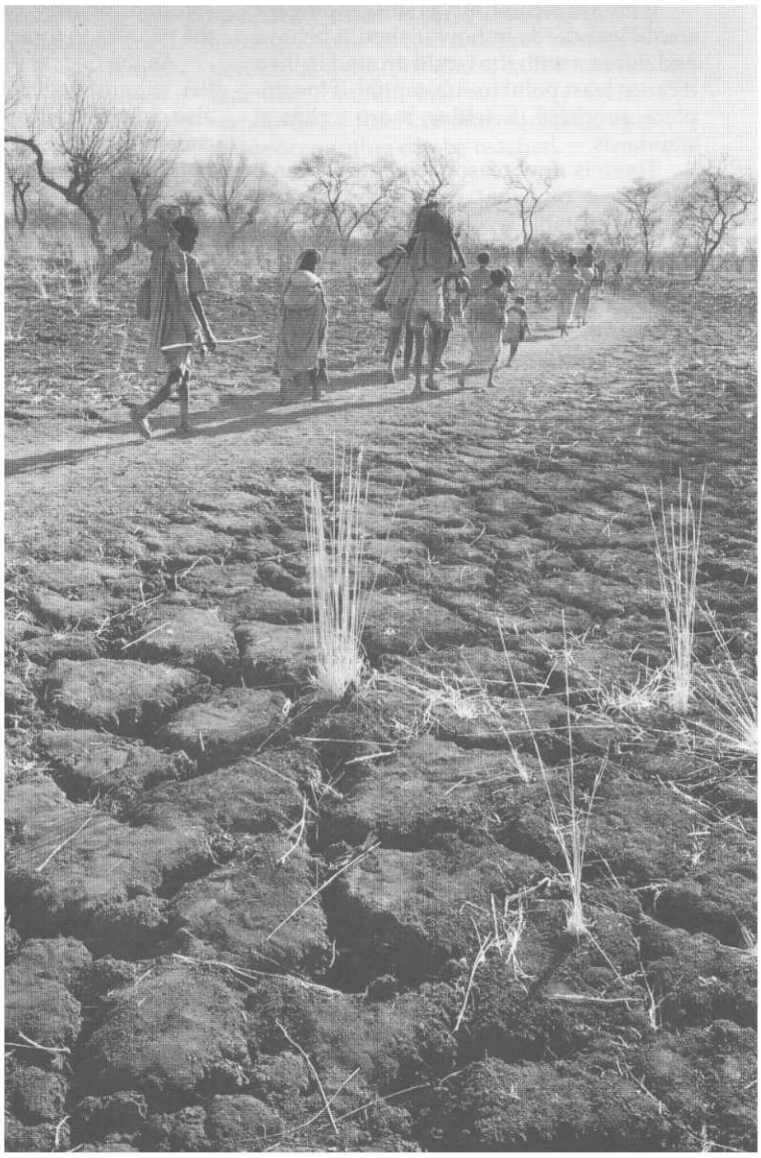

Famine and forecasting Early warning is critical to disaster preparedness, but unless it is linked to action it becomes nothing more than a cry of despair Most famines in Africa build up slowly over a number of years, in a spiral of drought and poverty, frequently linked to conflict, denial of human rights, lack of pluralistic systems and control of the media Decreased food security and increased destitution can be tracked, but all too often aid systems only react when the event is already underway, as people start to move and children start to die

Parched land, Ethiopia, 1985 Sebastiao Salgado/Magnum

Turning early warning into livelihood monitoring

Famine early warning systems (EWS) are data collection mechanisms to monitor people's access to food, to give timely notice when a food crisis threatens, and to provoke action. Famine-predicting information systems are not new: one was implicit in the Indian famine codes introduced by the British in the 1880s and exported to Sudan in the 1920s. Poor people have always had highly-developed intelligence networks to predict and survive food shortages. Africa's famines of the 1970s and 1980s fostered interest in EWS, and the need for capacity to predict famines in areas of endemic food crisis is today widely accepted. Early warning success means that more is known to outsiders about the risk of famine in much of Africa than ever before. This chapter will examine how EWS work, why they can fail to ensure the correct response, and suggest how they can be improved.

System characteristics

Although the purpose of a famine EWS may be clear, conflicting characteristics limit understanding of how they work, and what they can and cannot do. EWS differ widely, from the minimalist – national food balance sheets concerned solely with the overall food gap – to maximalist – local-level systems which monitor livelihood security and have multiple planning uses – though most are somewhere between the extremes.

With the growing understanding of famine, overall estimates of food supply and demand have evolved into more complex indicators of how vulnerable people get access to food, such as food and livestock prices, off-farm work opportunities and wage rates, and coping strategies pursued by famine-prone people. In the 1980s, the primacy of supply-side factors contributing to famine or "FAD" (food availability decline) was reassessed to take account of access to food or "FED" (food entitlement decline). The difference is encapsulated in Sen's definition of starvation as "the characteristic of some people not having enough food to eat. It is not the characteristic of there not being enough to eat".

Famine does not affect everyone equally; some benefit, including cereal traders and wealthy rural producers who buy up liquidated assets at cheap prices. Famine is not a distinct event, but part of a downward spiral of impoverishment towards destitution and death. Once famines are seen as an extreme form of poverty, famine prediction moves from food security towards identifying how people feed themselves. Tracking livelihood security and vulnerability will suggest who will survive periods of famine and who will not. This can indicate the potential scale of disaster and the nature and timing of the response required.

Since the mid-1980s, improvement in famine prediction capacity has been remarkable in some of the most famine-prone areas of Africa. Progress is due to substantial EWS investment, and technological and methodological innovations in data collection and analysis. Satellite imagery can measure vegetation cover early in agricultural or pastoral cycles, while participatory rural appraisal methods incorporate famine-prone people's sophisticated knowledge systems and risk perceptions. However, many information problems remain:

- National early warning capacities vary widely in the timeliness, comprehensiveness, accessibility, quality and credibility of data they produce. Above all, information must be seen as credible by everyone involved in allocating scarce resources. Better information can only go some way towards improving credibility, which is as much a function of wider relations of trust and coordination between negotiators, as a characteristic of the information itself. Where political differences strain relations, there is heightened suspicion and mistrust in interpretating early warning data. A fundamental early warning paradox is that it is least likely to trigger effective response when needed most: when relations between donors and a government are poor.

● Quantitative, "objective", internationally-approved data continue to outweigh more subjective and usually qualitative local assessments. Decision-makers allocating emergency resources are often unable to incorporate EWS information into existing decision-making structures. Assessments by the international donor community, usually by UN agencies, are the most important information tool in donor allocation of emergency food aid. Yet these assessments are only as good as the information provided for them by the national EWS.
● Some famines are unpredictable, no matter how good the famine EWS. Increasingly in Africa, these are associated with conflict. Indicators can be developed to detect the consequences of conflict on people's access to food, but predicting conflict is harder Few EWS are equipped to do this. Indeed, many steer clear of direct political intelligence gathering. Even if information is available from other sources, such as military intelligence, this is rarely systematically collated or used.

Response resistance

If EWS are to assist famine prevention, the information they generate must trigger timely and appropriate response. Response can be defined as additional resources, over and above normal developmental aid, including programme and project food aid, to assist famine-prone people withstand declining access to food Response is usually limited to emergency food aid: distributed free or via self-targeting mechanisms, such as food-for-work. Response triggered by EWS focuses on increasing food supply, rather than people's entitlement to it. Most famine relief seeks to save lives, reaching vulnerable people at some point between destitution and death Genuinely timely response seeks to save livelihoods, intervening earlier, between livelihood insecurity and destitution Such response could be free food aid, but equally might be cash or employment to help preserve assets.

Some argue that famine relief should not try to preserve livelihoods, for which development aid is more appropriate By this logic, EWS risk becoming unsustainably complicated and cumbersome in terms of institutional capacity, staff and cost. They should seek simply to predict large famines and trigger response to prevent deaths, the predominant approach in the wake of Africa's mid-1980s famines. Yet the distinction between relief and development is largely fictitious for famine-prone people. Famine can only be mitigated by reinforcing livelihoods.

In recent years, improved provision of early warning information has outstripped decision-makers' ability to use it in triggering response. To realise the benefits of early warning, response is the issue, not developing ever more sophisticated indicators.

Assessments of EWS effectiveness usually focus on the ability to provide information, rather than information use. The underlying assumption is that inadequate information is the key constraint to timely decision-making But information has only ever been a small part of response decision-making: "not knowing" is no longer a credible excuse for inadequate response.

While provision of early warning information is essentially a technical issue, political and institutional factors determine information use Key determinants in how it is used include questions of who owns and controls information and how objective and relevant it is perceived to be. EWS are often institutionally and politically cut off from decision-making between donors, governments and humanitarian agencies. Justified as preserving neutrality, isolation makes them ill-equipped to tackle the political and economic complexity of disaster response. EWS isolated from existing government structures, for example, risk being seen by government as belonging to donors; donors are sceptical of systems under government control.

Many obstacles exist to the use of early warning information; the "missing link" between EWS and response. The warning's timeliness is most frequently held to be the central obstacle, but this belies more complex reasons. A 1994 five-country study of response suggests these major constraints to effective exploitation of famine early warnings·

● Institutional. Information cannot, by itself, alter the rigid functioning of bureaucracies in many donor agencies, which are set up to respond to famine, not to protect insecure livelihoods. Such rigidities include over-reliance on internationally-recognised assessments, at the expense of earlier indicators from national EWS, and separation of emergency and development activities In donor headquarters slow response is exacerbated by planning constraints imposed by the financial year rather than seasonal harvest and hunger. In relief most allocation decisions cannot be pre-programmed so planned response mechanisms are rare.
● Political No information, however timely, accurate or relevant, can transform power relations. Poor political relations can damage the early warning response process, especially in situations where humanitarian relief is the only available resource, because relations between donors and governments have already broken down. Links between war and famine in much of Africa raises the political stakes of EWS information and its use.
● Distance Decisions on response and resources often take place thousands of miles from where help is needed, with little urgency Time-sensitive information and the need for rapid response make relief logistics critical. Yet, most early warning and

response systems are centralised and information has to be collated to fit bureaucratic structures, undermining the understanding of local conditions in the EWS.

● Crisis-driven response Urgency depends on indications that a crisis is underway, losing the benefit of early warning Human stress – starving babies on prime-time news – is most influential, even though more malnutrition or mortality are not early indicators, but signs of failure to respond in time. A vicious circle may result. If donors only respond to crises, those trying to trigger donor response bid up the situation's severity, risking failure with unfulfilled prophecies

● Differing agendas Groups using early warning information have divergent interests. Complex negotiations between the main groups, and the conditions under which these take place, are central determinants of whether and how information is used Donors may wish to minimise allocation of scarce relief, or be reluctant to provide it to some governments. Recipient governments may seek to maximise food aid. The same information may be interpreted in very different ways. There is a risk with delivery by foreign agencies that identified areas of need may correlate more closely with operational areas than with evidence provided by the EWS.

● Accountability Potential famine victims have yet to ask for an EWS or use its information. Their capacity to make preventive choices with such information is limited by lack of resources and access to decision-makers. Governments have an indirect interest in preventing famine, but it is part of a wider political, social and economic agenda; the absence of accountable political processes may make famine-prone populations even more vulnerable. Failure to heed early warning has costs and benefits, such as the greater expense of later action, which governments assess at arm's length from starvation. Donor accountability, restricted to northern domestic politics and public opinion, may act on behalf of famine victims, but these are weak links, critically influenced by the media. Attempts to improve accountability may be unrealistic. It cannot be assumed that objectives are not being met; for example, the use of food aid as a political weapon by governments or donors may well achieve their policy aims.

● Responsibility. Although responsibility for famine prevention lies with national governments, most African governments will require additional resources from the international community Democratically-elected constituencies in the developed world exert pressure on donors when famine appears on television, albeit inevitably rather late. Despite a broad consensus about the division of responsibility, institutional memory is poor and those involved bargain anew each time Conditionality for emergency aid and control of distribution is at the root of questions of responsibility: governments want to decide beneficiaries, while donors argue for control. Better early warning information, even if it provides data relevant for targeting, can do little alone to address these issues.

● Sustainability. EWS sustainability is questionable, especially the cost-effectiveness, utility and priority attached to them. EWS are generally set up with donor funding, sometimes based on existing government structures The implicit assumption is that the government will eventually take them over, but information systems – however useful – rarely head resource-poor government's agendas Cost-effectiveness is troublesome determining direct costs is fairly simple, but opportunity costs are harder, and effectiveness cannot be fully measured, given that many obstacles to exploiting information are outside EWS control EWS evaluations tend to be limited to internal mechanisms, unrelated to the response they do or do not trigger The "economic" value of early warning information is highly problematic. Talking of sustainability only in terms of cost partly misses the point. Who "owns" the information is critical to how it is used, and this is a function of who funds the system.

Predicting famines is only a first step in prevention. There is no guarantee that more timely and accurate information will be used. Early warning information is something to be used in negotiations, not an objective benchmark, so it cannot cut through the conflicting interests which surround famine relief decisions. Without EWS, however, the process is even harder, as decision-makers rely on informal assessments which are often wrong, late and incomplete. Systematic information about famine risks is not redundant: EWS are a necessary but insufficient precondition for famine prevention. Constraints on information use cannot be tackled internally but only within the political context of response.

What well-functioning EWS can do:

● Provide time for improved decision-making and remove the surprise element of slow-onset disasters.

● Indicate not simply that there is likely to be a problem, but also what the nature and scale of that problem will be and hence what kind of response is appropriate

● Through comparable data from different countries (rarely available), they can assist decisions about global allocation of scarce relief resources.

What EWS cannot do:

● Resolve conflicts inherent within relief provision and the dilemmas faced by decision-makers Such issues must be tackled in their own right: information is most likely to help this process if questions of who owns information are put up front

● Create order in chaos. Response is often not based on rational, systematic decision-making, but on a subjective and unstructured process Too much information can impede this process

- Solve endemic institutional weaknesses or constraints in governments or donor agencies EWS risk providing information that shows up weaknesses without offering solutions.
- Address the fundamental conflict between national sovereignty and ownership of internationally donated relief resources

Is EWS investment worthwhile?

Yes, the importance of improved capacity to predict drought-induced famines should not be under-estimated. Disinvestment in EWS would mean a rapid return to the situation of the early 1980s when it was virtually impossible to launch a timely response for slow-onset disasters in Africa. There is little point developing sophisticated EWS unless issues of information use are tackled. Many of these are to do with the vested interests of different parties to the response process Answers are not easy; response improvements will challenge political, financial and institutional relationships between donor and recipient states. It is easy to set out criteria for more efficient information systems for famine prediction and prevention, but there are policy issues to solve that tend to be political not mechanical:

- Widen the early warning remit. Food and livelihood security monitoring systems, which can be used for many planning tasks, including famine warning, are more consistently useful for Africa's food security planning needs
- Reduce emphasis on national harvest assessments. Without food security reserves in-country, assessments at the end of the growing season leave little time to respond to crisis. A phased response based on earlier assessment would help timely action
- Tap indigenous knowledge. Despite methodological and operational difficulties – fear of bias, extra resources, integrating local knowledge with existing national data – participatory rural appraisal methods can collect this information more quickly and cheaply than conventional surveys A simpler direct route might be to develop methodologies based on key informants with detailed knowledge of local conditions.
- Use local coping strategies as stress and response indicators. Monitoring is needed of intensity of use; environmental and economic sustainability when intensity increases; motivation for use; and effectiveness in meeting food and livelihood needs. This formidable task is beyond the scope of most EWS. Methodologies can, how-

Box 4.1 Looking into Ethiopia's future

By May 1994, Kay Sharp knew things were going to be difficult in 1995, and sent home the first warnings The short rains, normally between February and April, failed totally in many regions. Some farmers use these rains to plant and harvest short-cycle crops, such as teff, wheat and barley, and others plant the longer-maturing maize and sorghum. In some areas, farmers could not plant at all

Running USAID's Famine Early Warning System (FEWS) in Ethiopia, Sharp made more reports through the year and, even before the official appeal was launched in December 1994, the agency had made its first pledges for 1995.

Respect for early warning in Ethiopia is reflected by the number of organisations that have their own systems, including USAID, CARE, Catholic Relief Services, Save the Children and WFP. Most use similar parameters production data, such as status of food crops, pests, rainfall and fertiliser use; then seed availability for planting and oxen for ploughing and harvesting; finally, market prices, purchasing power and food supply

Sharp says: "If the harvest looks good, prices should go down. And if prices don't go down around harvest time, you know you have a problem." But with so much good information, why did alarm bells ring for months in 1994 before food was sent to Ethiopia? Blame the donor cycle, says Sharp. The national appeal cannot be launched until the main harvest results are in but it takes months from donor pledge to local distribution, so this is too late for timely provision of food

But 1994 had good news. There were fears that the food crisis would turn 1994 into another 1984, with millions risking starvation. Journalists hurried to Ethiopia looking for famine victims They found very few "For the first time, the system worked", says Allen Jones, WFP Ethiopia operations director. What Jones calls the system – the accumulated capacity of agencies working with relief – staved off disaster by procuring, transporting and distributing almost one million tonnes of food aid.

"Today we have an efficient governmental relief organisation, embodied by Relief and Rehabilitation Commission (RRC) and the Ethiopian Food Security Reserve. We have donor interest, NGOs working on the ground, good early warning systems and a fairly experienced UN organisation. It is not a single one of these things but all of them put together that comprise 'the system'. And it is among the main differences between 1984 and today," says Jones.

The Food Security Reserve is a key element. Set up by the government with strong donor support, 1994 was its first functioning year, allowing aid agencies to borrow food until their shipments arrived. Today, the Food Security Reserve contains more than 200,000 tonnes. According to Jones, there is no excuse now for late relief food, provided pledges are made By February 1995, Ethiopia's prospects were promising. Bilateral pledges covered more than 50 per cent of the total import requirements of 1,032,000 tonnes.

Even Jones does not exclude the risk of another major famine: "My main concern is that donors will start to dismantle the system Another good year, and they may lose interest in Ethiopia. Pledges will stop, the RRC, UN presence and donor representation in Ethiopia will all shrink. And then the big famine will hit, and we will have to start from square one again." ■

ever, be developed which simplify information collection; and which provide information for a range of planning tasks.

● Promote appropriate institutional arrangements Timely and appropriate response often requires actions – pre-positioning resources, for example – which are inconsistent with donor agencies' bureaucratic procedures and political objectives. A uniform institutional arrangement for more effective national early warning is not appropriate to all countries. Appropriate arrangements cannot be divorced from priorities of contingency planning Whatever national arrangements exist, donors and agencies should not ignore or damage them in the name of humanitarian objectives

Institutional arrangements should be sustained: a post-crisis flurry of activity can create over-ambitious structures, instead of quite light structures that gear up quickly when needed. Donors can support institutional arrangements by better coordinating their own activities, and reducing response time. Institutional amnesia needs to be overcome, so lessons are learnt in each famine cycle.

● Engage in active and continuous contingency planning. Response options and contingency plans must be drawn up as part of the early warning process and not left until an emergency is underway. Contingency planning is more than simply drawing up a document, and planning capacity must be continually reinforced. This implies: training; field testing flexible responses in advance of emergencies; designing "off-the-shelf" interventions for use as necessary; updating plans and evaluating activities, and pre-positioning or advance allocation of resources to enable timely response Contingency planning must involve affected people.

● Develop and test flexible response options. If interventions are to succeed, planners should recognise how local people make choices: protecting future livelihoods is as – if not more – important than sustaining immediate consumption above the survival level Thus would help reduce the relief/development divide, for example by ensuring that public works create useful infrastructure. Flexible response options must be designed with local people. Potential methods of reinforc-

Box 4.2 Taking timely action against earthquakes

New technologies and historical records are helping scientists give what they hope will be better early warnings of earthquakes and tsunamis, including the threat of massive disasters in northern India and southern California.

While the number of earthquakes – as with other natural-trigger disasters – is not rising, the human and financial costs and complexities are growing fast because of population increase, urbanisation and industrialisation

Japan's Kobe earthquake had no warning. It registered 7.2 on the Richter scale, killed 5,000 people and left many thousands homeless. Rebuilding work may cost up to CHF 60 billion, though business losses could put the total economic loss higher

The high cost in lives and money was in part due to a lower level of preparedness than in "high-risk" Tokyo, where earthquake exercises are common, and also the traditional wood and tile homes in Kobe were more deadly because of fire and falling masonry.

One successful short-term early warning system operating in Japan is for tsunamis, the potentially devastating wave of water caused by undersea earthquakes. Four tectonic plates meet close to Japan, causing earthquakes as they grind together

A network of 150 seismometers sends information to a central computer at the Japanese Meteorological Agency, which automatically generates a warning caption via all nine broadcast channels to appear almost instantly on television screens.

On 4 October 1994, in its first live test, a message was sent out five minutes after a 7.9 magnitude quake began off the north-east coast of Hokkaido. The tsunami took an hour to arrive, allowing residents time to evacuate. Only two hundred people were slightly injured

Longer-term warnings – using satellites, theories of tectonic movement, information on rock rupture strengths and historical records of earthquakes – are being explored by teams at the universities of Southern California, Colorado and elsewhere

India's tectonic plate is crashing into and under Asia's plate at 2 cm a year – the same speed as the notorious San Andreas fault – according to new measurements using the Global Positioning System (GPS) of satellites and ground stations.

GPS data suggests the plate margins are stuck along the Nepal-India border. With no indication of a major quake since British colonial records began in 1650, and historical accounts of disaster in 1255, energy has been building up for 300 to 700 years.

Between 6 and 13 metres of slip have been accumulated, the local rock's rupture strength is the equivalent of 13 metres, so the earthquake, if and when it comes, could be of magnitude 8, or perhaps as high as 9.1, worse than almost any previous quake

In southern California, which is moving north on the Pacific tectonic plate past the North American plate, scientists have increased the assessed risk for a magnitude 7 or higher earthquake in the next 30 years from 60 per cent to 86 per cent

Using excavations, satellite measurements and earthquake records, the prediction rests on calculations of the accumulated strain in the fault lines The 6 7 magnitude Northridge earthquake near Los Angeles in January 1994 killed more than 60 people

Because the Richter scale is logarithmic, each single digit increase in magnitude means a ten-fold increase in energy released, so an 8 magnitude earthquake releases 100 times the energy of a 6 magnitude quake.

Among new theories which may help give better early warning is one from Japanese researchers which suggests that weather, in the form of high atmospheric pressure, may act as a final trigger factor when stresses are critical ■

ing local strategies include. helping adapt farming systems to drought with improved seeds and other inputs, diversifying production into household gardens; water harvesting, soil and water conservation; measures to protect livestock production and exchange, improved food storage; and diversifying off-farm jobs and income Systematic piloting of options in various localities will show what works. Institutional and resource implications can then be explored

● Decentralise early warning This can take better account of local variations in the food economy, be more sensitive to local issues and recommend more appropriate interventions. Management of early warning information is usually less cumbersome if decentralised. Decentralised EWS problems include standardising data, coordination and providing too much detail for decision- makers. Devolving donor decision-making to country level means that decision-makers are closer to what is happening, information interpretation is less distorted, and there is usually a greater sense of urgency. Decentralisation is impossible in a highly-centralised bureaucracy or if local personnel capacity is inadequate. There is little sense in decentralising early warning and decision-making if control over resources and the capacity to respond are not also decentralised.

● Jointly-fund EWS Sustainable EWS used by all parties are most likely if jointly-funded by donors and government, so both have a stake. Where relations between donors and governments are poor, cooperation over information is less likely to succeed. Most African governments

Box 4.3 Early warning of epidemics

Epidemics offer their own early warning signs, as the graphs of disease incidence curve up. In the Newly Independent States (NIS), the graphs signal problems.

Since 1989/90, a resurgence of diphtheria has gathered pace, mainly in the Russian Federation and Ukraine The diphtheria epidemic affected 35,000 people in 1994, a more than ten-fold increase on 3,170 cases in 1990.

Russian cases were 80 per cent of the total and those in Ukraine 16 per cent. In 1993, Russia's diphtheria death rate was 10.15 per 100,000 (12 per 100,000 for 1 to 14 years; nine per 100,000 over 14).

More cases occurred in regions with high population densities, and 10 per cent of cases were clustered in psychiatric hospitals, pre-school institutions and large families. Health workers, transport staff, homeless people and alcoholics are at greater risk.

Past high immunisation levels have been falling In 1992, immunisation coverage of infants was below 80 per cent in 25 of 70 Russian regions, below 60 per cent in six regions and around 45 per cent in Moscow.

Apart from low immunisation rates, the epidemics have been linked to shortages of vaccines and antibiotics, adults' immunity gaps, large population movements, doctors insufficiently sensitised to risks and need for proper diagnosis and management, and publics poorly informed about disease dangers and immunisation benefits

In Ukraine, coordinated action nationally and locally has already slowed the spread of disease, but Russia will need to act fast to contain or reduce the number of cases

The Interagency Immunisation Coordination Committee (IICC) has been created as a forum for coordination of all international donor agency and organisation inputs for the NIS.

The International Federation, with National Societies in every NIS country, is an IICC member. Through the Ukraine Red Cross Society and the Finnish Red Cross, the International Federation is using an ECHO grant for a major immunisation and diphtheria control programme in Ukraine

WHO, which serves as IICC secretariat, has created a European Diphtheria Task Force, which aims to cut diphtheria incidence to pre-epidemic levels by 1996, and reduce death rates to less than 2 per cent in 1995. The IICC has agreed that NIS national plans of action should include.

- management of diphtheria control;
- surveillance, from monitoring of vaccination schedules to identification of high-risk groups;
- prevention and control, from management of close contacts, to immunisation of high-risk adults,
- social mobilisation and communication with mass media training,
- resources and logistics, from vaccine supply to cold-chain equipment

Diphtheria is only one of the health problems affecting the states of Eastern Europe and the former Soviet Union.

A study by UNICEF of nine former communist countries from Albania to Poland suggests that the impact of the political changes of recent years has led to an extra one million deaths, in addition to the expected mortality figures. Russia and Ukraine are again the hardest hit. They contain 71 per cent of the study countries' population, but have suffered 95 per cent of the excess mortality.

Unlike other social upheavals, which frequently affect the old, young and women the most, in post-communist Europe, young and middle-aged men are most vulnerable. The main causes of excess mortality have been heart and circulatory diseases, followed by infectious and parasitic diseases, from hepatitis to cholera and tuberculosis, but murder, suicide and vehicle accidents have also been important contributors.

A range of studies of this phenomenon have identified a number of contributory factors: economic dislocation, leading to unemployement, poverty and stress; breakdown of health infrastructure, reduced subsidies and increased costs; high levels of smoking, drinking and fat consumption; poor housing and environmental pollution.

While death rates climb, birth rates are collapsing: in Russia by 46 per cent from 17 per 1,000 in 1987 to 9.2 in 1993, in East Germany by more than 45 per cent from 12 per 1,000 in 1989 to about 6 5, in Poland by 20 per cent and Bulgaria by 30 per cent

The reasons are complex, including social, psychological and economic, from fears of future prospects to the shortage of jobs ■

cannot bear the cost of early warning and response, so donor support needs to be long-term. A stronger case could be made if the costs of not being prepared were better known. With declining African aid flows, systematic documentation of the costs of emergency operations, compared to those of effective early warning, would strengthen the case for the latter.

The key resource

Information is now a key resource in humanitarian assistance. Like people, supplies and funding, information has to be managed, targeted, planned for and evaluated.

Humanitarian workers need to understand that they play a critical role in feeding information into the warning systems in crisis and pre-crisis situations. They have the potential to inform and use early warning systems. They have the potential to feed self-help and warning information back to disaster victims and the destitute.

Timely warnings which are heeded save lives. The sharing of analysis and information about potential crises improves the likelihood of remedial action being taken. Whether or not we realise this potential depends on our commitment to enhancing the unfettered flow of information from those who have it to those who need it. ■

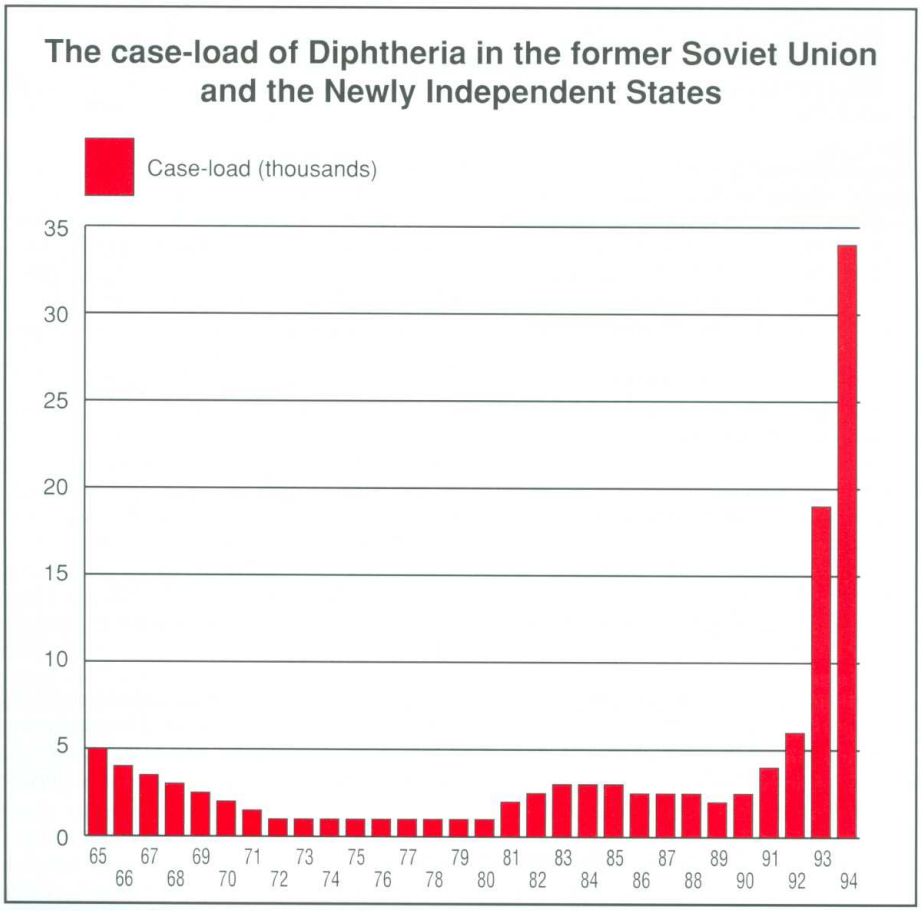

Figure 4.1 Epidemic early warning: Rise in communicable disease in the NIS. Breakdown of former centrally-run health services, combined with a sharp increase in poverty in former Soviet Union countries, has caused a crisis in disease prevention. The incidence of many diseases, such as diphtheria, is on the increase and the effect may not remain confined to the Newly Independent States (NIS) as viruses, disease vectors and people travel across open land borders.

Source: World Health Organization