

# The Unspeakable Ban: The Translation of Global Pesticide Governance into Honduran National Regulation

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**Summary.** — This study examines the transfer of regulatory models from the international to the national level, drawing on a case study of Honduras and its adoption of the International Code of Conduct on the Distribution and Use of Pesticides. A key question concerns why the banning of hazardous pesticides disappears from the national policy agenda in the transfer process. The paper argues that development interventions reinforce a way of framing pesticide risks which prioritizes the scientific assessment of pesticides as a product rather than examining the everyday context in which they are used.

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## 1. INTRODUCTION

International agreements are a major instrument for regulating high-risk technologies such as pesticides and biotechnology in developing countries. Although expectations of global governance initiatives are generally high, there has been little examination of what happens when such international agreements are transferred to developing countries. The “International Code of Conduct on the Distribution and Use of Pesticides” (hereafter known as “the Code”), drawn up by the Food and Agriculture Organization of the United Nations (FAO), is the major international agreement on pesticide regulation in developing countries. Drawing on data from interviews<sup>1</sup> this paper examines the extent to which this model fits the particular circumstances of Honduras.

Given the major international drive toward effective pesticide regulation in developing countries, it is pertinent to ask why highly toxic pesticides are not simply banned in Honduras or, at least, severely restricted. A ban means that all uses of a pesticide are prohibited by final regulatory action (FAO, 1990).<sup>2</sup> This paper does not set out to present the case for banning specific pesticides but rather to examine why

banning is not high up on the policy agenda in countries such as Honduras.

A ban would clearly dovetail well with numerous observations made by actors involved in assessing the impact of pesticides in developing countries. First, highly toxic pesticides are reported to be the cause of many smallholder poisonings in developing countries.<sup>3</sup> The exact numbers are uncertain because under-reporting is high (Wesseling, Corriols, & Bravo, 2005) but in any case they are much higher than the corresponding figures for developed countries. In developing countries, the available technology and behavioral patterns, such as spraying without protective clothing, mixing pesticides with bare hands, using empty containers for food and water storage, ignoring instructions which may be in an unfamiliar language, tasting pesticides to test their quality, spraying with unsuitable or dysfunctional equipment, and applying pesticides under adverse weather

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conditions, combine to produce a number of well-documented problems and recurring accidents. Second, while the pesticide industry is aware that they will eventually have to phase out highly toxic pesticides from their sales catalogues (personal communication with industry representatives; Vorley, 2004), they are only likely to pursue more substantial concrete action to promote alternatives if a ban is on the political agenda. Third, a ban on the most problematic pesticides is a relatively simple regulation and arguably easier to implement and enforce in developing countries than the current more complex policies promoting the safe use of pesticides.

In explaining the absence of a ban on highly toxic pesticides in many developing countries, some authors make the point that the safe use of highly hazardous pesticides, whether through banning or not, is simply not possible given the unsafe conditions prevailing in developing countries (Murray & Taylor, 2000; Rosenthal, 2003). Another explanation mentioned in the literature refers to the power of the pesticide industry to oppose regulatory measures which curb pesticide sales and use (Watterson, 2001). While the claim that the industry attempts to influence the regulatory process may well stand, this does not explain why regulatory regimes take the particular shape that they do. In many instances regulatory principles and practices go against the interests of the industry, while at the same time the policy option of banning pesticides is kept at bay.

Based on a case study, this paper argues that the current framing of pesticide risks in Honduras is the result of a complex interaction between global governance initiatives and the national regulatory processes dominated by agronomists. Two moments in particular shape the way in which regulators frame pesticide risks. First, although global governance principles propose banning pesticides where local conditions do not permit good practice, banning disappears as a policy option at the point in which global goals are translated into national policies and implemented at the local level. Second, agronomists in the pesticide regulatory agencies aspire to technical correctness and are reluctant to deviate from external expert knowledge and the cognitive and discursive norms acquired during their professional formation. They put a high value on the experimental assessment of risks and proven science and less value on how the technology is actually

used under the messier conditions of everyday life. As will be seen below, the interaction of these two moments frames pesticide issues in such a way that a ban disappears from the policy agenda.

## 2. ANALYZING REGULATORY SCIENCE AND GLOBAL GOVERNANCE

This paper draws on insights from Science, Technology, and Society studies and from Development Studies to examine critically the interaction of global scientific advice and the governance of technologies in developing countries. Although each area has independently received scholarly attention, few researchers have examined the translation of international models for regulating high-risk technologies (such as the Cartagena Protocol on Bio-safety or the Code) into domestic regulatory practice.

Four inter-related issues are relevant to this study. The first concerns the assumptions made about expertise and governance, which influence the way in which global expert models are implemented locally (Jasanoff & Wynne, 1998). Unpacking these assumptions involves examining the kind of science which frames policy debates, where the boundaries are drawn between science and politics and how domestic regulatory practices are legitimated by appeals to the authority of international, scientific expertise (Gieryn, 1995; Irwin & Rothstein, 2003).

The second issue examines the extent to which global standards, such as the Code's guidelines, acquire a taken-for-granted status such that they are no longer open to questioning. Technical standards are represented as neutral by drawing on the authority of science and may become embedded in everyday routine practices (Jansen, 2004; Jasanoff, 1998). This approach complements the more widespread concern for well-defined principles and technical guidelines with a concern for how a specific regulatory model works out in practice and how it is adapted in the field. The third question asks whether the international origin of such standards tends to neglect local particularities or conflict with context specific regulation (Gupta, 2004). For example, the Code may make questionable assumptions about the controllability of the context of pesticide use.

The fourth issue concerns the role of background knowledge which different actors bring to the policy making process. Recent theorizing

on policy analysis rejects both the conception that policy making is a product of rational action to optimize welfare and the view that policy making is the outcome of struggle and negotiation between conflicting values and interests (Hajer & Versteeg, 2005; Schön & Rein, 1994). An alternative and more comprehensive understanding of pesticide policy making involves examining the underlying structures of belief, perception and appreciation which have been labeled as “frames.” Pesticide controversies cannot be resolved simply by appealing to the facts or to reason since actors holding divergent frames dispute what counts as a fact or a reasonable argument. Frames focus attention and inform what should be included and excluded in policy making. Frames are usually tacit and grounded in institutions. A better understanding of frame conflicts in pesticide controversies may enhance reflexivity in the policy making process (Schön & Rein, 1994).<sup>4</sup>

### 3. THE FORMAL CONSTRUCTION OF A REGULATORY REGIME IN HONDURAS

#### (a) *Global agenda setting and domestic policy making*

The principles defined by the WHO and FAO for dealing with hazardous pesticides play a key role in shaping pesticide policies in Honduras. Like many other countries, Honduras adopts the WHO’s classification scheme which distinguishes four hazard classes according to the relative amount of toxicant required to kill laboratory animals. The WHO classifies pesticides according to their risk to health, a risk faced by any person handling the product in normal use (WHO, 1998). This paper focuses on the problems with pesticides classified as Classes Ia and Ib, or as “extremely hazardous” and “highly hazardous” (hereafter grouped together as “highly hazardous pesticides”).

The first wave of pesticide policy making in Honduras followed international concern about the environmental effects of organochlorines such as DDT and dieldrin. The very first law on pesticides passed in 1962 scarcely influenced the modes of pesticide handling and use (Honduras, 1962). It was not until 1980 that an accompanying regulation (Agreement 318) was adopted, which had a wider impact (Honduras, 1981). This regulation specified the requisite data for applications to register

pesticides and included rules on the labeling of products. However, it did not establish rules for inspecting the pesticide trade or for their employment in the field. The newly established office for pesticide registration consisted of a single person, who set up an idiosyncratic system of registration based on his “own lay knowledge and practical experience.” He received incidental assistance from the Ministry of Agriculture’s field personnel who visited retailers to check for illegal sales, particularly of organochlorines. International alarm at that time about organochlorines prompted the Ministry of Agriculture to trace illegal imports and sales of these products. They were not officially banned but neither were any applications to register them ever submitted.

A second wave of policy making followed the Code’s approval in 1985. The Code responded to growing concern about inadequate controls on pesticides and the lack of regulatory infrastructure in developing countries. It aimed to set out responsibilities and establish voluntary standards of conduct for all public and private entities engaged in the distribution and use of pesticides (FAO, 1990; Kopisch-Obuch, 1996).<sup>5</sup> Pesticide-reduction activists pressed for the development of the Code in the 1980s, and the pesticide industry later added their support (Dinham, 2004; Hough, 1998; Pesticides Trust, 1989). The Code presumes that international intervention can prevent unnecessary duplication of pesticide regulation (Van der Graaff, 1993). Experts explicitly recognized that pesticide regulation in developing countries cannot simply be copied from developed countries since environmental, crop and pest conditions as well as regulatory capabilities all differ.

The Code covers all aspects of pesticide management in a long list of provisions relating to the testing of pesticides, health hazards, regulatory and technical requirements, labeling, packaging, and advertising. Subsidiary guidelines provide further details on how to implement these provisions (such as good labeling practice, good practice for aerial application, and environmental criteria for the registration of pesticides). The Code is voluntary not mandatory. The FAO is thus not implementing a legal instrument but developing support activities in the fields of awareness raising and capacity building, by training policy makers and technical staff in pesticide registration and control operations.

It was some time before the Honduran government took action on the Code. In 1995,

the FAO, together with the inter-governmental agency *Organismo Internacional Regional de Sanidad Agropecuaria* (OIRSA), presented a model legal framework for Central America that built upon the Code. With this model law they aimed not only to improve pesticide regulation in individual Central American countries but also to bring about the regional harmonization of pesticide regulation (OIRSA, 1995). In addition, OIRSA supported everyday operational activities for the implementation of pesticide regulation, such as reimbursing expenses for inspections of pesticide outlets.

The system of expert advice constructed by FAO was not enough on its own to bring about policy change. This required an actor with in-house advisors and funding who could intervene more practically in drawing up pesticide regulation. The German development agency *Deutsche Gesellschaft für Technische Zusammenarbeit* (GTZ) financed pesticide policy projects in the region and aimed to modernize and strengthen pesticide regulation in Honduras during most of the 1990s. GTZ funded staff training in the registration office and infrastructural improvements (office equipment, cars, computers), and provided expert advice on managing information flows. The pesticide regulation office depended on GTZ not only for finance but also for ideas about how to run the department and how to develop long term strategies for pesticide regulation. GTZ staff was directly involved in drafting a new general phytosanitary law, approved in 1995 with a chapter on crop protection products (Honduras, 1995), as well as in transcribing OIRSA/FAO's model law into Honduran regulations. GTZ experts pushed for and largely co-authored the Honduran regulation of 1998 (Honduras, 1998), which laid down the rules for the implementation of the 1995 law (how to register pesticides, inspection, and so on).<sup>6</sup> These different juridical instruments, the fruit of foreign co-operation and intervention, adhered very closely to the letter and spirit of the FAO Code of Conduct.

(b) *Universal principles on highly hazardous pesticides and domestic laws*

The Code contains several articles based on the principle that regulatory procedures should be designed in a way which conforms to the specific situations of developing countries, so that a ban on highly hazardous pesticides remains a sound policy option in some circumstances. Another article states that pesticides, such as Class

I pesticides, which require uncomfortable and expensive protective clothing and equipment "should be avoided, especially by small scale users in tropical climates" (article 3.5 in FAO, 1990). Most Honduran smallholders neither buy nor use such protective equipment. The Code also states that policy makers should "analyze the situation prevailing in the country" when drawing up regulations on "the availability of pesticides." This implies that a pesticide registered in one country should not automatically be registered in another. Such regulations "should be compatible with existing levels of training and expertise in handling pesticides on the part of intended users" (article 7.1). Article 7.3 notes that non-registration is one form of control which governments can exercise over a product. These articles of the Code suggest that the specific context in which they are used as well as the standard risk assessment procedures are relevant for deciding whether to restrict or ban a particular product. Given these articles and the problems, which are known to exist in developing countries, it is appropriate to ask why the Code did not press for more bans on highly hazardous pesticides.

Pesticide regulations in Honduras have generally contained clauses restricting the trade and use of at least some highly hazardous pesticides. Agreement 318 specifies that only persons certified by the Minister of Agriculture are permitted to apply Class I pesticides (article 51). Likewise, article 53 contains a series of instructions on handling these pesticides, such as the need to wear full protective clothing. However, interview data and years of field observation by the author reveal that these provisions are largely a dead letter in Honduras. No specific rules were made regarding the registration of Class I pesticides.

Specific pesticides, largely organochlorines,<sup>7</sup> were first officially banned in Honduras in 1991. Their prohibition by government decree largely responded to international concerns rather than to a considered evaluation of pesticide handling in Honduras. Most of the 14 banned pesticides were not even registered in Honduras at the time of the decree. Rather surprisingly, the ruling also prohibited the registration of all "extremely hazardous" pesticides for agricultural use, a ruling which if it had been implemented would have had far greater consequences for agricultural practices. However, it was clearly never put into practice as the designated government agency continued to register these pesticides.

The 1998 regulation (a product of Code-related interventions) repealed Agreement 318 and formally removed the (unimplemented) rules for handling and applying Class I pesticides, whilst retaining the power to restrict the use of certain pesticides. Furthermore, extremely hazardous and restricted pesticides can only be sold to those with a written prescription from a relevant professional (article 87).<sup>8</sup> However, as with other regulations, this latter rule is not enforced. To date, only one pesticide, the controversial, extremely hazardous methyl-parathion, has been put under “restricted use” (resolution 013-99 of the Minister of Agriculture) and, in practice, this resolution did not curb the free and uncontrolled access of all users to this product.<sup>9</sup>

While this review of the legal documents shows that the Honduran government has banned or formally restricted a few pesticides, prohibition is restricted to a very basic list of pesticides (organochlorines) which had not been registered since the early 1980s and which have largely been replaced by organophosphates in agricultural practice. Although highly hazardous pesticides were the subject of some regulations, these had little impact in practice. Indeed, the regulations stemming from the Code did not restrict pesticide use any more than previous legislation had done. However, the Code did not preclude imposing restrictions on access to highly hazardous pesticides. To explain why these pesticides remained freely available in the 1990s, one has to look beyond the formal legislation and explore how different actors perceive pesticide governance in practice.

#### 4. FRAMING PESTICIDE RISKS

The principal actors involved in shaping Honduran pesticide regulation are SENASA (the government agency responsible for pesticide regulation in the Ministry of Agriculture), GTZ, an inter-institutional commission on pesticides comprising representatives of the Ministries of Agriculture, Health, Environment, and Work, and ADIVEPAH representing the pesticide industry. The argument in this section builds upon the accounts of people working for these organizations as well as other involved actors. Conceptually, three contrasting frames—the anti-pesticide frame, the safe use frame and the technology-assessment frame—inform the narratives. The existence of these three distinct frames emerges most clearly when

examining how people assign blame and how they draw the boundaries between different groups. Two of the frames, the “anti-pesticide” frame and the “safe use” frame form part of a commonly expressed dichotomy between anti- and pro-pesticide ideas. However, this paper argues that it is important to go beyond this form of adversarial thinking if we are to understand fully the policy controversies surrounding pesticides. The third frame, the “technology-assessment” frame, is important in this respect and consequently receives more attention in this paper.

##### (a) *The anti-pesticide frame*

Unlike some other Central American countries such as Costa Rica and El Salvador, Honduras has no strong social movement with a history of campaigning against pesticides and pesticide-friendly policies. Nevertheless, a critical view on pesticides surfaced in many of the interviews and in the newspaper clippings studied. For example, several state officials with an advisory role in pesticide but outside the core decision-making group of agronomists in the Ministry of Agriculture expressed support for a ban.

“The registration office does not function as it does not prohibit [the import of] dangerous pesticides” (researcher in a research laboratory of the Ministry of Environment).

“The industry will always argue that one should not ban [highly hazardous] pesticides. But because of the culture in our country we should not use these products. Even if you had 6 billion dollars to train the peasants, a ban would still not function. (...) Before you ban a product you should first look at whether alternatives are available. Efficacy that is the only argument of the industry. They present [their arguments] very well; they can always tell you why their products are so good” (official of the Ministry of Environment).

“Highly hazardous pesticides should be banned; but that is almost impossible. The industry does know how to present its case well. The farmers do not know how to handle these pesticides. They expect [a product which has] a rapid effect. Of course, they want to play it safe [and not lose a harvest]. They want to use products they already know. The industry has a lot of money and that is why it is impossible to ban products” (official of the Ministry of Health).

Regulators from SENASA and industry representatives spontaneously identified anti-pesticide “emotions” as being an important counter-force to the existing pesticide regulation and pro-pesticide thinking. They often



referred to the emotional impact of media images of fish dying following the pesticide contamination of rivers in the 1990s or to reports of their role in assisting suicide. In particular, the herbicide paraquat and the phosphide pills, used to control storage insects in small, in-house maize silos, are infamous means of committing suicide. The latter are known popularly as “love pills” as they are seen to be taken by young women disappointed in love. Journalists, or those they interviewed, often criticize the widespread availability of these pills in small rural shops where they can be bought by “innocent and ignorant” people.

The third iconic event concerns the controversial National Pesticide Board (CONAPLA) convened in the early 1990s and formed by different stakeholders with the role of advising on pesticide policies. Several interviewees singled out Juan Almendarez as being the most remarkable figure on the Board. He was identified as the environmentalist who wanted to ban a number of pesticides. At the time of interview, Almendarez himself could not recall exactly which of the many organizations he was attached (the university, the Association of Medicine, or one of several NGOs he had joined or founded) he was meant to be representing on CONAPLA:

“The idea was that there should be mechanisms of [pesticide] control. I do not remember how it happened but at one point I was elected as vice-president [of the commission]. I had a good relationship with the director of SENASA. He took a broad view on the matter. I believed that he really wanted to address the problem [of pesticides]. (...) [However], he was bound up by politics. (...) We discussed the Dirty Dozen. We wanted to ban all organochlorines. But we were seen as very radical people. This commission was a hotchpotch, a big mixture of interests. It was very difficult to reach a consensus. I cannot make concessions to the death.”

“I also presented the critique that a lot of money was spent on educating people about the use of pesticides. I asked the others why no money was spent on educating the people *not* to use pesticides. At a certain moment there was an expert from Miami who explained the progress they had made in applying a poison that did not enter the fruit. I kept on asking whether it then would contaminate the environment. He replied these residues were only micro. I replied that many micros can make a macro. Then he became very angry. I retorted that he should give a scientific answer [to my comment].”

This interview material and the newspaper clippings studied reveal some of the anti-pesticide frame’s core ideas and categories. Typi-

cally, Almendarez clings to certain values (“not to make concessions to the death”), exposes the influence of economic interests on decision-making—as indeed did the state officials cited above—proposes alternative paths of modernization (not based on pesticides), and assumes the stance of a counter-expert who had to be convinced by scientific argument rather than by political or emotional pressure. A number of themes recur in the anti-pesticide frame: a distrust in the pesticide industry combined with a belief in its ability to mold circumstances to suit its interests, a belief that the state should control the trade and use of such toxic products but a lack of faith in its ability to do so and an awareness of the way in which high levels of illiteracy and poverty amongst farmers place constraints on the safe use of pesticides, constraints which cannot be eradicated by training and awareness raising.

#### (b) *The safe-use frame*

The safe use frame largely arose as a response to the anti-pesticide frame. In the early 1990s, GIFAP, the International Group of National Associations of Manufacturers of Agrochemical Products (now CropLife International) began to campaign around the idea of safe use.<sup>10</sup> When pesticide products began to be publicly questioned in Honduras, ADIVEPAH, the industry’s association, derived many of its ideas from GIFAP’s international campaigns. The following quotation from ADIVEPAH’s director sums up some of the main elements of the safe-use frame though in a less glossy style than the campaigning literature.

“The industry wanted this organization [ADIVEPAH] to improve its image. (...) The industry is very well aware that they sell poisonous products. It wants to promote their safe and rational use to reduce harm. But what happens in Latin America? The people do not wear gloves because of their thinking. They say that they are strong, macho, and that they will not be harmed. They stir the mixtures with their hands. The industry doesn’t want this [to happen]. It wants the people to wear protective clothes; to follow the instructions about the dose. People use too much, and sometimes also too little. (...) The industry has a lot of interest in safe use. If there is no safe use, accidents may happen and, who knows, the government may prohibit a product. The industry has a good product that has been expensive to develop. It wants to gain profits from it as long as possible.

(...) In the 1990s there was a lot of citizen participation. The government consults people and groups. It

is not they [the government] who invented this, but others, the World Bank and other donors, who want it. I am not against consulting people; they also consult us. But you are sitting around a table with people who are perhaps badly informed. These people just say anything. Then, they want simply to ban a product without realizing that it could be very dangerous not to import it [because of the risk of crop reduction].

(...) We are not critical of the regulations. They have not put up barriers for the import of pesticides; apart from a few banned products. We should not change them, as a lot of effort, a lot of consultation went into it. The only limitation is its implementation. (...) There is no control, no inspection. There is a lot of adulteration and also smuggling. The authorities acknowledge the problem, but there are too few personnel, no budget, and no equipment."

These passages illustrate many of the safe use frame's core themes. Most of these narratives differentiate the "good guys" from the "bad guys," the good guy being the industry, which invests a lot of money in crop protection products. In the interviews, industry representatives expressed their annoyance with those pesticide critics who do not appreciate the difficulty of making a reliable and efficacious product. Furthermore, they point out that the current high yields in agriculture depend on such products. A pesticide ban could thus be dangerous for national food security. The industry also voices concern about the number of pesticide-related poisonings but argues that it is tackling this by spending money on safe use campaigns. Industry representatives proudly mentioned the success of their safe use projects and integrated pesticide management training activities.

There are three bad guys in these narratives: some users, the regulators, and a few "bad apples" in the industry. "Ignorant" users are said to disregard recommended practices by, for example, rejecting protective clothing and persisting in touching and stirring pesticides with their bare hands. The quotation above alludes to Latin American machismo, which is seen as deeply ingrained in the popular culture and thus not easy to change. In the industry's eyes, it cannot be held responsible for factors which lie beyond their ability to change or control.

Blaming regulators is also a characteristic feature of this frame. The ADIVEPAH manager quoted above singled out the poor performance of the registration office in controlling fraud. Typically, Honduran industry representatives direct their criticism toward the implementation of regulations rather than the regulations themselves. Other industry infor-

mants highlighted officials' lack of knowledge which means that they misinterpret documents, such as the relevant toxicological studies, and have to be instructed time and again. Furthermore, those interviewed accused regulatory officials of pandering to popular opinion and to third parties. In the passages above, the industry representative suggests that the government succumbs to donor pressure, thereby giving a platform to ignorant activists. In other interviews industry representatives expressed their disapproval of the government's dependence on GTZ and the ideas of its development workers. Failure in governance is also viewed as creating space for the third bad guy to operate—fraudulent businesses who adulterate pesticides leading to unsafe pesticide use.

In sum the safe use frame argues that pesticide products are safe because they are rigorously tested in laboratories, that they are vital for obtaining high yields and ensuring food security and that the pesticide industry has itself developed important safe use activities. When things go wrong, the finger should not be pointed at them but at those who fail to follow best practices.

### (c) *The technology-assessment frame*

The technology-assessment frame sets itself apart from the other two by defining itself as scientific rather than political. This frame responds to an institutional need for public scientific experts (in this case the agronomist) to mediate in disputes arising from controversial technologies. The Ministry of Agriculture, the main protagonist of this frame, heads the development of pesticide regulation and only appoints those with a college or university degree in agronomy to the regulatory office (five staff members in 2000). These agronomists have constructed a frame which reflects both the imperatives of the organization they work for and their professional outlook as knowledge experts in agriculture.

As knowledge experts, they draw on their scientific background in agriculture to assess pesticides in terms of efficacy, yields, and profitability. Those agronomists interviewed repeatedly stressed that decisions should be taken on technical grounds rather than political or emotional ones and claimed that positions in the regulatory agencies are principally technical rather than political in nature. Similarly to the safe-use frame, this frame keeps a clear

distance from anti-pesticide voices and identified the short period of CONAPLA as marking an important reference point. Although insignificant in terms of regulation making, CONAPLA is memorable as a forum of discursive clashes. One official recalled that "environmentalists [participated in] this commission but they did not apply technical criteria; they were against all pesticides," a view which was repeated by many other regulators and inspectors. This "political" stance is then contrasted unfavorably with what is regarded as the proper credentials for banning a pesticide: "To restrict the use of a product one needs a technical basis, which is often lacking." Those regulators and ex-regulators interviewed argued that risks had to be identified in technical studies and that regulators should not judge the quality of a product by the way it was used or misused by farmers in the field. While this frame shares with the industrial safe-use frame the view of science as arbiter of product quality, theoretically it also allows for risks to be assessed through epidemiological studies of actual practices. However, as the approval procedures in Honduras do not require this form of assessment, such studies are not carried out.<sup>11</sup> Hence, there is no technical basis in this frame for considering a ban on products arising from the context in which they are used. Rather, assessment is confined to the qualities of a product alone. Since officials from state agencies other than agriculture play only a secondary role in pesticide regulation, non-agronomic considerations such as occupational health issues are neglected. Even where such considerations are thought to be relevant, agronomists argue that they should not interfere in the final evaluation or use of the product. Agronomists, in this frame, see themselves as evaluating the technology and not the social behavior of those who use them, even including the impact on their health.

This emphasis on the technical assessment of the product is underpinned by another key feature of this frame: the importance of professionalism. In Honduras, the emphasis on professionalism is often used to draw a boundary between technocrats and politicians. Without being prompted, many interviewees spontaneously referred to their professionalism. SENASA staff frequently mentioned that they were well-qualified to assess the applications for pesticide registration and that they often rejected applications. As a reflection of their technical competence and with a certain pride they

related how Honduras had a reputation in the industry for being the toughest Central American country in which to get an application approved.

Their professionalism was also evident in the stories they told about their success in the field. Notwithstanding the weak legal support and lack of political backing for inspection during the 1990s, the regulatory agency and its inspectors devised their own ways of bringing the pesticide trade system into line with existing legislation. They visited all pesticide sales outlets in each region, requested them to register officially and, in most cases, reproached them for irregularities relating to pesticide stocks and displays. They then revisited the same outlets at a later date, confiscating stocks of illegal products (which included incorrectly labeled products). They reported only very severe or repeated cases of infringement to the judicial system. In the view of SENASA officials, this kind of pressure had a substantial impact on the registration of pesticide outlets and on reducing illicit pesticide sales. One interviewee recalled how on his inspection visits he often came across old university friends who were selling pesticides illicitly and who attempted unsuccessfully to use the claims of friendship to escape censure. He used these anecdotes to illustrate how the regulators' "strong professional ethic" overrode the bonds of friendship or the temptations of bribery.

This emphasis on the technical expertise and professionalism of the agronomist is also present in their accounts of whom to blame when things go wrong. Much of the blame was directed at the political environment and the lack of political support for regulatory work. The regulatory officials denounced the bureaucracy, which hampered their work, by citing the convoluted procedures needed to obtain a car or fuel for field inspections. But SENASA staff also resented the lack of legal backing for their work. They had worked for many years without any legal backing at all but the appointment of a lawyer for pesticide issues in the Ministry of Agriculture in the late 1990s had scarcely made any difference. Inspection work often goes against the interests of the powerful and many alleged violations or instances of corruption reported to the public prosecutor are either not followed up or remain unsolved. Aside from the bureaucracy and the legal system, the technical staff also blamed politicians for obstructing their work. For example, those members of Congress who also trade in pesti-



cides sometimes blocked the inspection of their company premises and investigations into legal irregularities involving influential industry leaders were frequently called off at the ministerial level. Indeed stories about the power of politicians and the associated cover-ups formed part of the daily conversation and much joking among SENASA officials.<sup>12</sup>

A second form of blaming occurred in conversations about pesticide accidents, such as intoxication in the field. Regulators assigned blame for these to farmers rather than to gaps in pesticide regulation. Informants frequently referred to *misuse* and *ignorance* or *lack of awareness*. One regulator spoke for many when he said

[the biggest problem] "is awareness raising. There is an enormous use and misuse of poisons. People throw the dregs into the river or clean their spraying equipment in the river. How to prevent this? That's impossible. Both small and big farmers say the same thing. People say: 'it does not harm me'."

In these accounts misuse is seen as best addressed by raising awareness rather than by questioning the technology. There is no evidence of any reflection about the appropriateness of the technologies employed. In this frame, pesticide users are the ones held responsible for misuse or overuse of pesticides. Users are often represented as "ignorant people" who fail to heed advice or apply the lessons learnt on training courses. Regulators also assign blame to more anonymous cultural forces as seen in such comments as "it is their culture [to misuse pesticides]" or "we lack the culture [to use pesticides safely]" implying that regulators themselves cannot be held responsible. Related to this cultural backwardness argument is the view that the rights of more modernized farmers who use highly hazardous pesticides in a safe way should not be restricted by those who persist in unsafe practices albeit through ignorance. Hence, in this frame, farmers should be able to choose amongst a wide a range of pesticides as possible. Agronomists often point out that affordable alternatives are unavailable for most Class I products and generally assume that Honduras is dependent on the research laboratories of pesticide manufacturers in other countries for alternatives. Having defined the problem as misuse and ignorance, adherents of this frame advocate a strategy of raising awareness, a task which is seen as lying outside the remit of the regulators. Their role is to ensure that traded products are of good quality and registered as such. Overall SENASA offi-

cials do not expect their regulatory work to bring about a significant change in farmers' attitudes toward pesticides. Nor do they see themselves as responsible for misuse.

In sum the core elements of the technology-assessment frame consist of a strong belief in the technical basis of decision-making (which should focus on pesticides as a product and not with social behavior) and the professionalism of regulators. This is combined with blaming the political environment for undermining existing rules and formal authority and farmers for misusing pesticides.

## 5. CONSTRUCTING THE IMPOSSIBILITY OF A BAN: THE ROLE OF GLOBAL GOVERNANCE

The Code and its particular form of transfer to Honduras led by GTZ triggered four mechanisms, which placed the idea of a ban of hazardous pesticides outside regulatory thinking.

Firstly, by targeting the Ministry of Agriculture, FAO, and GTZ interventions reinforced the dominant role of the agronomist in pesticide regulation and thereby the power of the technology-assessment frame.<sup>13</sup> Officials interviewed from other state agencies involved in pesticide issues frequently expressed their dissatisfaction with SENASA's performance, complaining of a "lack of concrete action," "few promises for substantial improvement in the future," "failures of implementation" and "a lack of inspection." In contrast to the accounts given by SENASA personnel, these officials claimed that pesticide regulators were subjected to considerable "political pressure" inferring that economic interests drew on their political connections to influence the work of the regulators. These attributions of blame overlapped with a critical view of the dominant role of the Ministry of Agriculture and its relations with the other parties involved in pesticide regulation. Representatives of other Ministries felt that the Ministry of Agriculture unilaterally rejected agreements and recommendations, restricted them to a minor role in decision-making, and that any joint activities did not generally function very well. In interviews, they criticized SENASA officials for routinely failing to turn up for meetings or field visits, thereby questioning their professionalism. The relative importance of the agronomists' technology-assessment frame thus does not rest on societal performance but on it being

embedded in powerful and socially constructed structures of expertise.

Secondly, the transfer process reproduced formalistic and taken for granted interpretations of pesticide problems. Capacity building (which had to combat low levels of domestic expert knowledge) never went beyond implementing already defined rules. Low public sector wages were regularly mentioned as a reason for the lack of high quality staff in the regulatory office. In addition, GTZ and OIRSA experts expressed their frustration that SENA-SA personnel whom they had trained tended to leave their jobs soon afterwards. Some were transferred for political reasons while others resigned and took up jobs in the pesticide industry. Out of the group working in the registration office in 2000, only the head had worked there for more than 5 years, the others having been employed for between 2 and 18 months. Overall, the agronomists in the registration office received very little training. Any instruction given was carried out on the job and concerned such routine practices as scanning application forms for references to carcinogenic properties and mutagenicity. Officials in the Ministry of Agriculture realized that without toxicologists in their employ they "could never process all the information in the toxicological studies." As they lacked the necessary expertise, they were unable to fully assess the content of any attached toxicological studies when processing applications to register pesticides.<sup>14</sup> Ministry of Health representatives were consulted in only a few cases involving very controversial pesticides. In other words, their authority was invoked only after a pesticide had become controversial. Proposals to shift responsibility for toxicological evaluation to the Ministry of Health or to organize a single inter-ministerial body to evaluate applications did not meet with the requisite support. In those few instances where a more substantive judgment about a pesticide was made, the regulatory fads prevailing in developed countries or at the international level played a decisive role sometimes with deleterious consequences. For example, the 1980 restriction on organochlorines led to the increased use of organophosphates (generally pesticides with a much higher acute toxicity). When translating the international preoccupation with persistent organochlorines into national policy, the possibility of this leading to an increased risk of acute poisoning by organophosphates was not really considered. Similarly, registration offi-

cially very much copied the US-EPA preoccupation with carcinogenic properties when translating this issue into national policy in the late twentieth century.

The general lack of substantive decision-making in Honduras and the trust placed in formal procedures contribute to an over-reliance on regulatory decisions made in the pesticide producing countries.<sup>15</sup> However, decisions made there rarely take the particular conditions of developing countries into account. Given the esteem in which international expert communities are held, individual government agencies in developing countries may be reluctant to deviate from international practices. Clearly, the dependence on foreign decision-making narrows the range of options within the country and leaves little room for thinking about alternatives. This makes it difficult to contemplate banning pesticides, which have not been banned elsewhere. At the time of study, the Code and its accompanying routines did not specify the conditions for a ban, nor include guidelines on the procedures to be followed should a ban be introduced.

Thirdly, foreign involvement in the funding and framing of regulatory capacity and thinking reproduced, if not enhanced, the authority of specific expertise (particularly of those working within the agronomists' technology-assessment frame and, to a lesser extent, the safe use frame). This strengthened existing professional hierarchies and their related frames in Honduras, thereby limiting the space for alternative views on pesticide problems. The partial incorporation of Honduran regulatory experts into an international epistemic community, albeit in a dependent relationship to the core knowledge experts of that community, gave these domestic regulators an authoritative voice on pesticide issues in Honduras.

Fourthly, the Code and the resulting domestic regulation provided national authorities with the legitimacy for existing pesticide policies during moments of heightened anti-pesticide activity. The new regulatory framework strengthens the notion that regulatory authorities are not responsible for misuse or accidents involving pesticides (as long as they have followed the designated procedures).

## 6. RECENT STRATEGIES

The analysis above may be helpful when reflecting on future strategies for reducing the risks of pesticide hazards in Honduras.

(a) *The revised code*

The FAO Code drawn up in 1989 was revised in 2002 (FAO, 2003). Some provisions, such as those relating to the Prior Informed Consent (PIC) procedure were deleted as they were already covered by the Rotterdam Convention.<sup>16</sup> References to the need to promote practices which ensure safe use were dropped and some additional suggestions for governments to promote integrated pest management and develop alternative crop protection methods inserted. Interestingly, the preface of the 2003 version identifies a major persistent weakness of pesticide management as arising from the fact that “highly hazardous or substandard pesticide formulations are still widely sold.” This suggests a concern with the impact of the Code on the overall availability and use of highly hazardous pesticides. The revised version, however, still provides no concrete guidelines on when and how to ban a pesticide. The question of how these principles of global governance are to be translated into concrete regulatory practices in developing countries remains unaddressed.

(b) *Prior informed consent procedure*

The Rotterdam Convention on the Prior Informed Consent Procedure, adopted in 1998, came into force on February 24, 2004.<sup>17</sup> Following PIC principles, the designated national authority has to explicitly agree prior to shipment to the import of any pesticide, which is banned or severely restricted in other countries. Currently, a short list of chemicals is subject to the PIC procedure. Most chemicals are on the list for environmental reasons but the list also includes four highly hazardous pesticides (methamidophos, parathion, methylparathion, and monocrotophos). Commentators claim that “the Convention has limited goals and is best seen as being a preliminary step” (McDorman, 2004). It is seen as a positive step forwards rather than a comprehensive solution for addressing the trade in pesticides, let alone for tackling the use of pesticides at the local level. PIC fosters a more informed trade in those pesticides that are on the list. However, the extent to which it will change the framing of the pesticide problem within countries such as Honduras is questionable. According to Dinham (1996), satisfactory criteria for identifying pesticides, which are currently causing problems in developing

countries, have not yet been developed. Social movements campaigning on pesticide issues in the last two decades have directed a lot of attention to the international negotiations surrounding the PIC procedure. This international focus may partly explain why the everyday practice of pesticide regulation has been neglected. It is one thing to get the principles right at the international level but another before such universal principles succeed in transforming the framing of issues and the regulatory practices at the domestic level. The conclusions relating to the transfer of the Code to the domestic level are also likely to apply to the Rotterdam Convention.

(c) *Hazardous pesticides on prescription*

While Agreement 318 specified that access to highly hazardous pesticides should be restricted to certified and registered users, who had received appropriate training, this rule remained a dead letter. Nevertheless, the idea of setting up a system in which users have to obtain a prescription from a technical expert before buying a pesticide continued to circulate in the regulatory arena and was finally made into a rule in the 1998 regulation. The idea is similar to that prevailing in the health sector where certain drugs are available only with a prescription from a medical expert. Agronomists in Honduras tend to welcome the idea of prescription, possibly because it strengthens their authority on pesticides issues. However, involving agronomists in this way will not necessarily reduce the use of highly hazardous pesticides as most agronomists work within the technology-assessment frame. Moreover, the agronomists of SENASA are also skeptical about the feasibility of a prescription system in Honduras given the many obstacles inside the regulatory system as discussed above, as well as the capacity of traders and users to circumvent it. Much simpler rules are already unenforceable. Correcting existing weaknesses in the regulatory system by imposing more demanding solutions<sup>18</sup> is likely to lead to an even more dysfunctional regulatory practice and to further erode the credibility of the state in regulating high-risk technologies.

## 7. CONCLUSION

This paper raised the question why a ban on Class I pesticides is not more of an issue in many

developing countries, given the evidence that they cause high numbers of intoxications and fatalities, a situation which most involved actors find ethically unacceptable. This paper has argued that economic pressure from the industry does not fully explain the unwillingness to ban or restrict highly hazardous pesticides. A more comprehensive explanation involves examining the everyday shaping and reproduction of domestic ideas about regulation. In Honduras the articulation of two frames, the safe use frame and the technology-assessment frame, dismiss calls for a ban on highly hazardous pesticides as being based on emotion and ignorance. This articulation was constituted and strengthened by international development interventions, which transferred universalized governance models for pesticide regulation to the national regulatory level.

A ban on highly hazardous pesticides in the context of smallholder agriculture in developing countries is very much in line with the principles laid out in the core instrument of global pesticide governance: the FAO Code. This paper concludes that it is not the written principles which are at fault but rather the way in which they are put into practice in Honduras which makes a ban seem an irrational course of action. Despite being aware of diversity, the Code is transferred to individual developing countries as a set of standardized regulations, which reduce the range of possible actions and practices on the ground. In Honduras, the implementation of the Code intensified interaction between the industry and the pesticide regulation office, creating an interface between two different social worlds and their corresponding frames, the industry's safe use frame and the agronomists' technology-assessment frame. Their common labeling of farmer practices as "misuse" is an important discursive element bridging these two frames. In particular, development interventions elevate the agronomists' technology-assessment frame into a position of dominance in pesticide regulation. The anti-pesticide frame hardly interacts with the official regulatory system. The transfer process of the Code intensified a formal approach to pesticide problems and overemphasized routine practices adopted from elsewhere.

The case study presented here suggests that too much attention is paid to getting the principles right when drawing up international agreements and too little to getting the transfer process right. While the general principles usu-

ally take national sovereignty, diverse views, and varying domestic situations into account, these considerations are seriously trammled on when transferring global governance to the country level. Here the complex socio-technical reality on the ground is overlooked by adherence to universal technical norms. During the implementation stage, involved actors often lose sight of the way in which universal norms conflict with the diversity of concrete situations. In addition expert practices tend to separate off technology from real people, actual practices and everyday context (Jasanoff, 1998). The technical guidelines on "good and recognized practices" for hazardous pesticide use exclude a consideration of the unsafe practices adopted by many smallholders. Under this regulatory framework, pesticide risks are framed as controllable as long as the Code's guidelines are followed.

This analysis raises some doubts about the optimism of those who see global regulation models as being more efficient. The Code aims to improve regulatory systems in developing countries but can only be implemented if a functioning regulatory apparatus is already in place (*cf.* Roe, 1991). The Code's emphasis on building complex regulatory systems to contain risks may not succeed in a context in which risks arise from the very fact that regulation is too formal and complex to change unsafe farmer practices. This suggests that simpler regulations, such as banning some pesticides, might be more successful than setting up more complicated prescription systems.

It remains open whether the problems observed can best be solved by more regulation, such as by providing international guidelines on the steps to be taken to ban a problematic pesticide or by promoting alternative ways of framing pesticide problems at the local level leading to a greater diversity of expertise and more creativity in problem solving. Whatever the case, the idea of simply leapfrogging over any problems arising from the transfer of international models of pesticide regulation, as well as many other development interventions, should be jettisoned. It is impossible to leapfrog over problems arising from institutional failure, smallholder agriculture, and the lack of technical and regulatory knowledge. In the process of transferring global governance to the national level, the local level will directly hit back and puncture the theoretical pretensions of any global model.

## NOTES

1. Field work took place in Honduras during 1999–2000. In total 43 in-depth interviews were carried out with regulators, government officials, industry representatives, large producers, scientists, and civil society representatives. In addition, the study drew on observations made while accompanying regulators on field visits and on a content analysis of documents, databases and newspaper clippings (1990–2000).
2. The latest version of the Code extends the definition of a ban by including in the term a withdrawal by industry from the market or the approval process (FAO, 2003). However, it is still common practice in the regulatory system not to view the latter as a ban.
3. Methyl-parathion, methamidophos, terbufos, carbofuran, and methomyl comprise the highly hazardous pesticides most frequently applied by Honduran smallholders, particularly to vegetables (Jansen, 2002).
4. Hajer and Versteeg (2005) refer to frames and discourses as being similar entities. This paper conceptualizes both as discursive formations and structures of knowledge but sees them as exerting power in the pesticide policy making process at different levels. Frames are smaller ensembles of ideas and categorizations while a discourse may encompass several distinct frames and represents a society-wide composite of anonymous rules of thinking embedded in institutions and practices. In this paper, the unspeakable ban is part of a discourse on pesticide risks that emerges out of a process of “discursive closure” (Hajer, 1995), articulating two different frames: the safe use frame and the technology-assessment frame.
5. Several studies explore the emergence of a system of global governance of pesticides; Hough (1998) provides an excellent review. Besides the FAO Code many other international policy instruments are relevant, including the “Codex Alimentarius,” the Rotterdam Convention (Prior Informed Consent Procedure), the Stockholm Convention on Persistent Organic Pollutants, and the Basel Convention on Transboundary Movements of Hazardous Wastes.
6. Part of the 1998 regulation (Honduras, 1998) was copied verbatim from OIRSA (1995). Agreement 318 contains more specific rules for regulating the behavior of pesticide users than the 1998 regulation. The 1998 regulation repealed Agreement 318.
7. The 14 banned active ingredients are aldrin, amitrole, BHC, mercury compounds, lead compounds, 2,4,5-T, dieldrin, dinoseb, ethyl-parathion or parathion, heptachlor, lindane, mirex, toxaphene, and terbuthylazine. A subsequent decree added DDT, fluoroacetamida, HCH, chlordane, chlordimeform, cyhexatin, and EDB to the list, as well as dicofol and captafol, with a few more under discussion.
8. Resolution 015-99 issued by the Minister of Agriculture in March 1999 basically repeated this rule but extended it to all Class I pesticides (hence, both extremely hazardous and highly hazardous pesticides).
9. In 1988, endosulfan, an organochlorine, was put under “restricted use,” that is only allowed in coffee production. In 1991, this was broadened to horticulture but in 1994 it reverted back to coffee production only. The product is the sole organochlorine still registered because of its widespread use in coffee production.
10. For the history of this organization see Murray and Taylor (2000) and Hough (1998).
11. Similarly, the efficacy of most pesticide registrations is not tested in Honduras and the results of efficacy tests carried out by the industry in other countries are accepted.
12. These expressions about the lack of political support were often linked to discontent about their working conditions, particularly the lack of personal security. In interviews, field inspection visits, and casual conversations, SENASA staff often masked their concern for their safety by joking that “with this work you have your free enemies all over the country” or more ironically “I have friends everywhere.” Staff remarked in many cases that they did not even have life insurance (*seguro de vida*), sometimes adding that they were closer to a “sure death” (*seguro de muerte*) than a “sure life” (*seguro de vida*). This form of ritualized joke-telling constructed and reproduced their shared belief in the dangerous nature of their profession. The author observed how cautiously they approached lawbreakers in the field, giving them every opportunity to defend themselves and change their behavior before mentioning sanctions.
13. In a second instance, GTZ attempted to improve inter-institutional co-operation in the regulatory system. However, the center of operations and funding remained with the Ministry of Agriculture, and they were unable to change the power relations around pesticide decision-making that they had initially helped to strengthen.
14. This does not mean that this paper work had no impact on the outcome of regulation. Recently, the office has turned down many requests which did not include



proper toxicological studies. This is particularly constraining for those firms which only formulate generic pesticides and do not therefore invest in research and development.

15. This offers manufacturers considerable room for maneuver. Many products are withdrawn from registration in the country of origin but still exported. Withdrawal from registration in selected countries means that a ban is less likely to be imposed and the product's lifespan will be increased.

16. PIC followed a zig zag course during the Code's evolution. Initially it was part of the Code, then excluded following pressure from the pesticide producing countries, then included in the 1989 revision under pressure from NGOs, and finally turned into a separate convention in 2004. This course may reflect FAO's ambivalent position toward restricting pesticides. Within

FAO it is those experts working on integrated pest management who have been particularly instrumental in pushing FAO to adopt a more cautious approach toward pesticides.

17. To date Honduras is not a signatory to the Rotterdam Convention.

18. Eddleston *et al.* (2002) propose a totally different form of transferring practices from the health sector to pesticide regulation. They propose a minimum pesticide list, analogous to the Essential Drug List established in 1977 by the WHO, which specifies a limited number of less dangerous pesticides. Legislators at the national level can then decide which pesticides on the list they will register. Their proposal follows an unconventional path by seeking relatively less complex regulation and aiming to phase out immediately Classes I and II pesticides through national restrictive regulation (Konradson *et al.*, 2003).

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