
Crisis Discourses and Technology Regulation in a Weak State: Responses to a Pesticide Disaster in Honduras

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Abstract

Hurricane Mitch hit Honduras in October 1998, leaving a trail of death, injury and devastating damage. As it tore through the country, the hurricane damaged a number of warehouses which contained pesticides, resulting in the discharge of more than 70 tonnes of pesticides into the environment. This article explores the responses of the Honduran state and international relief agencies to this event. It analyses the use of crisis discourses and their role in the reconstruction process, arguing that crisis discourses may legitimize political rule in the context of a weak state. It goes on to make the point that the shaping of crisis discourses is not the exclusive terrain of politicians but necessarily involves technical experts.

Introduction

Hurricane Mitch reached Central America in October 1998. In Honduras, it caused thousands of deaths and devastated the country's productive capacity. The torrential rainfall caused by Mitch led to flash floods along the rivers. The water swept away everything it encountered on its way to the sea, including a dozen warehouses stocked with pesticides in Southern Honduras. The first reports of tonnes of pesticides discharged into the

environment alarmed state officials as well as international relief agencies. A series of co-ordinated and uncoordinated actions was developed to respond to this pesticide disaster. State officials defined the situation as a 'crisis', to be defused by adequate state action and the mobilization of available technical expertise.

The response to the pesticide disaster raises questions about the role of crises in political processes in developing countries and the relationships between technical expertise and policy-making to avert crises. This article addresses these questions by exploring how political-technical actor networks responded to the Mitch pesticide disaster in Honduras. It argues that an understanding of state actions should not be limited to an analysis of politics, economics, and social relations between a state and other actors; rather, a complementary analysis is needed which reveals how a state intervenes in production, regulates technology innovation, and deals with technological and environmental risks and uncertainties. The responses of Honduran state agencies to the pesticide disaster provide an opportunity to explore how a state handles high risk technologies in a situation of underdevelopment and how specific images and representations appear in risk narratives of modern technologies. In this respect, a disaster can be considered a *crise revelatrice*, which lays bare fundamental features of society (Oliver-Smith, 1996: 304).

The article begins by briefly outlining the effects of Mitch and identifying the actors who responded to the pesticide disaster, before going on to address theoretical problems in analysing social change and continuity in times of disasters. It asserts that the historical specificity of national bureaucracies is important for explaining the role of crisis discourses in Honduran politics. Two subsequent sections discuss key responses to the Mitch pesticide disaster, while the final sections elaborate on what these responses tell us about Honduran society and, in particular, the Honduran state.¹⁾ The occurrence of disasters and other crises are not simply a threat to administrations, but may in fact serve as a lifeline to political elites. Furthermore, in contrast to recent views in influential policy literature, it can be argued that technical analysis is an increasingly important factor in, and interwoven with, crisis-ridden policy choices.

Mitch and the pesticide disaster

Mitch crossed Honduran territory between 26 and 31 October 1998; in terms of numbers of deaths, it was the most destructive hurricane in the western hemisphere since 1780 (Hellin and Haigh, 1999). Initially people assumed

that Mitch, like most other hurricanes, would only hit the northern coastal areas, so that when Mitch turned inland unexpectedly, people were totally unprepared. It was not so much the wind but the heavy rains that caused extensive damage, especially since it was the end of the rainy season and the soil was already largely saturated (Hellin and Haigh, 1999). On some sites, more than 50 per cent of the mean annual rainfall fell in a few days. Official reports counted 5,657 deaths, 8,058 missing persons and 441,150 cases of house damage or loss (GERNH, 1999). Sixty-eight bridges were destroyed and another fifty-three damaged (Oxfam, 1999).²⁾ Total direct and indirect property losses were officially estimated at US\$ 3,841 million. The same estimates projected a growth rate of GDP in 1999 of -2 per cent rather than the previously anticipated 5.5 per cent (GERNH, 1999).

The torrential rains of Mitch caused rivers to flood. The normally meandering river Choluteca and other streams in South Honduras swelled with enormous amounts of water: these were the floods that devastated a number of large and small pesticide warehouses as well as one pesticide plant.³⁾ The pesticides, of every sort and kind, were packed in different types of barrels, bags, and flasks. Eyewitnesses observed 'a large quantity of barrels floating in the bay' in which the rivers discharge (*La Prensa* 17 November 1998). Officials of the Ministry of Agriculture estimated that over 70 tonnes of pesticides had been swept away (DCUP, 1998). Not all pesticides were lost: inhabitants of the region gathered barrels and many were returned to the firms, for a reward of 400 *lempiras* (about US\$ 30) per found item. However, government officials acknowledge that the finders probably kept many barrels. Press releases expressed a concern that people were using these barrels to store water.

The Central American countries ravaged by Mitch attracted aid from relief agencies worldwide, from governments, and the public in general. Within a few weeks George Bush, Hillary Clinton, Jacques Chirac, Crown prince Felipe of Spain, Michael Camdessus of the IMF, the vice-president of Taiwan, Ministers of Foreign Affairs from Japan and Cuba, and a series of other VIPs and aid diplomats had visited Honduras, expressing their solidarity with the victims and promising aid in the form of supplies, aid brigades, money, or cancellation of debts. The Honduran government launched its Master Plan for National Reconstruction and Transformation (*Plan Maestro de la Reconstrucción y Transformación Nacional*) and in majestic international meetings, donors and receiving countries jointly monitored the reconstruction process and the flows of funds. The main political test for the government in the coming years would be the amount of donor money that could be secured.

Within the emerging disaster boom economy in Honduras, a sum of money was reserved to respond to the pesticide disaster. Studies were commissioned to establish the route that the pesticides had travelled, the scale of the contamination, whether drinking water from wells could be used, and how the pesticides could be cleaned up. The Dutch government allocated US\$ 4 million to a trust fund, of which about one-fifth could be used for the pesticide disaster in Honduras. A series of organizations became involved in responding to the pesticide disaster, a number of which will return in the story below. The World Bank took on administration of the trust fund. Officials of the Ministry of Environment (SERNA, through DECA, the *Dirección General de Evaluación y Control Ambiental*) and the Ministry of Agriculture (SAG, through SENASA, the *Servicio Nacional de Sanidad Agropecuaria* and the DCUP, the Department of Control and Use of Pesticides) surveyed the possibly affected region in November 1998. In the same month, the Center for Disease Control and Prevention (CDC from Atlanta, USA), the Ministry of Health, the OPS (*Organización Panamericana de Salud*) and CESCCO (*Centro de Estudios y Control de Contaminantes*, Tegucigalpa) carried out joint studies, including an epidemiological survey and analyses of residues in water, soil, blood, and urine samples. CESCCO also carried out a study of water samples from other locations. *Médicos Sin Fronteras* (MSF, the Spanish branch of *Médecins sans Frontières*) sent an expert team to collect information, to set up an information campaign, to assist in public health care, to carry out an epidemiological study, and to evaluate the environmental contamination.

Disasters, technology regulation, and the Honduran state

Social Catalyst or ‘Exception Routines’

Sociological and anthropological studies of disasters discuss the patterns of continuity and drastic social and cultural change during and after disasters. They contend that disasters may ‘interrupt or destroy the essential functions of the society’ (Oliver-Smith, 1996: pp. 305) or ‘disrupt social structures’ (Fritz, cited in Fischer, 1998: 2–3). The disrupted social structure is, in the first instance, the prime focus of the sociology of disasters. Concurrently, the literature shows how the study of disasters as a form of crisis may reveal underlying social structures and routinization embodied in social rules. Crisis behaviour, according to Douglas (1986: 122) ‘depends on what patterns of justice have been internalized, what institutions have been legitimized’. Conventions and principles do not collapse in times of famines, disasters,

and wars but instead make it possible to cope with these calamities and are thus reproduced and strengthened. Following this line of thought, disasters are a laboratory for social sciences and their study may display hidden aspects of culture and social institutions such as the workings of alliances (Hoffman, 1999).

A number of other notions have emerged, positioned between the poles of disasters as crises that disrupt social structure and crises that routinize social order. The idea of disaster as a ‘social catalyst’ is the most noted effort to mediate between the extremes of disruption and routinization. A disaster event may trigger fundamental social changes or accelerate processes of change already underway (Hoffman, 1999; Kreps, 1998). Social and cultural change may take place after a calamity but, at the same time, cultures tend to interpret and translate new experiences and information into the known, into the basic schemata of a culture. Of course, whether or not social and cultural change has taken place (with the disaster as a social catalyst) can only be concluded afterwards. Since the social struggles to bring about change after Mitch were still ongoing at the time of fieldwork, the concept of social catalyst had little analytical value for this study. The less well-known concept of ‘exception routines’ (Stallings, 1998) seemed more promising since the concept of ‘exception routines’ mediates between and articulates disruption and routine, and seems relevant when post-disaster processes have not yet fully crystallized. Exception routines refer to the counter-measures invoked to restore routines and are, as such, part of the process of routinizing social structure. The concept of exception routine views responses to disruptions not simply as crisis behaviour or restoration of social order. Instead, it seeks to focus more closely on how exceptions generated by crises are, or can become, routines.

Routines in pesticide regulation involve the registration of new pesticides after the review of toxicological and other requested studies, issuing licences, monitoring imports, inspection of retailers (for example, whether all products are legally imported and labelled, inspection of expiry dates), controlling irregularities, and so on. These normal routines were disrupted by Mitch. Various state agencies were mobilized to respond to the pesticide disaster. Officials of these agencies thought that the event could potentially deepen public mistrust towards the capacity of the state to manage pesticide risks. Mitch made it possible to undertake actions that seemed improbable before, but which at the same time drew upon, and in fact strengthened, the everyday routines in Honduran policy-making and implementation. Efforts to address new risks resulting from Mitch are identified below using the exception routines approach; this may reveal the particularities of the routines in pesticide regulation in a so-called ‘weak state’.

The socio-political struggles after Mitch evolved around the terms ‘reconstruction’ and ‘transformation’. Initially, the dominant political concept was reconstruction, but this was soon contested by development organizations, trade unions, farmer organizations and other community and social movements (hereafter CSOs). They proposed to use the new situation, that is the flow of aid money, to transform the country. Gradually the government incorporated the concept of transformation into its political discourse. Reconstruction became the term for economic recovery and rebuilding of infrastructure, while the notion of transformation addressed poverty reduction and participation of the so-called civil society in policy-making. Even before Mitch, international development banks and the World Bank had been advising the government to increase ‘civil society participation’. After Mitch, however, it was turned into a strong conditionality for Mitch-related loans and donations. The donor-imposed ‘Civil Society Participation Commission’ became the arena in which different meanings about reconstruction and transformation were disputed. For the CSO networks constituting this civil society, transformation meant, in theory, a sharing of power between the elected government and their platforms. In practice, the basic row was about who could distribute which part of the aid money.⁴⁾ Both reconstruction and transformation built upon a notion of disruption, but reconstruction implicitly stressed the idea of ‘getting back to normal’ and the restoration or continuation of social order. Reconstruction hinted at continuity with the past and the rebuilding of what existed before. Transformation, in contrast, imagined radical changes — at least among the participating civil society platforms. It implied a chance to change all that had been considered undesirable long before Mitch. This imagination of radical change and the rebuilding of order resonates with the earlier concepts of social disruption and routine in disaster studies.

One might expect that proposals for reconstruction and transformation projects would pick out the elements and processes within the state that should be reconstructed or transformed. The post-disaster plans, however, outlined many different projects but showed little sign of reflection on the history of organizational and political capacities of Honduran state agencies. This is typical of a general lack in development debates of serious analysis of the character and capacity of the state (Leftwich, 2000). This article only looks at one part of the Honduran state — namely its activities in the field of technology regulation. Little work has been done in this field, but a review of the relatively large body of historical literature of political regimes and state formation in Honduras may be helpful to identify relations between political regimes on the one hand and the specific organization of state agencies and the character of regulation on the other hand.

The Emergence of Pesticide Regulation in the Honduran State

Many scholars consider the liberal reforms in the late nineteenth century to have been of overriding importance for the nature of political regimes in the twentieth century (see, for example, Molina Chocano, 1976). These reforms were intended to promote a commercial, export-oriented agriculture through the reduction of export taxes, tax exemptions on import of agricultural inputs, and the improvement of access to land for commercial producers. As in El Salvador, Costa Rica and Guatemala, coffee was viewed as the key crop for modernization, but in contrast to similar reforms in neighbouring countries, the Honduran reforms did not create a real agrarian bourgeoisie that could accomplish the intended agricultural modernization. National capital opted for banana and mining instead of coffee (Eraque, 1997). After initial growth in these sectors, the interference of foreign interests led to the displacement of an incipient class of agricultural entrepreneurs in banana cultivation by US corporations and thus contributed to an 'aborted liberalism' in the early twentieth century and a delay of the development of an agro-export landlord class (Argueta, 1975; Mahoney, 2001). The political constellation, sometimes characterized as an 'absent oligarchy', ruled through *caudillos*, strong men who relied on patronage (and financial support/bribes from the US banana corporations) to dominate government in a highly personal fashion (Mahoney, 2001; Pastor Fasquelle, 1986). The political elite, rather autonomous from national economic classes, did not have the means — and appeared to have little interest — for developing a public bureaucracy.

Only when domination shifted from US corporations to the US government after World War II, were more substantial efforts made to construct a state apparatus. The IMF supported the foundation of the Central Bank and a development bank in 1950 and the Ministry of Agriculture in 1951 (Dunkerley, 1988). The military gradually turned into a real institution and became an independent political force, rather autonomous from the two traditional political parties. The incipient state structures, however, retained the routines of earlier patronage. The National Party and the Liberal Party competed for the distribution of posts, contracts, and favours and inhibited an ideologically informed politics of state development. The little development of the state apparatus that did take place, was induced by external forces through development aid and pressure by labour movements and commercial interest groups. The latter were not fully developed classes with coherent political projects but merely conglomerations of divided groups with multiple interests. They were

nevertheless able to exert pressure, and become co-opted, because of the political void left by the weak political parties (Dunkerley, 1988).

In the 1960s and 1970s, the state apparatus further expanded. It was not a state dominated by classes or a relatively autonomous state promoting cohesion in a capitalist society (in the Marxist sense); nor was it a Weberian autonomous bureaucracy with an impersonal bureaucratic staff and a legal-rational authority (Leftwich, 2000). In fact, it was the pluralism of national interests, the stimulus provided by international development aid, and the US support for the military which boosted the size and number of state agencies. In many cases, state agencies grew beyond the size needed to carry out their assigned tasks (the ‘over-developed’ state identified by Alavi, 1982). But despite this bloated state apparatus the Honduran state remained a ‘weak’ state, with a lack of capacity to pursue its own agenda, considerable interference by foreign entities in setting the development agendas, and a lack of means and knowledge to enforce law and to make the juridical system work (Roquas, 2002). The emergence of pesticide regulation took place in the context of this weak state.

It was not until 1981 that the Honduran government engaged in serious efforts to regulate pesticides. Growing international awareness of the potential negative consequences of pesticides had sparked environmentalist action worldwide (Carson, 1962; Dinhmam, 1993), which led to increased attention for pesticide regulation in the 1970s (Boardman, 1986). These international debates inspired the prohibition of most organochlorines in Honduras in 1980, but they did not lead to a fully functional pesticide regulatory system. Registering a pesticide in the 1980s was merely a matter of filling in the right forms in the very small and understaffed registration office. There was no real evaluation of the nature of the pesticide. This changed in the 1990s, when the FAO (the Food and Agriculture Organization of the United Nations) provided the intellectual basis for a regulatory framework through its Code of Conduct (FAO, 1990) and supported regional harmonization of pesticide laws (OIRSA, 1995). The German development agency, GTZ, funded capacity building and infrastructure (computers, travelling funds) of the DCUP, which thus became a visible department in the Ministry of Agriculture. Nevertheless, the DCUP was constantly confronted with the limitations of the weak state. With low salaries and low career expectations, many of its personnel left for jobs in the pesticide industry once they had been trained — with GTZ fellowships — in pesticide matters. The director- ship of this department was viewed as more of a political than a technical position. Most of the intellectual work, such as writing new legislation was done by GTZ consultants and not by officials. Inspection activities were constrained by lack of funding, and inspectors

often felt frustrated by the *política* — that is, by the patronage of political authorities which protected importers and traders who violated the law. Compared to the increasing amount of work that the planned professionalization implied, the department remained understaffed even though the number of professional agronomists grew from one to seven (Jansen, 2002). The DCUP is a clear example of an incipient state agency whose functioning is restrained by a patronistic environment.

These constraints applied to a lesser extent to CESCCO. With a charismatic and socially well-positioned director, this organization could to some extent keep party politics at bay and, with the financial support of Swiss aid, keep up a reasonable level of technical capacity. On several occasions in the 1990s, CESCCO took the lead in investigating pesticide accidents and measuring environmental pollution. DCUP then had to follow and to bring in their specific knowledge. Media attention around such accidents and irregularities in pesticide use often led to a critique of the system of pesticide regulation in Honduras, and thus affected the DCUP.

The perceived deficiencies in pesticide regulation inspired many calls by Hondurans in general, and the involved officials and technicians in particular, for an apolitical civil service, insulated from interest groups, with technical officers appointed on the basis of merits and professionalism. In terms of the state apparatus, such calls imply the lack of a (Weberian) bureaucracy, rather than too large a state (Evans, 1992). With regard to pesticides, the calls are for an improved DCUP, proper law-making, independent and qualified reviews of registration applications, and inspection of violation of the regulations without respect to persons. In the course of this study, none of those interviewed — including representatives of the pesticide industry — nor any other sources argued for the reduction or the closing down of the DCUP. Mitch, one could argue, offered DCUP and other state agencies the opportunity to show that they were capable of responding to crises, thus justifying their existence.

Institutional responses to Mitch

The Formulation of a Crisis Discourse

Mitch naturally triggered a sense of crisis. The country's politicians and officials of CESCCO urgently needed information about the situation. The first inspections of the region, based on visual observation, did not show signs of contamination — the death of huge numbers of fish which had been expected did not occur. Nevertheless, CESCCO staff tested water and

sediment samples for the presence of organochlorines and organophosphates, two major pesticide groups, between 10 and 12 November 1998.⁵⁾ Sample sites included the Choluteca River in the South, a few wells, and several estuaries (Valdéz and Bulnes, 1998a). On 12 November 1998, CESCCO took water samples of the Choluteca River in Tegucigalpa to investigate possible pesticide contamination of the river on its passage through the capital (Valdéz and Bulnes, 1998b). The results for organophosphates were negative in both studies. Organochlorines were observed but were below acceptable standard levels. The pesticide residues and their metabolites that appeared in the test results of CESCCO, came from pesticides applied a long time ago and were therefore not an effect of the pesticide disaster. The CESCCO studies concluded that the lost pesticides were probably buried, in their original packing, under the mud or on the bottom of the river or the estuaries. CESCCO stressed the potential future risk of this situation.

In April 1999 — a half year later and in the midst of the dry season — CESCCO ordered a new study of water samples of the Choluteca River in Tegucigalpa. Tests for organophosphates were again negative. But this time, alarming rates for dieldrin, far beyond acceptable levels, were detected in both water and sediments (Bulnes and Díaz, 1999). In one sample, gamma-BHC also exceeded the acceptable level. The organochlorine dieldrin has not been a legal product since 1980 and there are no indications that it was stocked at the time of the 1998 hurricane. These results confirmed the earlier indications that the pesticide contamination found by CESCCO was not a result of the Mitch-related pesticide disaster, but rather stemmed from earlier use of pesticides. It was not pesticides lost in the disaster but the earlier routine application of dieldrin and other organochlorines that had caused contamination. Hence, crisis responses by CESCCO had, in fact, generated knowledge about pesticide routines in the past.

Other organizations besides CESCCO felt the need to examine the effects of the pesticide disaster. A study of water samples commissioned by DECA, at the end of November 1998, found no proof of contamination either. Yet it recommended the launching of a massive information campaign about the risks of handling these pesticides. CDC, in collaboration with the Ministry of Health and CESCCO, examined water contamination and similarly found little contamination by organochlorines and no contamination of water wells by organophosphates (Balluz et al., 2001; Myton, 1999). It did detect metabolites of DDT in the blood of 95 per cent of the sampled adolescents, however, indicating that many adolescents had been exposed to DDT applied in the past. Like the CESCCO studies, the CDC study revealed more about earlier pesticide usage than about the current location of the lost pesticides.

Finally, a study carried out by MSF (1998) found no serious cases of toxic pollution or environmental contamination, and thus confirmed the other studies.

Besides the testing for pesticide residues, SENASA officials searched for lost pesticide barrels, first with helicopters and later, in December 1998, with technical experts and apparatus of the US Geological Survey. They found nothing and concluded that the region was probably free of any residues and that all pesticides not recovered by that time had been washed away into the sea. Nevertheless, a plan was made to survey the region periodically.

Some of the studies mentioned made inventories of lost pesticides. Somewhat different lists circulate. According to pesticide registration officials of DCUP-SENASA (personal communication; see also MSF, 1998) all lost pesticides were registered. However, a check of these inventories shows that they contain products never registered in Honduras (SAG, 1998). Officials interviewed in other ministries expressed the view that the warehouses contained non-registered pesticides and criticized SAG for this, as well as for the fact that SAG-officials could not tell precisely which pesticides and how many were being stocked by the different firms. MSF (1998) estimated that 90 tonnes of pesticides had been lost initially. Official data mention about 73 tonnes of lost pesticides of which almost 35 tonnes were recovered.

These studies, and particularly the sections relating to recommendations, reveal the role of routines and exception routines in the responses to, and thinking about, this disaster. Most recommendations deal with routine practices and thinking such as the improvement of pesticide regulation, monitoring of environmental contamination and pollution by pesticides, or the continuous education of people about pesticide risks. The CESCCO recommendations for monitoring and education are good examples of responses remaining within the scope of their own institutionalized capacities: identification of found products, sampling of water and sediments and analysis of residues, and undertaking of a second, similar study in another region where pesticide warehouses had also been destroyed.

The point to be made here is that these recommendations not only re-installed routines, but also reproduced the feeling of a state of crisis. They reproduced and strengthened a crisis discourse that had initially inspired the commissioning of studies into the pesticide disaster. None of the studies concluded that the pesticide disaster was under control or that no further risk was to be expected, despite the negative test results regarding contamination with the lost pesticides. For example, the conclusion in Vald  z and Bulnes (1998a) that no alarming levels of contamination with organophosphates and organochlorines were found, was followed by the

conclusion that these products probably remain buried and are thus a potential risk for the future. An alternative, and equally logical conclusion — that all risks of contamination had been diluted — is not even suggested. It was only in personal communications that interviewees expressed the likelihood that the large amounts of water had dissolved all pesticides to such an extent that no substantial contamination would occur in the future. The feeling of a potential crisis was kept intact in the various studies and in official meetings. No one recommended that the available aid money could be used for other, more urgent needs.

The existence of such a crisis discourse does not necessarily mean that authorities perceive a loss of control. Paradoxically, authorities need to have the situation under control precisely at a time of crisis. In several newspaper articles, the authorities explicitly expressed this aspect of having the situation under control. The Minister of Environment for example, said that official tests showed that fish could be eaten without risk of contamination (*La Prensa* 17 November 1998). Both crisis discourse and a state of control were being reproduced at the same time.

The Use of Relief Funds

The crisis discourse around the pesticide disaster triggered the release of aid funds, in particular a Dutch trust fund managed by the World Bank. The World Bank allocated 10 million Lempiras (over US\$ 700,000; *La Prensa* 17 November 1998) to permanently monitoring the regions at risk. But once data were published showing that there was no contamination and much of the pesticide had been recovered, World Bank officials realized that large expenditure on further monitoring and surveying would not be justifiable. They set up various meetings with a series of state agencies in order to target new pesticide-related problems. Preferably, the choice of an alternative should fit into the crisis discourse of a potential pesticide disaster. The money had to be spent in a short period, between April 1999 and March 2000, and World Bank officials therefore motivated state agencies to think up an alternative on which the money could be spent swiftly. The time pressure further reinforced the crisis discourse.

Three uses of the trust fund money crystallized out of these meetings. Part of the money would be used to continue the monitoring of drinking water wells in the disaster area for contamination with organochlorines. This work was co-ordinated with the OPS and the Ministry of Health. A second sum of money would go to educational activities, co-ordinated by the Ministry of Environment. A hired consultant organized extension courses about management of toxic pesticides for primary health workers in the

Southern region. Both projects implemented recommendations of the earlier studies regarding monitoring of organochlorines in drinking water wells and the necessity of educational projects. The third project had much less to do with the Mitch-related pesticide disaster and would swallow up the largest part of the available money in the trust fund (about 70 per cent). This project entailed the removal of stocks of 'obsolete pesticides'. The Agricultural Development Bank BANADESA (*Banco Nacional de Desarrollo Agrícola*) and the Ministry of Health both had large stocks of obsolete pesticides, once obtained for vector control in malaria and for fighting dengue. Most of these pesticides had passed their expiry date. The Ministry of Agriculture normally dealt with pesticide issues, but since its representatives seemed uninterested and did not appear at meetings, it was decided that the Ministry of Environment would co-ordinate this project.⁶⁾

The removal of obsolete pesticides had been discussed for several years. Attempts by the FAO to motivate countries within a region to solve jointly the problems of obsolete pesticides had encouraged the Central American countries to discuss co-ordinated action on this issue within the OIRSA initiative (*Organismo Internacional Regional de Sanidad Agropecuaria*). But despite regular meetings, Honduras had not advanced very much in tackling the problem of the obsolete pesticides. A GTZ consultant, Bolaños, had surveyed the obsolete stocks in the warehouses of BANADESA as early as 1994. The stocks included, amongst others, the insecticide chlordane, prohibited since 1980 and in stock for eighteen years. Bolaños (1994) first suggested investigating whether some of these pesticides could still be used, since destruction would be costly and risky. Little was done with this advice, possibly because of the lack of a legal framework, lack of money, and lack of political commitment. When Honduras became a signatory to the Convention of Basel on the control and disposal of hazardous wastes in December 1995, this signalled a change in the legal context and opened up new opportunities.⁷⁾ The Nicaraguan government carried out a World Bank funded project to have a part of its enormous obsolete pesticide stocks destroyed in Finland. As these stocks could not be shipped in Nicaragua, the Honduran government collaborated within the framework of the Basel Convention and facilitated shipping of the waste from Honduran ports. Officials of the Ministry of Environment became involved in the control of the transboundary movement of these Nicaraguan obsolete pesticides.

Inspired by these activities, one of the officials proposed that similar action be taken with obsolete pesticides in Honduras, but his proposals fell on deaf ears. When the same official became involved in the post-Mitch pesticide disaster meetings on how to use the trust fund money, he found a more fertile ground for his ideas. His proposal to use the remaining funds for

the disposal of obsolete pesticides was accepted by the World Bank officials and the participants of the meeting. The committee decided to make an inventory of all stocks in public hands (aid money could not be used for obsolete pesticides of private persons and firms). Thus, Mitch had created a momentum that allowed the risks related to stocks of obsolete pesticides to be perceived as a crisis.

While the inventory was being made, BANADESA secretly developed an alternative route to get rid of their stocks. A hired consultant identified a location in a rural area where the pesticides could be buried. The choice of the location was controversial because it was close to a road and just above the drinking water sources of a nearby community. Some 17 tonnes of chlordane had already been moved from the BANADESA warehouses to this dump when the community began to protest about the potential contamination of their environment. They filed formal complaints about the toxic waste dump and the Environmental Prosecutor (*La Fiscalía del Medio Ambiente*) investigated the case. It turned out that DECA (part of the Ministry of Environment) had given permission for this dump, although a strict application of official criteria would have precluded the issuing of an environmental licence.⁸⁾ On 13 May 1999, the pesticides were returned to BANADESA's warehouse in Tegucigalpa and the responsible officials of DECA were removed from their positions.

An unanswered question remains why BANADESA decided to dispose of their obsolete stocks in this way when a project proposal had already been submitted to the World Bank and would almost certainly be approved. Officials of other agencies suggested to me that corruption and prospects for personal gain must have inspired this administrative move. Another suspicion was that the director of BANADESA had already contracted the consultant to arrange this dump a long time before and could not get out of this deal. Reference was made to family ties between the director and the consultant. A third explanation mentioned a school near the BANADESA warehouse, where children fainted, possibly due to pesticide intoxication. An expert team from various state agencies went to inspect the warehouses but they refused to enter because of the terrible stench. They returned to their base to pick up protective clothing before entering the place. Many of the pesticide packages had begun to deteriorate and eyewitness accounts of the situation in the warehouse describe the 'incredible mess': open packaging, pesticide on the floor, different pesticides mixed in barrels to save space, and an unskilled workforce. One of the experts suggested to me that the smell had caused the fainting of the children in the nearby school, but in official press releases it was concluded that all industry was located too far away from the school to cause such problems (*Tiempo* 16 July 1999). After the

project proposal had been approved in September 1999, it was quickly executed by AVR, a specialized waste-disposal firm from the Netherlands, which had won the tender for implementation of the project. With technicians of the Ministry of Environment, AVR worked out a strategy to bypass the hierarchical bureaucracy within the ministry and other agencies in Honduras: AVR was given the mandate to arrange all internationally required papers. AVR representatives were keen to get the work done in 'record' time, getting obsolete stocks out of Honduras and burning them in incinerators in the Netherlands. They intended to do in a few months what had taken five years in Nicaragua. The inventory listed 103 tonnes of obsolete pesticides of which about 80 per cent were organochlorines, including chlordane, DDT (once donated by the World Health Organization), and lindane, and expired stocks of malathion and methyl-parathion. The Ministry of Health had 36 tonnes of Sumithion, containing the organophosphate fenitrothion, remaining from a total of 80 tonnes donated by Japan in 1986 for vector control of malaria. They lacked the necessary equipment to apply it, and the pesticide choice for vector control had shifted to pyrethroids. The so-called 'lethal cargo' of 103 tonnes was shipped after a farewell ceremony on 11 February 2000.⁹⁾

Exception routines and crisis discourse in a weak state

This case study of a relatively small project within the larger post-Mitch disaster relief effort not only reveals the major responses of state agencies to disasters but also highlights some crucial elements of technology regulation in 'normal' periods. Actors involved perceive that the state apparatus has institutionalized routines which limit proper state functioning, such as faulty co-ordination between different state agencies concerning pesticide issues, the never-ending quarrels about who bears responsibility for specific tasks, and the lack of capacity to implement policies, as exemplified in institutional deadlocks with regard to the disposal of obsolete pesticide stocks. The history of the BANADESA dump reveals that directors of state agencies have considerable institutional room for manoeuvre to engage in illegal administrative deals. It also illustrates the fact that charges against higher state officials and judicial procedures almost never lead to a verdict in a courtroom trial. This case study also brings out important issues regarding state involvement in pesticide matters. During post-disaster activities, views on pesticide regulation and norms were made explicit. Many respondents stressed in interviews that SAG-SENASA should know exactly the type, amount, and location of pesticide stocks around the country, and that the

government should act forcefully against illegal, non-registered pesticides. Documents and interviewees also upheld the norm that there should be no contamination of water sources, not even minimal levels. Moreover, since the emergency study of pesticide contamination did not find the expected acute, disaster-related contamination but instead uncovered contamination by organochlorines applied in the past, this reinforced the view that state agencies should monitor continuously (rather than incidentally), any possible incidents of pesticide contamination, and should educate the population about the possible risks of pesticide use. Another norm expressed by many concerned the expectation of smooth co-ordination and collaboration between the Ministries of Health, Agriculture, and Environment to further best practices of pesticide management.

The post-Mitch activities not only confirmed and reproduced certain routines and norms, but they also broke with others. The state agencies involved in addressing the pesticide disaster acted with quite striking speed and vigour, before any public complaint or accusation had been launched. Technical officials of CESCCO, DECA, and SENASA proposed quite independently and autonomously to investigate the disaster. In ‘normal’ times, they are less pro-active and wait for initiatives of their political superiors. But right after Mitch these superiors welcomed decisive and bold initiatives, pragmatism, and creativity. The story of the obsolete pesticides, which suddenly became a policy priority, shows that ideas and plans blocked earlier could now be executed. It was also remarkable that AVR was able to successfully push officials in the Ministry of Environment to get around the usual bureaucracy and hierarchy. Redefining administrative responsibilities helped cut across existing power relations within the bureaucracy. The bypass proposed by AVR was only acceptable in the context of a crisis discourse that put pragmatism and direct action above predefined responsibilities. Another change took place in the relationships between the involved ministries. While the Ministry of Agriculture had dominated decision-making about pesticide issues (Jansen, 2002), after Mitch the Ministry of Environment could take the lead in disaster-related pesticide projects.

The urgent need to cope with the disaster was the prime motive for breaking with routines, but the crisis itself gave rise to another motive. The disaster soon came to be seen by many as a great opportunity. This idea of opportunity permeated many official and counter-discourses after Mitch. The ‘opportunities’ mainly consisted of pushing ideas and plans that had already existed before the disaster, but which might now have more chance of success. For example, the crisis situation offered the opportunity to meet a long-standing desire of some officials of the Ministry of Environment to get

rid of the obsolete stocks of pesticides. The BCIE (*Banco Centroamericano de Integración Económica*) stated that as an effect of Mitch ‘Central America now has the golden opportunity to reconstruct its collapsed environment’ and ‘the BCIE has the opportunity in its hands to lead an initiative to push the efforts of this [integration of Central America]’ (BCIE, 1998: 13). One FAO document (1998) used the heading ‘Hurricane Mitch: major *impoverishment and opportunity* for an effective international technical co-operation to help farmers’ agricultural production’ (emphasis added).¹⁰ Hence, many organizations felt that Mitch had created a situation in which they could incorporate the disaster recovery planning into their own projects, ranging from promoting neo-liberalism and free trade, increasing civil society participation, increasing the productivity of poor farmers, to renegotiating debts, and rejection of US domination. However, the imagery of new opportunities for long overdue change was overridden, in practice, by various ‘exception routines’. Exception routines, as explained above, are mechanisms for coping with exceptional situations, and for restoring routines rather than seizing upon opportunities for change.

The first exception routine was the creation of a crisis discourse which made rapid and concrete action possible and could bind the different interests within and between involved organizations. The pesticide disaster was directly perceived as a critical incident and a serious threat to a whole region. Pesticides as a symbol of high risk easily articulated with the feeling of a crisis that Mitch had already created. As explained above, the feeling of crisis was carefully reproduced in the conclusions of the studies which, in their main text, presented data suggesting that the discharged pesticides did not actually pose a direct threat to the population. Furthermore, once the organizations involved realized that it made little sense to spend relief money on the pesticide disaster, the feeling of crisis was nevertheless maintained through the choice of alternative projects: the shift of relief aid to the removal of obsolete pesticides kept pesticide stocks in the picture as a potential crisis, even though this issue had little to do with Mitch. The need for rapid action, an element intrinsic to crisis discourses, is expressed in at least two ways in this case: the initial concern for immediate monitoring of pesticide contamination and, later, the need to rapidly develop and implement plans to spend the relief money within the short time span imposed by the donors.

A second exception routine involved calling in foreign experts to help in planning and implementation of action. This foreign expertise is at the same time crucial in the process of justification: the studies of the CDC, MSF and the OPS were used in the public debate to justify the actions undertaken by state agencies. Their conclusions tended to be less contested, although many

of the data on which the foreign experts based their conclusions were provided by the research of the laboratories and departments of the state agencies themselves. Hence, state agencies were not only interested in donor money, equipment, and foreign expertise, but also in the power of justification that they conveyed. For example, in meetings with the press, politicians widely cited the conclusion of the MSF study that the government was in control of the situation because it had responded rapidly and effectively, it had co-ordinated with the agrochemical companies, and it had continuously monitored irrigation and drinking water. Apparently, this conclusion was considered more valid because it was made by foreign experts rather than by government officials themselves.¹¹⁾

A third exception routine concerns the adaptations of development plans (reconstruction plans) to the priorities set by international donors. The case discussed here exemplifies how dependence upon financial institutions directs development planning. Although a Honduran official had developed the idea of removing obsolete pesticides from Honduras, it did not become a concrete project until development aid became available and World Bank officials decided to invest time and energy in bringing various state agencies together to get the idea off the ground. A World Bank consultant chased officials to finish the inventory of pesticide stocks. Through such activities the World Bank exerted a profound influence on the use of the trust fund. It may not be surprising that a donor sets the conditions for the allocation of money. The point here is that fund-receiving organizations in Honduras — the government and many CSOs — seem very flexible in adapting to donor agendas, and apparently lack commitment to endogenous planning of development trajectories. This might be explained by Honduras's weak economic power and the small size of the intellectual elite. This particular exception routine, therefore, may be relatively more important here than in most other Latin American countries. Furthermore, most state agencies only undertake action in cases where donor money is involved. The pesticide stocks were already obsolete and defined as a potential risk, but well-intentioned officials were not able to generate sufficient political support and money to organize their disposal. A potential crisis lay in the ware-houses, but could only become a 'real' crisis, and be treated as such by the government, after donor money had become available.

The particular importance of crisis discourses, the power ascribed to foreign expertise, and the adaptation to donor agendas, have been described here as exception routines followed in order to respond to the pesticide disaster. One may argue, however, that these are the general responses of the Honduran state to all kinds of issues. Hence, what appears in a case study to be an exception routine may not in fact be exceptional when viewed from

another perspective. The relative importance of crisis discourses in Honduras may reflect the weakness of the state. A weak state may seek extra (foreign) sources of legitimization, including foreign expertise and foreign funding, and help in the design of projects that it cannot develop by itself. What needs more explanation here is the importance of a crisis discourse for the political elite in order to be able to govern. Politicians were the first to frame the Mitch disaster in terms of a crisis. It was the government itself that linked its political future to reconstruction, and later to transformation, in the aftermath of Mitch. Currently, it seems that political elites in Honduras cannot engender sufficient legitimization by guaranteeing a return to normality or by promising development. The problem is that normality is not very attractive, and development no longer seems a credible promise for most Hondurans. The creation of an atmosphere of crisis may, in this context, become an important lifeline for political elites.¹²⁾ Once people accept such a construction of crisis they also acknowledge the involvement of politicians in solving the crisis. Crisis discourses, of course, also appear in western political imagination in order to sustain specific political projects. However, in western societies they play a less decisive role in the legitimization of political rule and in determining many, or even most, actions of state bureaucracies. Crisis-ridden practices in Honduras are a characteristic element of the weak state. Mitch did not disrupt but rather intensified normal business, since the normal business of the state in such a poor country is crisis management.

Conclusions

The responses of political-technical actor networks to the Mitch pesticide disaster in Honduras show the role of crisis discourses in political processes in developing countries and the relationships between technical expertise and policy-making to avert crises. This article has examined important routines and norms in the daily activities of pesticide regulation, with regard to co-ordination between state agencies, the use of technical capacity, knowledge about pesticide stocks, inspection activities, and the prioritization of risks. The study identified important counter-measures invoked by the government after the disaster, including the reproduction of a crisis discourse by technical experts, the nature of the call upon foreign expertise, and the dominant position given to donors to set priorities for allocating disaster relief funds. It has argued that so-called exception routines were employed to enforce the idea that the state is capable of coping with this pesticide disaster and future pesticide risks.

Once we shift the analytical focus from the pesticide disaster to technology regulation in general, these exception routines turn out to be symptomatic of policy-making in Honduras in general. This is particularly salient with regard to the role of crisis discourses. The pesticide disaster crisis discourse appears to represent a discursive perspective that stresses a situation of intense difficulty and potential danger, as well as the need for political and technical response within a limited time frame. This study is a first attempt to develop the hypothesis that crisis discourses, although used in many political contexts, have a particular significance for maintaining social order and the position of political elites in what have been called 'weak states'. Governments in these societies cannot be legitimized by a functioning bureaucracy which delivers protection against major risks and improves the livelihoods of its citizens. In this context, crisis discourses may provide at least a minimal level of legitimacy to the ruling elite. If political leaders cannot fulfil the promise they made to improve the general standard of living, they are at least needed, as the discourse indicates, to tackle the nearest crisis. This not only applies to 'high' politics (for example, with regard to economic policy or labour policy), but also to 'low-politics' (Boardman, 1986), for instance with regard to pesticides. Crises are thus not simply external factors, such as rising world market oil prices or destructive hurricanes, but also internal factors, actively shaped within the state and moulded by technical experts into discourses which serve politicians and donors.

The case of pesticide regulation indicates that the Honduran political elite displays relatively little political commitment to building up a regulatory system. International support has allowed for several activities in this field, but the final regulatory practices are affected by a state apparatus which rests on patronage and political clientelism. Officials within the regulatory system seem to run from crisis to crisis. Technical experts play a clear role in defining and redefining crises (through inspection, monitoring, evaluation, and recommendations). My observations contradict the findings of Grindle and Thomas (1989: 232) that in crisis-ridden reforms, concern for political stability and control dominate decision making and that technical analysis remains subordinate to these concerns. It also contradicts their observation that crisis situations have a strong tendency to move the level of concerned officials upward in the decision-making hierarchy of government while situations in which the crisis threat is low tend to remain at lower hierarchical levels (*ibid.*: 230). In the pesticide disaster described above, technical analysis was a prerequisite for the reproduction and deepening of the crisis discourse. The position of the technical expert in decision-making processes was clearly more prominent than in normal situations. In times of

a perceived acute crisis, politicians are more likely to call in expert intervention than in the course of chronic problems. The faith in management of pesticide related risks is thus increased through crisis discourses. As in the case in the infamous Bhopal incident, the potent malignancy of a chronic disaster is readily ignored, and the pathological is normalized, once a disaster has been erased from public notice (Rajan, 1999).

Notes

1. The data used here are derived from semi-structured interviews with involved officials of state agencies, development agencies, and other key actors in 1999 and 2000, complemented with a study of relevant documents and newspaper clippings. This method contributes to an anthropology of the responding institutions rather than of the victims of the disaster. All translations from original Spanish language sources were carried out by the author.
2. Most numbers were substantially higher in initial official reports. BCIE (1998), for example, talked about 12,000 missing persons and 189 damaged bridges, while the World Bank (1998) reported 100 damaged bridges. Early over-estimations are sometimes reproduced in scientific publications (for example, Glantz and Jamieson, 2000). Over-estimations of the damages were instrumental in the development of the crisis discourse.
3. The pesticide plant, which made generic pesticides, was owned by the firm Agroquímicas de Honduras. The damaged warehouses were the property of Hondex (Suragroh) and the melon growers Montelibano and Suazo. The firms Fertica and Cadelga had, in anticipation of some flooding, transferred their stocks to other warehouses. But when the Choluteca river suddenly changed course during Mitch, those warehouses were also destroyed (Salgado-SAG, personal communication; MSF, 1998; Valdés and Bulnes, 1998a).
4. This focus on power-sharing dominated the series *Transformando la Reconstrucción*, an insert of the national newspaper *La Prensa*, which published the ideas and programmes of *Interforos*, one of the two main civil society networks. What was remarkable was the focus on who should distribute the money and make the plans, while there was very little discussion on the content of planning or on how the money should be distributed.
5. Organochlorines tend to be very persistent and to accumulate in the food chain because they are stored in animal and human adipose tissue. Many countries have banned them (DDT is a well-known example). Organophosphates, in contrast, may decompose within a few days in hot climates. However, many organophosphates have a much higher acute toxicity level than organochlorines and may thus represent a high risk if present in drinking water.
6. The crisis discourse was particularly lively in the Ministry of Environment. This Ministry had been responsible for the transport of some obsolete pesticides from Nicaragua through Honduras. The shipment was passing through Honduras

exactly at the time that Mitch struck. Alarmed by this unexpected additional responsibility, officials of this ministry decided to park the column of lorries in a valley, hoping that it would withstand the hurricane. This experience had shocked them and given rise to the feeling that the presence of obsolete pesticides in Honduras constituted a serious danger.

7. See <http://www.basel.int/>.
8. During the study, I received contrasting information about whether DECA had issued an actual licence or whether it had only made a verbal agreement.
9. While making the inventory, another 300 tonnes of obsolete pesticides in public stocks were identified and the World Bank is preparing a second project.
10. Many other donors, aid agencies, and multilateral organizations also defined the disaster situation as an opportunity. The World Bank saw Mitch as 'constitut[ing] an opportunity to reconstruct the country with greater social equity' (1999: 4). Respondents of CSOs likewise defined the situation as an opportunity to gain more influence in policy-making. Brown (2000) claimed that the impacts of Mitch provided an opportunity for a shift in the priorities underlying the formulation of US policy towards Nicaragua.
11. The power of foreign expertise does not mean that Hondurans glorify everything that comes from abroad. A reverse strategy of blaming the donors also exists. Interviewees and newspaper articles repeatedly emphasized that a large amount of pesticides in the obsolete stocks had been donated, thus representing Honduras as the victim and blaming donors for bringing new risks to the country. This blaming of outsiders built upon a strong sense of patriotism and legitimized, in some reports, the initial judicial passiveness after BANADESA had dumped pesticides. BANADESA too was seen as a victim of ill-considered donations.
12. Progressive Honduran intellectuals may be contributing to the general importance of crisis discourses through a number of studies and presentations that sketch a continuing political, economic and social crisis in Honduras.

References

- Alavi, H. (1982) 'State and Class under Peripheral Capitalism', in H. Alavi and T. Shanin (eds) *Introduction to the Sociology of 'Developing Societies'*, pp. 289–307. London: Macmillan.
- Argueta, M. (1975) 'Política agraria de la administración Soto. Aspectos agrícolas y ganaderos', *Revista de la Universidad* 9: 16–23.
- Balluz, L., D. Moll, M. G. Diaz Martinez, J. E. Merida Colindres and J. Malilay (2001) 'Environmental Pesticide Exposure in Honduras Following Hurricane Mitch', *Bulletin of the World Health Organization* 79(4): 288–95.
- BCIE (1998) 'Impacto Económico, Político y Social del Huracán Mitch en Centro América'. Tegucigalpa: Banco Centroamericano de Integración Económica.
- Boardman, R. (1986) *Pesticides in World Agriculture: The Politics of International Regulation*. Basingstoke: Macmillan.
- Bolaños, M. (1994) 'Informe final. Evaluación del sector control y uso de plaguicidas en Honduras'. Tegucigalpa: GTZ.

- Brown, E. (2000) 'Still Their Backyard? The US and Post-Mitch Development Strategies in Nicaragua', *Political Geography* 19: 543–72.
- Bulnes, R. and S. Díaz (1999) 'Pesquisa: Informe sobre los hallazgos de residuos de plaguicidas en muestras de agua y sedimentos en el Rio Choluteca y Guacerique a su paso por Tegucigalpa'. Tegucigalpa, Honduras: Centro de Estudios y Control de Contaminantes.
- Carson, R. (1962) *Silent Spring*. New York: Fawcett Crest.
- DCUP (1998) 'Informe Anual 1998'. Tegucigalpa: SENASA-SAG.
- Dinham, B. (1993) *The Pesticide Hazard: A Global Health and Environmental Audit*. London: Zed.
- Douglas, M. (1986) *How Institutions Think*. London: Routledge.
- Dunkerley, J. (1988) *Power in the Isthmus. A Political History of Modern Central America*. London: Verso.
- Eraque, D. (1997) *El capitalismo de San Pedro Sula y la historia política hondureña (1870–1972)*. Tegucigalpa: Guaymuras.
- Evans, P. (1992) 'The State as Problem and Solution: Predation, Embedded Autonomy, and Structural Change', in S. Haggard and R. R. Kaufman (eds) *The Politics of Economic Adjustment: International Constraints, Distributive Conflicts, and the State*, pp. 139–81. Princeton, NJ: Princeton University Press.
- FAO (1990) 'International Code of Conduct on the Distribution and Use of Pesticides'. Rome: FAO.
- FAO (1998) 'Huracán Mitch: Mayor empobrecimiento rural y oportunidad para una cooperación técnica internacional efectiva en apoyo a la producción agrícola campesina'. <http://www.rlc.fao.org/paises/noticias/huracan.htm> (2 January 2001).
- Fischer, H. W. (1998) *Response to Disaster: Fact Versus Vision and its Perpetuation: The Sociology of Disaster* (2nd edn). Lanham, MA: University Press of America.
- GERNH (1999) 'Plan Maestro de la Reconstrucción y Transformación Nacional (PMRTN)'. Tegucigalpa: Gabinete Especial de la Reconstrucción Nacional de Honduras.
- Glantz, M. and D. Jamieson (2000) 'Societal Response to Hurricane Mitch and Intra-versus Intergenerational Equity Issues: Whose Norms Should Apply?', *Risk Analysis* 20(6): 869–82.
- Grindle, M. S. and J. W. Thomas (1989) 'Policy Makers, Policy Choices, and Policy Outcomes: The Political Economy of Reform in Developing Countries', *Policy Sciences* 22: 213–48.
- Hellin, J., and M. J. Haigh (1999) 'Rainfall in Honduras during Hurricane Mitch', *Weather* 54(11): 350–8.
- Hoffman, S. M. (1999) 'After Atlas Shrugs: Cultural Change or Persistence After a Disaster', in Oliver-Smith and S. M. Hoffman (eds) *The Angry Earth: Disaster in Anthropological Perspective*, pp. 302–25. London: Routledge.
- Jansen, K. (2002) 'Plaguicidas y su regulación en Honduras', *Ceiba* 43(2): 273–89.
- Kreps, G. A. (1998) 'Disaster as Systemic Event and Social Catalyst', in E. L. Quarantelli (ed.) *What is a Disaster? Perspectives on the Question*, pp. 31–55. London: Routledge.
- Leftwich, A. (2000) *States of Development. On the Primacy of Politics in Development*. Cambridge: Polity.
- Mahoney, J. (2001) 'Radical, Reformist and Aborted Liberalism: Origins of National Regimes in Central America', *Journal of Latin American Studies* 33(2): 221–56.
- Molina Chocano, G. (1976) *Estado liberal y desarrollo capitalista en Honduras*. Tegucigalpa: Editorial Universitaria.
- MSF (1998) 'Tóxicos en Honduras — Huracán Mitch'. Tegucigalpa: Médicos Sin Fronteras.
- Myton, B. (1999) 'Resumen de trabajos realizados sobre la cuenca del río Choluteca y el uso de plaguicidas en Honduras'. Tegucigalpa: Banco Mundial.

- OIRSA (1995) 'Anteproyecto de instrumento jurídico armonizado para el registro y control de plaguicidas de uso agrícola en Centroamérica y Panamá'. San Salvador: FAO.
- Oliver-Smith, A. (1996) 'Anthropological Research on Hazards and Disasters', *Annual Review of Anthropology* 25: 303–28.
- Oxfam (1999) *Balance del primer año del proceso de reconstrucción de Centroamérica tras el huracán Mitch: la ayuda invisible?* <http://www.oxcamex.org.ni/mitch/> (7 June 2000): Oxfam International.
- Pastor Fasquelle, R. (1986) *El ocaso de los cacicazgos: historia de la crisis del sistema político hondureño*. Tegucigalpa: CEDOH Especial 21.
- Rajan, S. R. (1999) 'Bhopal: Vulnerability, Routinization, and the Chronic Disaster', in A. Oliver-Smith and S. M. Hoffman (eds) *The Angry Earth: Disaster in Anthropological Perspective*, pp. 257–77. London: Routledge.
- Roquas, E. (2002) *Stacked Law: Land, Property and Conflict in Honduras*. Amsterdam: Rozenberg Publishers.
- SAG (1998) 'Catálogo oficial de plaguicidas registrados en Honduras'. Tegucigalpa: SAG-SENASA-OIRSA.
- Stallings, R. (1998) 'Disaster and the Theory of Social Order', in E. L. Quarantelli (ed.) *What is a Disaster? Perspectives on the Question*, pp. 127–45. London: Routledge.
- Valdés, J. R., and R. Bulnes (1998a) 'Informe sobre los resultados obtenidos de muestras de aguas tomadas en el Río Choluteca en la ciudad capital'. Tegucigalpa: CESCCO.
- Valdés, J. R., and R. Bulnes (1998b) 'Informe sobre muestreo en el Río Choluteca y el Golfo de Fonseca, para determinar plaguicidas organoclorados y organofosforados'. Tegucigalpa: CESCCO.
- World Bank (1998) 'Honduras-Hurricane Emergency Project'. Report No PID7193. Washington: The World Bank.
- World Bank (1999) 'Honduras. Estratégia de asistencia para el país (CAS)'. Washington: The World Bank.