with a FMD epidemic;
- all categories of staff involved at all levels shall be fully aware of their exact role during FMD outbreaks and they shall be trained and competent in the tasks that they will be expected to carry out;
- the farming community, relevant agri-business agencies and organisations over which the veterinary administration has no direct control will co-operate with and provide assistance to the veterinary services in disease eradication; and
- adequate personnel, equipment and

financial resources can be made available quickly enough to avoid any delays in dealing with the emergency situation.

3.104 It is important to emphasise that a contingency plan is an **instrument for use in an emergency** (during ‘wartime’); but the preparation and update must take place between outbreaks (during ‘peacetime’). It is one component of disease preparedness.

## General observations

3.105 The Review Team has made the following observations on contingency planning and disease preparedness.

### *Availability and value of the Contingency Plan*

3.106 The context of the contingency plan drafted in 1991 was by and large unknown to the stakeholders outside DARD. During our meetings with representatives of various agricultural organisations and the farming communities, none appeared to have seen the plan or to be aware of its existence. In 2000 and 2001 attempts were made by DARD to update parts of the plan but the work was not pursued. During the 2001 FMD outbreaks, alternative plans were worked up.

### *Testing of the Contingency Plan*

3.107 Simulation exercises for Classical Swine Fever (CSF) were carried out by DARD in 1995 and 1998. The objectives of the 1995 exercise were to improve administrative procedures, train staff and increase disease awareness. In 1998 the objectives primarily were to train staff in on-farm investigation and pig-tracing. Valuable recommendations were made in the reports covering the two exercises. With regard to FMD an exercise was conducted in 1999 for the epidemiological team of the Veterinary Services and one Veterinary Officer from each Divisional Office. A formal report was not issued from the exercise.

### *Update for epidemiological team*

3.108 Veterinary Services maintains an epidemiological team within the framework of the Contingency Plan. The team consists of a group of Veterinary Officers under the management of the DVO (Epidemiology). This group meets bimonthly with the purpose of updating its members on epizootic diseases. Meetings include talks, epizootic exercises and questioning with a strong emphasis on List A diseases (referred to earlier in this report).

Members are expected to engage in a programme of self-study and most have previous experience of exotic diseases, postgraduate qualifications or have attended exotic disease courses arranged by the National Reference Laboratory in Pirbright, England (the ‘Pirbright Laboratory’). Materials used at the meetings have been circulated to Divisional Veterinary Officers for veterinary staff training.

### *Personnel resources*

3.109 The private veterinary practitioner plays an important role during epizootic disease outbreaks and this was also the case in 2001 in NI. Two of the four FMD outbreaks were based on suspicions reported by a private practitioner. Although private veterinary practitioners are mentioned as part of the personnel resources in the Contingency Plan, the Review Team noted the absence of any framework contracts to facilitate the recruitment and remuneration of veterinarians from private practice and for training and insurance cover during work.

### *Biosecurity – preparedness at farm level*

3.110 The individual farmer plays a special role during the FMD ‘High Risk, Period 1’, i.e. ‘the time between the virus entering a susceptible livestock population until the presence of the disease has been confirmed’. The type and number of movements to and from a farm during this high-risk period are extremely critical. Application of biosecurity (policing at farmgate, etc) is paramount. From a number of meetings, the Review Team have formed the impression that, amongst farmers, the practice of biosecurity related mainly to the use of mats and disinfectants at lane ends and entrances to buildings. From a disease preparedness point of view this interpretation is considered too narrow and wider biosecurity should also cover the following:

- appropriate identification of animals and records of all animal movements;
- rules for employees and visitors;
- isolation of newly purchased animals;
- defined sites for delivery of feed and accessories; and
- sites for dispatch of animals.

3.111 Within the context of biosecurity some may also apply a ‘7/30’ days rule; the ‘7’ refers to the requirement that no animal shall be moved (except for slaughter) within 7 days of the arrival of a cloven-hoofed animal, while the ‘30’ refers to the requirement that a newly

introduced animal shall remain in the herd for at least 30 days.

## Lessons learned and recommendations

3.112 It is clear from our research that the Contingency Plan in existence prior to the FMD outbreak was inadequate in a number of respects to deal with the full scale of the events that took place. Before making recommendations on arrangements that should be put in place for any future outbreak of such diseases, we go on in the next section to consider the details of the outbreak itself.



# IV FMD outbreak: operational issues

4.1 Having reviewed the pre-FMD situation we move on in this section to consider the outbreak itself and how it was handled by those concerned. This deals specifically with the following elements of our terms of reference:

- *how the disease entered Northern Ireland, how it spread and the methods used for its containment and eradication; and*
- *how the disease was handled including the valuation of animals, compensation, slaughter arrangements and disposal.*

4.2 Our overview is set out under the following main headings:

- history of the outbreak;
- causes of the disease;
- containment/eradication of the disease;
- slaughter and disposal of animals;
- valuation of animals and compensation; and
- control of movement of animals, people and vehicles.

## History of the outbreak

### Introduction

4.3 A total of four confirmed outbreaks of FMD occurred in Northern Ireland in 2001. The first outbreak was confirmed on 1 March 2001 and the last on 22 April 2001.

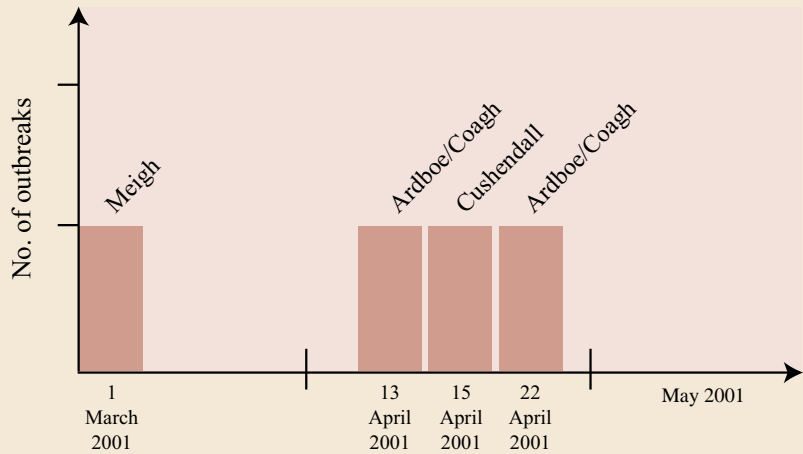
4.4 On 21 February 2001 the first outbreak of FMD was confirmed in GB. Minister Rodgers, on the advice of the Chief Veterinary Officer, took three immediate steps:

- agreed to Northern Ireland being included in a temporary EU ban on intra-Community and third country trade in UK animals and animal products;
- banned the import of all susceptible animals and their products from GB; and
- commenced tracing the destination of all susceptible animals imported from GB since 2 January 2001. The tracing exercise involved establishing the details of all relevant imports, movement restrictions were imposed on destination premises and immediate

Table 4.1 Key dates in history of FMD outbreak in Northern Ireland, 2001

Date	Event
19 February 2001	Detection of FMD in abattoir in Essex
27 February 2001	First suspected case of FMD in Northern Ireland identified at Meigh
1 March 2001	First outbreak of FMD in Northern Ireland confirmed at Meigh
13 April 2001	Second outbreak of FMD in Northern Ireland confirmed at Ardboe/Coagh
15 April 2001	Third outbreak of FMD in Northern Ireland confirmed at Cushendall
22 April 2001	Fourth outbreak of FMD in Northern Ireland confirmed at Ardboe/Coagh
7 June 2001	EU grants regionalised status to Northern Ireland
22 January 2002	OIE officially recognises the UK, including Northern Ireland, as having disease-free status

Figure 4.1 FMD outbreaks in Northern Ireland, 2001



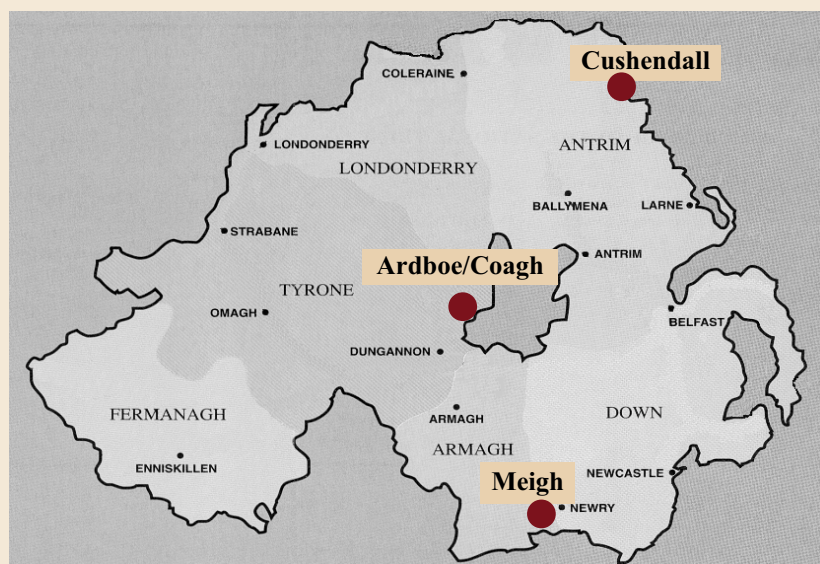
visits were performed by DARD veterinary officers.

4.5 A detailed chronology of events surrounding the outbreaks of FMD in Northern Ireland can be found in Appendix B to this report. The chronology commences on 19 February 2001 with the detection of FMD in a GB abattoir and ends on 13 February 2002 with the Minister’s announcement confirming the appointment of PricewaterhouseCoopers to undertake this independent review. The key dates are summarised in Table 4.1.

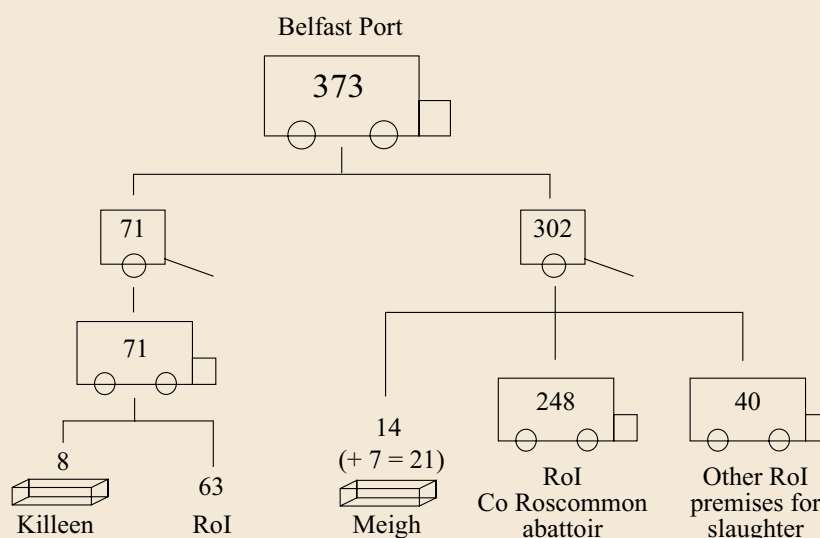
### Outbreak summaries

4.6 The distribution in time of the four Northern Ireland outbreaks is shown in Figure 4.1, while the geographical locations of the four outbreaks are shown on the map in Figure 4.2. A summary of the DARD epidemiological reports on each of the four outbreaks, as derived from epidemiological studies, is included in Appendix C. This information was part of the report upon which the OIE based its decision to grant the UK, including NI, disease-free status. The assessment which follows draws on these epidemiological reports

**Figure 4.2 Geographical locations of FMD outbreaks in Northern Ireland, 2001**



**Figure 4.3 Route of infected consignment, 19 February – 27 February 2001**



and on additional information provided to us by DARD.

4.7 In the following paragraphs we summarise the facts of each of the four outbreaks and our understanding of the events surrounding them.

#### *Outbreak 1, Reference 2001/NI/01*

**Location: Meigh, Co Armagh**

**Herd size: 21 sheep**

**Date of disease suspicion: 27 February 2001**

**Source of reporting: Veterinary Officer**

**Date of disease confirmation: 1 March 2001**

**Date of slaughter: 28 February 2001**

4.8 As a result of DARD import tracings, a consignment of sheep imported from GB on the 19 February for immediate slaughter was identified as not having arrived at its stated destination. Subsequent investigations carried out by DARD traced the consignment to premises in Meigh, Co Armagh. These premises were served with movement restrictions and a DARD veterinary officer inspected the 21 sheep late on Sunday, 25 February 2001, no FMD symptoms were identified. A follow-up on 27 February 2001 identified clinical signs of the disease. Lameness was observed in some animals and oral lesions (erosions on the dental pad and lip)

in four sheep. Blood samples (10) and tissue samples (7) were taken and sent to Pirbright Laboratory for examination.

4.9 Based on the epidemiological data and clinical signs, in the absence of laboratory confirmation being available to confirm the existence of FMD, it was decided to slaughter the flock on 28 February. The 21 animals on the Meigh premises were slaughtered and burned on the 28 February and an 8km surveillance zone was established around the property. Confirmation of positive test results were received from Pirbright Laboratory on 1 March 2001.

4.10 All the susceptible animals within a 1km radius of the infected Meigh premises were then culled. This cull commenced on 1 March 2001 and was completed on 6 March 2001. In addition all the sheep within a 3km radius of the Meigh premises were also slaughtered. The decision to implement an extended precautionary cull of sheep in the area between the Meigh outbreak and the subsequent Proleek outbreak (on 22 March 2001) in the Republic of Ireland was made in concert with the authorities in the Republic of Ireland. The commencement of this extended cull by DARD on the Northern Ireland side of the border was delayed by a number of days while the concerns of local farmers were allayed. Details of the numbers of animals slaughtered is provided later in this section of the report.

4.11 Epidemiological investigations carried out by DARD regarding the consignment of sheep imported in the early hours of 19 February have identified the following (illustrated in Figure 4.3):

- the consignment contained 373 sheep, a number of which had been purchased at Longtown Market near Carlisle in Cumbria on 15 February;
- tracing of animals present at Longtown Market on 15 February indicated that sheep from a farm subsequently identified as infected had been present in the market and probably infected the animals purchased and later imported into Northern Ireland;
- on arrival in Northern Ireland the consignment was transported directly to Killeen, Co. Armagh;
- at premises in Killeen, 71 animals were unloaded and transported by another

vehicle to the Republic of Ireland. Eight of the animals were subsequently returned to the Killeen premises; the remaining 302 animals from the imported consignment were transported to Meigh, where some 20 hours later 248 of the sheep were taken in two vehicles to an abattoir in Co. Roscommon in the Republic of Ireland where they were slaughtered;

- of the remaining 54 animals from the original consignment all but 14 were taken to premises in the Republic of Ireland during the following week;
- the remaining 14 sheep along with 7 sheep previously on the Meigh premises relate to the animals inspected and subsequently slaughtered;
- the 8 animals remaining at Killeen were also destroyed; and
- with the exception of the sheep slaughtered in the Republic of Ireland all the other animals transported to premises in the Republic of Ireland were examined, tested and slaughtered, including any animals which had been in contact with them. All these examinations were negative for FMD.

#### *Outbreak 2, Reference 2001/NI/02*

##### **Location: Coagh, Co Tyrone**

**Herd size: 633 cattle & 178 sheep**

**Date of disease suspicion: 10 April 2001**

**Source of reporting: Private Veterinary Practitioner**

**Date of disease confirmation: 13 April 2001**

**Date of slaughter: 14 April 2001**

4.12 The holding in Coagh consisted of a mixed dairy and beef herd and a flock of sheep. The animals were kept on nine premises, all within a 3km area. The herd owner had treated young cattle (six-month-old calves) at one outfarm for suspected pneumonia, and his son, a private veterinary practitioner, visited the outfarm to view the cattle on 10 April 2001. On viewing the cattle, he suspected FMD and contacted DARD, and samples were taken later that night and sent to Pirbright Laboratory for testing. An inspection on 11 April by a DARD veterinary official revealed that most of the calves on the outfarm had sore feet and some had a slight drooling of saliva. On examination of the mouths of these calves, they all showed some oral lesions. Most had sloughing of the epithelium of the anterior half of the tongue. All the disease-affected calves had normal rectal temperature.

On the 12 April 2001 preliminary results from Pirbright Laboratory proved negative, however positive results were received the following day, 13 April 2001.

4.13 The animals on the infected premises were slaughtered and burned over a three-day period, 13–15 April 2001. On further inspection during 13 April, FMD lesions (vesicles) were observed in two cows at the home-farm. Blood samples of one ewe at the home-farm was found serological positive (result 20 April) although no lesions were observed. Extensive lesions were observed in a number of cattle at the time of depopulation. Contiguous culls in both the 1km and 3km zones around the infected premises commenced on 16 April 2001.

4.14 Based on the information available from in-depth epidemiological investigations, the source of infection at Coagh remains unknown. A number of different working hypotheses with regard to the source have been pursued, but no final source has been identified.

#### *Outbreak 3, Reference 2001/NI/03*

##### **Location: Cushendall, Co Antrim**

**Herd size: 37 cattle & 196 sheep**

**Date of disease suspicion: 14 April 2001**

**Source of reporting: Private Veterinary Practitioner**

**Date of disease confirmation: 15 April 2001**

**Date of slaughter: 15 April 2001**

4.15 The owner of the farm in Cushendall kept livestock at eight different premises. At two of the locations there were cattle and sheep while six locations had sheep only.

4.16 On 14 April 2001, a private veterinary practitioner reported a suspicion of FMD. During an inspection the same day by a DARD veterinary officer, four cows were found dull and salivating. A clinical examination of the oral cavity showed typical mouth lesions of FMD. Several sheep exhibited signs of lameness and were also dull. Three examined sheep had mouth lesions aged between three and six days. During the previous days (9–14 April) heavy lamb mortality (about 40) had been observed. No obvious clinical signs were seen in the lambs.

4.17 It was decided to proceed with immediate slaughter on clinical grounds. Blood and tissue samples were collected for

laboratory examination from two cows and five sheep. The sheep were slaughtered on 14 April 2001. Post-mortem examination revealed that about 60% had lesions about ten days old, suggesting that the infection had been present for at least two weeks. Samples sent to Pirbright Laboratory were declared positive for FMD on 15 April 2001. The cattle were slaughtered on 15 April 2001 as by this stage a number were showing obvious clinical signs of FMD.

4.18 The disease was observed in the home-farm and at two out-farms. The source of infection remains unknown in spite of exhaustive epidemiological investigations.

4.19 Culling of all susceptible animals in the 1km zone and sheep in the 3km zone commenced on 16 April 2001. The cull was extended in some areas because FMD had been diagnosed on two out-farms and the sheep flock had access to an area of extended grazing. No evidence of FMD was detected in culled livestock.

#### *Outbreak 4, Reference 2001/NI/04*

##### **Location: Coagh, Co Tyrone**

**Herd size: 50 cattle.**

**Date of disease suspicion: 20 April 2001**

**Source of reporting: Herd-owner**

**Date of disease confirmation: 22 April 2001**

**Date of slaughter: 20 April 2001**

4.20 The herd consisted of cattle only and it was located about 1km from Outbreak 2. As such it was due to be culled within the 1km precautionary cull on 20 April. The herd-keeper observed heavy salivation (foaming at the mouth) in two animals in a pen of fattening cattle. The DARD veterinary officer inspecting the herd found on arrival that 18 animals in a pen were visibly sick. A clinical examination of one of the animals revealed a large vesicle, approximately 2cm in diameter, on the tongue. The vesicle was surrounded by multiple smaller vesicles. A similar picture was observed during an examination of a second animal. Blood samples were obtained for laboratory examination. After the slaughter of the herd, a post-mortem examination was carried out and several animals had typical FMD tongue lesions. Samples of epithelium were taken and dispatched for laboratory examination. Test results from Pirbright Laboratory confirmed FMD on 22 April 2001.

4.21 The exact source of infection has not

been identified, but can be covered by the term 'local area spread', which refers to a situation where a known FMD source is located within a distance of 2km from the infected farm and where the spread of virus from the known source might have occurred in a number of different ways, such as by personal contact, or carried by arthropods, rodents or in the air.

## General observations

4.22 The disease picture observed during the four outbreaks indicates that, as in GB, sheep played an important role as a reservoir of disease. Where sheep were in contact with cattle, the cattle became infected and exhibited obvious clinical signs.

4.23 However, in spite of intensive work by DARD, the source of infection remains obscure in Outbreaks 2 and 3.

## DARD FMD management/communication structure

4.24 All strategic and operational decision-making was made at DARD headquarters in Belfast. A **Strategy Group** was established, which consisted of the DARD Permanent Secretary, the Policy Under-Secretary and the CVO. A second group called the **Daily Stocktaking Group** was set up to brief senior staff in DARD and to update policy. These

were chaired by the Minister and included the Permanent Secretary, CVO and other senior staff. Thirdly, operational issues were dealt with in another group, referred to as the **Operational Management Team**, chaired by the Head of the Forestry Service.

4.25 An **Inter-Departmental Group**, chaired by Minister Rodgers, was set up in order to ensure co-ordination and communication between all of the Northern Ireland departments and DARD. These meetings were held twice a week, diminishing to weekly as the outbreak progressed. Minutes of these meetings were circulated to key staff in each department/agency.

4.26 A **Local Epizootic Disease Control Centre** (LEDCC) was set up in each outbreak area at the Divisional Veterinary Offices (DVO) in Newry, Dungannon and Ballymena. In addition, headquarters in Belfast created a **Central Epizootic Disease Control Centre** (CEDCC). Management of information was centrally controlled from headquarters in Belfast. This resulted in all operational, strategic and press liaison being conducted through the Belfast CEDCC and Press Office. However, communication officers were on-hand at the LEDCCs to liaise with the Belfast CEDCC and other public or stakeholder queries made directly to the local office. One

of the duties of the communication officer was to disseminate information communicated to them daily within each LEDCC, and this role was to be discharged through team briefings, circulars and noticeboards.

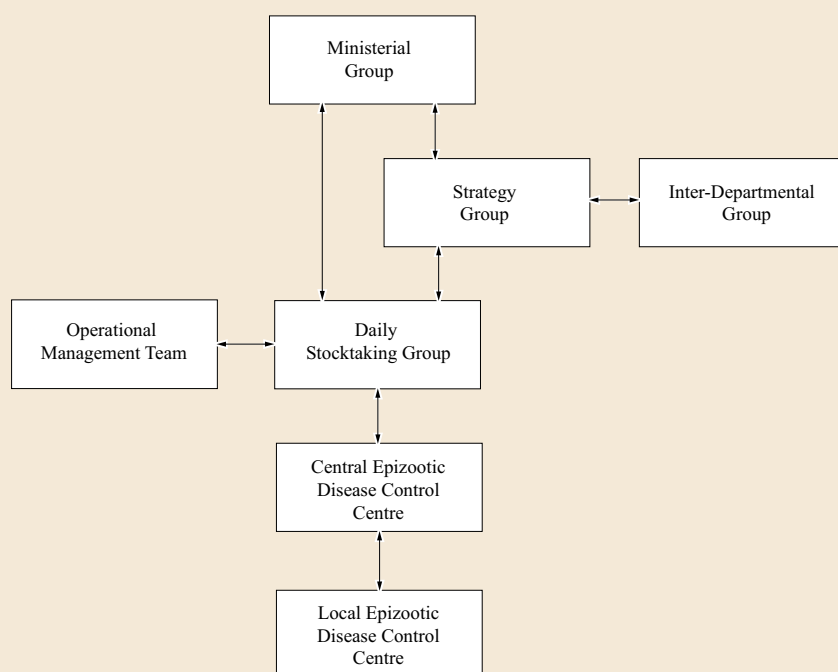
4.27 Figure 4.4 provides a diagrammatic representation of the DARD management structure throughout the crisis.

4.28 We understand that this structure was under review towards the end of the crisis and would have been modified in the event of further outbreaks.

4.29 We also understand that there were on occasion problems with rapid communications from the key decision-making groups to the Operational Management Team and to the LEDCC. This was compounded by the desire to offer easy access for farmers to senior officials. This sometimes resulted in third parties obtaining information before those responsible for fighting the disease on the ground.

4.30 In dealing with situations of this nature, the most effective structure is a **clear command and control structure with instructions clearly and quickly communicated to all levels**. This is not always easy in a relatively small community where informal networks work very effectively. Nevertheless, it needs to be given consideration in any future contingency plan.

**Figure 4.4 DARD FMD management structure**



## Causes of the disease

4.31 The causation virus of the FMD outbreaks in the UK, France, the Netherlands and the Republic of Ireland has been identified by Pirbright Laboratory as belonging to serotype 'O'. The same laboratory has determined the complete sequence of the VP1 gene of the virus and compared it to sequences on the Pirbright Laboratory database. This analysis has clearly shown that outbreaks in the European 2001 epidemic were due to the Pan-Asia strain, being closely related to viruses obtained from recent outbreaks in Asia and South Africa.

4.32 The first outbreak of FMD in the UK was confirmed on 21 February 2001 in pigs at an abattoir located in Brentwood, Essex, in England. Based on epidemiological investigations, the source of infection was traced to a pig farm located in



Northumberland. It is the working hypothesis that local airborne spread of FMD virus took place prior to 20 February and caused infection of sheep and cattle holdings in Northumberland.

4.33 The majority of the subsequent spread of the disease within the UK in 2001 has been attributed to animal movements. This is unlike previous outbreaks where the secondary outbreaks were attributed to wind, birds and rodents. Tracings following the discovery of the first outbreak in GB indicated that sheep movements, particularly through Longtown Market in Cumbria, had spread the disease widely across Great Britain. The rapid spread of the disease throughout GB was aided by frequent livestock movement and multiple changes of sheep ownership.

4.34 Epidemiological investigations performed by DARD have confirmed that it was the importation of sheep purchased through Longtown Market on 15 February 2001 that introduced the virus that caused Outbreak 1 (Meigh, Co. Armagh). As referred to earlier, the sources of infection in respect of Outbreak 2 (Coagh, Co. Tyrone) and Outbreak 3 (Cushendall, Co. Antrim) remain unknown, however extensive epidemiological information strongly suggests that they were due to the illegal importation of sheep from Great Britain in the period prior to discovery of FMD infection. Outbreak 4 (Coagh, Co. Tyrone) has been linked to Outbreak 2, as a result of secondary infection, probably through personal contact.

4.35 The four outbreaks of FMD in Northern Ireland were confirmed by Pirbright Laboratory based on the examination of samples shown in Table 4.2.

4.36 Due to the inconclusive results of epidemiological investigations into the cause of Outbreaks 2 and 3, DARD was concerned over the possibility of a reservoir of ‘hidden’ infection developing in sheep that had the potential to infect further sheep, cattle and other susceptible animals over a substantial period of time. Their concern led to the implementation of **serological testing**, initially within the 10km surveillance zones around the outbreak premises, and then right across Northern Ireland. The approach to the serological testing is set out later in this report.

**Table 4.2 Results from laboratory examinations of field samples from FMD outbreaks in Northern Ireland**

Outbreak	Samples examined	Virus isolation	Antibody detection
1 Meigh	Blood and tissue	Yes	No
2 Coagh	Blood	Yes	Yes
3 Cushendall	Blood and tissue	Yes	Yes
4 Coagh	Blood and tissue	Yes	No

Source: DARD

**Role of the Enforcement Unit**

4.37 The main responsibility for all criminal investigations relating to the outbreak rested with the Enforcement Unit in the Veterinary Service (VS). This is a small unit set up recently in VS with the primary aim of achieving compliance with animal health legislation in Northern Ireland. This unit is separate but liaises with the Department’s main Investigation Services Unit, which looks exclusively at fraud.

4.38 It was the Enforcement Unit that investigated offences in relation to the consignments tracked from Longtown Market during October–December 2000. The Enforcement Unit conducted a criminal investigation into the 19 February consignment that brought the FMD-infected sheep to Meigh and caused Northern Ireland’s first outbreak. Following that outbreak, a confidential telephone hotline was set up to encourage reporting of illegal movements of animals. This hotline received hundreds of calls that were followed up by the Enforcement Unit. Four additional staff, all of whom had experience of criminal detection work, were recruited for a period of five months to assist with this process.

4.39 As a result of the outbreak, a total of six cases were sent to the DPP for prosecution. Three of these cases have been to court and have resulted in convictions with fines of £6,000 and £4,500 and conviction with no penalty. The more serious offences associated with the illegal importation of animals relating to the outbreak were referred to the police to investigate and these three files are with the DPP for consideration.

4.40 There are a number of issues arising from this process:

- while the hotline produced hundreds of calls, many were anecdotal and provided no firm evidence of wrongdoing. Even where people did give their names, none would provide testimony;
- we understand that the authorities have had difficulty in making a strong case against individuals because of the weakness of the legislation;
- animal health cases may understandably not be perceived as a high priority with the DPP’s office and therefore have taken longer to process; and
- there was close co-operation with the police throughout these investigations, and co-operation with veterinary authorities and the Gardai in the Republic of Ireland was also an important aspect of dealing with these issues.

4.41 In matters relating to disease outbreaks, those involved face the twin issues of **eradication** and **prosecution**. The focus of the Veterinary Service must be primarily on eradication of the disease and doing it as speedily and effectively as possible. This may be at the expense of possible prosecution of those involved in illegal activities.

4.42 In addition to animal health-related prosecutions, fraudulent practice came to light during the outbreak as a result of claims for compensation based on valuations of slaughtered sheep. This revealed that in a number of cases the numbers of sheep slaughtered was considerably below the numbers for which Sheep Annual Premium had been claimed. This is dealt with further under the valuation and compensation section later in this part of the report.

**Table 4.3 Information on time periods related to disease suspicion, diagnostic work and slaughter of infected herds**

Outbreak number/ Location	Time factor
1 Meigh, Co Armagh	Animals slaughtered on clinical findings on day of sampling and one day before laboratory confirmation
2 Coagh, Co Tyrone	Animals slaughtered on day of laboratory confirmation
3 Cushendall, Co Antrim	Animals slaughtered on day of sampling and five days before laboratory confirmation
4 Coagh, Co Tyrone	Animals slaughtered on day of sampling and two days before laboratory confirmation

- 4.43 Since FMD, we understand that a number of measures have been taken by VS:
- a central enforcement team of up to 14 inspectors is to be set up;
  - since 1996 a training programme has been implemented which has to date covered 40 staff in DVOs around Northern Ireland;
  - a publicity and awareness programme has also been established with the agricultural community highlighting the legislation relevant to animal health; and
  - the publication by DARD of the Counter Fraud Strategy with the aim of minimising fraud and associated costs.

## Containment/eradication measures

4.44 FMD is a highly contagious viral disease of cloven-hoofed animals and, within the European Union, great attention has for a number of years been given to prevention of the entrance of the FMD virus into Member States of the EU and to measures to eradicate the disease in the event of an outbreak. Within the framework of legislation adopted in the mid-1980s (Council Directive 85/511/EEC) all Members have defined obligations with regard to FMD control and eradication measures.

These obligations include the following:

- arrange for an investigation to confirm or rule out the presence of disease when animals are suspected of being infected;
- place suspect holdings under surveillance and prohibit movements to and from holdings during the surveillance period;
- slaughter and destroy all animals of susceptible species on the holding when disease has been confirmed;

- perform a thorough epizootological inquiry when disease is suspected and confirmed;
- clean and disinfect the buildings used for housing of killed animals and their surroundings; and
- establish protection zones and surveillance zones around infected holdings.

4.45 The measures stipulated by Council Directive 85/511/EEC are minimum requirements and can be reinforced by the Member State or by the European Commission. In the latter case the European Commission, supported by a favourable opinion of the Standing Veterinary Committee, will make use of the legislation related to safeguard measures.

4.46 The required actions referred to above were all carried out during the outbreaks recorded in Northern Ireland and they are briefly described below.

## Investigation of suspect cases

4.47 Disease investigations were carried out by an appropriate Veterinary Officer when a suspicion was notified to DARD. Following the investigation the herd was:

- restricted and samples collected for submission to the Pirbright Laboratory. The restrictions would remain in place until negative results were received from the laboratory;
- restricted and upgraded to a suspect infected premises, i.e. the suspect herd/flock slaughtered as a clinical case of FMD; and
- downgraded on the basis that disease was not clinically suspected.

4.48 From 20 February to 22 June 2001, reports were made on 132 suspicions in Northern Ireland; samples were taken from 22 suspected cases of which 18 were negative. Four suspicions were confirmed, of which one was made by the herd-keeper, one by a Veterinary Officer during tracing and two by private veterinary practitioners.

## Serving of notices

4.49 Form A restrictions were served on suspect and infected premises. This action includes orders that no person, animal or animal product, vehicles, utensils, equipment, fodder and waste materials may move from or onto the premises, unless under licence. Furthermore, appropriate means of disinfection should be used at the entrances and exits of buildings housing animals of susceptible species and of the holding itself.

## Slaughter of infected herds

4.50 The key word in FMD eradication is 'speed'. Great efforts must be made to reduce the time between suspicion and confirmation of disease and between the time of confirmation and slaughter of susceptible animals at the infected premises. The requirement for speed relates to the fact that ruminants may excrete  $10^5$  (100,000) virus particles per animal per day, while pigs can excrete up to  $10^8$  (100,000,000) virus particles per animal per day.

4.51 Information on the speed of slaughter of infected animals is given in Table 4.3.

## Epizootological investigations

4.52 Epizootological investigations were carried out by Veterinary Officers. The investigations dealt in particular with the source of infection and possible spread from the four infected farms. Due to the fact that the disease progressed slowly in sheep and that clinical signs frequently were mild, it was decided to make serology an important part of the epizootological investigation. Furthermore, it was decided to reinforce the eradication measures stipulated in the Council Directive 85/511/EEC by use of the cull of susceptible species in areas considered as high-risk areas. The value of the cull approach (preventive clearing) has been recognised for a number of years with regard to other important epizootic disease, for example, Classical Swine Fever (CSF). During the CSF epidemic in 1994 in



**Table 4.4 Animals killed and tested for antibodies to FMD in relation to Outbreak No. 1 at Meigh, Co Armagh**

Premises/ Zone	Killed/ Tested		
	Bovines	Ovines	Porcines
Infected premises	0/0	22/22	0/0
1 km + contacts	532/0	1,076/*	992/0
3 km + corridor	0/0	10,002/*	0/0
TOTAL	532/0	11,100/*	992/0

\* DARD have indicated that this information is not available. However, they have suggested that all sheep were sampled in all flock units in the protection zone, up to a maximum of 60 per unit

**Table 4.5 Animals killed and tested for antibodies to FMD in relation to Outbreak No. 2 at Ardboe/Coagh, Co Tyrone**

Premises/ Zone	Killed/ Tested		
	Bovines	Ovines	Porcines
Infected premises	633/10	178/88	0/0
1 km	952/0	381/*	0/0
3 km	40/0	0/0	2,630/0
TOTAL	1,625/0	559/*	2,630/0

\* DARD have indicated that this information is not available. However, they have suggested that all sheep were sampled in all flock units in the protection zone, up to a maximum of 60 per unit

**Table 4.6 Animals killed and tested for antibodies to FMD in relation to Outbreak No. 3 at Cushendall, Co Antrim**

Premises/ Zone	Killed/ Tested		
	Bovines	Ovines	Porcines
Infected and suspected premises	147/0	2,112/80	0/0
1 km	1,714/0	16,000/*	0/0
3 km	0/0	11,914/*	0/0
TOTAL	1,861/0	30,026/*	0/0

\* DARD have indicated that this information is not available. However, they have suggested that all sheep were sampled in all flock units in the protection zone, up to a maximum of 60 per unit

Belgium, 42% of the outbreaks were on farms that were cleared preventively.

4.53 Information on the culls performed and on the serological examinations carried out is summarised in Tables 4.4, 4.5 and 4.6.

## Cleansing and disinfection

4.55 The cleansing and disinfection (C&D) procedures consisted of two phases:

- the preliminary C&D, and
- the final C&D.

4.56 The C&D procedures included cleansing and disinfection of farm buildings and equipment. Straw was either burned on the pyre or buried on site. All animal feed was buried. Manure was stacked if sufficient to generate heat, otherwise it was buried. Bagged silage was disinfected with 4% soda solution. Silage in clamps had 30cm removed from the surface and buried. Silage covers were sprayed with 4% soda solution.

4.57 All C&D was carried out under the supervision of DARD staff.

## Protection and surveillance zones

4.58 Protection and surveillance zones were established in accordance with the provisions of Council Directive 85/511/EEC. The protection zone (PZ) was defined as a circle of 3km radius around the infected premises. The surveillance zone (SZ), having a radius of at least 10km, was identified by means of geographical features (e.g. main roads, rivers). Details of the surveillance zone were published in the press.

4.59 At a central level, a database was used to record the status of animals and holdings in the PZ and SZ. The movement restrictions applicable to the 3km and 10km included a total ban on fairs, markets, shows and other gatherings of susceptible animals.

4.60 In view of the difficulties in detecting the disease in sheep on clinical examination, it was decided, under Commission Decision 2001/295/EC, to perform serological examination on animals kept in the PZ and SZ before movement restrictions could be lifted. Samples were tested at the Veterinary Sciences Division Laboratory, Belfast by the Liquid Phase Blocking (LPB) ELISA test. Information on the testing performed is summarised in Table 4.7.

4.61 20 samples from 20 flocks from the Meigh surveillance zone gave a positive reading to the ELISA test and were forwarded to the Pirbright Laboratory for further testing. The findings from the samples at the Pirbright Laboratory were all negative. 12 samples originating from ten flocks located in the Coagh and Cushendall areas also gave a positive reading, but further testing of Pirbright Laboratory proved negative. The samples forwarded to Pirbright Laboratory were samples having a titre by the LPB ELISA of 1/90 or greater. At Pirbright Laboratory, all samples were retested by the Virus Neutralisation Test (VNT). This test is based on the use of live FMD virus. It has been the prescribed test of international trade for many years and is considered to be the most accurate test for detecting FMD antibodies. The Veterinary Science Division Laboratory in Belfast does not have the containment facilities for the use of VNT.

**Table 4.7 Testing for antibodies to FMD virus in protection and surveillance zones**

Area sampled	Flocks/Animals tested	
	Protection zone	Surveillance zone
Meigh	126/*	114/4,131
Coagh	12/465	130/4,855
Cushendall	88/5,225	137/7,417
TOTAL	100/986	381/16,403

\* DARD have indicated that this information is not available. However, they have suggested that all sheep were sampled in all flock units in the protection zone, up to a maximum of 60 per unit

**Table 4.8 Breakdown of animals slaughtered**

Premises/Zone	Bovines	Ovines	Porcines	Other	TOTAL
1 Co Armagh	532	11,100	992	3	12,627
2 Co Tyrone	1,625	559	2,630	0	4,814
3 Co Antrim	1,861	30,026	0	76	31,963
4 Co Tyrone	313	226	0	0	539
Contact farms	124	498	0	0	622
TOTAL	4,455	42,409	3,622	79	50,565

Source: DARD

## Post-outbreak national serology survey in sheep

4.62 As indicated earlier, due to various difficulties in detecting clinical disease in sheep, it was decided to carry out a **National Serological Survey** in sheep in Northern Ireland, in addition to the survey carried out in the PZ and SZ. The survey was designed in such a way that each flock management unit within the flock to be tested was sampled at a rate ensuring 95% confidence of detecting infection, assuming a 5% prevalence of sero-conversion.

4.63 A total of 502,960 samples from 10,689 flock management units were examined at the Veterinary Science Division Laboratory in Belfast. Based on retesting of 1,581 samples at the Pirbright Laboratory it was concluded that there was no further FMD infection present in NI.

4.64 The Belfast laboratories carried out this considerable exercise with the existing resources at their disposal. However, it was made clear to the Review Team that this was achieved at the expense of deferring their normal workload.

## Conclusions on containment and eradication

4.65 The containment and eradication measures have been implemented in accordance with the provisions of Council Directive 85/511/EEC. The European Commission in its submission to the Review Team made the following statement in respect of the appropriateness and timeliness of DARD's approach to eradicating FMD:

*DARD applied the control measures within the framework of Council Directive 85/511/EEC...taking into account the particular epidemiological situation in Northern Ireland the measures can be considered sufficiently effective to control the four outbreaks reported.*

4.66 In response to a request made by the Review Team the OIE also agreed with the approach taken by DARD to eradicate the disease, describing it as 'appropriate, timely and comprehensive'.

4.67 The swift introduction of containment and eradication procedures is essential in preventing disease spread. For example, the time interval between confirmation of disease

(with or without use of laboratory results) and slaughter of the infected herd was short in all four cases – less than 24 hours.

4.68 In relation to containment of the disease, the majority of our survey respondents were quite (60%) or very (21%) satisfied with DARD's attempts in this area. 80% of those surveyed agreed that DARD had acted quickly in responding to the crisis.

4.69 The lack of robust epidemiological data, the mild clinical signs of the disease in sheep and the slow spread of the infection through a sheep flock and between flocks, led to the use of intensive culls. For the same reason DARD decided to undertake comprehensive serological screenings to ensure that no hidden infection was present.

## Lessons learned and recommendations

4.70 The importance of maintaining the capacity to undertake **local screening of potential infected samples** may require further investment in facilities and the availability of trained personnel. The above refers to a facility for local screening and not the recreation of a 'Pirbright', designed to undertake the testing of live virus.

4.71 We understand that arrangements are already in place to strengthen significantly the existing small Veterinary Service Enforcement Unit. We would support these proposals and would recommend as part of this process that the Veterinary Service should consider:

- an agreed protocol regarding the progression of investigations specifically with regard to whether there is sufficient evidence to bring forward a case to the courts, in which context DARD may wish to assess the benefits of establishing a DARD Prosecutions Branch, to bring forward prosecutions in a timely way; and
- the Enforcement Unit will require training and some of this training could take place in the context of a UK-wide and an all-island response to the safeguarding of animal health. There is the potential for North/South and East/West dimensions to this training and development through collaboration in respect of certain aspects, such as detection techniques and progression to prosecution.

4.72 The use of vaccination in the respect of temporary containment is likely to be explored at EU-level. In the event of a future outbreak of Foot and Mouth in Northern Ireland, DARD will need to comply with the vaccination requirements as at that time and in the context of the UK and an all-island approach to animal health.

## Slaughter and disposal of animals

4.73 During the FMD outbreaks just over 50,000 animals were slaughtered and destroyed, over 80% of which were sheep. A breakdown of the animals slaughtered at infected premises and in surrounding areas is given in Table 4.8.

4.74 These are relatively small numbers in relation to total numbers of livestock in Northern Ireland. The sheep represent less than 2% of the total Northern Ireland flock, while the numbers of cattle and pigs slaughtered are negligible as a percentage of the total in Northern Ireland. However, in the immediate localities this represented a complete elimination of flocks and herds.

### Slaughter/killing process

4.75 Depending on the animal species and size of animals different killing methods were used. At any slaughter of animals the Veterinary Officer responsible for the cull took into account the provisions of Council Directive 93/119/EEC regarding the protection of animals during slaughter. Particular attention was paid to the content of Article 3, which states:

*Animals shall be spared any avoidable excitement, pain, or suffering during movement, lairaging, restraint stunning, slaughter or killing.*

4.76 The Veterinary Officer responsible also had to adhere to the content of Annex E of Directive 93/119/EEC *Killing methods for Disease Control* where the permitted methods are described.

4.77 The killing methods applied during the FMD epidemic are summarised in Table 4.9.

4.78 Although in the later stages of the outbreak specialist guns were procured from GB for carrying out culls, in the initial period there were difficulties in obtaining sufficient numbers of both guns and ammunition to

Table 4.9 Summary of killing methods

Killing method	Animal species killed
Free bullet using laser-sighted rifle of .22 or .40 calibre	Adult cattle and sheep
Free bullet using Cash pistol of .32 calibre	Adult cattle and sheep
Shotgun	Adult pigs
Lethal barbiturate injections	Lambs, young pigs and sheep unfit for transport to cull site

Source: DARD

Table 4.10 Number of animals destroyed by burning and rendering from areas within FMD outbreaks

Outbreak	Destroyed by burning	Destroyed by rendering	TOTAL
2001/NI/01 Meigh, Co Down	2,625	10,002	12,627
2001/NI/02&04 Coagh, Co Tyrone	1,311	4,042	5,353
2001/NI/03 Cushendall, Co Antrim	2,881	29,704	32,585
TOTAL	6,817	43,748	50,565

Source: DARD

proceed with slaughter. In practice, without recourse to personally held weapons of some DARD staff, there would have been problems sourcing weapons and ammunition to commence slaughter in the early period. We understand that contingency planning in respect of the availability of guns and slaughter staff is well advanced

4.79 All animals at infected farms were killed on-site while animals in the contiguous cull were transported to a designated cull site to ensure that due attention was paid to humane slaughter procedures and biosecurity.

4.80 Concerns were expressed to the Review Team in respect of the Cushendall contiguous cull site. The suitability of the site was questioned due to its proximity to a main road and to a populated area.

4.81 Although there was a general perception (63% of our survey of farmers throughout Northern Ireland) that animals were appropriately slaughtered, in the early stages of the slaughter process some unforeseen and distressing situations unfortunately did occur. Such situations were reported to the Review Team at public meetings and through

individual submissions. For example, it was reported to us that there were incidents where young animals were killed in sight of their mothers who were not themselves slaughtered until the following day.

4.82 As the slaughter process continued these situations were addressed and steps were taken to ensure optimal conditions for culls. Indeed the USPCA observed a number of culls and were content with the methods being used.

### Disposal of animals

4.83 The methods available for disposal of slaughtered animals during disease eradication include the following:

- burning;
- burial; and
- rendering.

4.84 With regard to disposal of animals killed at infected premises it is required that:

- the animals (carcasses) shall be destroyed without delay; and
- the disposal shall be done under official supervision in such a way as to avoid all risk of spreading the FMD virus.

4.85 With the objective of complying with the above requirements, animals killed at infected premises and at contact farms were destroyed by use of pyres built as close as possible to the contaminated farm building area. Animals killed as a result of the contiguous culls were destroyed at a rendering plant in Belfast. To ensure no spread of virus from potentially infected animals the transport was supervised by DARD and took place in leak-proof containers/trucks.

4.86 DARD used sub-contractors to dig trenches and build pyres under the supervision of DARD officials in Meigh and to a lesser extent in the other outbreak areas. Sub-contractors had to be identified and engaged by local veterinary officers as and when required. This process could have been undertaken prior to the outbreak and integrated into the contingency plan.

4.87 Although there were limitations to the use of the security forces in the South Armagh outbreak, they provided significant inputs elsewhere. The Royal Engineers Regiment, based in Northern Ireland, provided assistance in the Coagh/Ardboe and Cushendall outbreaks. They helped set up slaughter sites and supervised and assisted in pyre construction. The assistance provided by the army was acknowledged to be invaluable. Indeed, a number of individuals during our Review process suggested that the army should have been used earlier because of the discipline and logistical skills they brought to the slaughter and disposal process.

4.88 Information on the number of animals destroyed by burning and rendering by county is summarised in Table 4.10.

4.89 In May 2001, an independent firm of consulting engineers presented their report to DARD identifying potential burial sites in Northern Ireland which could be used should the crisis escalate further.

4.90 Our survey of farmers throughout Northern Ireland indicates that 57% of respondents believed that appropriate disposal methods were used. Among the 24% stating that animals were inappropriately disposed of, the main reasons given were that the method was too slow (32%) or that the animals should have been buried (24%).

## Lessons learned and recommendations

4.91 We recommend that a team of vets specifically trained in weapons' use and slaughter techniques be developed, with access to appropriate guns and ammunition. With this capability it should mean that only such vets are used to undertake slaughter. However, in instances where the volume of animals to be culled is such that additional assistance is required, a minimum requirement should be that a member of the trained slaughter team supervises the process. We understand that contingency planning in respect of the availability of slaughter staff and weapons is well advanced. We also understand that DARD has a team selected and that training is being arranged.

4.92 The approach to be taken to the role of private contractors to undertake specifically identified tasks should be set out in the contingency plan, detailing for example, ground clearance activities, set up of the cull site, transport arrangements, supplies including materials to ensure biosecurity, i.e. mats and disinfectant materials.

4.93 The establishment of contracts in the form of a 'short notice' procedure designed to provide frameworks for the procurement of supplies, materials and contractors, based on approved public procurement practices, should be considered as part of the contingency planning process.

4.94 Involvement of the army and police, to utilise the resource and relevant skills available to assist in the containment and eradication process, should be an integral component of any future contingency plan. Their role in any future plan should be discussed and agreed.

4.95 In the context of the need to slaughter, and limitations in relation to rendering capacity or access to such capacity, the locations of potential burial sites must be identified and included in any future contingency plans. This will necessitate compliance with relevant planning and environmental legislation and full consultation.

4.96 The use of pyres should as far as possible be restricted and preference given to other means of disposal, such as rendering. Where it is necessary for such pyres, these should be located and constructed in such a

way as to minimise their environmental and community impact.

## Valuation of animals and compensation

### Compensation process

4.97 The Diseases of Animals (NI) Order 1981 and the FMD Order (Northern Ireland) 1962 (Article 18) provide for both the process and basis of valuation as described. A DARD valuation officer inspects the animals and makes an assessment of their individual value ('value' is not defined in the legislation but is interpreted as the market value). This value should reflect the market price of the animals immediately prior to slaughter, or in the case of FMD-infected animals, their value immediately before infection. Under the legislation, compensation is limited to the value of the animals at the time of slaughter and no consequential damage is payable.

4.98 A 'Statement of Valuation of Animals' form is completed by the DARD valuation officer. This form provides details of the livestock owner, location of the animals along with detailed descriptions of each animal valued and the respective value attributed. The livestock owner confirms acceptance of the value given by signing the form.

4.99 The legislation does however provide an appeal process where the valuation is considered to be insufficient by the livestock owner and no agreement has been reached. In these instances the livestock owner may select a valuer (normally a commercial livestock auctioneer) from a list approved by the Department to perform a second valuation. The slaughter of the animals, other than any affected animals, will be postponed to facilitate the revaluation, but not for more than 24 hours. If the livestock owner refuses to select a valuer the Department may select a valuer. Where a second valuation is performed the values attributed are binding on both the owner and the Department.

4.100 Information in respect of the appeal process was contained within a page entitled

<sup>1</sup> This total is less than the total recorded as slaughtered in Table 4.9 because valuations in many cases were based on a ewe with lambs at foot rather than on every individual animal.



‘Note to the owner’ attached to the ‘Statement of Valuation of Animals’ form. During the course of the Review, a number of farmers who had their livestock culled suggested that, while they had been unhappy with the values attributed to their livestock, they had not requested a second valuation, because they were unaware of their ability to do so, or naturally felt under considerable pressure in the circumstances not to delay the cull.

4.101 DARD confirmed that in the 326 livestock holdings where culls took place, accounting for some 37,556 animals<sup>1</sup>, the values attributed by the DARD valuers were accepted in all instances. It is important however to put this information into context. Some disagreements in respect of values attributed to animals were dealt with within an outbreak area rather than at farm level. For example, valuations were suspended for two days within the cull area surrounding the Cushendall outbreak.

4.102 It was suggested to the Review team that the reason for this was that the values being given by a number of DARD valuers operating in the area were inconsistent. A reference price range was subsequently agreed between the Department and local farmers which allowed the valuations to resume. In a number of instances animals of a similar type and size were grouped together, and subsequently all animals within that group were given a common value.

4.103 For the purposes of FMD-related valuations, the Department relied primarily on the infrastructure associated with ongoing Tuberculosis (TB) and Brucellosis (BR) control, using DARD full-time valuation officers previously involved in TB and BR valuations. DARD valuation officers perform numerous valuations across Northern Ireland. For example, in 2000/2001, some 10,447 cattle were valued and subsequently slaughtered as a result of TB. There was, however, disagreement with the values attributed to only 69 of these cattle (0.66%), although when a second valuation was obtained in respect of these cattle the independent valuations were on average found to be 93% higher than those approved by DARD.

4.104 The number of animals valued was reconciled to the number of animals slaughtered, as noted by hand on each

**Table 4.11 Compensation and average time to receive payment by area**

Area	No. of payments	Total animals	Total payments (£)	Average time (days)
Meigh	117	10,640	1,275,034	14
Ardboe	44	6,038	1,901,335	30
Cushendall	165	20,878	4,071,820	41
TOTAL	326	37,556	7,248,189	30

Source: DARD

slaughter certificate. These numbers were in turn checked against subsidy claims and, where discrepancies of greater than 10% were found, files were sent to the DARD Investigations Services Unit. In a total of 69 cases, all involving sheep annual premium claims, investigations resulted in penalties or files being sent to the Director of Public Prosecutions (DPP). 16 claimants were found to have had no sheep, 36 had a shortfall of greater than 20% (their total subsidy claim was withheld) and 17 were found to have a shortfall greater than 10% but less than 20% (penalties applied – reduction in subsidy payments made). Compensation payments for animals actually slaughtered were made in full in all relevant cases.

4.105 Prior to compensation payments being made to livestock owners, authorisation was required from the VS Enforcement Unit. This was to ensure that payments were withheld from anyone under investigation for the illegal movement of animals. To date it is the Review Team’s understanding that all compensation has been paid with the exception of the cases currently with the DPP for possible prosecution.

**Levels of compensation**

4.106 Table 4.11 identifies the direct compensation costs incurred in culling animals. However, this £7.25m is just one element of the costs associated with the culls and the wider action taken in order to deal with and prevent further spread of the disease. In Section V we look at the additional costs of the economic impact of FMD on the agriculture sector.

4.107 Table 4.11 also indicates the average time in days between slaughter and compensation payments being issued. In discussions held there was general consensus

that payments were generally processed in a timely manner. The results of our farmer survey would support this conclusion, with 87% of those farmers who expressed a view indicating that they believed payment of compensation was prompt.

4.108 In relation to the Meigh area outbreak, the average payment period was significantly reduced due to the speed with which payments in respect of animals slaughtered in the extended corridor cull were processed. This was a result of a commitment given to farmers in the area by Minister Rodgers during discussions preceding the commencement of the cull. A commitment was given to issue payments within five working days of the slaughter once it was agreed to proceed with cull. The Cushendall payments were slightly slower as a result of the volume of payments requiring processing and the fact that a small number of payments were withheld, pending the completion of investigations into sheep movements. All compensation payments were subsequently approved in the Cushendall area following the completion of investigations.

4.109 In considering the average level of payments by type of animal by outbreak area a number of factors need to be considered. The average payments are dependent on a number of factors, including the wide variety of breeds and pedigree/non-pedigree animals involved; the varying ages and condition of the animals; and the time differences between culls resulting in changes in market prices. Because of the number of variables, we have not attempted to calculate and compare across the outbreak areas.

4.110 It is clear however from discussions held with individuals within the outbreak areas that some believe inconsistencies existed in the valuations performed, a belief fuelled by the



absence of agreed standard valuation parameters. It is worth noting that the findings from our survey of farmers indicated that the majority of farmers were content with the value of compensation payments. Of those farmers surveyed who indicated that they had direct experience of compensation, almost 63% considered compensation payments to have been reasonable.

## **Lessons learned and recommendations**

### *Reference-price schedule*

4.111 The introduction of a reference-price schedule would provide a range of values for types and categories of animals. This would increase the consistency and transparency of the valuation process. Such a schedule would require updating weekly. In turn this would provide considerable assistance to DARD valuation officers in respect of TB and BR valuations and in the event of a future epizootic disease outbreak.

4.112 The reference price schedule would be used as a guide by DARD valuation officers; it should not be regarded as a table of standard values. The introduction of standard values in GB during FMD proved unsuccessful with only 4% of farmers using the standard tables, the remainder choosing the option of a valuer. In GB all valuations are performed by commercial valuers as only DARD have full-time valuation officers. The fact that DARD has employed in-house valuation officers was considered an advantage by EU auditors during a recent visit to Northern Ireland.

### *Revision of valuation on removal of restocking restrictions*

4.113 Submissions received from farmers and their representatives, while in general recognising the adequacy of values attributed to animals on slaughter, have raised the issue of subsequent increases in market prices as a barrier to those farmers being able to re-enter the sector.

4.114 Consideration should be given to revising the basis of valuation so that the values attributed to animals on slaughter could be revised when restocking is permitted. The revised valuation would be based on livestock price movements during the period from slaughter.

### *Link between compensation payable and compliance*

4.115 The New Animal Health Bill introduced to the House of Commons in October 2001 provides for the adjustment of compensation payable in respect of animals slaughtered on Infected Premises, by linking the payment of compensation to the farmers' compliance with biosecurity measures. The Bill proposes that farmers on Infected Premises would automatically be entitled to 75% of the market value of the animals slaughtered. The remaining 25% would be subject to an assessment of each farmer's compliance with biosecurity requirements.

4.116 This is to encourage high standards of biosecurity amongst farmers, thereby reducing the risk of spread of disease, and reflects the lessons learned in the 2001 epidemic in the UK in relation to the importance of biosecurity in controlling the spread of the disease.

4.117 Consideration should be given to the introduction of this principle within any new animal health legislation brought before the NI Assembly.

### *Assisting farmers in the consideration of future business options*

4.118 Farmers in receipt of compensation/valuation in respect of culled animals should be assisted in considering their future business options. This might be taken forward in the context of advice on restocking and/or the transformation of family-owned businesses to progress to alternative business opportunities that may or may not require restocking in full or in part.

### *Management of DARD valuation officers*

4.119 In the context of the current structural and management review being performed by DARD, consideration should be given to the management structure within which DARD valuation officers operate. Specific consideration should be given to the appointment of a senior valuations officer, with responsibility for ensuring consistency and effective coordination of the valuation officers (currently eight) working on the ground. This person could help create and maintain guidance on, for example, the price-reference table as referred to above, and to perform random valuation audits.

### *Provision of insurance against the value of animals culled*

4.120 Provision of insurance against the value of animals culled is currently the subject of ongoing debate in the UK. In the absence of commercial insurers providing relevant cover based on a UK approach, DARD and the farming unions may wish to review the options open (if any) in relation to opportunities for an industry insurance scheme for epizootic diseases in Northern Ireland.

## **Control of movement of animals, people and vehicles**

### **Introduction**

4.121 As indicated earlier, the virulent nature of FMD requires swift and comprehensive reaction by authorities to minimise the risk of the disease being spread. This can only be achieved by the imposition of a strict movement control regime, both in directly affected areas by reducing actual contact points with farms and animals, and by reducing the possibility of further spread directly through animal movement, and indirectly by people or vehicles.

### **Movement of animals**

4.122 The effectiveness of the importation bans introduced by Minister Rodgers between Great Britain and Northern Ireland cannot be underestimated. Although it has since become clear that the disease was already present in Northern Ireland from this date, considering the devastating development of the disease in Great Britain in the subsequent period, the prohibition of movement from that date was crucial in preventing the disease becoming widespread in Northern Ireland.

4.123 As an immediate follow-up to the restrictions in trade with Great Britain, Minister Rodgers also requested the voluntary cessation of trade through the livestock marts in Northern Ireland. In addition, from 23 February 2001, DARD could license the movement of cattle, sheep, goats and pigs from farm to farm, or farm to slaughterhouse, within Northern Ireland.

4.124 There were immediate repercussions for industry, for example Northern Ireland's supermarkets, packaging companies, marts and ancillary sectors and also at the individual farmer level. DARD found its decisions in relation to movements, and the rationale and

legislative powers behind such decisions, being called into question. Some opposition emerged to the restrictions from various levels of the agriprocessing chain.

4.125 The DARD veterinary staff were only too aware of the need to prevent movements within Northern Ireland, and yet the commercial consequences of such a decision necessitated extensive consultation with the industry. During this period, DARD met with industry and farm union representatives in order not only to explain the precautions and the restrictions imposed, but also to gain the support of industry to adhere to the necessary actions being taken.

4.126 It was during this early period of the outbreak that industry and farming union representatives had their first consultative meetings with veterinary and senior DARD officials. On the whole, it appears that all participants in such meetings understood and appreciated the concerns of the others present, and were agreed that the eradication of FMD required co-operation for the benefit of the wider agricultural community.

4.127 The management structure implemented to deal with the crisis (Figure 4.4) was designed to facilitate policy and decision-making to react to the pace of developments. The Strategy Group became the cornerstone of the policy and procedural decisions taken within DARD. Weekly meetings between DARD officials and industry during the crisis were integral to this process, as the close contact with industry facilitated decision-making at high strategy level to be made with commercial and practical realities in mind.

4.128 There were nevertheless several problems that emerged in relation to movement controls during the crisis. In particular, there appeared to be an inconsistency of approach between Northern Ireland and the Republic of Ireland in relation to the movement of products across the border. The main concern over such cross-border movements was primarily due to a lack of policy communication in relation to the checking of consignments on the border. However, this inconsistency was rectified.

4.129 By declaring Northern Ireland a 'Controlled Area', the region effectively had imposed upon it an immediate standstill of all

susceptible animals. Such restrictions were necessary to prevent further spread of disease. This initial ban on animals moving even for slaughter was clearly justified in attempting to limit the risk of spreading the disease.

### **Animal welfare concerns**

4.130 Subsequently, on 6 March, in an attempt to lessen the burden that the total prohibition of movement would potentially have on trade, the licensing system was extended to cover animals being transported for slaughter. On 7 March, licensing was introduced for the movement of animals from farm to farm, which was allowed in exceptional circumstances only, for example on welfare concerns, with the local DVO having responsibility for the authorisation.

4.131 Minister Rodgers announced further relaxation of restrictions on farm-to-farm movements on welfare grounds on 15 March. Revised measures allowed movements under strict supervision and within limited distances:

- Within the 3km Protection zone:
  - emergency welfare slaughter only;
- Within the 10km surveillance zone/rest of Northern Ireland:
  - weaning pigs could be moved direct to fattening premises if within 5km of location;
  - cows at calving or sheep at lambing could move to home premises if under 5km and no further movement for 14 days; and
  - fat pigs could move direct to slaughter to an abattoir designated by DARD.

4.132 Movement standstills were subsequently introduced to flocks or herds where new animals had been introduced as a result of movements. This system, if properly adhered to by farmers, will assist in the maintenance of animal health. The practical implications of this ongoing policy have significantly reduced the frequent trading of livestock by dealers. 67% of farmers surveyed believed that animal movements associated with livestock dealers significantly increase the risk of spreading disease. The reduction in this trade will also have a positive impact on animal welfare.

4.133 Through the Review, farmers expressed an appreciation of the necessity and purpose of the movement controls. Of those surveyed

95% of farmers were either quite or very co-operative in relation to the restrictions. 93% felt such restrictions and controls were justified. However, some expressed dissatisfaction with aspects of the movement control regime. Some farmers expressed concern that there had been inadequate communication of the frequent changes to the regime in the information provided to farmers and to local DVOs. Of those respondents to the survey who applied for a licence to move animals during the outbreak, 14% experienced difficulties. The two most common difficulties encountered were communication problems with DARD and the lengthy bureaucratic process involved.

4.134 While there may have been inadequacies in the communication of movement arrangements the purpose of the movement restrictions was clear. DARD was committed to not imposing any more overtly severe restrictions than necessary; they based such decisions on scientific and veterinary guidance. DARD also undertook to relax controls as and when scientific evidence supported such a change.

4.135 It has been acknowledged from many sources within the agricultural sector that the swift action taken by DARD to prevent the movement of animals both from Great Britain to Northern Ireland, and intra-Northern Ireland, was paramount in successfully containing the spread of the disease, and limiting it to the four outbreaks. The scientific basis for the movement controls taken by DARD during this period was clear. Concerns for industry and trade during the crisis were acknowledged and DARD sought the support from the agricultural sector for the decisions it took. Even without such support, the 'scientific' rather than the 'trade' factor was the crucial consideration and the specific movement restrictions imposed during this period were justifiable and proportional on this basis.

### **Movement of persons and vehicles and farm biosecurity**

4.136 While the support of the non-agricultural public for movement restrictions was recognised by DARD as important, the key emphasis related to persons whose work brought them into contact with farms, farm vehicles and livestock.

4.137 Therefore, ‘fortress farming’ was crucial in order to ensure that the disease was not brought indirectly onto an uninfected farm, or from an infected farm to a conduit, vehicular or human, which would spread the disease further.

4.138 Certainly there are anecdotal examples where it would appear that fortress farming and the significance of biosecurity were not fully followed to the letter by some farmers. However, 99% of those farmers taking part in our survey indicated that they followed the principles of fortress farming. The most common procedures used by farmers were disinfecting mats (94%), the prevention of non-essential visitors to the farm (79%) and restriction of farm access to family only (35%). It has also been suggested that some DARD officials did not fully comply with disinfecting procedures after visiting farms. However, it would appear that such divergences from established procedure were by exception and not widespread.

4.139 It does however draw attention to the need for care in relation to the movement of veterinary staff during a crisis, by way of quarantines and days absence from the field after visiting infected farms. Such precautions would again assist in protecting against inadvertent spread of the disease. Clearly such an approach would require sufficient resources to allow staff rest periods, an issue addressed in the contingency plan section of this report.

4.140 The other significant movement controls imposed during the crisis relate to the movement of persons for purposes unrelated to the agricultural industry. In this respect, the movement of persons to attend cultural, sporting, civic, and other organised events was discouraged to prevent spread to previously unaffected areas. The majority surveyed believed that DARD took sufficient action to prevent sporting and other events during the outbreak.

4.141 Related to movement controls to combat spread of the disease were the methods used at roadblocks by way of disinfecting vehicles on public roads. During the crisis there was a public perception that the Republic of Ireland was doing more to combat the spread of FMD by spraying vehicles which were crossing the border into the Republic than Northern Ireland was doing for vehicles travelling north.

However, scientific evidence would suggest that the spraying of vehicles is not an effective means in itself of preventing disease spread. It has been suggested that, by mounting manned spraying stations, scarce manpower resources were being used in what amounted to no more than a public relations exercise.

4.142 Nevertheless, such disinfecting provided visual confirmation of precautions and instilled in the population a sense that there was a serious fight to be won against the disease. This public relations exercise was effectively conceived in the Republic of Ireland and continued in Northern Ireland as a result of public pressure, but the real battle was in enforcing fortress farming and biosecurity measures on farms, not on public roads or urban areas.

## Summary

4.143 In the analysis of the policies implemented by DARD in relation to control of movement of animals, people and vehicles, DARD was successful in acting decisively and speedily to effectively control the spread of the disease.

4.144 The decisions taken to stop further trade movements at intra-EU level, with third countries, and indeed to prevent movement to and from Great Britain, are some of the most important decisions taken by DARD during the crisis. By effectively closing down the points of entry of the disease, Northern Ireland was ‘cocooned’ from further infection, allowing the veterinary staff to get on with the task of eradicating the disease that had already entered Northern Ireland and to prevent it spreading across all farm holdings in Northern Ireland.

4.145 Secondly, the decisions taken at policy level in DARD were underpinned by scientific evidence with the practical realities foremost in mind. The restrictions on movement, both at a trade level and at localised farm-to-farm level, can be justified on veterinary grounds.

4.146 The relaxations made as the crisis developed, by way of easing of restrictions on animal welfare grounds, or for various species, and changes to freedom of access to the countryside and resumption of normal agricultural activities, reflected the changing circumstances of the disease and marked achieving of successes in addressing the further spread.

## Lessons learned and recommendations

4.147 In the event of any future outbreak of epizootic diseases in Northern Ireland, all animal movements should immediately be restricted from the **first strong suspicion**, confirmed or not. The duration of the restrictions/ban should be subject to an ongoing risk analysis which should take into account the susceptibility of animals to FMD, the disease incubation period, the area at risk, the application of disease prevention measures and the effectiveness in implementing controls.

4.148 The current animal movement standstill policies should be agreed with industry and retained on an ongoing basis. The movement control period should be the subject to consideration by an Animal Health Strategy Group set up in DARD.

4.149 Care must be taken in relation to the movement of veterinary staff during the crisis. Quarantines and days absence from the field after visiting infected farms would assist in preventing inadvertent spread of the disease. Sufficient manpower resources should be considered within any future contingency plan.

4.150 Where movement restrictions are necessary, the movement of livestock in contiguous areas should be regularly assessed and subject to agreed protocols to facilitate the health and well-being of animals. A uniform approach to animal identification should be developed to achieve full animal traceability. Within the EU context we understand that a harmonised approach to animal identification is being developed which, when agreed, will be implemented on a British Isles (North/South and East/West) basis. Approaches might be piloted in advance of any EU legislation that might emerge based on the trials of electronic identification systems that are currently being sponsored by the EU.

## V FMD outbreak: interaction with stakeholders

5.1 In this section of the report, we consider various aspects of the relationships and communications between the various stakeholders involved in the FMD outbreak. This section addresses the following issues identified in the Terms of Reference:

- *preparedness, reaction, cooperation, input, etc. from stakeholders;*
- *communications and media aspects; and*
- *cross-border implications including the extent to which North/South co-operation was effective in dealing with the disease.*

### Stakeholder interaction

5.2 There were a large number of stakeholders involved to varying degrees in the FMD outbreak and its aftermath, including the following:

- the Minister of Agriculture and Rural Development
- the Chief Veterinary Officer (CVO)
- the Department of Agriculture and Rural Development
- various parties recruited to help with control and eradication of the outbreak – PVPs, District Councils, Army, Police, Forestry Service, Rivers Agency and Roads Service
- the Farming Unions (UFU and NIAPA);
- farmers (including those directly affected by the disease and associated culls)
- other parts of the agrifood industry – livestock markets, meat plants, livestock hauliers, dairy processors
- the Northern Ireland Executive and other Government Departments
- the Assembly Agriculture and Rural Development Committee
- the general public
- the media
- the UK and Irish authorities, and
- the European Union.

5.3 In carrying out our Review we have sought the views of all these parties either through face-to-face meetings or through written submissions. In this section, rather than describe the details of every one of the various interactions between all of these stakeholders,

we have sought to focus on what appear to us to be the key interactions. These are as follows:

- the Minister and the Chief Veterinary Officer
- role of the Veterinary Service
- interaction between DARD and the industry
- interactions between DARD and farmers in the outbreak areas, and
- interactions within Government.

5.4 In considering the roles of these various stakeholders and their interactions and co-operation, we begin by making a couple of general observations.

5.5 The need to act quickly and decisively in an emergency of this nature meant that protocols and channels of communication had to be developed very quickly. It is clear that very few of these issues had been addressed in detail, in advance, by the Contingency Plan. Nevertheless, in general, communication channels appear to have been quickly and effectively established.

5.6 Because Northern Ireland is relatively small and many of the key stakeholders know each other on a personal basis, there was a high level of informal personal interaction and communication in response to the crisis. Whilst this level of informal communication can be very helpful in emergency situations, it may on occasion undermine the formal command and control approach that is required.

### The Minister and the Chief Veterinary Officer

5.7 In FMD outbreaks in other countries a critical decision at the outset relates to who is to be in charge – the Minister or the Chief Veterinary Officer. There is no ideal answer to this question. However, there are a number of observations that are relevant.

5.8 The Minister has ultimate political authority and has command of wider resources and influence, although he/she may not have the detailed knowledge of animal disease and

may be more susceptible to public opinion.

5.9 The Chief Veterinary Officer (CVO) has the detailed professional knowledge required in order to take rapid and decisive action but does not have access to all the resources that may be needed to deal with the situation. The keywords relating to an effective eradication campaign are: policy, strategy and operation. The actions related to these keywords will usually be at different levels, but the CVO should take part in the activities at all levels to ensure the appropriate veterinary input.

5.10 In Northern Ireland, the Minister, Mrs Brid Rodgers, and the Chief Veterinary Officer, Dr Bob McCracken, appeared to form a very successful partnership in their personal handling of the outbreak. While this relationship would not have been without its tensions and pressures, it seems to the Review Team to have worked well in what were potentially difficult circumstances. One of the critical decisions was made at the outset of the outbreak when, on 21 February 2001, the CVO asked for a ban on all animal movements and animal products from Great Britain into Northern Ireland. The Minister fully supported this decision despite concerns raised by counterparts in DEFRA in London.

5.11 In our interviews and research we found widespread support and respect for the approach taken by the CVO and Minister in the handling of the crisis.

5.12 The Minister and the CVO were supported by a small, high-level group of senior civil servants. This group, which was chaired by the Minister and met on a daily basis throughout the crisis, discussed the latest developments and agreed all key decisions. The group comprised the following individuals:

- the Minister
- the CVO
- the Permanent Secretary of DARD, and
- other senior members of DARD.

5.13 The decision-making process at this level therefore appears to have worked very effectively, even though most of the



arrangements were put in place after the outbreak occurred. It would be preferable to include these arrangements in any future contingency plan, with roles and responsibilities, particularly of the Minister and CVO, clearly defined.

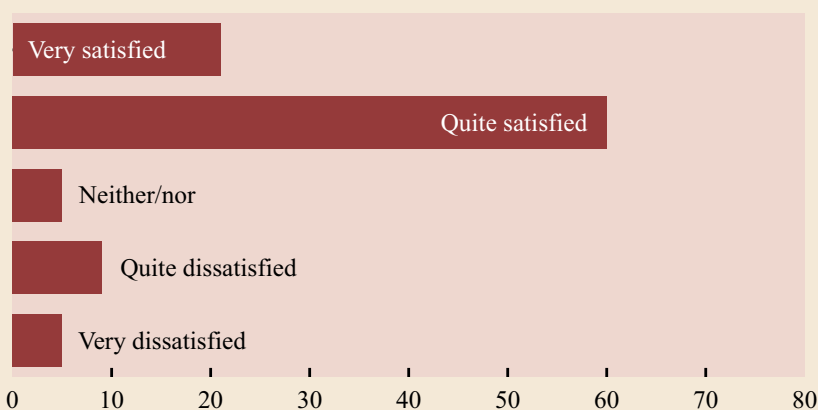
## Role of the Veterinary Service

5.14 The role of the Veterinary Service is naturally central to an outbreak of animal disease of this nature. There is no doubt that the CVO and his staff of 150 veterinarians, 320 animal health and welfare/meat inspectors and 210 administrative staff, were totally committed to the eradication of the disease as quickly and effectively as possible.

5.15 Judged in terms of results, the effort was very effective in limiting to four the number of outbreaks in Northern Ireland. However, a number of issues emerged during the course of our Review which the Veterinary Service may wish to consider in relation to any future disease outbreaks:

- We have already discussed in the previous section the question of levels of staffing at Northern Ireland ports in relation to control and the prevention of entry of disease.
- A much wider range of resources was required to deal with the outbreak than was immediately available to the CVO. This required, in the first place, recruitment of private veterinary practitioners to assist the Veterinary Service and, secondly, deployment of a wide range of resources drawn from other parts of the Department, as well as the Police, the Army, District Councils and others. It would appear that the Veterinary Service is not fully accustomed to working in close collaboration with outside parties, including other parts of the Department. Channels of communication therefore took some time to establish.
- Emergency situations of this nature are best dealt with using a formal command and control structure. It is not evident to us that there was such a chain of command in existence, covering the whole operation, although this did develop as the outbreak progressed.

**Figure 5.1 Farmers' views on management of the FMD outbreak by DARD**



## Interactions between the Department and industry

5.16 DARD used various methods to gain the support of industry and to maintain close relationships throughout the crisis. Firstly, DARD sought to meet with representatives of the main agribusiness sectors on a regular basis from the outset. Secondly, DARD held meetings with representatives of the two farming unions in Northern Ireland – the Ulster Farmers' Union and NIAPA. Thirdly, and crucially, DARD embarked upon a communication campaign, at various levels of society, imparting information for the benefit of the general public, farmers and other stakeholders.

5.17 Initially, communication and co-ordination within DARD was generally perceived to be poor, but it appears that as the outbreak progressed DARD became much more effective in using the expertise of industry and other stakeholders to combat problems as they arose. For example, DARD began to work through the industry and the farming unions, who in turn acted as a sounding board for the decisions it had to take. DARD was particularly good at building on the established intra-industry communication lines to reach specific agriprocessing sectors. In part this reflects Northern Ireland's relatively small and integrated economy with a relatively small number of known key players and stakeholders.

5.18 Various representatives of the different sectors of the agricultural industry have commented on the success of the working relationship developed with DARD during this period. Each was aware of the obligations of

the other and of the importance of maintaining a united front against the disease. In particular, many contributors to the Review process have commented on the particularly successful relationship they had with senior DARD staff.

5.19 In addition, our survey of farmers supports the view that the large majority of farmers (81%) were quite satisfied or very satisfied with the Department's handling of the outbreak (Figure 5.1).

5.20 Furthermore, 75% of farmers felt that the communications by the Department with the industry were sufficient (Figure 5.2).

5.21 The nature of the disease and the measures needed to control it required a high level of trust in both directions. To a large extent it seems that this was achieved.

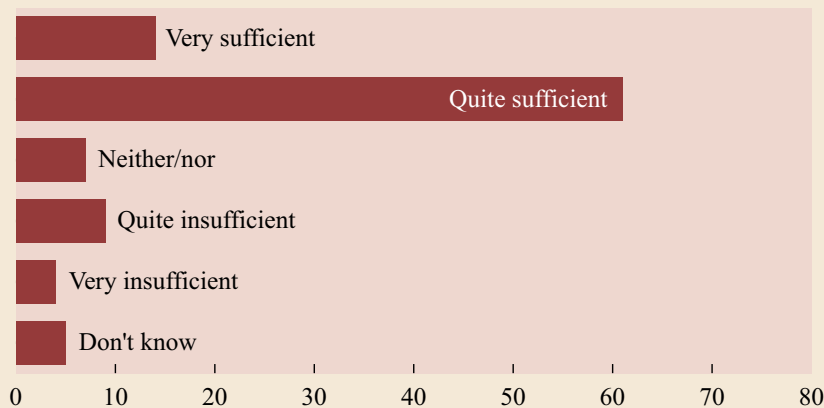
## Interactions between the Department and farmers in the outbreak areas

5.22 From the evidence of our meetings with farmers directly affected by the cull in the outbreak areas and written submissions made to us, there are various aspects of this relationship that were less successful than the relationship with the industry in general. These issues include the following:

- the need to move quickly to eradicate the virus on occasions resulted in a perceived lack of sensitivity by those responsible for dealing with the farmers affected by the cull. Slaughter of animals on a large scale is undoubtedly a distressing and traumatic experience to owners of the animals as well as those witnessing it. Many of those who



**Figure 5.2 Farmers' views on communications between DARD and industry**



spoke to us were still suffering from this experience and they continue to attribute much of the blame for their circumstances to the Department, and in particular, the Veterinary Service;

■ there appear to have been particular problems with the slaughtering methods used in the early days of the first outbreak. The Veterinary Service does not appear to have been well prepared in practical terms for this difficult part of the process;

■ there is also a feeling among many farmers in the outbreak areas that they were treated as scapegoats and that they suffered blame through association. Some of these farmers believe that the cull of their animals was unnecessary and that the decision to cull was based on very limited evidence; and

■ these strong feelings tended to be reinforced by a perceived lack of communication between DARD Headquarters in Belfast and the Divisional Veterinary Offices in the outbreak areas. Some farmers claimed that there was a lack of information at Divisional level that compounded the situation.

5.23 A further factor contributing to the difficult situation was that none of the outbreak areas had strong farming union membership. There is no doubt that the process of dealing with the outbreak required interpersonal skills that would not be part of normal veterinarian training. However, the end result has been a breakdown in trust between some farmers in the outbreak areas and the Veterinary Service. This is an issue which needs to be addressed

going forward, and in particular, within the response to any future outbreak of such a disease.

5.24 The Department did however take a number of specific actions to deal with the stressful situation:

- a rural stress helpline was set up at Dundonald House;
- funding was provided to the farming benevolent charities;
- rural regeneration strategies were commissioned in two of the three outbreak areas:
  - the Mid Glens Foot & Mouth Regeneration Strategy, June 2001;
  - the Loughshores Foot & Mouth Recovery & Development Plan, November 2001; and
- in South Armagh, rural support was provided through funding made available by DARD.

5.25 This issue of dealing with the farmers in the outbreak areas was one of the most difficult issues faced during the outbreak. It was also one of the least satisfactory elements of the process. There remains a concern amongst those, for example, who were involved in the rural regeneration strategies, that not enough has been done by DARD to address their needs, and that in particular, no additional funding has been made available in response to their rural regeneration strategies.

### Interactions within government

5.26 Another important area of interaction was between the Department and other parts of government. This was necessary because of the wider implications and co-operation necessary

for many of the activities undertaken by DARD. The process of implementing widespread restrictions on movement of animals, vehicles and people required co-operation across a number of government departments.

5.27 In the early days of the crisis, an Inter Departmental Group (IDG) was set up to deal with these issues. This group comprised senior officials (including Permanent Secretaries) drawn from all Northern Ireland departments and the Northern Ireland Office and met for the first time on 3 March 2001. The group met regularly to produce guidelines for farmers, rural dwellers, schools, hospitals, public building occupants and the general public, and reported regularly to the Executive. It dealt with a wide variety of issues, including the decision to abandon sporting events, such as the North West 200, and the process for bringing in the Army to help with the crisis in Coagh and Cushendall.

5.28 The IDG appears to have worked very well in discussing and agreeing decisions that were then recommended to Ministers. This also illustrates the effectiveness of devolved government in dealing with a crisis of this nature. A second IDG was also formed, meeting for the first time on 30 March 2001. This was chaired by OFMDFM and looked at the wider implications of the outbreak. This group also included representatives from LEDU and the Tourist Board, as well as some senior officials. The Minister also reported on a regular basis to the Executive on progress regarding the control of the outbreak.

5.29 The Agriculture and Rural Development Committee also played an important role during the outbreak. At the start of the outbreak in Northern Ireland, the Committee met with the Minister and the CVO and emphasised the need for the farming community and public to co-operate with the Department. The Committee supported DARD's efforts in containing and eradicating the disease. The Committee will be conducting its own FMD inquiry, as announced on 4 February 2002, and will look at issues such as the human aspects of the FMD crisis and an exploration of the negative effects on agribusiness as a result of the outbreak.

5.30 The Central Emergency Planning Unit (CEPU), part of the OFMDFM, works with all

Northern Ireland departments to ensure emergency planning arrangements are up-to-date. During the outbreak, the CEPU extended this emergency planning facilitation by requesting a Multi-Agency Briefing on FMD with the IDG and the police and army. Post-FMD, the CEPU has reviewed DARD's emergency plans and has worked with the Veterinary Service to create a draft Emergency Management Development Plan for DARD, in addition to any DARD contingency plan relating specifically to epizootic disease outbreaks.

## **Lessons learned and recommendations**

5.31 In general, stakeholder interaction was good, given the need for DARD and others to act quickly and decisively. This was clearly due in part to Northern Ireland's relatively small size and the fact that many of the key stakeholders either know or know of each other. It is also clear that the existing contingency plan did not address many of the stakeholder interaction issues and this point is therefore addressed in the recommendations section of this report.

5.32 Of particular note is the need for DARD to establish robust lines of communication within the Department, i.e. between DARD Headquarters and the relevant Division Veterinary Offices in the outbreak areas. This must be reinforced through Veterinary Service competency in dealing with farmers subjected to the distress and trauma associated with the culling of stock. This means that training in the enhancement of skills in dealing with people under such circumstances should be part of normal veterinary training. As a result, trust between farmers and the Veterinary Service in any future outbreak may be better maintained.

5.33 In addition, we consider that the industry and the farmers' unions should seek to establish forums through which all groups of farmers, including those which are currently not union members in Northern Ireland, can have their views represented and discussed with the appropriate authorities.

5.34 The FMD crisis has highlighted the need for appropriate forms of support for stress associated with farming. Various initiatives are under way to address this and in our view these initiatives should be supported.

## **Communications and media aspects**

### **Introduction**

5.35 Communication was key at all stages of the FMD crisis. The nature of the disease, its effects, method of spread, planned actions to eradicate and changing policy decisions, all had to be communicated to specific stakeholders, industry sectors, farmers, local authorities and ancillary industries, as well as to the general public, during the outbreak. The role of the media during the crisis was crucial not only in disseminating information, but also in ensuring that scientific facts and basic policy guidance were reported effectively and comprehensively, without hysteria, scaremongering or sensationalism.

5.36 The first task for DARD in managing the output of information was to provide information for public consumption during the initial stages of the outbreak in Great Britain. The gravity of the potentially devastating consequences for Northern Ireland agriculture was outlined in the first press release by Minister Rodgers on 21 February 2001. In this release the Minister urged vigilance from farmers and announced the first in a series of import/movement controls to be imposed in Northern Ireland. This effectively put all of Northern Ireland on the alert, indicating the seriousness of the crisis at hand.

5.37 The general public was involved in this crisis because the movement restrictions affected everyone travelling in and out of Northern Ireland, as well as those travelling within the province, and particularly those close to the affected areas. It was important therefore that the nature and reasons for these restrictions were clearly communicated. There was the added challenge of getting this message across to urban dwellers that the restrictions were important for the interests of both rural and urban communities.

### **DARD external communication structure**

5.38 Pre-FMD, DARD had a Press Office, which, unlike other departments in Northern Ireland that issue their press releases through the Executive Information Service (EIS) (part of the OFMDFM), was able to issue its own press releases directly to the public. Pre-FMD it was staffed by one professional press officer, but additional resources had been requested to

assist in the Press Office. Once the crisis had commenced, an additional professional press officer was transferred from the EIS to the DARD Press Office. Subsequently a third professional press officer joined the Press Office, bringing the total of professional and additional administrative staff in the Press Office to 13. It has been reported to us that the Press Office alone received approximately 600 calls a day over the early period of the outbreak.

5.39 On 21 February, in reaction to the FMD crisis emerging in Great Britain, DARD set up the FMD telephone helpline. The purpose of the helpline was to provide information to stakeholders and the general public, particularly in relation to issues on the movement controls imposed in Northern Ireland. There were a total of eight phone lines available for use, manned by approximately 12–14 DARD staff, including staff with practical farming backgrounds. It has been estimated that the helpline received in excess of 25,000 calls over the duration of the outbreak.

5.40 The helpline also had in place a support service. This enabled counselling to be offered to farmers and also gave them other information about possible subsidies or grants.

5.41 In addition, DARD already had a dedicated website. During the crisis, large amounts of information were posted on this site, including press releases and information for farmers on movement controls, how to spot FMD, and what to do if they had suspicions relating to their own or others' livestock. Efforts were made to update the website with new information every 1–2 hours as policy was amended. It has been estimated that in the first month of the outbreak this site had approximately 162,000 hits. The EIS also orchestrated a wider public information campaign across all other Northern Ireland departments including the management of radio/media announcements, posting of FMD guidelines on all NI Department web-sites and co-ordination of public announcements and press releases.

5.42 At the start of the outbreak in Great Britain, documentation was prepared for all farmers in Northern Ireland to alert them to ways of recognising the disease and how to take precautions to prevent the disease

infecting their livestock. Information was posted to all farmers in Northern Ireland and was also available in fliers and posters displayed in DVOs and DARD premises across Northern Ireland.

5.43 When the outbreak reached Northern Ireland, the farmers in the infected area had access to leaflets detailing the specific restrictions and concerns affecting holdings located within the protection and surveillance zones. These leaflets were not sent out by post, but were available directly from DARD and DVOs.

5.44 Information packs were also sent out during the crisis to farmers, providing them with a list of practical measures to take in relation to the fortress farming concept and biosecurity measures, contact phone numbers for DARD and other agencies, a list of clinical signs of FMD and a laminated 'Keep out' sign. Staff briefed on biosecurity methods delivered the packs to farms in the 3km and 10km zones.

5.45 The first LEDCC in Newry, set up on 28 February in response to the Meigh outbreak, organised a training seminar between the DARD veterinarians and about 15 local practising veterinarians, to provide the latest information on the disease and its spread. The LEDCC also invited a number of veterinarians from the Republic of Ireland to attend this training seminar. The LEDCC's administrative staff logged and prioritised calls, forwarding technical FMD calls to the veterinary staff.

5.46 In conjunction with these focused and targeted communications, DARD commenced its information and education programme to the rest of the public and stakeholders, via the Press Office in association with the CEDCC. Thirty-two press conferences were held between 21 February 2001 and 20 July 2001, representing a huge increase in the workload of the Press Office. In addition, 490 media interviews were organised during this period – a volume well in excess of the normal four or five a week.

5.47 DARD commenced a series of meetings with representative groups of various sectors within the agriprocessing industry. Meetings were held with the Ulster Farmers' Union (UFU) and the Northern Ireland Agricultural Producers Association (NIAPA). There were numerous other meetings between DARD and

other agriprocessing stakeholders, such as the Northern Ireland Dairy Association (NIDA), Northern Ireland Grain and Trade Association (NIGTA). Further meetings were also held with organisations such as the Royal Ulster Agricultural Society, representatives from tourism, local councils, the Association of Veterinary Surgeons Practising in Northern Ireland and the Northern Ireland Veterinary Association.

5.48 DARD is also known to have met with local politicians, representatives of local community groups and other local farming groups in the outbreak areas. Such meetings enabled DARD to work closely with those directly affected by FMD in creating practical and workable solutions with local relevancy, in order to eradicate the disease.

### **Success of DARD's communication processes**

5.49 The responsibilities placed on DARD at the start of the crisis were significant, in terms of operational logistics and in mounting an effective educational communication campaign with both the public and stakeholders. In general, the DARD Press Office, and in particular its senior members, were recognised by the media for the professionalism of their approach during the course of the crisis.

5.50 DARD did implement communication structures in order to effectively communicate with its staff and certainly made considerable efforts to ensure that the public and stakeholders were informed of the disease and its seriousness and were updated on changes to policy and the development of the disease.

5.51 As the pace of the outbreak increased, and changes in policy were inevitable to keep up with the hourly developments in the outbreak areas, DARD found it necessary to swiftly modify its earlier recommendations and advice. It is crucial in such an outbreak to ensure that stakeholders and farmers, and especially staff, located in the local or central disease control centres and in the field, are fully briefed about the changes to movement controls, development of the disease, biosecurity methods and especially the procedures for the cull and disposal of carcasses.

5.52 Through our Review process, we have

become aware of circumstances where stakeholders, and indeed some DARD staff, feel that there were failings in the communication structures and processes implemented by DARD. It would appear that during the crisis, DARD's ability to keep not only the public and stakeholders informed, but also its own staff, was limited by the failure of DARD to have adequately planned and provided for the channels of communication which would be necessary during such an outbreak.

5.53 During the culls in South Armagh, DARD did not have access to sufficiently detailed or accurate maps to distribute to field staff. Instances were recorded of farm holdings not shown or holdings incorrectly delineated on maps provided to field staff. DARD was also unable to provide a comprehensive list of all farmers and details of their holdings within the surveillance zones. Provision of up-to-date data on all farmers should be seen as a prerequisite to commencing culling procedure, yet DARD do not appear to have a centrally accessible, up-to-date database of all farmers across Northern Ireland, which could provide comprehensive data for use in such an emergency or any other situation.

5.54 Inadequate recording of farms visited and sharing of information back at LEDCC resulted in instances of multiple visits to certain farms by DARD staff and veterinarians. For example, one farmer in South Armagh recorded several visits to his premises by different staff to inspect livestock, and indeed one visit to cull animals that had been destroyed the previous day.

5.55 More significantly for staff in the LEDCC, it appears that they did not always receive updates of developments in the crisis or changes to policy before it had been issued in a press release by the CEDCC. Local farmers sometimes found themselves calling the LEDCC to make enquiries about developments they had heard through the press, only to realise that the news had not yet filtered through to the local staff.

5.56 This situation was also reported by DARD portal staff, who sometimes became aware of developments by television or radio. Line managers were not always briefed about changes to movement controls or procedures to be followed at the ports before this information

was placed in the public domain by the Press Office.

5.57 DARD had aimed to provide up-to-date information on its website within one or two hours of changes of policy, yet anecdotally it appears to have sometimes taken up to four days to refresh data on the web.

5.58 DARD in general and their Press Office in particular, has consistently had a good relationship with the press and access to DARD was never a problem for media representatives during the FMD crisis. However, the ad hoc nature of the press releases and press conferences, although understandable, meant that updates to the media were made as events happened, rather than at designated times. Due to the nature of the crisis, some of these events, such as results from Pirbright Laboratory, took place late in the evening. Logistically, this meant that media from outside Belfast were not always able to attend press conferences, as there was insufficient time to physically get to Dundonald House in time. In addition, the ad hoc nature of briefings meant that the media were permanently looking for information, which often was an unwelcome distraction for DARD staff involved in dealing with the crisis.

5.59 Comparisons have been drawn between the handling of public communications by DARD and the Republic of Ireland. Instead of ad hoc meetings, DAFRD had timetabled updates with the press each day. Their approach differed from DARD in that rather than seeing the public communication channel as providing details of significant changes only, they sought to provide a continuous link between their Department and the public. They used television and radio, not only to update the public on daily developments, but also to provide practical advice on concerns such as welfare, form-filling and biosecurity measures.

5.60 On a daily basis during the crisis, DAFRD senior staff would hold a briefing meeting with Minister Walsh, followed mid-afternoon by a press briefing. This was then followed by a public community meeting each evening at the local disease control centre. This ensured that not only were the press and DAFRD staff updated with events during each day, but that the local community and other stakeholders who attended the meetings daily were also aware of all developments.

5.61 DARD's interface with the public has often been via the veterinary staff. Farmers meet these staff regularly on their holdings and often have good working relationships with them. However, in times of crisis, as was experienced during the FMD outbreak, the relationship between government agencies and farmers will naturally be strained. Unfortunately, it would appear that some of the veterinary staff were not adequately trained to communicate effectively and empathetically with farmers suffering emotional stress during culls.

5.62 At senior veterinary level, much praise was made of the CVO and his ability to communicate effectively, on both a personal and organisational level, particularly in his dealings with the press. However the close personal involvement of the Minister limited the opportunity for the CVO to present and discuss the critical veterinary assessment of the crisis. The Press Office also were effective in ensuring that the media had access to staff as required and there continues to be a good working relationship between the DARD Press Office and the media in general.

5.63 The Minister in particular has been applauded for her role in communicating with the public. Her open and sincere approach to the public through the media, and her efforts to be as accessible as possible to media and individuals, have resulted in considerable personal support for the actions taken during the crisis and for her role in general. Her interpersonal skills and ability to relate effectively with the public were of great assistance in her achieving personal commendation for her leadership during the crisis. Her ability to make presentations in English and Irish, for example, were particularly effective in fostering trust with some members of the community, and enhanced her working relationship with her counterparts in the Republic.

5.64 In addition, the availability of DARD officials to consult with Members of the Legislative Assembly (MLAs) was also welcomed and aided in providing another channel of access to members of the public to have their personal issues addressed by senior staff.

## Lessons learned and recommendations

5.65 Effective and comprehensive communication between DARD, farmers, stakeholders and the general public is clearly fundamental during an epizootic disease outbreak. A communications strategy should form a part of any future contingency plans. This will ensure that communication structures are in place immediately, and that all channels of information dissemination are adequately resourced, both in terms of manpower and in use of technology.

5.66 One interesting and very practical suggestion was that mobile phones should be issued to all staff at the outset of a crisis. This would ensure that field managers at LEDCCs and Ports were kept directly informed of developments as they happened and were in a position to pass on important information to their field staff. DAFRD used this approach and it was found to be effective in ensuring that staff were constantly in contact with the local disease control centre and contactable by the central office in Dublin.

5.67 Another consideration for inclusion in the contingency plan might be the establishment of more frequent and fixed briefing times. These could prove beneficial to the media, public, stakeholders and in particular DARD staff. They provide a basis to allow daily updates on events and developments, and also provide a more conspicuous and transparent view for the public in general.

5.68 It is clear that DARD requires a system to facilitate access to comprehensive maps, reflecting farm holdings and detailed road layouts for all of Northern Ireland.

5.69 There is a need for investment in information systems to facilitate the response to, and manage any future outbreak of, epizootic diseases. Information systems include the following:

- a complete, regularly updated, and widely accessible database to record all farm holdings in Northern Ireland. Such a database can be used in any future epizootic disease to provide necessary information to field staff and assist in communicating with farmers involved in any culls or other eradication techniques.



- ability to identify land holdings using appropriate GIS modelling techniques;
- establishment of an agreed data file of information to include relevant information on outbreaks and containment statistics; and
- the ability of systems to interface and communicate with each other both within DARD and between DARD and other agencies.

5.70 In any future outbreak the offices of the CVO and DCVOs should be fully utilised in their communication strategy.

5.71 There is also the need to plan a media strategy in case of a future outbreak. This plan should be described in the operational manual prepared within the framework of the contingency plan.

## North/South interactions

5.72 The agricultural sectors in both Northern Ireland and the Republic of Ireland are essential contributors to the economies of each jurisdiction. Agriculture on the island relates predominantly to the grass-based production of meat and milk with an extensive processing sector dependent on both the availability and marketability of the products. Although animal health is critical in the United Kingdom context, it is also critical on an all-island basis. Both parts of the island have therefore compelling reasons to co-operate in both the defence against the disease entering the island and subsequently on its containment and eradication from the island.

5.73 The location of the first FMD outbreak at Meigh in South Armagh on 1 March 2001, within close proximity to the border, meant that the cross-border aspects of disease control, both practical and strategic, were at the forefront of the responses of both administrations. The 10km surveillance zone established around the Meigh outbreak extended across the border into County Louth. Within three weeks of the Meigh outbreak the ROI authorities had their single outbreak in Proleek on 22 March. Again, due to the proximity of the infected premises to the border, the 10km zone established around this outbreak also straddled the border extending into County Down and County Armagh.

5.74 As part of the review process we commissioned Dr Patricia Clarke of the Centre

for Cross Border Studies (CCBS) to produce a research paper in respect of the cross-border implications of FMD and in particular the extent to which North/South cooperation was effective in dealing with the disease. In January 2002 the CCBS published a report entitled *The foot-and-mouth crisis and the Irish Border* which reviewed the two authorities' management of the cross-border dimension.

5.75 This section of the report draws on the research completed by Dr Clarke (reported in a separate working paper) and on the information and views provided to the Review team by DARD, other stakeholders and members of the public through our process of consultation.

## Cross-border co-operation pre-FMD

### Ministerial and Departmental

5.76 Agriculture has been cited as one area where there has been a long history of North/South co-operation and where cross-border relationships have been relatively well developed, with some official meetings of Agriculture Ministers, North and South prior to the Good Friday Agreement (GFA) in 1998. However, these meetings were relatively infrequent, although informal contacts occurred, for example, on the margins of EU meetings.

5.77 Formal contacts among civil servants both at operational level and among middle and higher-ranking officials prior to the GFA were also infrequent. For example, the Chief Veterinary Officers of each jurisdiction met once a year, and at lower levels there were ad hoc contacts, usually on issues specific to border areas. Training programmes had some cross-border participation but such programmes were not jointly planned. Contacts tended to deal with technical rather than strategic matters and therefore did not formally influence policy issues.

5.78 The North–South provisions of the 1998 GFA provided for the setting up of a North–South Ministerial Council (NSMC). Agriculture and animal health were identified as areas for co-operation. Under the framework of the NSMC, relationships at Ministerial level and between officials of the two Departments have been formalised and strengthened prior to FMD.

5.79 Prior to FMD the two Ministers participated in NSMC meetings in the agriculture sectoral format. At the November 2000 meeting proposals were endorsed to formalise liaison arrangements at official level on animal health matters. A Strategic Steering Group was established to co-ordinate animal health policy on the island and this group was to provide regular reports to the NSMC on animal health co-operation together with recommendations for policy and/or operational decisions. The Strategic Steering Group was tasked with the development by March 2002 of joint strategies for the improvement of animal health on both sides of the border. In addition, it was agreed conceptually to establish eight Policy Working Groups to consider animal health issues to apply to the whole island.

5.80 The eight Policy Working Groups are:

1. Import/export of live animals and their products, and all EU matters in the veterinary/animal health field of interest to the two Departments;
2. Bovine TB/brucellosis;
3. TSEs (e.g. BSE in cattle and Scrapie in sheep);
4. Veterinary medicines;
5. Zoonoses and Exotic/Novel Diseases (i.e. animal diseases that are transmittable to humans);
6. Animal welfare;
7. Animal health schemes; and
8. Disease surveillance.

5.81 The Strategic Steering Group and the Policy Working Groups are composed solely of civil servants. These structures have therefore formalised and developed relationships both at Ministerial level and between civil servants.

### Other stakeholders

5.82 Cross-border relationships between the two main farming unions, the Ulster Farmers' Union (UFU) in Northern Ireland and the Irish Farmers' Association (IFA) in ROI, have been reasonably strong before and after the FMD outbreak. Bilateral meetings at senior officer level have taken place two or three times a year. The commodity specialists in the UFU frequently liaise with their IFA opposite numbers. There is also frequent contact on sectoral issues between officials. The two organisations regularly co-operated, working jointly to enhance their competitiveness and efficiency in representing their various



memberships who traditionally have had common interests. The UFU and the IFA also participate in East–West meetings with the National Farmers’ Union (NFU) and the Scottish Farmers’ Union (SFU), and in European forums.

5.83 The Northern Ireland Agricultural Producers’ Association (NIAPA) also has various North/South linkages including linkages with the Irish Creamery Milk Suppliers’ Association (ICMSA), which is the smaller of the two main Southern farming unions. NIAPA and the ICMSA launched a North/South forum to promote the interests of farm families in all parts of the island. NIAPA has been committed to working with any organisation and farmers’ organisations elsewhere, on matters of common concern.

5.84 There were some formal contacts between the veterinary professional bodies in the North and the South prior to the FMD outbreak. These contacts were in the context of different veterinary structures in place within both jurisdictions. A majority of Northern Ireland vets belong to the North of Ireland Veterinary Association (NIVA), the Northern Ireland branch of the British Veterinary Association, the Association of Veterinary Surgeons Practising in Northern Ireland (AVSPNI) or the British Small Animal Veterinary Association Northern Ireland Region. In January 2001 four of the five main veterinary bodies in the Republic of Ireland merged to form one body: Veterinary Ireland. We understand that the Irish Veterinary Officers Association (VOA), which represents vets employed by the Department of Agriculture, Food and Rural Development (DAFRD) in the ROI, is still considering whether it will also become part of this unified veterinary body.

5.85 In the past the lack of a direct equivalent of the VOA in Northern Ireland has impacted on the opportunities for formal exchange between vets working in each Department’s veterinary service. However, individual vets from Northern Ireland had always participated in the VOA’s conferences, for example, the March 2000 VOA conference was addressed by several DARD officials. We understand that a direct equivalent of the VOA has been constituted recently in Northern Ireland (Veterinary Officers Association of Northern Ireland) and that this association has developed informal links with the VOA in ROI, although

it is not currently recognised by DARD.

5.86 While there was a reasonable degree of co-operation between ‘other stakeholders’ on both sides of the border prior to FMD, there is no evidence of formal communication in respect of epizootic contingency plans.

## Cross-border co-operation during the crisis

### *Ministerial*

5.87 A special meeting of the NSMC was held in Dublin on 6 April 2001 – over six weeks after FMD had been discovered in the UK. This meeting was exclusively devoted to the FMD crisis and the efforts to combat its spread on the island of Ireland. Officials agreed that sustained co-operation between the two administrations was essential to reduce the risk of the further spread of the disease. It was also agreed that the two Departments would:

- develop a strategy for the control of animal movements on the island of Ireland, drawing on work done in both jurisdictions; and
- in light of the experience gained from the FMD outbreaks, consider the means of prevention, containment and eradication of future epizootic outbreaks on the island.

5.88 On 19 April both Ministers met and discussed the outbreaks, cross-border trade restrictions and the continuing co-operation in preventing further spread of the disease. On 11 September 2001 both Ministers of Agriculture met again to review various aspects of the FMD situation against the backdrop of the risk posed to the island of Ireland by the continuing incidence of FMD in Britain. Both Ministers stated that co-operation was essential not only to reflect the interdependence of effective controls in addressing FMD but also to maintain the necessary level of mutual confidence in such controls on the part of the administrations and the general public in both jurisdictions.

5.89 To date the NSMC, in agriculture sector format, have held three further meetings, in October 2001, January 2002 and April 2002, where the progress of the Strategic Steering Group and the Policy Working Groups has been reviewed. In the wake of the FMD crisis a ninth Policy Working Group was established to consider the cross-border dimension of fraud. The FMD crisis has therefore renewed

the impetus for the NSMC to pursue animal health issues vigorously and co-operatively.

### *Departmental*

5.90 Cross-border co-operation was intensified across all sectors of the farming industry throughout the FMD crisis. There were numerous examples where the sharing and exchange of information between the agricultural authorities in both jurisdictions was very effective. The two Departments of Agriculture, through their respective CVOs, were in constant liaison, often on a half-hourly basis, after the threat of the disease became evident after 20 February. Officials across all levels of the Departments, including DCVOs and Heads and Deputies of Policy Divisions, were in regular contact by telephone, fax and email. The press officers from both Departments of Agriculture developed a strong working relationship, liaising in respect of both timing and content of relevant press releases. This also applied to the East/West dimension as well. There is no doubt that an intricate network of cross-border communication was active during the FMD outbreak. However, it is difficult to quantify the extent and nature of this communication as it was mostly conducted informally and as such has not been fully documented.

5.91 There were a number of key areas where co-operation between the two Departments played a very practical role:

- **tracing sheep** – One of the main areas of cross-border co-operation involved the tracing of sheep brought into Northern Ireland from GB and then diverted to destinations either in NI or ROI. The two Departments co-operated at the highest level in tracing animal movements. A joint team of officials travelled to England to interview one livestock dealer and DARD officials participated in DAFRD debriefing sessions;
- **South Armagh extended cull** – Discussions between the two Departments played an important role in developing the policy and ensuring agreement and consistency in approach; and
- **clarification of export ban** – Significant difficulties were initially experienced by NI exporters in moving materials not affected by the export ban (e.g. poultry meat, vegetables and mushroom compost) to the South.

Various issues were resolved in discussions between the two Ministers.

5.92 Five representatives from DARD veterinary division and one from DARD policy division attended an internal review of FMD conducted by DAFRD in November 2001.

5.93 The NSMC has not been established to deal with emergency situations but rather the strategic context within which the two Departments operate. Its formal structures have facilitated co-operation and communication between the two Departments as it is essential that operational plans are developed to formalise co-operation and communication between the Departments in emergency situations. While the two Departments have similar operational structures, thus maximising the potential for mutually beneficial co-operation, the overarching role of the UK Department for Environment, Food and Rural Affairs (DEFRA), in negotiating and implementing UK-wide agriculture policy, is an important consideration. Action to protect the animal health status on an all-island basis will inevitably reflect the relationships between DARD and DEFRA. In addition, the fact that the two agri-sectors are competitors in many markets is cited as a constraint to co-operation at a strategic and policy level. However, it has been contended that co-operation on animal health is to the advantage of NI, ROI and indeed GB industry and would not advantage or disadvantage one over the others, but aid equally in their competitiveness against third parties.

#### *Other stakeholders*

5.94 The UFU and IFA have extended their cross-border commitments, both during and post-FMD, to include a joint programme of work on animal health issues. On 3 April 2001 both organisations met on a formal basis to consider the co-ordination of their policies. On 24 October 2001 the two unions again met formally to have a 'debrief' on a wide range of issues on cross-border animal health raised in the wake of FMD.

5.95 Union officials from the UFU, NIAPA and the IFA worked in collaboration on the ground during the FMD crisis to assist their respective farming communities and Departments. In particular representatives from all three unions contributed significantly in finding a resolution to problems surrounding

the extended 3km cull in South Armagh.

5.96 Practical co-operation was also evident between a range of other stakeholders and their ROI counterparts. For example, vets agreed that in instances where their work straddled the border they would restrict their activities to one side and NI milk processors absorbed milk which the ROI processors could not get across the border in the initial days of the crisis.

5.97 It should be noted that in June 2001 the two main veterinary bodies in NI, the AVSPNI and the NIVA, met with officials from the new ROI organisation, Veterinary Ireland, to discuss the possibility of forging closer links between the veterinary bodies with a view to facilitating a more co-ordinated veterinary approach on the island. A Cross Border Animal Health Committee has subsequently been set up between the NIVA and Veterinary Ireland.

5.98 While it is clear that organisations such as those representing farmers, processors, veterinarians did co-operate and communicate during the crisis, it was usually as the need arose. The development of formal mechanisms to facilitate ongoing proactive rather than reactive co-operation and communication should be encouraged and referred to in any future contingency plan.

### **Lessons learned and recommendations**

5.99 A number of lessons have emerged in respect of cross-border co-operation both prior to and during the FMD crisis:

- while there was already a level of co-operation between the two jurisdictions before the FMD outbreak, it was not sufficient in itself to keep the disease out;
- there is no evidence of co-operation between the two Departments in the development of their respective epizootic contingency plans, specifically in relation to cross-border issues, or indeed in the communication of same;
- there has been little or no stakeholder involvement to date within the formal structures created under the auspices of the NSMC;
- co-operation between the two Departments was effective in limiting the spread of the disease, however at Departmental level this co-operation was primarily informal;

- good co-operation between stakeholders during the crisis, however tended to be on an 'as the need arose' basis; and
- there is general recognition of the need to utilise the opportunities created by the natural water barrier around the island and work towards consistent and complementary animal health strategies.

5.100 The recently established NSMC Animal Health Strategic Steering Group is already taking forward a number of these lessons. Since the 2001 FMD outbreak a common approach has been sought by both administrations in relation to internal movement controls on animals and biosecurity measures for those involved in agriculture and related industries. Progress has been made towards aligning controls applied to imports of animals and animal products by both administrations at all points of entry into the island.

5.101 The following recommendations are relevant in response to the lessons identified above:

- **An assessment of the animal health status of the island should be undertaken** in parallel with the assessment in Northern Ireland proposed earlier in this report. This would provide a realistic assessment based on comparisons with other EU Member States to allow informed decisions to be taken on animal health policy.
- **The development of an all-island animal health strategy** This should be taken forward under the auspices of the NSMC. It will require an analysis of the trade implications, monitoring of illegal activities and criminal sanctions and the wider implications for intra-EU trade. Among these are the fact that the agricultural industries, North and South, currently operate in direct competition with each other; the limited ability of the island to pursue a 'fortress Ireland' approach in the context of a single EU market; the problems caused by the present and future currency differentials between the two jurisdictions; and the traditional trading patterns between Northern Ireland and Britain, the extent of which are not mirrored in the South.

5.102 In order to ensure the industry as a body has input, an all-island multi-sectoral group should be established, with key representatives from the food supply chain and other stakeholder organisations. This ‘Stakeholder’ group would support the NSMC Agriculture Strategy Steering Group on proposed strategy and policy.

■ **Development of future cohesiveness in the creation of contingency plans for epizootic disease**

The development of an operational plan to formalise co-operation and communication and the structures within which it would take place between the two Departments in any future emergency situation.

■ **A cross-border epizootic team should be developed**

This could take the form of further liaison between the respective Departments of Agriculture to ensure a common approach. As agreed the appropriate available resources could be pooled, with a team having the necessary expertise to respond to a disease outbreak wherever it occurred within the island.

■ **Development of further formal links between key stakeholders, North and South**

In order to ensure that the industry as a body has input into any future all-island strategy, an **all-island multi-sectoral stakeholder group** should be established, with key representatives from the food supply chain and other stakeholder organisations. This group would report to the NSMC Agriculture Sector Steering Group on proposed strategy and policy.

■ **Development of consistent animal identification systems**

Introduction and harmonisation of individual animal identification systems on an all-island basis and the promotion of mutual access. This is likely to be in the context of further developments in the European Commission approach.

## **Implications of all-island animal health policy**

5.103 There is some support on the island of Ireland for the adoption of an all-island approach to animal health and to the prevention, containment and eradication of future epizootic outbreaks. There are a number of legal problems associated with the adoption of such an approach, especially the need to comply with the requirements of Community law. Article 33(1) of the Treaty of Rome establishes an important link, of legal significance, between the establishment of a common market for agricultural products and the introduction of a common agricultural policy. One aspect of the legal significance of this link is that the general rules of the Treaty must give way to any stricter rules laid down in European agricultural legislation and such legislation is to have precedence over national provisions.

5.104 To be acceptable under Community law, an all-island animal health policy that sought to carry out inspections on imported animals, beyond those already provided by Community law, would have to be a seriously considered health policy, eschewing arbitrary discrimination and be proportionate. These conditions would also apply to a separate Northern Ireland policy on animal health. It appears that the only method to make such a policy acceptable is that it be an actual Community policy. An all-Ireland health policy involves one Member State and a region of another Member State, hence the need for a Community policy, which would justify differences in treatment within one Member State. Moreover, under present regionalisation rules, it is clear that the policy will need to be implemented disease-by-disease rather than on a more generalised level.

5.105 One aspect of this particular solution, applicable to the all-island animal health policy and a separate animal health strategy in Northern Ireland, is the possibility of international recognition of regions within the Community that are disease-free. Furthermore, the OIE only recognises regions of countries in exceptional circumstances. The competence to devise a change in this position would require international negotiations and the competent body under Community law on external relations is the Council and the Commission, rather than the Member States. Moreover, the competence to devise an improved policy that

would achieve disease-free status, either for Northern Ireland or all-Ireland, belongs not to the Member States, or the regions of the Member States, but to the Community.

## VI Post-FMD situation

6.1 In this section we address some of the post-FMD assessments that have taken place since the end of the outbreak. This deals with the following elements of our Terms of Reference:

- *trade implications of the disease outbreak and the measures taken to contain it and the effectiveness and value of the measures taken to restore trade;*
- *economic impact (on the agriculture sector only); and*
- *read-across to other UK and ROI reviews.*

6.2 Our analysis is set out under the following headings:

- trade impact;
- economic impact; and
- links with other reviews.

### Trade impact

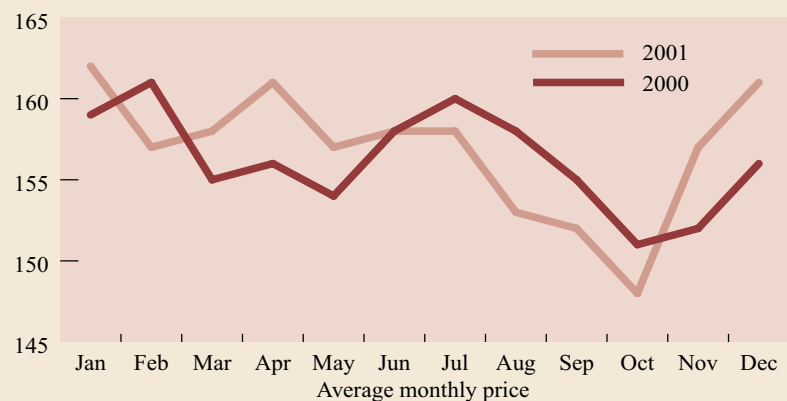
6.3 Trade in live animals, fresh meat and untreated products from GB and Northern Ireland was banned by the EU with effect from 21 February 2001. This was followed by a complete ban on animal movements on 28 February 2001. Effectively this brought agricultural trade to a halt for the period of the outbreak.

6.4 As time passed after the first outbreak at Meigh and no further cases were identified, the Department applied successfully for regionalisation status for Northern Ireland from 3 April 2001, with movement restrictions only in the Newry & Mourne District Council area. However this was rescinded ten days later following confirmation of the second outbreak at Coagh/Ardboe.

6.5 It was 7 June before regionalisation status was again granted and on 1 July live sheep exports recommenced and later in the month livestock marts reopened for sales of cattle, pigs and pedigree sheep. However, it was several months before the export of live animals to GB and the importation of meat recommenced on 12 December.

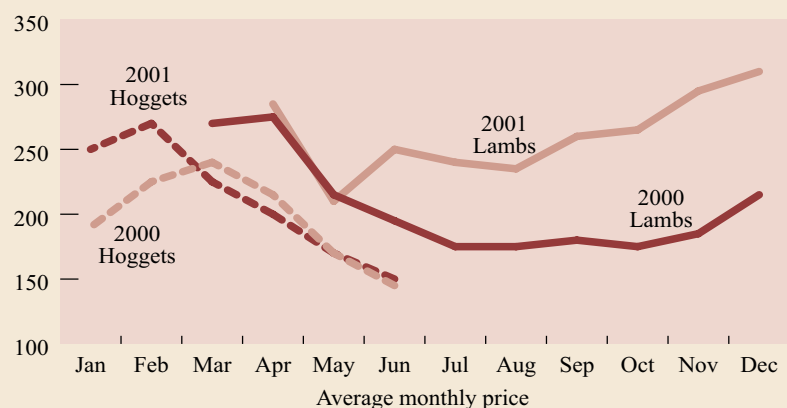
6.6 Finally on 10 January 2002 the United

**Figure 6.1 Cattle prices in Northern Ireland (p/kg)**



Source: Livestock and Meat Commission

**Figure 6.2 Lamb and hogget prices in Northern Ireland (p/kg)**



Source: Livestock and Meat Commission

States recognised Northern Ireland as free from FMD and lifted import restrictions. This was followed by the OIE which on 22 January 2002 officially recognised the UK as being free of FMD.

6.7 Thus, for four months trade in animals and animal products was severely restricted and was distorted for a further six months. As part of our research we asked the Livestock and Meat Commission (LMC) to provide us with their views on the impact of FMD on trade over this period. Their views are summarised below.

### Cattle

6.8 Figure 6.1 illustrates average cattle prices in NI in 2000 and 2001. The overall

average for the year 2001 is almost identical to the year 2000, with only a very marginal increase: 155.6p/kg in 2000 to 156.2p/kg in 2001.

6.9 The graph shows little variation in prices over the course of the year. It does show a slight increase in price at the beginning of FMD in Great Britain, particularly in April, which was short-lived. It is true to say that reduced GB production, particularly in the early months of the crisis, would have helped the overall market for premium beef. Overall GB slaughterings of prime cattle were down by over 10% in 2001 and are expected to fall by a similar amount in 2002. To what extent one can attribute continuation of a steady market (as distinct from an improved one) to

**Table 6.1 Quarterly increase in lamb and hogget prices, 2001**

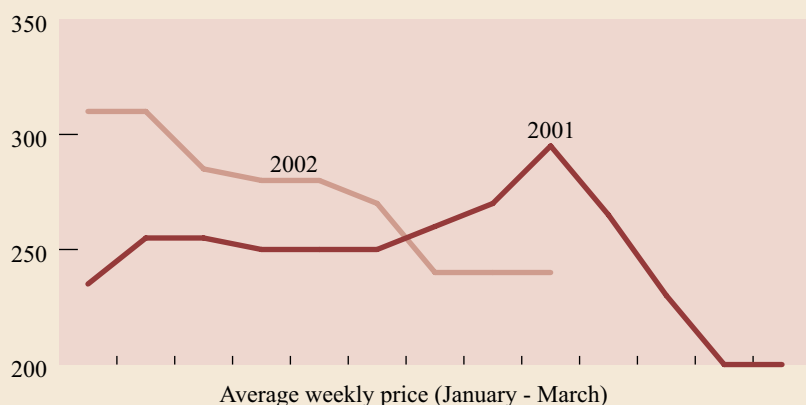
Period	% Increase
January – March 2001	24
April – June 2001	22
July – September 2001	51
October – December 2001	61

Source: Livestock and Meat Commission

**Table 6.2 Sheep slaughterings, 2001–02**

Period	2000	2001	% change
January – March	127,000	118,000	-7
April – June	160,000	208,000	+30
July – September	204,000	352,000	+73
October – December	168,000	245,000	+46
TOTAL	659,000	923,000	+40

Source: Livestock and Meat Commission

**Figure 6.3 Hogget prices in Northern Ireland (p/kg)**

Source: Livestock and Meat Commission

scarcity is debatable. It is arguable that the biggest factor in the steady GB trade in 2001 was the 'British Beef' promotion campaign and the ability to isolate the UK market from the EU BSE crisis that broke in the autumn of 2000.

## Sheep

6.10 While the impact of FMD on cattle trade was perhaps minimal, it was certainly not true of sheep trade, where there was a very definite impact on prices.

6.11 Figure 6.2 illustrates lamb and hogget prices over the past two years. From it one can deduce an initial negative influence of FMD

on trade, followed by a very positive influence, with the latter the more significant.

6.12 Hogget prices in January and February 2001 were well above the previous year levels (£12 and £9/head respectively). Following the outbreak of FMD prices fell, not just because Northern Ireland producers could not export sheepmeat, but – far more importantly – because they could not export live sheep to ROI, and GB (NI's major sheepmeat market) could not export sheepmeat. Prices in the spring of 2001 were similar to prices in the same period of 2000, although 2000 trade at that time was not strong.

6.13 Restoration (or re-restoration) of regional status in early summer saw prices rise sharply, well above the previous year's level. The impetus resulted from trade to an under-supplied French market (which could not be supplied by GB). A further boost was given in late summer with the reopening of live export trade to ROI and increased competition for stock. Prices in December were £19/head above December 2000. For the year as a whole, the official price reported to Brussels was 256p/kg (£51/head), a 43% increase on 2000. The quarterly price increases (official figures) are set out in Table 6.1.

6.14 Sheep slaughterings in 2001 (including cull ewes) show a 40% increase compared to 2000. This was partially due to meat plants killing lambs that in previous years would have been exported live to ROI. In addition, an increased market existed for sheep meat in France due to the ban on GB exports. Quarterly figures show that a larger number of sheep benefited from the higher prices in the second half of the year (Table 6.2).

6.15 Restoration of regional status had a positive effect, but Northern Ireland suffered from the lifting of the export ban on GB sheepmeat in the later part of 2001, although the impact on trade was not tangible until 2002. In 2002 the effect has been real and lasting, although it was February before prices fell below 2001 levels (Figure 6.3).

6.16 In the next sub-section we consider the economic impact of these effects on the agriculture sector.

## Economic impact

6.17 We have set out our analysis under the following headings:

- overview of agriculture in the Northern Ireland economy;
- identification of impacts and approach to quantification;
- direct effects on the agriculture sector; and
- lessons learned and recommendations.

## Overview of agriculture in the Northern Ireland economy

6.18 In Section III we highlighted the importance of agriculture to the Northern Ireland economy. Agrifood, including both primary production and processing, accounts



for some £850m gross value added annually, which is equivalent to 5% of Northern Ireland GDP. It employs approximately 56,000 people, representing over 8% of total employment.

6.19 As previously noted, Northern Ireland agriculture is largely a grass-based industry. Over 90% of farms own some grazing livestock and this sector accounts for over 65% of gross agricultural output with intensive sectors such as pigs, eggs and poultry accounting for approximately 16%.

6.20 In addition there are a number of related sectors that depend on the agricultural sector including livestock marts, animal feed supply, agricultural machinery suppliers, livestock hauliers and others. Finally, the industry forms the backbone of the rural economy and supports indirectly a wide range of related businesses and other economic activity in the small towns and villages of Northern Ireland.

6.21 Northern Ireland's tourism industry is largely based in rural areas, although it has not developed as much as in similar areas of Scotland, Wales and ROI because of the political disturbances of the last 30 years. Anything which negatively affects access to the countryside will have a detrimental effect on the tourism sector.

6.22 FMD undoubtedly impacted on these related sectors and, while our brief was to consider the impact on the agriculture sector only, we feel these broader impacts should not be ignored.

6.23 In considering the economic impact it is important to be aware of the context within which the FMD outbreak took place. This includes the following trends:

- the long-term decline in agriculture taking place throughout the developed world;
- the adjustments required to meet the challenges of the reform of the CAP to accommodate eastward enlargement of the EU;
- pressure from consumers for improved standards of food production; and
- downward pressures on farm incomes in recent years.

6.24 As a consequence of these trends there is a need for the sector to find an appropriate balance between the need to retain and improve its global competitiveness and the

wider demand for increased standards of animal welfare and conservation. With the majority of Northern Ireland agriculture consisting of small units and holdings, there are enormous pressures on small and part-time farmers to secure reasonable margins on their activities.

## Identification of impacts and approach to quantification

6.25 The actions taken to eradicate the disease and the restrictions put in place to prevent its further spread (outlined previously) will have had a range of economic impacts on the agrifood industry in Northern Ireland. The main impacts are outlined below:

- changes in the patterns of distribution of Northern Ireland and GB produce and to the prices obtained (see earlier);
- producers will have incurred costs as a consequence of having to maintain livestock on farms;
- withholding livestock from market for a significant period may have reduced the quality of the product and resulted in lower prices;
- reduced business activities of auction markets, livestock dealers and hauliers, and abattoirs and food processors; and
- costs to the Northern Ireland Executive associated with introducing and enforcing the restrictions, eradicating the disease, and making compensation payments to farmers.

6.26 Some impacts are particularly difficult to measure and are not taken into account in this analysis. These include the emotional distress caused to farmers, and any adverse impacts on animal welfare.

6.27 We have sought to attach monetary costs to the impacts identified above. There are a number of approaches, including:

- **based on an established methodological approach** – the approach used to assess the economic impact of FMD in Northern Ireland is consistent with the methodology used in similar studies of the UK (*Economic cost of FMD in the UK*, DEFRA and DCMS), and ROI (*Economic evaluation of FMD*, Indecon International Economic Consultants);
- **based on impacts identified** – the costs of FMD are based on the quantifiable impacts only;

- **source of information** – all the cost and price estimates and assumptions underpinning the impact assessment were provided by the Economics & Statistics Division, DARD;

- **duration of impact** – estimates of the economic impact reflect the effects of the FMD outbreak on the agrifood industry to the end of December 2001. It is assumed that prices and market patterns returned to pre-FMD norms by the start of 2002;

- **cost drivers** – the estimates of the economic impact of FMD on agriculture and downstream sectors are based on the numbers of animals slaughtered, as well as the length of restrictions for both livestock movements and the export ban; and

- **compensation for the slaughter of livestock** – it is assumed that the compensation payments made to farmers for the destruction of livestock completely offset the cost of restocking.

## Direct effects on the agricultural producers

6.28 The farm sector as a whole is estimated to have experienced a gain of £6.8m as a consequence of FMD (Table 6.3). Agri-money compensation (which, in the absence of FMD, is unlikely to have been paid) more than offset the adverse effects of FMD. A description of the impact on each of the main sectors of agricultural production is given in the subsequent paragraphs.

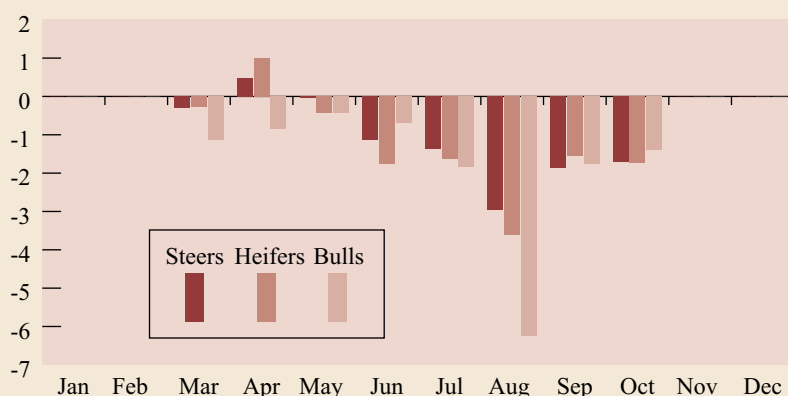
6.29 Figure 6.4 reveals that prices within the beef sector were not largely affected by FMD, as an export ban was already in place as a result of BSE. The price per kg (DCW) obtained for steers, heifers, and young bulls rarely fell by more than 2% below the price that would have been expected in the absence of FMD.

6.30 Consequently, the impact on the output value of beef, the largest component of livestock output in Northern Ireland, was limited to £1.5m. This loss, and the cost to producers of withholding from market, and the consequential losses, were more than compensated by the payment of agri-money aid, which is unlikely to have been paid in the absence of FMD. The estimated net impact on beef producers was a net benefit of £8.9m (Table 6.4).

**Table 6.3 Summary of direct effects on agricultural producers**

Sector	Costs (£m)
Beef producers	-8.9
Dairy producers	1.1
Sheep producers	-0.1
Pig producers	1.1
TOTAL impact on producers	-6.8

Source: Economics and Statistics Division, DARD  
Note: Positive figures are an economic cost; negative figures are an economic benefit

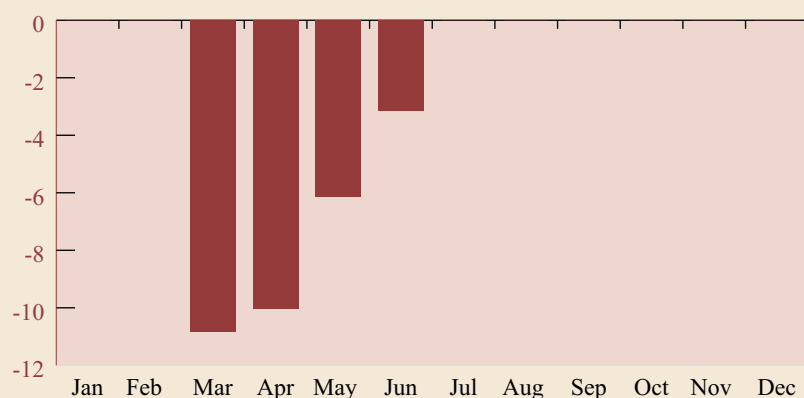
**Figure 6.4 Beef – difference in price (£/kg DCW) in 2001 and estimated price if FMD had been absent**

Source: Economics and Statistic Division, DARD

**Table 6.4 Economic cost to beef producers**

Item	Economic costs (£m)
Impact on output value	1.5
Withholding from market	0.9
Consequential losses	0.1
Agri-money aid	-11.4
TOTAL cost	-8.9

Source: Economics and Statistics Division, DARD  
Note: Positive figures are an economic cost; negative figures are an economic benefit

**Figure 6.5 Milk – difference in price (pence per litre) in 2001 and estimated price if FMD had been absent**

Source: Economics and Statistic Division, DARD

6.31 Anecdotal evidence would suggest that beef farming has improved slightly since FMD, and that the restocking effect on prices has been marginal, given the relatively small proportion of animals slaughtered.

### Dairy

6.32 The price of milk fell approximately 10 per cent below the level that would have been expected in the absence of FMD in March and April of 2001, before gradually returning to 'normal' levels in July 2001 (Figure 6.5).

6.33 The dairy sector experienced a loss of output value of £9.5m as a result of the fall in prices during March–July 2001, caused primarily by the export restrictions. This was largely compensated by the agri-money aid paid to the dairy sector. The net cost of FMD to dairy producers was £1.1m (Table 6.5).

### Sheep

6.34 Early regionalisation resulted in a substantial increase in the price obtained for sheep in the second half of 2001 after a fall in prices in the first half of the year (Figure 6.6).

6.35 These price changes resulted in a £7m increase in market returns to the sheep sector but the high EU prices resulting from the GB export ban caused a large reduction in the Sheep Annual Premium, which is calculated on the basis of the difference between an average EU market price and the basic price. Overall, there was a small net benefit to the sheep sector of £0.1m (Table 6.6).

6.36 Sheep farming improved after FMD with relatively strong markets and prices as full export status returned. The return of export status prior to other areas of the UK gave a short-term boost to the sector. In addition supply is still somewhat limited due to restocking after the FMD culls, allowing a slight inflation on prices, which returned to pre-FMD levels.

### Pigs

6.37 The pig sector experienced only short-term price fluctuations as a consequence of FMD during March to May 2001, with prices rising initially before falling 6% to 8% below the level that would have been expected in the two-month period in the absence of FMD (Figure 6.7).

6.38 This impacted on the value of output slightly, reducing it by £0.4m in 2001. The pig sector also suffered due to a loss of markets for

cull sows. Overall, the pig sector experienced a net cost of £1.1 million as a consequence of FMD (Table 6.7).

6.39 The pig sector remains under pressure and the long-term viability of the sector continues to be an issue. There is now only one livestock market for pigs in Northern Ireland.

Poultry

6.40 The poultry sector also continued to experience difficult market conditions in 2001 with global competition increasing but it was the only sector to be unaffected by the FMD crisis.

Lessons learned and recommendations

6.41 From this analysis it would appear that the net overall impact on the agriculture sector alone was in fact positive. Most of this benefit arose in the beef sector where prices did not fall to any significant degree and where agri-money compensation more than outweighed the losses suffered. The total net impact of £6.8m represents less than 1.5% of gross value added in agriculture during 2000.

6.42 However, these estimates exclude some important areas of economic impact. Although these were not formally part of our brief, we consider it important to draw attention to them:

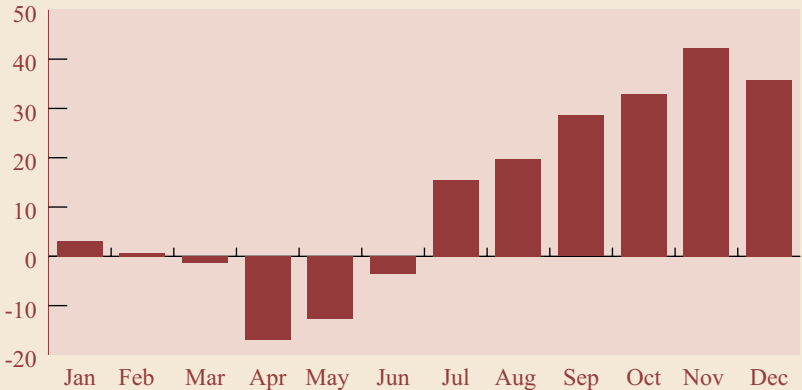
- **the costs to the public sector** – it is important to consider the cost to the public sector in Northern Ireland arising from the FMD outbreak (Table 6.8). The main component is staff costs, which includes salaries, wages, overtime payments and the cost of the work forgone during operations in order to impose the various restrictions and undertake culling. Furthermore, DARD introduced a compensation scheme in respect of the culled livestock. The agri-money aid to producers was funded centrally by DEFRA, and therefore is not a cost to the Northern Ireland Executive. The latest estimate from DARD suggests that expenditure by the Department in relation to FMD amounted to £24.2m;
- **costs to other parts of the agrifood chain** – we understand that these are broad estimates by DARD. The restriction on the movement of animals also impacted on elements of the post-producer food industry. As outlined above, these restrictions reduced the

Table 6.5 Economic cost to dairy producers

Item	Economic costs (£m)
Impact on output value	9.5
Withholding from market	0.1
Consequential losses	0.5
Agri-money aid	-9.0
TOTAL cost	1.1

Source: Economics and Statistics Division, DARD  
Note: Positive figures are an economic cost; negative figures are an economic benefit

Figure 6.6 Sheep – difference in price (£/kg DCW) in 2001 and estimated price if FMD had been absent



Source: Economics and Statistic Division, DARD

Table 6.6 Economic cost to sheep producers

Item	Economic costs (£m)
Impact on output value	-7.0
Withholding from market	0.4
Consequential losses	0.2
SAP payments	7.7
Agri-money aid	-1.4
TOTAL cost	-0.1

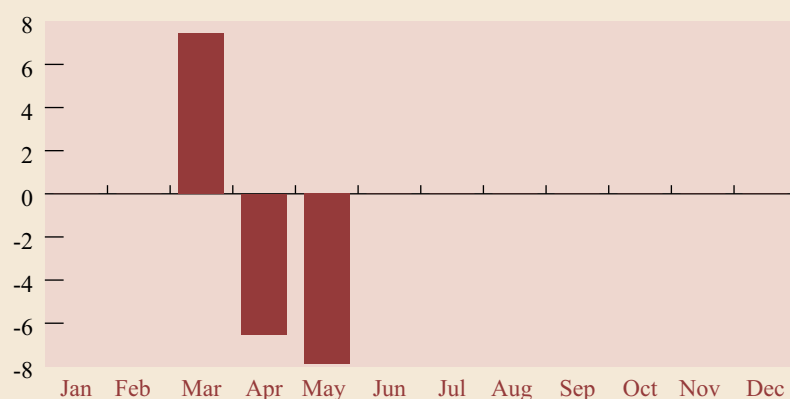
Source: Economics and Statistics Division, DARD  
Note: Positive figures are an economic cost; negative figures are an economic benefit

business activities of auction markets, livestock dealers and hauliers, abattoirs and food processors. DARD has suggested that the impact of these restrictions would have cost these businesses £5.3m in 2001, on the basis of historical interfarm expenses and the volume of livestock movements. Table 6.9 is a disaggregation of this estimated loss; and

- **costs to the tourism industry** – no firm estimates are available of the impact of FMD on the tourism industry in Northern Ireland.

6.43 The scale of these impacts is generally quite small in relation to the size of the economy. Nevertheless they are important, particularly to those businesses that suffered the greatest impact. In our view, farms and

**Figure 6.7 Pigs – difference in price (£/kg DCW) in 2001 and estimated price if FMD had been absent**



Source: Economics and Statistics Division, DARD

**Table 6.7 Economic cost to pig producers**

Item	Economic costs (£m)
Impact on output value	0.4
Culls	0.4
Withholding from market	0.3
Consequential losses	0.0
<b>TOTAL cost</b>	<b>1.1</b>

Source: Economics and Statistics Division, DARD  
Note: Positive figures are an economic cost; negative figures are an economic benefit

**Table 6.8 Estimated Northern Ireland public sector costs of FMD**

Cost item	£m
1 Culled livestock compensation	7.4
2 DARD salaries and wages (basic salary & additional)*	11.5
3 Private veterinary practitioner costs (licensing & serology)	1.5
4 Local Councils and rates relief	0.3
5 Police and Army costs	0.3
6 Other (DARD travel & preventive measures, destruction & disposal of culled livestock, LMC costs and Pig Welfare Scheme)	3.2
<b>TOTAL</b>	<b>24.2</b>

Source: Economics and Statistics Division, DARD  
\* Costs are full staff costs, not merely additional costs of overtime etc. They therefore include the opportunity costs of other work forgone. Only a proportion of these costs will translate into extra DRCs.

businesses in the outbreak areas suffered disproportionately from the effects of the disease compared with other parts of the country.

6.44 Similar estimates of the economic impact of FMD in UK and Ireland illustrate that the ROI agriculture sector also benefited in net terms from the outbreak. Table 6.10

illustrates the relative scale of the impacts. In both the UK and Ireland the major impacts were on the tourism sector.

6.45 We have made no recommendations in respect of this part of the Review.

## Read-across to other reviews

6.46 The Review Team has reviewed reports and other documents from other reviews and enquiries in relation to the FMD outbreak that have been completed or are currently under way at national and European level (the main documents are summarised at Appendix D). We have adopted similar methodologies and review processes in our Review, using a combination of depth interviews, public meetings and meetings with key stakeholders.

6.47 The similarities are not limited to methodology. Although all the reviews, including our own, have emphasised different areas of the FMD outbreak in 2001, or different aspects of the agrifood industry, there are common threads. Indeed, the Northern Ireland Review Team's findings and recommendations accord with many of the conclusions and suggestions for the future made by other reviews.

6.48 The Review Team would, however, like to highlight the Northern Ireland *Vision for the Future of the Agri-Food Industry* and to comment specifically on the proposals for change made by the Vision Group, particularly in relation to animal health issues.

6.49 The Vision Group's remit was considerably wider than the Terms of Reference for the Review Team. It was:

- to identify the problems, and opportunities, in the rural economy over the next decade; and
- informed by that, to develop a Vision for the agrifood industry that will enable the industry to map out a strategy to meet that Vision.

6.50 The FMD Vision Sub-Group provided a detailed list of specific recommendations, all of which are either reflected in the Review Team's recommendations or supported by us, including:

- investigate practical/legislative measures to strengthen protection at ports, encourage passenger responsibility and particular attention to entrants to Northern Ireland from third countries;
- pursue all-Ireland animal and plant health policy and undertake objective assessment of animal health status in Northern Ireland, compared to Great



**Table 6.9 Indirect costs to the food chain**

Item	£m
Auction markets	1.6
Livestock dealers	0.7
Livestock hauliers	2.0
Abattoirs and food processors	1.0
TOTAL	5.3

Source: Economics and Statistics Division, DARD  
 Note: Positive figures are an economic cost; negative figures are an economic benefit

**Table 6.10 Economic impact of FMD in UK and Ireland**

Item	Northern Ireland £m	UK £m	Ireland £m
Agricultural producers	-6.8	355	-41
Food chain	5.3	170	na
Public sector	24.2	2,580	70
UK consumers	na	15	na
TOTAL net cost	22.7	3,120	29

Sources: 'Economic costs of FMD in the UK', DEFRA/DCMS, March 2002  
 'Economic Evaluation of FMD', DAFRD, Indecon

Note: Both the UK and Irish studies also estimate the impact of FMD on their respective tourism industries, which add considerably to the costs of FMD (around £5bn in the UK and £210m in Ireland)

- Britain and other EU Member States;
- encourage development of model farms;
- update and relaunch industry codes of practice for importing of livestock;
- monitor and track imported animals;
- encourage whistle-blowing of suspicious activities, for example animal movement and subsidy fraud;
- more targeting of resources to prevent, detect and punish illegal activities;
- UK and Ireland approach to electronic identification and movement recording of sheep, pigs and cattle, with rigorous enforcement of animal welfare and traceability legislation;
- standstill policy for herds, or at least for individual animals, supported. Also, specific 21-day rule for herds containing animals imported from outside of Northern Ireland;
- education programme for industry regarding risks and increase awareness of penalties for non-compliance with legislation;
- obligation on livestock marts to act with utmost integrity and report suspicious transactions; and
- reform of animal health legislation within three years and enforce existing legislation.

6.51 In Section VII we set out the Review Team's conclusions and recommendations.

## VII Conclusions and recommendations

7.1 The Terms of Reference require an independent review of FMD in Northern Ireland. Particular reference is to be made to contingency plans, preparedness, cause, spread, handling, logistics, compensation, cross-border issues and trade implications and, in the light of the lessons learned, recommendations are to be made to the Minister on how any future outbreak of epizootic disease in Northern Ireland should be handled.

7.2 In carrying out this Review, it is clear that there are a number of broader issues to be addressed in the recommendations. Our recommendations are therefore not limited solely to actions associated with ‘**correction**’ arising from any future outbreak of epizootic disease in Northern Ireland, they also seek to address the need for ‘**prevention**’ and ‘**detection**’ to minimise the possibility of an outbreak occurring in the first place. Correction measures can be dealt with under contingency planning. Prevention and detection measures should be incorporated within a broader animal health strategy. We have therefore structured our recommendations under the following two headings:

- contingency planning; and
- animal health strategy.

### Contingency planning

7.3 As indicated in Section III, the main objective of contingency planning is ‘*to arrange in advance for an event that may or may not happen, especially an event that would cause problems if it did happen.*’ There is a clear need for a harmonised approach to FMD contingency plans within the European Community and the legislative base for the harmonised approach is given in Council Directive 90/423/EEC.

7.4 The FMD Contingency Plan for Northern Ireland was drawn up in 1991 and presented to the European Commission as part of the UK Plan. The Plan was approved by the European Commission on 23 July 1993 by Commission Decision 93/455/EEC. Based upon this Review, it is clear that the contingency plan drafted in 1991 was by and

large unknown to the stakeholders outside DARD. In addition a number of other areas have been identified where the Contingency Plan was inadequate to deal with the full scale of the events which took place:

- the degree to which testing in the form of simulation had been undertaken in relation to the Contingency Plan;
- the usefulness of the work undertaken by the epidemiological team within the veterinary services regarding the maintenance of the Plan;
- the availability of personnel resources in relation to private veterinary practitioner participation;
- operational plans and manuals to support the implementation of the Plan; and
- biosecurity and the preparedness at farm level.

7.5 Set out below are a number of specific recommendations in relation to the approach to contingency planning which if adopted will be relevant to any future outbreak of epizootic disease in Northern Ireland. Our recommendations are structured under the following headings:

- structure of the Contingency Plan;
- development of the Contingency Plan;
- containment and eradication;
- slaughter and disposal;
- valuation and compensation;
- control of movement;
- stakeholder interaction; and
- communications and media

### Structure of the Contingency Plan

7.6 The structure of the Contingency Plan we have proposed below is designed to address the inherent weaknesses of the 1991 Plan and is based on best practice elsewhere in Europe.

#### Recommendations

7.7 The Contingency Plan (CP) should be based on:

- a Resource Plan; and
- an Operational Manual.

7.8 The purpose of the **Resource Plan** is to ensure that Northern Ireland is in all ways prepared for an emergency, i.e. that NI has the

resources available and the legal and administrative framework to put them into use immediately. The main components of the Resource Plan are the following:

- legal powers;
- financial provisions;
- chain of command;
- national and local disease control centres;
- expert teams;
- personnel resources;
- facilities and equipment;
- instructions/operational manual;
- diagnostic laboratory;
- plans for emergency vaccination;
- training; and
- publicity – disease awareness.

7.9 A weakness in any of these twelve components will create difficulties in rapid disease eradication. With regard to point three, the chain of command should be short to ensure decision-making without undue delay. The chain of command must recognise the need to take decisions at various levels, for example, at the policy level (political level), the eradication strategy level (veterinary service) and the operational level (field level).

7.10 The purpose of the **Operational Manual** is to ensure that veterinary staff throughout Northern Ireland have a complete set of instructions that tell them what to do from the time they first suspect disease to when the epidemic is finally controlled. The Operational Manual or Action Plan is furthermore an important tool for training staff and others who may be engaged in an emergency situation. The Operational Manual should deal with:

- the organisational arrangements;
- preliminary action when suspected disease is reported;
- collection and dispatch of diagnostic samples;
- action when FMD is confirmed;
- notification to OIE, the European Commission, Member States;
- notification to the police, local government, veterinary and agricultural organisations;
- the epidemiological enquiry;

- valuation, killing and carcass disposal;
- decontamination procedures;
- the imposition of control zones;
- national and local publicity;
- enforcement activities;
- surveillance;
- tracing of movements;
- animal welfare in restricted areas;
- restocking of depopulated holdings; and
- emergency vaccination.

## Development of the Contingency Plan

7.11 The process by which the Contingency Plan (CP) is developed and disseminated is as important as the contents of the Plan. In our view this process should be closely linked to general emergency planning procedures in Northern Ireland, which we understand are the responsibility of the Central Emergency Planning Unit in OFMDFM. The Plan should also be linked with emergency planning procedures in local authorities in Northern Ireland.

### Recommendations

7.12 The following steps are considered appropriate for the development of a CP for Northern Ireland:

- appointment of a CP Director;
- establishment of a CP Task Force, including representatives of DARD and Central Emergency Planning, to be chaired by the CP Director;
- preparation of a draft CP by the Task Force;
- consultations/negotiations with other Government Departments and local authorities;
- consultation with DEFRA to ensure alignment of the CP with the UK's CP;
- consultation with DAFRD (through the NSMC Agriculture Sector Group) to ensure alignment of the CP with the CP for Ireland, possibly through the use of a 'common chapter';
- consultations with stakeholders through the proposed Stakeholder Forum;
- consultations with the military on their future role in any outbreak;
- adoption of the final draft; and
- submission of the draft to the Executive and the Assembly for final approval.

7.13 Following the adoption of the CP the CP Director shall:

- arrange for training of all staff who

- might be required to participate in any future contingency plan;
- establish agreed protocols based on approved public sector recruitment practices for the recruitment of staff at short notice to address immediate needs;
- arrange for regular updating of the CP with assistance of the Stakeholder Forum, every three to five years, subject to threat/risk assessment;
- undertake regular simulation exercises to test the effectiveness and efficiency of the CP; and
- ensure independent audits of the CP are undertaken, including assessment of the validity of financial agreements, availability of equipment, availability of laboratory capacities and the various operational elements.

## Containment and eradication

7.14 The containment and eradication measures undertaken by DARD during the recent outbreak were implemented in accordance with the provisions of the Council Directive referred to above. The European Commission's submission to the Review Team confirmed this to be the case. The OIE also agreed with the approach taken by DARD to eradicate the disease describing it as 'appropriate, timely and comprehensive'. The swift introduction of containment and eradication procedures is clearly essential in preventing the spread of disease in any future outbreak of epizootic disease in Northern Ireland.

7.15 Set out below are a number of recommendations specific to the containment and eradication process which are relevant to the handling of any future outbreak in Northern Ireland. These should be addressed in the context of the new Contingency Plan.

### Recommendations

7.16 The importance of maintaining the capacity to undertake **local screening of potential infected samples** may require further investment in facilities and the availability of trained personnel. The above refers to a facility for local screening and not the recreation of a 'Pirbright', which is designed to undertake testing of live virus.

7.17 We understand that arrangements are already in place to strengthen significantly the existing small Veterinary Service Enforcement

Unit. We would support these proposals and recommend that as part of this process the Veterinary Service should consider the following:

- an agreed protocol regarding the progression of investigations specifically with regard to whether there is sufficient evidence to bring forward a case to the Courts, in which context DARD may wish to assess the benefits of establishing a DARD Prosecutions Branch, to bring forward prosecutions in a timely way; and
- the Enforcement Unit will require training and some of this training could take place in the context of a UK-wide and an all-island response to the safeguarding of animal health. There is the potential for a North/South dimension as well as an East/West dimension to this training and development through collaboration in respect of certain aspects, i.e. detection techniques and progression to prosecution.

7.18 The CP outlined above contains a section on the use of emergency vaccination. The use of vaccination in respect of temporary containment is likely to be explored at EU level. In the event of a future outbreak of FMD in Northern Ireland, DARD will need to comply with the vaccination requirements in force at the time and in the context of the UK and an all-island approach to animal health.

## Slaughter and disposal

7.19 During the FMD outbreaks just over 50,000 animals were slaughtered and destroyed, of which over 80% were sheep. It is recognised that the key word in FMD eradication is 'speed'. Great efforts must be made to reduce the time between suspicion and confirmation of disease and between the time of confirmation and slaughter of susceptible animals at the infected premises.

7.20 The methods available for the slaughter of animals are determined on the basis of the animal species and the size of animals. The Veterinary Officer responsible must adhere to the contents of Directive 93/119/EEC entitled *Killing Methods for Disease Control*, which permits various methods to be used. These are summarised in Section IV of this report.

7.21 In addition, the disposal of slaughtered animals during disease eradication includes the following methods:

- burning;
- burial; and
- rendering.

7.22 Based on the findings of the Review Team, it is clear that a number of problems were encountered with the slaughter and disposal process, particularly in the early stages of the outbreak, including the availability of licensed weapons and burial sites. Set out below are a number of recommendations which should be taken into account in the preparation of the CP.

### *Recommendations*

7.23 We recommend that a team of vets specifically trained in weapons' use and slaughter techniques be developed, with access to appropriate guns and ammunition. With this capability it should mean that only such vets are used to undertake slaughter. However, in instances where the volume of animals to be culled is such that additional assistance is required, a minimum requirement should be that a member of the trained slaughter team supervises the process. We understand that contingency planning in respect of the availability of slaughter staff and weapons is well advanced. We also understand that DARD has a team selected and that training is being arranged.

7.24 The approach to be taken to the role of private contractors to undertake specifically identified tasks should be set out in the CP, detailing for example, ground clearance activities, set-up of the cull site, transport arrangements, and supplies of materials to ensure biosecurity, i.e. mats and disinfectant materials.

7.25 The establishment of contracts in the form of a 'short notice' procedure designed to provide frameworks for the procurement of supplies, materials and contractors, based on approved public procurement practices, should be considered as part of the contingency planning process.

7.26 Involvement of the army and the police, to utilise the resource and relevant skills available in assisting in the containment and eradication process, should be an integral component of the CP. Their role in the Plan should be discussed and agreed.

7.27 In the context of the need to slaughter and limitations in relation to rendering capacity or access to such capacity, the locations of potential burial sites must be identified and included in the CP. This will necessitate compliance with relevant planning and environmental legislation and full consultation.

7.28 The use of pyres should as far as possible be restricted and preference given to other means of disposal, i.e. rendering. Where such pyres are necessary, they should be located and constructed in such a way as to minimise their environmental and community impact.

### **Valuation and compensation**

7.29 The Disease of Animals (NI) Order 1981 and the FMD Order (Northern Ireland) 1962 (Article 18) provide for both the process and basis of valuation. As set out in more detail in Section IV, a DARD Valuation Officer inspects the animals and makes an assessment of their individual value. This value should reflect the market price of the animals immediately prior to slaughter or in the case of FMD-infected animals, their value immediately before infection.

7.30 The legislation also provides for an appeals process where the valuation is considered to be insufficient by the livestock owner, and no agreement has been reached. Information in respect of the appeal process is included within a page entitled 'Note to the owner' attached to the Statement of Valuation of Animals form.

7.31 Despite the efforts made by DARD, it did come to the attention of the Review Team that a number of individuals within outbreak areas believed that there were inconsistencies in relation to the valuations performed and this to some extent was fuelled by the absence of agreed standard valuation parameters.

7.32 Set out below are a number of recommendations in relation to the approach to the valuation of animals and compensation which would be relevant to the section of the CP dealing with valuation.

### *Recommendations*

7.33 The introduction of a **reference-price schedule** would provide a range of values for types and categories of animals. This would

increase the consistency and transparency of the valuation process. This schedule would require updating on a weekly basis. In turn this would provide considerable assistance to DARD valuation officers in respect of TB and BR valuations and in the event of a future epizootic disease outbreak. The reference-price schedule would be used as a **guide** by DARD valuation officers and not be regarded as a table of standard values.

7.34 Submissions received from farmers and their representatives, while in general recognising the adequacy of values attributed to animals on slaughter, have raised the issue of subsequent increases in market prices as a barrier to those farmers being able to re-enter the sector.

7.35 Consideration should be given to **revising the basis of valuation** so that the values attributed to animals on slaughter could be revised at the time when restocking is permitted. The revised valuation would be based on reference livestock price movements during the period from slaughter.

7.36 The New Animal Health Bill introduced to the House of Commons in October 2001 provides for **linking the payment of compensation to the farmers' compliance with biosecurity measures**. Consideration should be given to the introduction of this principle within any new animal health legislation brought before the NI Assembly.

7.37 Farmers that are in receipt of compensation/valuation in respect of culled animals should be assisted in considering their future business options. This might be taken forward in the context of advice on restocking and/or the transformation of family-owned businesses to progress to alternative business opportunities that may or may not require restocking in full or in part.

7.38 In the context of the current structural and management review being performed by DARD, consideration should be given to the **management structure within which DARD valuation officers operate**. Specific consideration should be given to the appointment of a senior valuations officer, with responsibility for ensuring consistency and effective coordination of the valuation officers (currently eight) working on the ground. This person could help create and



maintain guidance on, for example, the reference-price schedule referred to above, and to perform random valuation audits.

## Control of movement

7.39 It is generally recognised that the importation bans introduced by Minister Rodgers between Great Britain and Northern Ireland represented some of the most important decisions taken by DARD during the crisis. The effective closing down of the points of entry of the disease into Northern Ireland allowed veterinary staff to respond fully to the task of eradicating the disease that had already entered Northern Ireland and also to prevent it spreading across further farm holdings in Northern Ireland.

7.40 Despite the appropriateness of movement controls within and without the Surveillance Zones during the course of the crisis, the effectiveness of their implementation was lessened due to the lack of individual animal identification.

7.41 Set out below are a number of recommendations which are relevant to the section of the Contingency Plan dealing with the control of animals, people and vehicle movements.

### *Recommendations*

7.42 In the event of any future outbreak of epizootic diseases in Northern Ireland, all animal movements should immediately be restricted from the **first strong suspicion**, confirmation or not. The duration of the restrictions/ban should be subject to an ongoing risk analysis which takes into account the susceptibility of animals to FMD, the disease incubation period, the area at risk, the application of disease preventive measures and the effectiveness in implementation of controls.

7.43 The current animal movement standstill policies should be agreed with industry and retained on an ongoing basis. The movement control period should be the subject of consideration by the Animal Health Strategy Group in DARD.

7.44 Where movement restrictions are necessary, the movement of livestock in contiguous areas should be regularly assessed and subject to agreed protocols to facilitate the health and well-being of animals.

7.45 A uniform approach to animal identification should be developed to achieve full animal traceability. Within the EU context we understand that a harmonised approach to the animal identification is being developed which when agreed will be implemented on a British Isles (North/South and East/West) basis. Approaches might be piloted in advance of any EU legislation that might emerge based on the trials of electronic identification systems which are currently being sponsored by the EU.

## Stakeholder interaction

7.46 The key interactions between the various stakeholders are set out in Section V. In considering the various roles and interactions between stakeholders, a number of general observations can be made:

- there is a need to act quickly and decisively in an emergency of this nature and this means that protocols and channels of communication need to exist or need to be developed very quickly. This can on occasions be at the expense of sensitivity in the handling of the human aspects of the process; and
- as Northern Ireland is a relatively small place and many of the key stakeholders know or are known to each other on a personal basis, this facilitates a high degree of informal personal interaction and communication in response to any crisis. Clearly whilst such informality is clearly very relevant and helpful in responding to an emergency situation it may also on occasions undermine the formal command and control approach which is required.

7.47 The issue of dealing with farmers in the outbreak areas was one of the most difficult issues faced during the outbreak and also one of the most least satisfactory elements of the process. Clearly the slaughter of animals on a large scale in a locality results in a distressing and traumatic experience for those involved. Where there were problems with slaughtering methods and disposal arrangements this added to difficulties with the parties involved. The Veterinary Service does not appear to have given adequate consideration within the Contingency Plan to securing the full collaboration of farmers affected by the culling process or to the levels of support required for farmers directly affected.

7.48 There is also clearly a feeling amongst some farmers in the outbreak areas that they were treated as scapegoats and that they suffered undue blame by association. Indeed some of the farmers believe that some of the culls undertaken in relation to their animals were unnecessary. In addition there remains a concern amongst those who were involved in the rural regeneration strategies that not enough was done by DARD to address their needs and that in particular no additional funding has been made available to respond to their rural regeneration strategies.

7.49 A further factor contributing to the difficult situation was that none of the outbreak areas had strong farming union membership. Despite the efforts by all involved, the end result was that there has been a breakdown in trust between some farmers in the outbreak areas and the Veterinary Service. This is clearly an issue that needs to be addressed in going forward and in particular in addressing the response to any future outbreak of such a disease.

7.50 It is in this context that a number of recommendations are set out below which should be taken into account in relation to the Contingency Plan.

### *Recommendations*

7.51 We consider that there is a need to develop the competency of the Veterinary Service in general in dealing with farmers subject to the distress and trauma associated with the culling of stock. This means that training in the enhancement of skills in dealing with people in these circumstances should be part of normal veterinary training. As a result trust between farmers and the Veterinary Service in any future outbreak can be better maintained.

7.52 In addition, we consider that the industry and farmers' unions should seek to establish forums through which all groups of farmers including those which are currently not union members in Northern Ireland, can have their views represented and discussed with the appropriate authorities.

7.53 The FMD crisis has highlighted the need for appropriate forms of support for stress associated with farming. Various initiatives are under way to address this and in our view these initiatives should be supported.

## Communication and media aspects

7.54 Communication was clearly key throughout all stages of the FMD crisis. The role of the media during the crisis was crucial not only in disseminating information, but also in ensuring that scientific facts and basic policy guidance were reported effectively and comprehensively without hysteria, scaremongering or sensationalism.

7.55 The responsibilities placed on DARD at the start of the crisis were significant. This related not only to operational logistics but also to the need to mount an effective educational communication campaign with both the public and various stakeholders. DARD implemented structures in order to communicate with its staff and made considerable efforts to ensure that the public and the stakeholders were informed of the disease and its seriousness, and were updated on changes to policy and the development of the disease as the outbreak continued.

7.56 In the course of our Review, the availability of DARD officials to consult with members of the local Assembly (MLAs) was welcomed and greatly aided in providing another channel of access to members of the public to have their personal issues addressed by senior staff. The Minister in particular has been applauded for her role in communicating with the public. She was perceived as displaying an open and sincere approach to the public through the media and the efforts she made to be as accessible as possible to media and individuals as resulted in a considerable personal support for the actions taken during the crisis and for her role in general.

7.57 Through our review process, however, we have become aware of circumstances where various stakeholders and, indeed some DARD staff, felt that there were failings in the communication structures and processes implemented by DARD on the ground. For example, during the crisis, DARD's ability to keep not only the public and stakeholders informed but also its own staff was at times limited by the failure to have adequately planned and provided for channels of communication which were necessary during the outbreak.

7.58 A number of recommendations are set out below in relation to communication and media aspects of the CP.

## Recommendations

7.59 A detailed communications strategy should be developed as part of the CP. This would detail the roles of all the key players and the appropriate resources required to implement the strategy. In light of the experience during the FMD outbreak there are two specific areas of the strategy which require particular attention:

- communication lines between Veterinary Service Headquarters, the DVOs and the Portal Officers; and
- establishment of regular press briefing times to disseminate more efficiently the key messages to all the target groups.

7.60 There is also a need for investment in information systems to facilitate the response to and manage any future outbreak of epizootic diseases. Information systems include the following:

- a complete, regularly updated, and widely accessible database, which will record all farm holdings in Northern Ireland. Such a database can be used in any future epizootic disease to provide necessary information to field staff and assist in communicating with farmers involved in any culls or other eradication techniques;
- ability to identify land holdings using appropriate GIS modelling techniques;
- establishment of an agreed database of information to include relevant information on outbreaks and containment statistics; and
- the ability of systems to interface and communicate with each other both within DARD and between DARD and other agencies.

## Animal health strategy

7.61 In considering how a future outbreak might be handled, a number of broader issues have emerged in relation to various aspects of animal health strategy in Northern Ireland. Our recommendations in relation to such a strategy are set out under the following sub-headings:

- objectives and review of status of animal health;
- port and airport controls;
- all-island animal health strategy;
- organisational structures;
- legislation; and
- biosecurity.

## Objectives and review of status of animal health

7.62 A Contingency Plan for dealing with future outbreaks of animal disease in Northern Ireland needs to be placed within the context of a wider Animal Health Strategy for Northern Ireland. This would in turn form the basis for the consideration of an all-island animal health strategy, which was recommended by the Vision Group and we understand is currently the subject of discussions within the Agriculture Sector Group of the NSMC.

## Recommendations

7.63 In our view, it is important that a formal Animal Health Strategy for Northern Ireland should be drawn up. We envisage two key initial steps in preparing such a strategy:

- an up-to-date objective assessment of animal health status in Northern Ireland compared to Great Britain and other EU Member States (as recommended by the Vision Group); and
- on the basis of the above, the development of a clear set of strategic objectives which would reflect the aspirations and requirements of all those involved including the Veterinary Service and the industry.

7.64 A Steering Group (an Animal Health Strategy Group) should be established by DARD to oversee the development of the strategy and should seek the involvement of the proposed Stakeholders Forum. It is important that such a strategy should receive widespread ownership by the industry, so that it is not just a document for implementation by the Veterinary Service alone.

## Port and airport controls

7.65 As part of an animal health strategy it is important that consideration is given to the most effective way of reducing Northern Ireland's risk to any future outbreak of epizootic disease. This will necessitate consideration of the opportunity to stop the entry of the disease in the first place. In addition, as Northern Ireland is part of an island, this provides a further opportunity for an all-island strategy to be pursued. This is considered further below.

7.66 The illegal importation of sheep for slaughter resulted directly in at least one of the outbreaks of the FMD in Northern Ireland.

Additional resources at the ports enforcing the existing controls and the effective restriction on the practice of diverting ‘direct for slaughter’ sheep could have prevented this. It is therefore essential that the lessons from this experience are learned and retained in any future procedures.

7.67 DARD have already recognised the need to considerably strengthen the controls at ports and airports compared to those pre-FMD and have consulted with industry stakeholders on draft proposals.

7.68 Set out below are a number of recommendations in relation to port and airport controls which should be taken into account in a future animal health strategy.

### *Recommendations*

7.69 Import controls in relation to livestock and meat products must be reviewed by DARD in association with DEFRA and DAFRD to ensure that they give the fullest protection to the local agricultural industry. The legislation necessary to achieve these standards must be in place together with the necessary resources. This may also require the involvement of the European Commission as NI is a region within a Member State and the imposition of such controls effectively means that Northern Ireland is treating the rest of the UK as a separate Member State.

7.70 For livestock imports at Northern Ireland ports and airports we suggest that there should be:

- 100% documentary checking on all consignments, accompanied by random identity and physical checks; and
- point of destination checks.

7.71 In relation to meat and meat product imports, in our view there is a need:

- to review and strengthen controls at UK level on both commercial and personal imports. We understand from other reviews that this point has already been identified at the UK government level; and
- to give additional appropriate powers to Portal Officers to search personal luggage and seize illegal imports and order their destruction. Such additional powers may be part of increased powers provided at a UK national level.

7.72 There are also some further issues that

need to be addressed:

- there is a need for a co-ordinated approach between the various statutory bodies represented at ports and airports to enforce importation controls;
- the effectiveness of controls at ports and airports in the Republic of Ireland is also a critical dimension, if an all-island approach is adopted;
- there is a need to increase general public awareness of controls at ports and airports and their responsibilities in this regard; and
- within the parameters of the legislative framework there is a need to develop protocols relating to the trade in livestock, meat and meat products between NI and GB. The approach should be based on a shared and agreed objective of maintaining biosecurity for the Northern Ireland industry.

7.73 There is a strong consensus within the industry that controls at ports and airports must play a pivotal role in preventing any further FMD outbreak on the island of Ireland. Their implementation will provide the necessary assurances to the industry and encourage the industry in general to implement other protective best practices, i.e. biosecurity at farms in Northern Ireland.

### **All-island animal health strategy**

7.74 The FMD Vision Sub-group provided a detailed list of specific recommendations in their 2001 report. In particular, reference was made to the need to pursue an all-Ireland animal and plant health policy as well as the need to undertake objective assessment of animal health status in Northern Ireland, compared to Great Britain and other EU Member States.

7.75 The basis of this recommendation reflects the fact that agricultural sectors in both Northern Ireland and the Republic of Ireland are essential contributors to the economies of each jurisdiction. Agriculture on the island of Ireland relates predominantly to the grass-based production of meat and milk with an extensive processing sector dependent on both the availability and marketability of the products. Both parts of the island have compelling reasons to co-operate in both the defence against disease entering the island and subsequently in its containment and eradication from the island.

7.76 This is reflected by the fact that agriculture and animal health was identified as one of the areas agreed for co-operation under the provisions of the 1998 Good Friday Agreement. Under the framework of the NSMC, a Strategic Steering Group was established to co-ordinate animal health policy on the island.

7.77 It is in this context that a number of recommendations are set out below which if taken forward will contribute to the handling of any future outbreak of epizootic disease. A number of these mirror recommendations we have already made in relation to animal health strategy and contingency planning in Northern Ireland.

### *Recommendations*

7.78 **An assessment of the animal health status of the island** should be undertaken in parallel with the assessment in Northern Ireland proposed earlier. This would provide a realistic assessment based on comparisons with other EU member states to allow informed decisions to be taken on animal health policy.

7.79 **The development of an all-island animal health strategy** should be taken forward under the auspices of the NSMC. It will require an analysis of the trade implications, monitoring of illegal activities and criminal sanctions and the wider implications for intra-EU trade. Among these are the fact that the agricultural industries, North and South, currently operate in direct competition with each other; the limited ability of the island to pursue a ‘fortress Ireland’ approach in the context of a single EU market; the problems caused by the present and future currency differentials between the two jurisdictions; and the traditional trading patterns between Northern Ireland and Britain, the extent of which are not mirrored in the South.

7.80 From our review of the legal aspects of an all-island animal health strategy, we are aware that there are a number of legal problems associated with the adoption of an all-island approach, especially the need to comply with the requirements of Community law. An all-island health policy involves one Member State and a region of another Member State, hence the need for a Community policy, which would justify differences in treatment within one Member State. Moreover, under

present regionalisation rules, it is clear that the policy will need to be implemented disease-by-disease rather than on a more generalised level. We consider that there is therefore a need to investigate further the potential legal issues associated with these proposals.

7.81 In order to ensure that the industry as a body has input into any future all-island strategy, an **all-island multi-sectoral stakeholder group** should be established, with key representatives from the food supply chain and other stakeholder organisations. This group would report to the NSMC Agriculture Sector Steering Group on proposed strategy and policy.

7.82 An **operational plan** should be developed in order to formalise co-operation and communication between the two departments and the structures within which it would take place in any future emergency situation. The development of this operational plan would contribute to the achievement of cohesiveness between any revised contingency plans on the island.

7.83 A **cross-border epizootic team should be developed**. This team would liaise and co-operate to ensure a common approach. Limited resources could be pooled, with the team having the necessary expertise to deal with disease wherever it is in the island.

7.84 Significant benefits would be derived from the **introduction and harmonisation of individual animal identification systems** on an all-island basis and the promotion of mutual access.

## Organisational structures

7.85 The Minister announced the establishment of a Modernisation Directorate in DARD to ensure that the Department is best structured to meet future needs. This announcement was set out in the context of a steady stream of new initiatives including CAP Reform, the Vision Agenda and the need to take advantage of funding from various sources such as PEACE II, Building Sustainable Prosperity and Community Initiatives such as LEADER +. It is in this context that the Minister has also proposed the establishment of a Stakeholder Forum made up of those with whom the Department will need to interact in relation to a number of issues including those identified above.

7.86 We have set out a number of recommendations regarding overall organisational structures.

### Recommendations

7.87 In our view, the current structures within the Department tend to encourage a ‘silo mentality’ between the various divisions, which tended to limit the efficiency of the response to the FMD outbreak. We would therefore support the Minister’s proposals to establish a Service Modernisation Directorate.

7.88 The Animal Health Strategy Group which we have proposed should also take on responsibility for the following:

- overall oversight of the progress achieved in relation to the implementation of the recommendations developed and accepted as a result of this independent review of FMD in Northern Ireland;
- the inclusion of rural development in its deliberations to address the need for rural proofing of any future animal health strategy and also the development of the Contingency Plan referred to earlier;
- participation in the oversight of the preparation of the CP and the associated ongoing monitoring of that Plan using simulation exercises that are subject to independent audit;
- research into various matters such as the importance or otherwise of the animal health movement policies in relation to Northern Ireland and also in relation to the Republic of Ireland and Great Britain; and
- establishment of arrangements for the exchange of information to highlight serial offenders who jeopardise public health and animal health.

7.89 The Animal Health Strategy Group should interface with the proposed Stakeholder Forum. Together they should provide an opportunity to develop further trust and understanding between DARD and the wider stakeholder groupings.

## Legislation

7.90 The adequacy of the legislation in place prior to the outbreak to deal with the various situations that arose has been assessed by Professor Joe McMahon, Queen’s University Belfast. A detailed working paper has been prepared by him for the Review Team.

7.91 In summary, the legislation in this area is based on European Community law as transposed into national legislation. However, since 1999 the Northern Ireland Assembly has been empowered to pass primary legislation in devolved areas which include agriculture. Legislation in relation to FMD therefore derives from Community law.

7.92 It is interesting to note that the FMD Order (Northern Ireland) 1962 gives extensive powers to the Department to deal with an outbreak. Indeed the comment has been made that these powers are too extensive as they allow for controls within the infected place, infected areas and a controlled area, whilst Article 36 also gives the Department a more general power to prevent the spread of disease.

7.93 Considerable power is therefore vested in the Minister and in the Department. It is important that this power is exercised correctly according to well-known public or administrative law principles.

7.94 It is in this context that we have set out a number of recommendations in relation to the handling of any future outbreak of epizootic disease in Northern Ireland with respect to legislation.

### Recommendations

7.95 The review of Community FMD legislation provides the Community with an opportunity to appraise the scope of the existing legislation in light of the causes of the 2001 outbreak and to update it to reflect new developments. This legislation may include provisions in relation to the following:

- the disposal of carcasses to reflect environmental and public health concerns;
- human rights including reference to the EU Charter of Fundamental Rights;
- animal welfare/rights given concerns raised by the slaughter of healthy animals and developments in vaccination; and
- compensation, including consideration of an assurance scheme or animal levy to alleviate the burden on the Community budget. The compensation of non-agricultural economic operators may also be included.

7.96 With respect to future legislation, implementation of the Directive affords an opportunity to rationalise the myriad sources



of legislation of relevance in this area. This should lead to a consolidation of existing legislation in a new **Animal Health Order** for Northern Ireland, which would deal with all diseases from diagnosis through treatment to the restrictions necessary to ensure the eradication of the disease. Such legislative changes will be brought through the Northern Ireland Assembly.

7.97 Given the enhanced status of animal welfare/rights in the Community, the new Animal Health Order could be accompanied by a new **Animal Welfare Order** for Northern Ireland that could deal with such matters as animal identification and the transportation of animals.

7.98 The Contingency Plan should also incorporate a **Protocol for Action in Emergency Circumstances** to ensure full respect for public law principles, the necessary coordination between Departments, and revised procedures for the disposal of carcasses.

7.99 There will clearly be an ongoing need for appropriate **training and development** of all DARD staff and stakeholders involved in the implementation of the matters identified above. This will include training in relation to the implications arising from the human rights legislation.

## Biosecurity

7.100 Many of the recommendations included in this report have been directed at the Veterinary Service and the Department. However, the problem of animal diseases is a problem for the whole of the agricultural industry and in particular for individual farmers.

7.101 During the course of our Review there was a prevailing attitude in many parts of the industry that FMD had entered Northern Ireland largely because of a laxity of controls at the ports. From this perspective the solution therefore lies in strengthening these controls to ensure that disease does not enter in the first place. If this happens then the view is that everything will be all right.

7.102 It is our strongly held view that animal diseases, including not just List A but also List B diseases, are equally a consequence of farming practices and procedures that do little

to prevent the spread of disease. These practices include the widespread movement of animals, in particular sheep, purchase of animals through dealers, and lax approaches to farm biosecurity. Some of these practices have resulted from the enormous pressures that farmers face in the current highly competitive market conditions. However, if measures are not taken by the industry and individual farmers to address these problems, then animal diseases will flourish.

## Recommendations

7.103 The Vision Group made a number of recommendations in this respect, all of which we would endorse. These include the following:

- all farm quality assurance schemes covering livestock should have a significant animal health and welfare component drawn up in conjunction with the veterinary profession, including a herd/flock health plan and covering farm biosecurity;
- use should be made of a network of model farms to promote and demonstrate the practice and benefits of high herd/flock health and welfare status;
- the industry should do all it can to mitigate the risks of importing disease by assuming responsibility for ensuring that:
  - stock are brought only from reputable sources;
  - the health status of the animals is known;
  - the necessary statutory checks and controls have been adhered to; and
  - animals are properly transported to and handled on the farm of destination.
- DARD should initiate an update and relaunch of the industry codes of practice for importing livestock which were first produced shortly after completion of the Single European Market at the end of 1992.

7.104 In addition, we consider that the Department and the industry should consider to further ongoing measures to limit the threat of animal disease:

- tightening of inspection procedures at livestock marts; and
- registration of livestock dealers (in line with a similar scheme in RoI).

7.105 The individual farmer plays a special role during the FMD ‘High Risk, Period 1’, i.e. ‘the time between the virus entering a susceptible livestock population and confirmation of the presence of the disease’. The type and number of movements to and from a farm during this high-risk period is extremely critical. The application of biosecurity measures is paramount. From a number of meetings, the Review Team have formed the impression that amongst farmers biosecurity related mainly to the use of mats and disinfectants at lane ends and entrances to buildings. From a disease preparedness point of view this interpretation is considered too narrow and wider biosecurity measures should be implemented.

7.106 Fortress farming and biosecurity should encompass practices that are not just introduced at the time of an emergency when an outbreak occurs, but should be an ongoing development within the industry, if it is serious about disease prevention.

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Appendix A

Methodology

Introduction

1 In this Appendix we have set out further details of the approach taken by the Review Team in undertaking the research for the Review. The research programme was made up of a series of seven tasks, which are described further below:

Task	Description
A	Desk-based research
B	Public meetings
C	Depth interviews
D	Focus group discussions
E	Workshops
F	Survey of farmers
G	Written submissions

2 All the research work was carried out over a three-month period, March to May 2002.

Task A – Desk-based research

- 3 The aim of this desk-based research was:
- to investigate the extent to which DARD had adopted the necessary contingency plans and internationally recognised best-practice processes in order to deal with an outbreak of epizootic disease;
  - to develop an understanding of the processes and command structure actually implemented by DARD, both prior to and during the outbreak, with a view to recommending a future approach;
  - to enable an evaluation and commentary on the policy decisions, legislative framework, and operational, strategic, and logistical plans put into place as the outbreak developed; and
  - to conduct a read-across to other reviews conducted elsewhere to aid understanding of how other comparable agencies handled outbreaks in their respective jurisdictions.
- 4 This task was crucial in developing an

understanding of the epidemic, and in particular, DARD’s approach to the outbreak of FMD in Northern Ireland. Files and documentation were made available to the Review Team from all of the operational divisions of DARD.

5 In addition, the Review Team also completed a read-across to other relevant reviews and reports relating to FMD outbreaks elsewhere in the British Isles.

Task B – Public meetings

6 The Review Team independently organised a series of public meetings in each of the three FMD outbreak areas and one each in the eastern (Belfast) and western (Omagh) regions of Northern Ireland in order to provide a general opportunity for anyone to attend and contribute their views. Five meetings were arranged.

7 The meetings were widely publicised in advance of the meeting in various local and national press. Advertisements were placed in each of the local outbreak areas and also in Omagh and Belfast.

8 The aim of the public meetings was to allow the Review Team to hear at first hand the experiences of farmers and others on the ground. It also provided a basis to facilitate public debate in each of the three outbreak areas and to hear views from others outside the direct outbreak area.

9 These meetings were organised as follows:

Date	Location
20 March 2002	Ardboe
21 March 2002	South Armagh
22 March 2002	Cushendall
25 March 2002	Omagh
26 March 2002	Belfast

10 Although some of these meetings were poorly attended, the open forum format was very effective, with the majority of attendees at each meeting providing details of their own personal experience of the crisis and their views on the wider handling and logistics of the outbreak.

Task C – Depth interviews

11 The third task of the research programme was a series of depth interviews with key stakeholders. The aim of these interviews was to identify the issues of particular relevance to these stakeholders, to note their views in relation to each of the terms of reference, and to assist in the identification of other organisations or groups that should be included in the remainder of the research.

12 We undertook 40 interviews with both individuals and representatives of a wide range of organisations and also conducted an interview with the Minister. In addition, we organised a programme of interviews with senior and operational staff within DARD (and other government agencies and departments) directly involved in all aspects of the crisis, both before and during the outbreak.

13 A list of the organisations with whom we spoke is attached at Appendix F to this Report.

Task D – Focus group discussions

14 In addition to the depth interviews we also held three focus groups with the representatives of the local farmers’ groups in each of the outbreak areas as a follow-up to the public meetings.

15 Our aim in conducting these focus groups was to discuss in depth, and at first hand, the issues that impacted directly upon the local people in each outbreak area. The local people in each area were in the position of being able to comment not only on the handling of the crisis as it was operationally conducted in their area, but also to identify areas for improvement including the implementation of future contingency plans for the whole of Northern Ireland.

Task E – Workshops

16 We also held four workshops to bring together groups of individuals, stakeholders, and interested parties connected through common organisational, professional or industrial links.

17 The purpose of these workshops was again to explore how stakeholders, on an organisational or individual level, participated

and were affected by the crisis, and to gather together the views of interested parties on the handling of the crisis.

18 The workshops were held with the following groups:

- a group of officials from DVOs directly involved with the outbreak;
- representatives from private veterinary practices;
- media representatives; and
- representatives from the FMD Inter-Departmental Group (IDG).

19 In addition the Review Team also met with the Assembly Agriculture and Rural Development Committee to discuss the Review. The Committee is also undertaking its own Review.

### *Task F – Survey of farmers*

20 The Review Team also conducted a quantitative survey to identify the extent to which certain views were held about various aspects of the outbreak. Using a randomly generated list of 1,000 farmers provided by DARD, the Review Team randomly sampled 200 farmers from the Northern Ireland farming community, both inside and outside the outbreak areas, covering both large and small farms across Northern Ireland. The survey was by telephone questionnaire and undertaken by a team of research interviewers accredited with the Interviewer Quality Control Scheme (IQCS). Further details of the survey approach, the questionnaire and results are provided in a separate Working Paper.

### *Task G – Written submissions*

21 Early in the research programme, the Review Team publicly advertised the Review process in the local and national press inviting all interested parties to make written submissions to the Review Team. Interested parties were encouraged to request an FMD Written Submission Form by telephone, post or email. In addition, some 400 farmers living in the vicinity of the outbreak areas were provided with a copy of the FMD Written Submission Form and invited to provide their views. Lastly, around 200 vets received a written submission form and were invited to return the form with their views.

We received 67 completed forms, which we have analysed, and these views have been incorporated into this report. Further analysis of the submissions is at Appendix E.

## Appendix B

### Chronology of events during and after the FMD outbreak in Northern Ireland

#### FEBRUARY 2001

**19 February** FMD is detected in a GB abattoir.

**21 February** Outbreak is confirmed and notified in Great Britain.

Minister of Agriculture & Rural Development for Northern Ireland (Minister Rodgers) announces a ban on the imports of cloven-hoofed animals and their products from GB with immediate effect.

EU prohibits trade in live animals, fresh meat and untreated products (milk, etc) from Great Britain (GB) and Northern Ireland (NI).

DARD commences 'traceback' of all animals imported from GB since 2 January 2001.

FMD telephone hotline set up to provide advice and to respond to queries from farmers, the industry and the general public, particularly on animal movement and import / export matters. The hotline operates 7 days per week 8.30am to 21.00pm.

Suspect FMD case in cattle identified in Cookstown area. Restrictions are placed on specific farm.

**23 February** Minister Rodgers announces the banning of export of all live cattle, sheep, pigs and goats to GB and requests the voluntary cessation of livestock marts and any other events involving gatherings of animals or people on farms. Movement of cattle, sheep, goats and pigs within Northern Ireland to be by DARD authorisation only. Restrictions include farm-to-farm and farm-to-slaughterhouse movements.

Central Epizootic Disease Control Centre is set up as a precautionary measure.

Suspect case identified in cattle in the Maghera area. Restrictions placed on the farm involved and blood and tissue samples taken.

**24 February** Blood samples are taken from Cookstown suspect and sent to Pirbright laboratory for testing.

**25 February** Minister Rodgers asks the general public to refrain, where possible, from walking through farmland.

**26 February** DARD issues advice to

farmers in respect of preventing the possible spread of the disease, detecting the symptoms and reporting concerns.

**27 February** Potential outbreak in Meigh is identified by clinical inspection of sheep. Animals were under routine inspections by DARD since being traced as recent imports from GB. Samples are taken and sent to Pirbright.

**28 February** Local Epizootic Disease Control Unit is set up in Newry DVO.

As a precaution, in the absence of laboratory confirmation being available to confirm the existence of FMD, animals on the infected premise are slaughtered and incinerated, and an 8km surveillance zone is established around the infected premises.

DARD introduces a complete ban on animal movements (except to slaughter) and the holding of livestock auctions and markets.

Results received in respect of Cookstown suspect (blood sampled 24 February), confirmed as negative, farm restrictions removed.

Suspect cases identified in sheep at Omagh laboratory and Ballyclare area. Restrictions imposed on laboratory and associated farms. Tissue and blood samples in respect of Omagh suspect are sent to Pirbright for testing.

#### MARCH 2001

**1 March** The first outbreak of Foot and Mouth disease in Northern Ireland is confirmed.

A protection zone (3km) and extended surveillance zone (10km) is established around the infected premises.

Meigh 1km precautionary cull commences.

Advice for organisations accessing agricultural/rural land, hauliers and the general public is issued by the Northern Ireland Executive in relation to the spread of the disease.

Tissue and blood samples from the Ballyclare area suspect (identified 28 February) are sent to Pirbright.

**2 March** Executive Committee establishes an Interdepartmental Group (IDG) of officials.

**3 March** Cattle and sheep on a farm in the Banbridge area are slaughtered and incinerated as a precautionary measure. Farm is not classified as a suspect FMD premise therefore no associated protection or surveillance zones are established.

Preliminary results from suspect cases in Omagh and Ballyclare area are confirmed negative.

**6 March** Meigh 1km cull is completed.

Movement licensing system is introduced for animals going to slaughter.

Minister Rodgers appeals for information regarding the whereabouts of imported sheep.

Confirmation of negative result for Maghera and Omagh suspects (blood and tissue sampled 23 & 28 February respectively) and farm and laboratory restrictions removed.

**7 March** Minister Rodgers chairs meeting with industry representatives. General FMD guidelines are released as public notices.

Licensed movements of animals from farm-to-farm are allowed in exceptional circumstances under strict protocols.

**9 March** DARD issues guidance to producers applying for livestock grants and subsidies in view of FMD movement restrictions and clarifies movement procedures for equines.

Confirmation of negative result in respect of Ballyclare suspect.

**12 March** Minister Rodgers updates the Assembly on the FMD outbreak.

A 'hot suspect' sheep is discovered in Dungannon abattoir. Blood and tissue samples are sent to Pirbright and an 8k surveillance zone is imposed around both the abattoir and farm from which the sheep originated in Augher.

**13 March** Preliminary tests on the Dungannon abattoir suspect sheep come back negative. The surveillance zones are removed and premises remain under restriction until final confirmation is available.



**15 March** Animal movement licensing is extended to cover movement between premises for animal welfare reasons.

**18 March** Confirmation received that test results on the sheep identified within the Dungannon abattoir are clear. Restrictions on abattoir and farm removed.

**19 March** A rural support telephone helpline is opened by DARD to provide support, counselling and guidance to farmers and the wider rural community.

Restrictions on personal imports of animal products are extended to imports from other Member States and third countries.

**22 March** FMD outbreak is confirmed in County Louth at Proleek.

EU grants regional status to the Republic of Ireland (ROI) in respect of Louth outbreak.

DARD puts in place border controls, within the Proleek 10km surveillance zone to prevent the movement from ROI of susceptible animals or products.

**26 March** Minister Rodgers and the Minister of Agriculture, Food and Rural Development in the Republic of Ireland ('Minister Walsh') announce precautionary joint cull of all sheep within, and between, Meigh 3km protection zone and the Proleek 3km protection zone.

**27 March** EU Standing Veterinary Committee approves Northern Ireland application for regionalisation status from 3 April, subject to no further outbreaks. There are continued restrictions around the Newry and Mourne District Council area, within which the Meigh outbreak is located.

**28 March** Northern Ireland Executive relaxes guidelines for the public on FMD – reopening of public amenities and removal of request to avoid visits to the countryside.

**29 March** Meigh extended sheep cull commences. Hours on the FMD helpline are reduced.

**30 March** Further adjustments are made to animal movement licensing, including the introduction of general licences for routine movements between premises within a farm business unit and extended welfare movements.

## APRIL 2001

**2 April** The extended Meigh cull is completed.

Minister Rodgers provides update to the NI Assembly.

**3 April** EU Standing Veterinary Committee confirms regionalisation status for NI.

Newry and Mourne restrictions are announced.

**4 April** 19 April is confirmed as the end date of special controls in the Newry and Mourne area. This is subject to no further FMD outbreaks and the completion by DARD of blood testing of sheep in the 10km surveillance zone around the Meigh outbreak.

**11 April** Potential outbreak in Coagh is identified by clinical inspection of cattle. Samples are sent to Pirbright.

Precautionary 8km surveillance zone established around suspect farm.

**12 April** The preliminary results on cattle in Ardboe prove negative.

DARD launches major advertising campaign, targeting the farming community, to emphasise the need for continued vigilance.

**13 April** Further test results are received in respect of Ardboe suspect to confirm a positive result, Northern Ireland's second outbreak.

Local Epizootic Disease Control Unit is set up in Dungannon DVO.

Slaughter of animals on infected premises at Ardboe commences.

NI loses its EU regionalisation status. An immediate ban on further export of non-treated products from Northern Ireland is re-imposed.

Police Liaison Team is moved to DARD Headquarters in Dundonald House.

**14 April** Support and counselling service for farmers is made available by DARD.

Increase in opening hours of DARD hotline.

Army is asked to assist with disposal operations in Coagh.

Protection and surveillance zones are established around Coagh infected premises.

Potential outbreak in Cushendall is identified by clinical inspection of sheep. Samples are sent to Pirbright.

Further case suspected in sheep on Coagh farm, restrictions are imposed with blood and tissue samples sent to Pirbright.

Minister Rodgers restates advice to the general public.

**15 April** Slaughter of animals on suspect premises at Cushendall commences.

The test results (verbal) on the Cushendall sheep are positive

Local Epizootic Disease Control Unit is set up at Ballymena DVO.

Protection and surveillance zones are established around infected premises.

Movement licensing is suspended and licences are rescinded.

Slaughter of animals on Coagh infected premises is completed.

Animals are slaughtered on suspect Coagh farm as a precautionary measure, both cattle and sheep.

DARD defines 10k surveillance zone around Coagh outbreak.

Army liaison officer is appointed – based at Dundonald House.

Suspect case in cattle identified in Cushendall. Restrictions imposed with blood and tissue samples sent to Pirbright.

**16 April** Slaughtering commences within the 1km and 3km zones around both the Coagh and Cushendall outbreaks.

Further suspect case identified in Cushendall. Restrictions imposed, blood and samples are taken from sheep and sent for testing.

Sheep with FMD-type lesions are identified on an outfarm at Newtowncrommelin associated with the Cushendall confirmed outbreak, 3km and 10km zones are established around this site.

Suspect case in sheep identified on Markethill farm, blood and tissue samples taken.

An Emergency Meeting of the Northern Ireland Executive is called and reviews contingency plans in the event of further outbreaks.

**17 April** New suspects identified in Martinstown and Limavady farms. In both instances sheep suspected and blood and tissue samples sent for testing.

**18 April** Animals on both suspect Cushendall farms (identified 15 & 16 April respectively) are culled as a precautionary measure.

Minister Rodgers announces extension of serological testing to all sheep within the 10km surveillance zones around the Coagh and Cushendall outbreaks.

DARD writes to every sheep farmer in Northern Ireland requesting information they may have about the purchase of sheep from markets over the weeks prior to the first outbreak in Meigh.

DARD defines 10km surveillance zone around Cushendall outbreak.

**19 April** Ministers Rodgers and Walsh meet in Dundonald House to discuss recent outbreaks, cross border trade restrictions and continuing co-operation in preventing further spread of the disease.

Surveillance zone around Meigh outbreak is removed.

Coagh 1km cull is completed

Written final results of Cushendall samples are received confirming FMD.

Further suspect identified in Cushendall, blood and tissue samples taken from sheep and sent for testing.

**20 April** Test results for hot suspect identified on farm located on the edge of Coagh 3km area (14 April) come back negative. (Animals culled on 15 April).

Potential second outbreak in Coagh, and fourth in NI, is identified by clinical inspection of cattle at a farm due to have animals culled as part of the 1km pre-emptive slaughter around Outbreak 2. Animals are slaughtered. Blood and tissue samples are taken and sent to Pirbright for laboratory examination.

Animals in further Cushendall suspect farm (identified 19 April) culled as a precaution.

Meigh 10km surveillance zone is lifted.

**21 April** Suspect case in sheep identified on Beragh farm, blood samples taken.

**22 April** Test results from Pirbright in respect of positive blood samples identified on 20 April confirm a second case of FMD in Coagh, Northern Ireland's fourth outbreak.

Negative test results are received for suspects identified at Limavady (17 April) Martinstown (17 April) Markethill (16 April) and one of the Cushendall suspect farms (16 April).

Suspect case identified adjacent to confirmed Cushendall outbreak.

**23 April** Minister Rodgers announces relaxation in movement controls: movement of animals direct to slaughter, movement of animals from winter housing to pasture, movement on welfare grounds, are all possible under licensing arrangements.

Cleansing and disinfecting certification for livestock vehicles and farm machinery presented at NI ports of entry is introduced.

Minister Rodgers provides update to NI Assembly.

Negative test results received in respect of Beragh suspect (identified 21 April).

Suspect case in sheep on Newtowncrommelin farm, blood and tissue samples sent for testing and restrictions imposed.

**24 April** Blood and tissue samples taken from lamb carcasses found on Ballycastle beach. Carcasses disposed of.

**25 April** The FMD test results in respect of Cushendall suspect (identified 19 April, culled 20 April) come back negative.

Licensed animal movements are further relaxed, movement of animals (with the exception of sheep) within farm business units are permitted on the basis of a licence issued by a private veterinary practitioner and performed under strict protocols.

**26 April** Cushendall 1km cull is completed.

**27 April** During a statement to the Assembly Agriculture & Rural Development Committee Minister Rodgers outlines some of the contingency plans the Department has been making to be prepared in the case of a widespread outbreak.

Minister Rodgers also announces that extensive serology testing is under way in the Glens of Antrim and the Sperrins.

**29 April** Negative test results received in respect of Newtowncrommelin suspect (identified 23 April).

**30 April** Negative test results received in respect of samples from carcasses found on Ballycastle beach.

## MAY 2001

**1 May** The ROI authorities lift the surveillance zone around Proleek in County Louth and Minister Rodgers announces the lifting of that part of the Proleek 10km zone which entered Northern Ireland.

Minister Rodgers announces intention to introduce new disease control measures – animal movement standstill controls, ban swill feeding etc.

Independent consulting engineers, contracted by DARD to identify potential sites suitable for the mass burial of animals, present their report to the Department.

**4 May** Further relaxations on the movement of animals are announced to come into effect from the 9 May. Other proposed movement relaxations are set out which may come into effect on 23 May.

**9 May** Further relaxation on the movement of animals are introduced – including the movement of sheep within holdings (excluding movement to common grazing).

As part of the NI serological survey, blood sampling of sheep on a Moneymore farm identifies single positive sheep. On resampling being completed flock is culled as a precaution.

**10 May** Pig welfare slaughter scheme is announced.

**14 May** Extension of serology testing, a significant random sample of sheep flocks across Northern Ireland are to be serologically tested.

Minister Rodgers provides further update to Northern Ireland Assembly.

Results from Moneymore suspect produce positive VNT (Viral Neutralisation Test).

**19 May** Blood sampling for sheep on Ballycastle farm as part of serological survey identifies positive result. Animals resampled, samples sent to Pirbright and restrictions imposed on farm.

Operating hours of hotline are reduced from 8.30am–9pm to 9am–5pm seven days a week.

**23 May** Further relaxation of animal movement controls is announced: general licensing arrangements are available for cattle, pigs and horses; specific licences are retained for sheep, however movement is now permitted for commercial purposes.

Private vets cease to be responsible for issuing licences and responsibility reverts to DARD.

**25 May** Confirmation of negative results for Ballycastle suspect (identified 19 May).

**31 May** The licence to import hay and straw from the Channel Islands, the Isle of Man and all EU Member States is revoked. The licence to import from GB was revoked on 26 February.

## JUNE 2001

**1 June** Surveillance zones around Coagh and Cushendall outbreaks are lifted.

**4 June** Hours on the FMD hotline are reduced to 9am-5pm, Monday to Friday.

**5 June** Controls over common grazing lands are relaxed.

Collection centres for lambs going to slaughter are established.

**7 June** Regionalised status is granted for Northern Ireland, restrictions are lifted in EU legislation.

**15 June** Minister Rodgers announces free access to the countryside. Normal countryside pursuits such as hiking, rambling and fishing can resume - providing contact with farm animals avoided.

Principle of Fortress Farming is to still apply to farms.

**18 June** Horse imports from GB under licence are allowed to resume.

Livestock marts re-open in ROI.

**22 June** DARD hotline closes.

## JULY TO SEPTEMBER 2001

**1 July** Live sheep exports can recommence.

**30 July** Premium rules change to help farmers affected by FMD restrictions and controls.

Livestock Marts are allowed to reopen for sales of cattle, pigs and pedigree sheep.

**1 August** Sheep imports and exports to and from ROI for direct slaughter resume. Initially trade will only be in sheep for immediate slaughter.

**6 August** Spain lifts unilateral ban on imports from Northern Ireland (When Northern Ireland secured full regionalisation on Foot and Mouth Disease on 7 June, the Spanish authorities took a decision not to allow imports of such animals from Northern Ireland).

**23 August** Precautionary closure of a Dungannon meat plant after two cattle show symptoms suggestive of FMD.

**3 September** Resumption of commercial sheep sales under strict veterinary supervision and farm-to-farm livestock movement.

## OCTOBER TO DECEMBER 2001

**1 October** Ban is lifted on a range of field sports, including the shooting of game (hunting with hounds excluded).

**12 October** Minister Rodgers announces intention to conduct an independent review of FMD in Northern Ireland in order to highlight lessons learned.

**20 November** Open farms are allowed to reopen.

**8 December** Majority of hunting activities are allowed to resume (excluding the hunting of deer).

**10 December** Sheep imports and exports resume to and from the ROI for breeding, production and fattening purposes.

**12 December** Export of live animals to GB from NI and the importation of meat from GB recommences.

## JANUARY TO FEBRUARY 2002

**10 January 2002** US recognises NI as free from FMD and lifts import restrictions.

**22 January** The Office International Epizootique (OIE) in Paris officially recognises the UK, including Northern Ireland, as free of FMD.

**30 January** There is a further relaxation of animal movement controls: 30-day standstill in respect of cattle and pigs no longer applies to farm holding but rather to specific animals moved onto the farm. The 20-day standstill for sheep holdings where animals have been purchased is set to continue.

**13 February** Minister Rodgers, announces her decision to appoint PricewaterhouseCoopers to undertake an independent review of the recent FMD outbreak in Northern Ireland

**15 February** Remaining restrictions on hunting activities are removed. Hunting of deer is allowed to resume.

## Appendix C

### Outbreak overviews prepared by DARD

#### Outbreak No. 2001/NI/01

Location and Address: Meigh, Co Armagh  
Date disease suspected: 27 February 2001  
Date disease confirmed: 29 February 2001  
No. of livestock destroyed: 21 sheep  
Date livestock destroyed: 28 February 2001  
Method of destruction: Burning  
Source of infection: Longtown Market, England

#### Comment

These premises were initially identified and inspected in connection with post-importation tracing, linked to early FMD outbreaks in England. Oral lesions were detected in 2 sheep on 27 February and samples submitted to the Reference Laboratory, Pirbright, proved positive for FMD Type 'O' virus.

The sheep were part of a consignment purchased from Longtown Market, England on 15 February 2001. They were retained at local premises for 3 days and further sheep were added to make a load of approximately 370 imported to Northern Ireland on 19 February. Here they were held at the Meigh premises for one day before being moved to premises in the Republic of Ireland. While on the farm in Meigh they mixed with the owner's sheep, thus infecting them.

Following detection of lesions, livestock on two neighbouring premises, involving a dairy herd and pig herd, were inspected and later culled as a preventative measure. Similarly, inspections were undertaken of all susceptible livestock in the area.

The importation of the sheep contravened Northern Ireland movement regulations and co-operation from those involved in the importation was poor. Consequently, it was not possible to accurately determine the extent of contact with other susceptible livestock in the immediate area or elsewhere. A meteorological model was used to determine if airborne spread could be demonstrated from the infected premises. Although the model did not reveal any such spread, it was decided to slaughter all susceptible livestock within 1 km of the affected premises as a precaution against spread through direct or indirect contact. Livestock belonging to two of the hauliers

were also culled, due to the potential for indirect contact.

Epidemiological investigations revealed the potential for contact with sheep to exceed 1 km and the cull of sheep was extended to 3 km around the infected premises.

In mid-March, FMD was confirmed on a farm in the Republic of Ireland, approximately 6 km from Meigh.

Investigations revealed the most likely source to be the Meigh outbreak although the exact means of spread was unclear. A cull of sheep in the area between the two infected premises thus commenced in late March for the following reasons:

- the variable nature of clinical signs in sheep with FMD;
- the lack of reliable information supplied by the instigators of the outbreak;
- the consequent difficulty in firmly linking the 2 outbreaks;
- the impending release of cattle from winter housing with the possibility of increased contact with sheep; and
- the lack of serological testing at that time.

Clinical and later serological surveillance failed to detect FMD in any other livestock in the area.

#### Outbreak No. 2001/NI/02

Location and Address: Coagh, Co Tyrone  
Date disease suspected: 10 April 2001  
Date disease confirmed: 13 April 2001  
No. of livestock destroyed: 633 cattle, 178 sheep  
Date livestock destroyed: 14 April 2001  
Method of destruction: Burning  
Source of infection: Unknown

#### Comment

This farm unit consisted of a mixed dairy and beef herd and a small flock of sheep. The livestock were held on 9 premises, all within a 3 km area. Lesions were confined to a small group of six-month-old cattle at an isolated outfarm although early symptoms were later observed in two cows at the home farm. One ewe at the home farm was serologically positive although no lesions were observed.

Extensive lesions were observed in the infected group of cattle where 9 of 10 animals examined on 11 April had oral or feet lesions. There were no other livestock on the premises and the age and type of the infected stock meant they received no attention apart from feeding. No other use was made of the premises, so the cattle were well isolated from routine visitors or contact with other livestock.

The source of the infection remains unknown although two possible causes were investigated extensively. From the lesions it was determined that the period of likely infection was 21 March to 4 April, coinciding with two visits by veterinary surgeons to the farm. The possibility that either may have transferred FMD from a subclinically infected flock could not be ruled out and extensive tracing/testing was undertaken. The other potential source was sheep that had grazed fields adjoining the outfarm in the time before lesions were detected. However, clinical and serological follow-up failed to detect further cases of disease.

Prevention of disease spread was similar to that conducted in Meigh: inspection and culling of all livestock up to 1 km around the infected premises and all sheep up to 3 km. Again, no clinical or serological evidence of FMD was detected.

## Outbreak No. 2001/NI/03

Location and Address: Cushendall, Co Antrim  
Date disease suspected: 14 April 2001  
Date disease confirmed: 15 April 2001  
Number of livestock destroyed: 37 cattle, 196 sheep  
Date livestock destroyed: 15 April 2001  
Method of destruction: Burning  
Source of infection: Unknown

### Comment

Symptoms were first detected in this cattle and sheep-breeding unit on 14 April following unusually high lamb mortality. Cattle symptoms and lesions were detected in both sheep and cattle.

Infection had been present in the flock for at least the previous five weeks and although the source of the outbreak remains unknown, epidemiological investigations have linked it to the importation of sheep from Longtown Market, England on 15 February.

As before, a cull of all susceptible livestock within 1 km of the infected premises was undertaken and of sheep within 3 km. However, the cull was extended in some areas to take account of the fact that FMD had been diagnosed on several premises and that the flock had access to an area of extended grazing. No further clinical or serological evidence of FMD was detected in culled livestock or follow-up investigations of livestock in the area.

The occurrence of two outbreaks that could not be traced to a known source raised suspicion that undetected infection might be present in sheep flocks in Northern Ireland. Consequently, a province-wide serological sampling programme was instituted with emphasis on areas of common or extensive grazing.

## Outbreak No. 2001/NI/04

Location and Address: Coagh, Co Tyrone  
Date disease suspected: 20 April 2001  
Date disease confirmed: 22 April 2001  
Number of livestock destroyed: 130 cattle  
Date livestock destroyed: 20 April 2001  
Method of destruction: Burning  
Source of infection: Secondary to 2001/NI/02

### Comment

These premises are situated approximately 1 km from NI/02 and were linked by personnel contact during the time lesions were observed in cattle at the latter farm. No further evidence of infection was detected in the area.



## Appendix D

### Other Reviews

The Terms of Reference for this Review require us to consider other reviews/inquiries of relevance that are currently in progress or have been concluded. As part of our work we have researched the reviews listed below.

#### NORTHERN IRELAND

The Foot and Mouth Disease Crisis and the Irish Border (Centre for Cross Border Studies)

#### UNITED KINGDOM

Lessons Learned Inquiry – chaired by Sir Iain Anderson

Scientific Review by Royal Society – chaired by Sir Brian Follett

Policy Commission on Future of Farming and Food – chaired by Sir Don Curry

Tackling the Impact of Foot and Mouth Disease on the Rural Economy – Report of the Rural Task Force

The National Audit Office (NAO)

Devon County Council Inquiry

Northumberland County Council Inquiry

The Royal Society of Edinburgh

Rural Recovery after FMD – Lord Christopher Haskins

#### REPUBLIC OF IRELAND

Economic Evaluation of Foot and Mouth Disease (Indecon International Economic Consultants)

#### EUROPEAN UNION

European Parliament

European Commission

Throughout the rest of this Appendix we have outlined the terms of reference, methodology, timetable and findings (where appropriate) of those reviews considered to have particular relevance to our report. Some of the following highlighted reviews concentrate not only on the events during the FMD crisis in 2001 and its impacts, but also consider the wider implications for the future of agriculture in Ireland, the United Kingdom and Europe.

#### NORTHERN IRELAND

##### 1. Vision Report

###### *Terms of Reference*

To identify the problems, and opportunities, in the rural economy over the next decade; and

Informed by that, to develop a Vision for the agrifood industry to enable the industry to map out a strategy to meet that Vision.

###### *Issues to be addressed*

The Vision Report's Terms of Reference address such a wide range of issues, it was agreed that eight separate sub-groups would be created to facilitate the process of research and review, one of which had the outbreak of FMD as its key focus. The remit of the FMD Sub-Group was as follows:

- to consider and report to the Minister as a matter of urgency on any issues which the sub-group regards as relevant to the outbreak of FMD in Northern Ireland;
- in particular, the sub-group will look at the regulations which govern animal movements and trading in the sheep sector;
- to consider FMD and epizootic disease issues under the following headings: disease control – short and long-term; and, economic issues – short and longer-term; and
- to take account of the views of all interested parties, including the Northern Ireland Meat Exporters' Association, the Northern Ireland Auctioneers' Association, HM Customs and Excise and the Northern Ireland Office and reflect on measures being introduced in the Republic of Ireland.

###### *Working methods*

###### **Approach**

The report was prepared by and reflected the views of the Vision Group members who were drawn from DARD and stakeholder organisations. It was published for public consultation.

###### **Timing**

The Report was presented to the Minister on 4 October 2001 and was issued for consultation immediately.

###### **Key findings from report**

The Vision Group made a number of general conclusions/recommendations which included:

- the setting up of focus farms;
- the provision of ICT training and development;
- the encouragement of off-farm employment on part-time basis; and
- the need to improve detection and prevention of fraud.

It also made a number of recommendations in respect of animal health issues and strategy, which were derived from the work undertaken by the FMD sub-group. The specific recommendations made by this sub-group under the heading of 'Protecting and enhancing Northern Ireland animal health status' are listed earlier in this report.

##### 2. The Foot and Mouth Disease Crisis and the Irish Border (Centre for Cross Border Studies)

###### *Terms of Reference*

To review the management of the FMD crisis by the Northern Ireland devolved government and the RoI authorities, in particular those aspects with a cross border dimension.

###### *Working Methods*

The research was primarily carried out by Dr Patricia Clarke of the Centre for Cross Border Studies and involved desk research interviews with key players and a Study Day with invited attendees.

The review covered a period of 100 days: from 20 February 2001 to 31 May 2001.

###### **Timing**

The report was published in January 2002.

###### **Key findings from the report**

Some of the key findings from the report include the following recommendations:

- establishment all-Ireland animal health system;
- review of contingency plans in both Northern Ireland and the Republic of Ireland;
- convening of an all-Ireland Expert Advisory Group for future emergency situations;
- improved links between farming bodies in Northern Ireland and the Republic of Ireland;
- uniform approach to animal identification in Northern Ireland and the Republic of Ireland;
- All-Ireland discussion forum; and
- All-Ireland research programme.

## UNITED KINGDOM

The UK Government announced the commissioning of three independent inquiries on 9 August 2001, all of which were to be reported to the Prime Minister and the Secretary of State for Environment and Rural Affairs.

### 1. Lessons Learned Inquiry – chaired by Sir Iain Anderson

#### *Terms of Reference*

‘To make recommendations for the way in which the Government should handle any future major animal disease outbreak, in the light of the lessons identified from the handling of the 2001 Foot and Mouth Disease outbreak in Great Britain.’

#### *Issues to be addressed*

Of the issues identified to be addressed, there are a number for particular note. These include:

- the adequacy of contingency plans;
- the effectiveness of the Government’s response;
- the role of the various public and private stakeholders; and
- the preparedness of the farming industry and the effectiveness of communications.

#### *Approach*

The programme of the review consists of a series of public meetings across England, Scotland and Wales (total of six), hosting regional meetings with local stakeholders and community representatives, obtaining written submissions (by post and email) from the public and other interested parties and making visits to other European countries to speak with them on how they handled their FMD outbreaks. The inquiry team are being assisted by the Cabinet Office Civil Contingencies Secretariat.

#### *Timetable*

The report is due to be presented to the Prime Minister and Secretary of State for Environment, Farming and Rural Affairs, and devolved administrations of Scotland and Wales, by mid-2002.

### *Submissions to the Lessons Learned Inquiry*

As part of our read-across to the Lessons Learned Inquiry, chaired by Sir Iain Anderson, we considered two submissions made to his inquiry. These were the UK Government’s submission and the submission submitted by the Scottish Executive.

Some of the key issues identified for action with the UK Government submission include:

- developing effective and large-scale operational contingency plans;
- a need to review disease control policies, taking full account of the wider rural policy context;
- the development of animal identification and movement controls;
- improving communications, data management and management information;
- introduction of measures to stop illegal imports of meat and meat products; and
- educating farmers as to the importance of good biosecurity.

In their submission to the Lessons Learned Inquiry, the Scottish Executive have highlighted key areas where the Executive is already involved in taking forward prompt actions. These include:

**Pigswill ban:** The ban on feeding of swill to pigs was implemented in Scotland in May 2001 following industry consultation.

**Imports:** Issues surrounding the importation of animal products are kept under review and several measures are already in place, including increased enforcement, better publicity and introduction of regulations to assist local authorities in seizing illegal imports. Consideration is also being given to what further measures needed to ensure most effective action is taken to deal with illegal imports.

**Sheep traceability:** A system of sheep traceability using individual flockmarked eartags linked to a database, was implemented in February 2002..

**Movement Restrictions:** Following industry consultation the 20-day movement standstill on livestock has been extended to the end of 2002, but has been amended to allow farmers to isolate the specific animals coming onto or leaving the holding so that the rest of the stock on the farm is not held up by the standstill.

This is subject to strict biosecurity controls.

**Legislation:** The Executive are taking forward legislation that will revise the Animal Health Act in light of lessons learned from FMD and plan to consult on the terms of the planned revisions later in 2002.

**Biosecurity:** Farmers were issued with clear and comprehensive advice on improved on-farm biosecurity early in the FMD outbreak, and work is underway to draw up a full Biosecurity Code of Practice.

**Information technology:** The Executive is working to ensure that veterinary and SEERAD IT systems are compatible and have comprehensive coverage to overcome problems that arose during the outbreak.

**Contingency Planning:** The Executive are undertaking a review of contingency planning procedures and in particular a review of the existing foot and mouth contingency plans.

## 2. Scientific Review by Royal Society – chaired by Sir Brian Follett

### *Terms of Reference*

‘To review scientific questions relating to the transmission, prevention and control of epidemic outbreaks of infectious disease in livestock in Great Britain, and to make recommendations by Summer 2002.’

### *Issues to be addressed*

The review will consider the risks of future farm epidemics and whether the UK has adequate early warning systems in place to prevent future infections. It will in particular assess the threat placed by diseases classified within the OIE’s List A. The review is to pay particular regard to any hazards to human health.

### *Working methods*

The review will be carried out by a committee chaired by Sir Brian Follett FRS and include veterinary scientists, virologists and epidemiologists, together with representatives of farming and consumer groups. The inquiry team has sixteen members, supported by a secretariat from the Royal Society.

### *Timetable*

The report is scheduled to be published on 9 July 2002.

## 3. Policy Commission on Future of Farming and Food – chaired by Sir Don Curry

### *Terms of reference*

‘To advise the Government on how we can create a sustainable, competitive and diverse farming and food sector which contributes to a thriving and sustainable rural economy, advances environmental, economic, health and animal welfare goals, and is consistent with the Government’s aims for Common Agricultural Policy (CAP) reform, enlargement of the EU and increased trade liberalisation.’

### *Issues to be addressed*

The Policy Commission was to review and comment on an approach to achieve the objectives contained within its terms of reference.

The Commission’s work which covered England is likely to play a key role in informing the Government’s approach to policies affecting rural areas in the future.

### *Working methods*

The Commission worked under the chairmanship of Sir Donald Curry CBE, former Chairman of the Livestock and Meat Commission. The Commission gathered views from the public, stakeholders and other interested parties. A consultation paper was published and distributed to stakeholders and received over 1000 submissions. The Commission also held a series of public meetings with stakeholders across the regions.

### *Timetable*

The Commission reported to the Prime Minister and the Secretary of State for Environment, Food and Rural Affairs on 29 January 2002.

### *Key findings from report*

The thrust of the report was the realignment of farming as a key focus of the economy and environment, to create a vision for a profitable and sustainable farming and food sector. Key findings include:

- government should support dismantling of current EU regime of price supports and production subsidies through supporting substantial reform of CAP;
- ‘priorities board’ for strategic research into farming and food matters and to establish ‘demonstration farms’;
- collaborative ventures for all farmers to be encouraged;

- government to strengthen checks and controls of illegal imports of meat products, with cross-departmental approach adopted;
- devise and implement a comprehensive animal health strategy, incorporating full electronic traceability of livestock;
- encourage new entrants into farming industry and promote as career among school leavers and adults and encourage vocational training and apprenticeships; and
- government should increase spending on agri-environmental schemes and develop strategy for organic farming.

## 4. Tackling the Impact of Foot and Mouth Disease on the Rural Economy – Report of the Rural Task Force

The fourth UK report, by the Rural Task Force, had been promised by the Prime Minister under the Labour government’s political manifesto.

### *Terms of Reference*

‘To consider the implications of the outbreak of Foot and Mouth Disease for the rural economy, both immediately and in the longer term, and to report to the Prime Minister on appropriate measures.’

### *Issues to be Addressed*

The Taskforce was asked to assess the impact of FMD on the rural economy and the measures taken to control it. They were also asked to make recommendations for the short-term survival of rural businesses and the revival of the rural economy in the medium term.

### *Working methods*

Rural Task Force, which was chaired by Mr Alan Michael, Minister for Rural Affairs, comprised representatives from a range of government departments and agencies, including stakeholders from farming, tourism, small businesses and local government. The Taskforce was established as a UK-wide body and Ministers from the Northern Ireland Executive made a contribution to its work. However its focus has been primarily on the situation in England and it remains for the devolved administrations to decide whether to follow similar policies or adopt their own measures.

### *Timetable*

Reported in October 2001.

### *Key findings from report*

Some of the key findings of the Task Force were:

- need for future policies for farming to take account of links between farming and wider rural economy;
- recognise importance of countryside tourism;
- further provision of specialised support services to businesses in rural communities; and
- establish protocol for any future countryside closure as has considerable repercussions on countryside tourism.

## **5. The National Audit Office (NAO)**

### *Terms of reference*

The UK Government's watchdog announced the launch of its 'Value for money' investigation on 5 October 2001. The review is to look at several aspects of the outbreak from a value for money perspective, including the effectiveness of contingency planning and the way in which the outbreak was handled.

### *Issues to be addressed*

This investigation will ask whether the Government responded in a cost-effective manner and will look at the overall cost of the outbreak both in terms of immediate public expenditure and the wider economic costs. The report is confined to England and Wales.

### *Timetable*

The NAO expects to report its findings by mid-2002.

## **6. Devon County Council Inquiry**

### *Terms of Reference*

'To conduct an investigation in public into the Foot and Mouth epidemic in Devon, one of the worst affected areas of the UK, and to make recommendations to the Government's inquiries into FMD and the future of farming and the countryside for:

- the tackling of any future major animal disease outbreak; and
- the creation of a sustainable, competitive and diverse farming and

food sector which contributes to a thriving and sustainable rural economy and advances environmental, economic, health and animal welfare goals.'

### *Working methods*

Professor Ian Mercer CBE was appointed chairman of the inquiry. The inquiry team held hearings in public, which were broadcast live over the internet. The inquiry received 380 submissions from the public, stakeholders and other interested organisations.

### *Timetable*

Preliminary findings were published on 29 October 2001. A final report is anticipated later this year.

### *Key preliminary findings*

Recommendations of the inquiry team include:

- more research required into use of vaccination;
- further consideration of disposal methods, with full and open public consultation;
- import controls to be tightened;
- better national contingency planning following wide consultation and emergency plans regularly tested; and
- better communication during outbreaks between officials, farmers and other stakeholders.

## **7. Northumberland County Council Inquiry**

### *Terms of Reference*

'To briefly examine the sequence and scope of the Foot and Mouth outbreak in Northumberland; the impact which this has had on farming and related industries and on rural businesses and communities and the environment of the county; and the roles of, and action taken by, key agencies in dealing with the crisis; and

To advise the County Council on the preparation of a recovery plan, setting out realistic economic, social and environmental objectives; and on the measures which the Council and other agencies might take to ensure that such an outbreak does not happen again or that the impact of a future outbreak upon the county is minimised.'

### *Working methods*

An inquiry team of local councillors was set up under the chairmanship of Professor Michael Dower. 120 written submissions were received from public, stakeholders and other interested organisations. Public hearing held over 4 days, with range of witnesses invited to attend. DEFRA, the army and State Veterinary Service representatives declined to give public evidence.

### *Timetable*

Final Report published on 25 February 2002.

### *Key findings from report*

Main recommendations/conclusions included:

- more research to be done on vaccination and slaughter methods;
- comprehensive contingency plan, prepared in consultation and regularly updated and tested;
- further consideration of disposal methods;
- compensation for loss through alternative methods, eg grants, tax concessions, etc; and
- establish local stakeholder forum.

## **8. The Royal Society of Edinburgh**

### *Terms of Reference*

This inquiry will look at the implications for Scotland arising from the FMD outbreak.

### *Issues to be addressed*

The inquiry will make particular reference to the control measures employed and the impact the outbreak had on the Scottish economy. The emphasis of the review will be on prevention and control and recommendations on lessons learned.

### *Working methods*

The Committee was established under the chair of Professor Ian Cunningham CBE. Visits were organised in February 2002 to the Scottish Borders and public meetings were held in these areas. A series of meetings were also organised by the committee, where it met with representatives of agencies, industry and other stakeholders.

### *Timetable*

The Committee will report to the President and Council of the Society.

# EUROPEAN UNION INITIATIVES

## 1. European Parliament

The European Parliament has launched an inquiry Committee to review the European outbreaks of FMD. Its remit is to include a review of [as summarised by EU Health and Consumer Protection Commissioner, David Byrne]:

- origin, outbreak and level of preparedness;
- vaccination;
- stamping-out policy in event of outbreak;
- performance of individual Member States in dealing with outbreak;
- environmental implications of mass animal carcass disposal; and
- costs and economic impact.

The Committee met for the first time in February 2002, and have met periodically since then in Brussels. The Committee has also planned a work programme for 2002, including visits to UK and Netherlands and affected areas, meetings with senior policy and state veterinary staff and public hearings. The Committee is to report to the Parliament by the end of 2002.

The Committee will also be taking advantage of a report resulting from the International Conference on FMD, organised in December 2001 by the Belgian EU Presidency, the European Commission, the Government of the Netherlands and the Government of the United Kingdom.

## 2. European Commission

The Commission is also undertaking a fraud investigation into compensation payments made to farmers in the UK. This was in response to a EU committee statement which criticised the British government in allowing farmers to choose their own experts to make valuations following culls of livestock.

The European Commission has announced that it is to have in place by 2003 a new strategy to learn from the lessons of FMD in Europe, including its plan to launch a study to look at the possibility of a European-wide insurance scheme for epizootic disease protection. As part of this strategy, the Commission is to make proposals for a new directive on the control of FMD, part of which will look specifically at the issue of vaccination.



## Appendix E

### Analysis of Written Submissions

A public advertisement was placed in both the local and national press, inviting written submissions to be made to the Review Team. These forms could be requested by emailing a dedicated Review Team email address, by telephone or by post.

Over 400 farmers within or close to the outbreak areas in Northern Ireland, and over 200 private veterinary surgeons, were sent a copy of the written submission form and invited to complete and return in a pre-paid envelope. In addition, the Review Team provided copies to all the Councils in Northern Ireland and made copies available for distribution at other meetings held with interested parties and stakeholders. Some 67 submissions were received over the course of the review period.

The Review Team has considered all, and incorporated many, of the views expressed in written submission forms in the report. Table 1 is a breakdown of the written submission forms received, analysed by respondent category.

**Table 1 Analysis of received written submission forms**

Category	Total Number
Local Councils	11
Farmers/Individuals	34
Government departments	3
Industry	6
Private Veterinary	11
Union	2
TOTAL	67

The Review Team has also analysed the responses received within all the submissions and has ranked the top 20 recommendations for action in the event of future outbreaks, or wider considerations for agriculture in Northern Ireland.

#### Top 20 responses – Recommendations for the future

- 1 Impose stricter import controls for livestock and food;
- 2 Improve techniques of slaughter, disposal and valuation;
- 3 Better contingency planning with regular testing and dissemination of plan to public and stakeholders;
- 4 Improve identification and traceability regimes;
- 5 Focused follow-up on animals imported into Northern Ireland, for example, destination checks on animals imported for slaughter, with improved enforcement measures for illegal activity;
- 6 Creation of all-island approach to agriculture in general;
- 7 Improve links between DARD and other stakeholders and encourage stakeholder co-operation;
- 8 Better communication between DARD and stakeholders overall and particularly during crises;
- 9 Undertake an educational program for DARD staff, public and industry/ stakeholders, in relation to epizootic and other diseases;
- 10 More training and continual education for veterinary profession, including development of interpersonal and public relation skills;
- 11 More involvement of local skills and expertise, including local veterinary surgeons, in future crises;
- 12 Further consideration of alternative compensation methods, including compensation for loss of income;
- 13 Reduction in animal movements intra-Northern Ireland;
- 14 Standstill periods for herd/flock or form of quarantine if imported into Northern Ireland;

- 15 Better regulation of livestock dealers, including consideration of licensing;
- 16 Consideration of removal of incentives which encourage illegal movements of animals;
- 17 Counselling for farmers/others following severe crises;
- 18 Better information to be provided to farmers regarding their rights, for example in relation to valuations, during cull process;
- 19 Co-ordinated approach to compensation and ensure consistency across Northern Ireland; and
- 20 DARD to improve their information collation on farmers, holdings and other statistics;

In addition to the 'Top 20' responses, the Review Team has also highlighted several other recommendations of interest, which although not identified by large number of respondents, were deemed of particular interest to the review.

#### Other recommendations of interest:

- Creation of permanent veterinary, farming and industry committee;
- Clinical testing facility on island of Ireland;
- Creation of local emergency groups in future outbreak areas, to consist of local farming and agri-processor representatives and local government to coordinate with local disease control centre;
- Better regulation of livestock marts; and
- More restrictions on use of swill.

Appendix F

List of meetings held by the Review Team

Department of Agriculture and Rural Development:

The Minister  
The Permanent Secretary  
Chief Veterinary Officer

*A range of officials within the following:*

Agri-Food Development Service  
Food, Farming and Environment Policy  
Forestry Service  
Personnel, Finance and Rural Development  
Science Service  
Veterinary Service (Policy and Field)

Department for Agriculture, Food and Rural Development (RoI):

A number of officials from various divisions including the Veterinary Service, Policy, Animal Health and Welfare  
  
Representatives of the RoI FMD Expert Advisory Group

Other bodies and individuals:

Association of Veterinary Surgeons Practising in Northern Ireland  
  
Department of Health and Social Services and Public Safety – Chief Medical Officer  
  
HM Customs and Excise  
  
Livestock and Meat Commission  
  
Loughshores Foot and Mouth Support Group  
  
Mid-Glens FMD Regeneration Strategy Group  
  
Military support to DARD for FMD outbreak  
  
Northern Ireland Agricultural Producers’ Association  
  
Northern Ireland Grain Trade Association  
  
Northern Ireland Livestock Auctioneers’ Association  
  
Northern Ireland Meat Exporters’ Association  
  
Northern Ireland Public Service Alliance  
  
Northern Ireland Veterinary Association  
  
Police Service of Northern Ireland  
  
Representatives of the Northern Ireland press  
  
Royal Ulster Agricultural Society  
  
Society of Local Authority Chief Executives  
  
South Armagh Farmers Action Group  
  
Ulster Farmers Union  
  
Ulster Society for the Prevention of Cruelty to Animals  
  
Vision Group Sub-Group Chairmen