Cultures of Coping: Adaptation to Hazard and Living with Disaster in the Philippines

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All of us are probably familiar with the folk tale of the three pigs; how each pig built a house in a different way, the lazy one out of straw, the not so lazy one out of wood, and the industrious one out of brick. And then along came the big, bad wolf that blew down the straw and wooden houses and left only the brick structure standing. Implied in this story is another message about what is considered best practice when it comes to risk management and disaster preparedness. The emphasis is all about applying the appropriate technology (a brick house) to withstand the perceived hazard (strong winds) that has come to constitute the dominant way in which disasters are conceived of and prepared for in western imaginings and policy. It is assumed that people are put 'at risk' from hazards because they are in the wrong spot at the wrong time; the proper response is to apply the necessary technological solution to predict or prevent the threat and so reduce the risk.

The fact, however, that disasters impact on some people more than others persuaded a group of scholars in the 1980s to reconceptualize disasters as more properly the result of human actions; that while hazards are natural, disasters are not. Social systems generate unequal exposure to risk by making some people more prone to disaster than others and that these inequalities are largely a function of the power relations (class, age, gender and ethnicity among others) operative in every society. Critical to discerning the nature of disasters was a novel appreciation of the ways in which human systems place people at risk in relation to each other and to their environment, a causal relationship that is best understood in terms of an individual's, household's, community's or society's *vulnerability* (Hewitt 1983, Wisner 1993, Blaikie et al. 1994, Cannon 1994, Hewitt 1995, and Lewis 1999). Employing vulnerability as a conceptual framework in this manner, disasters often appear more as the consequence of misconceived developmental problems rather than natural events, as the product of the deficient relation between the physical and organizational structures of a society rather than as a break with its 'normal' lineal expansion (Ferguson 1999: 236-241). As a consequence of this change in thinking, the dominance previously accorded technical interventions that stress predicting hazard or modifying its impact has increasingly been called into question

by an alternative approach that seeks to combine the risk which people and communities are exposed to with their abilities to cope with its consequences.

Assessing the relative vulnerability of communities applies equally to all societies but attention has been particularly focused on developing countries whose poverty, "undisciplined" populations, and poor governance are largely held responsible for magnifying both the frequency and magnitude of disasters. Hurricane Katrina, then, that devastated 233,000 km^2 of the southern U.S.A. in August 2005 is a timely reminder that it is not just the 'poor' who are vulnerable but that the 'rich' are, too, even if their exposure is of a different order. Moreover, the extensive media coverage that this hurricane received has graphically demonstrated to the rest of the world that no one country has an exclusive monopoly on poor people, opportunistic looters, or ineffectual officials. While these points have largely found voice in one way or another, commentary on the nature of the failed levee system protecting New Orleans from Lake Pontchartrain has been more muted. The storm surge associated with the hurricane that breached the artificial embankments and caused most of the city to flood is seen as a failure of the appropriate technology and not as the application of an inappropriate one. That is, the 350 miles of levees were built to withstand a category three storm but not one of intensity four or five. The answer now as it has been on at least

two former occasions when there was extensive flooding (after hurricanes in 1947 and 1965) is to raise the embankments higher than their present four meters. Each time the levees are heightened, of course, the magnitude of the next breach is also raised accordingly. Just like the pig snug in his brick home, those who put their trust only in technology feel secure in the thought that they have got it right and if there is anything to do it is only to build a still bigger brick house or dike.

This physical and conceptual over-dependence on technology is just as much a form of vulnerability and as potentially devastating for disaster-prone societies like the Philippines. There is little consideration given to alternative strategies that are less reliant on technology and lay greater stress on community-based disaster management. For most people in such societies, hazards and disasters are "frequent life experiences" or simply accepted aspects of daily life. They are not perceived as abnormal occurrences the way western social scientists looking through different epistemological lenses depict them, but as normal everyday events (Bankoff 2003: 179-183). So common in fact, that even the histories of these societies are largely shaped by the interrelationship of the natural to the human, of the physical to the social.[1] Moreover, such societies are rarely in a position to pursue the option of a technological solution to risk management as they lack the financial resources to do so. Instead, the emphasis is more on flexible use of

technology and on enlisting people's participation as an essential element in disaster management through the formation or encouragement of grassroots organizations and community level preparedness.

FLEXIBLE USE OF TECHNOLOGY

Historical records provide evidence of cultural adaptation to the constancy of environmental threat that most readily conforms to accepted notions of substantiation. In particular, architecture offers a unique means of examining the human-environment interchange. The form that structures took and the method and fabric of their construction are indicative of the degree to which known seismic and meteorological hazards were considered or whether the building proceeded largely according to external codes of competency and functionality. The simple nipa and palm hut, in all its local manifestations, is a case in point. This type of dwelling quite clearly serves as a much more suitable basis from which to develop construction techniques appropriate to local conditions. It has also proven extraordinarily resilient in historical terms despite its repeated vilification by successive colonial and national governments, who have alternately branded it as "primitive", "fire-hazard" or "squatter settlement" and banished or removed it whenever possible. These indigenous architectural forms are often closely adapted to environmental conditions. Thus traditional house styles in the Batanes had low ceilings as a precaution against the frequency of typhoons in the islands (Blolong 1996, Cayabyab and de Guzman 1998).

Spanish architects, on the other hand, appear to have been initially either unaware of or blithely indifferent to local conditions. The Manila that was built on the wealth of the trade bonanza across the Pacific during the early seventeenth century was constructed in the style and manner of a Hispanic city anywhere else. As a result, the devastating earthquake of 30 November 1645 eventually reduced the city to ruins. Subsequent colonial architecture shed its utter disregard for seismic activity, and consequently lost much of its grace of line and form that usually characterize Spanish architecture. Public construction techniques, so evident in the use of extensive buttresses, massive body structures, and the squat bell towers found in provincial churches, were designed to minimize such damage. The style even became known, rather suggestively, as 'earthquake baroque' (Rantucci 1994:64). Domestic architecture, too, underwent a similar radical transformation. Fixed foundational posts gave way to the greater use of bamboo and the employment of other techniques designed to increase flexibility and to compensate for a certain amount of earth movement. Solid upper storeys were replaced by ones constructed from lighter materials. In fact, the style usually referred to as 'Spanish' was in reality more of a syncretic adaptation of Hispanic and indigenous building techniques.

While modern building materials and techniques cannot be said to be particularly well-adapted to local conditions or have their origins in indigenous cultures, modifications in the design and construction of much informal housing exhibits interesting adjustments to living in low-lying areas where flood is a constant threat or a recurring presence for many months of the year. The building of a second storey where the 'living rooms' are situated and the concomitant use of the 'downstairs' in such a manner that its sudden and regular abandonment involves negligible damage to property and its long-term inundation minimal inconvenience to the daily running of the household, has many parallels to the manner in which traditional houses had been raised above ground level on molave poles known as *harigues* for much the same purposes. There are sound architectural reasons for the "rediscovery" and incorporation of such building techniques into design-built modern structures as well as informal ones that prompted the recent adoption of modern building regulations on Tuvalu that require the floors of new houses to be raised above ground level as a precaution against the increased incidence of flooding due to global warming and rising sea levels. In fact, the measure is a return to a more traditional form of architecture (Lewis 1990: 245).

The flexible use of technology is also very much present in the form of local agricultural systems whose practices demand re-evaluation from the perspective of providing an effective mechanism for reducing crop losses and averting the likelihood of disaster, especially famine, rather than that of efficiency and yield by which they are normally assessed. Crop diversification as an adaptive strategy is a common feature of traditional farming methods as a means of providing access to a secure food source in times of climatic adversity (Lim 1994: 257). Indeed, there is even evidence that high yield varieties of genetically altered rice (HIVs) may be incorporated into such a farming strategy, not on account of their greater productivity, but for their shorter growing cycles that are seen as an asset against drought in years of poor rainfall.[2]

Again, the case of the Ivatan also raises some intriguing questions about the way in which 'outside experts' may need to reassess their notions of *minifundia* or land fragmentation in developing societies. Held to be the unfortunate consequence of equal inheritance among siblings, the division of land among all heirs is generally regarded as an almost "feudal" relic of an unreformed land system that restricts output, hinders economies of scale and obstructs the efficient deployment of labor. Such views may start from the erroneous assumption that the desired norm is larger fields that customary practices have somehow unwittingly undermined. On the contrary, land fragmentation among the Ivatan is regarded as an important mechanism for ensuring food security. Planting in widely scattered parcels minimizes the likelihood that an entire harvest may be lost to hazard and increases

the chances of some food sources even in the worst of circumstances (Blolong 1996: 17). In societies exposed to the constant threat of hazard, such farming strategies make good sense from the perspective of local farmers who are mainly engaged in minimizing risk rather than maximizing surplus (Scott 1976). Unfortunately, the increased commercialization of agriculture and the reliance on cash-crops have adversely affected these types of adaptive strategies (Alexander 1997: 299).

A final form of expertise employed to manage hazards often resorted to when other adaptive strategies had failed was for the survivors to migrate and relocate their settlement in a safer location. In this way, the people of Lipa abandoned the beachside site of their town in 1756 and moved to another location inland. Similarly, survivors from the town of Guinobatan destroyed by the eruption of Mt. Mayon in 1814 moved first to Mauraro and then to Panganiran in search of a safer place further removed from the activity of the volcano (AMO Box 13-2/4). Other ethnographic literature reports similar movement of residence and migration as strategies that were adopted by communities to minimize risks or reduce mounting losses (Torry 1978: 175 and 1979: 519-520). In particular, James Spillus notes how historically migration was one of the principal strategies adopted to cope with typhoons on Tikopia, a small island in the Solomons (1957). Migration was also a noted feature in communities following the eruption of Mt. Pinatubo in 1991, some of whom went abroad as overseas contractual workers (Mula 1999: 126-130).

GRASSROOTS COMMUNITY LEVEL PREPAREDNESS

Communities in the Philippines have largely been left to their own capabilities to deal with hazard; the recent 'nationalization' of disaster management is part of the centralization program of the modern state. Societies in the archipelago have a rich tradition of community associations traceable back to at least the early seventeenth century in contrast to a popular and scholarly literature that mainly regards the formation of nongovernment organizations (NGOs) as a modern phenomena that owe their origin to the political radicalization of the martial law years (Lubi 1992: 22, Constantino-David 1997: 26-27, Constantino-David 1998, and Luna 2001: 216). There is also a long history at the local level of formal and informal networks and associations committed to individual and extra-familial welfare that enhance people's capacity to withstand the magnitude and frequency of daily misfortune and natural hazard as experienced in the archipelago. Many of these developments have gone largely unnoticed. Seeking to uncover more single-purpose associations in relation to community welfare according to their own criteria of what such organizations should comprise, western social scientists often fail to

recognize the existence of other more multipurpose ones that do not share the same outward form but fulfill many of the same functions.

The first evidence of mutual aid associations is the religious fraternities known as *cofradías* that date from at least 1594 (Barrion 1961 and Ikehata 1990: 111-112). While these associations were primarily religious, they also had important charitable functions: the care and succour of the sick and dying (AAM 40.A.1 Folder 8), providing funds in the case of illness and bereavement (AAM 40.A.1 Folder 9), and generally enjoining its affiliates 'to engage in social and charitable enterprises and to aid the unfortunate and needy people in general' (AAM 40.A.1 Folder 11). In fact, the evidence suggest that these *cofradías* were more than simply a means of expressing religious faith and acted in the way of mutual support and benefit associations on behalf of their members in times of misfortune or distress. Less formal but more prevalent than the *cofradías* was the manner in which extra-familial work was organized. All across the archipelago, cooperative arrangements existed that shared certain basic characteristics linked to the mobilization of labor (Balmaceda 1927). Aid was rendered on the expectation that it would be returned in kind. Need or sometimes lot determined the order in which help was received; the notion of succession suggested by the Tagalog term of *turnuhan* meaning "a turn". An intriguing question is the temporal origin of these practices with Fr. Colin describing them as early as 1663 (Hollnsteiner 1968: 28).

There is also evidence that this form of community labor was resorted to in confronting natural hazards. In a report initiated in 1914, Harvey Hostetter observed the custom of building a special house "which might be occupied by anyone whose residence would be destroyed by a typhoon" and how after a furious typhoon "the destroyed houses…were rebuilt quickly as soon as the storm was over because the owners could help each other by turn in spite of their lack of funds". The communal construction of dams to protect *barrios* from floods was also apparently common practice, while the purpose of cooperative associations was to assist people with burial services, suggesting a distinct commonality with the *cofradías* (Balmaceda 1927: 386, 387, 394 and 401). There are rarely rigid epistemological divisions in Filipino cultures that separate the spiritual from the human constructions of nature (Bankoff 2004).

The close association between the ideational and the practical remains very much a feature of the organizations associated with the revolutionary period and the early years of U.S. colonial administration. The Katipunan, the secret society that instigated the revolt of 1896 against the Spanish was also a multipurpose organization being simultaneously a mutual assistance association, a religious brotherhood, and a political grouping.[3] As such it had much in common with other mutual-assistance

societies, many of which were also secretive, being organized in a quasi-military form and developing elaborate rituals similar to those of the Freemasons (Wurfel 1959: 584). The emphasis on mutual assistance and cooperative venture also remained an important feature of more "modern" organizations such as trade unions (Bankoff 2005: 72-76).[4] The new colonial authorities, moreover, were keen to instill the virtues of Jeffersonian democracy in Filipinos and enacted a Rural Credit Law in 1915 to organize small farmers into self-help cooperative societies. A report compiled in 1918 showed the existence of a remarkable number of civic and recreational associations (Census 1921: volume 4, part 1, 16, 37). Rather than the fruits of colonial policy, these numerous registrations more aptly reflect the already existing mutual benefit associations obtaining official approval for their activities under such a rubric just as cofradías in the past had sought religious sanction for the same purposes. More success can be attributed to the Americans' attempt to create agricultural credit cooperative associations (Balmaceda 1924: 18-19). Again, however, the question remains whether such associations were simply superimposed upon already existing networks or turnuhans.

Apart from these formal organizations, reciprocal exchanges of a more informal nature continued to be practiced in rural areas. Called by various names (more especially *tagnawa* or *pinta*) and undoubtedly with regional or even local variations, the basic structure of the system was much the same and recalled the turnuhans of the previous century (HDP Santa Cruz, Albay Reel 1: 141; HDP Santicon, Albay Roll 1: 266; HDP Maniango, Pampanga Roll 36: 27; and HDP Cabugbugan, Tarlac Roll 72: 17). More attention also needs to be paid to the role and function of local Parent Teacher Associations (PTAs) as these soon became the most visible barrio organizations after their foundation in 1926 (Rivera and McMillan 1952: 167). The ostensible focus of their activities was schools but they seem to have provided a much wider range of services and often acted as the focal point for communal endeavours (HDP La Purisima, Albay Reel 1: 257 and HDF Dela Paz, Pampanga Reel 36). Much as earlier barrio organizations had cloaked their activities in a religious guise as cofradías under Spanish colonialism, so now they sought official approval as PTAs given the emphasis placed by American authorities on educational attainments. Nor has the dual nature of these organizations completely disappeared in rural areas of the Philippines where they are now sometimes known as Parent Teacher Community Associations (Atienza 2002).

As conditions in rural areas began to deteriorate during the 1920s and 1930s, organizations that complemented their social activities with more overtly political aims appeared. Many of these organizations such as the *Kapatiran Magsasaka* exhibited similar features of reciprocity

and mutual assistance. A militant anti-landlord peasant union in Central Luzon, it shared many of the features common to mutual benefit societies but also reorganized reciprocal farm labor on a morally euphoric and more militarized basis (Connolly 1992: 94-96). The Japanese Occupation (1942-1945) and the immediate post-war years seem to have further encouraged communities faced by adversity to help themselves. Though mutual assistance and millenarianism remained significant aspects of these movements, increasingly many rural associations fell under communist or socialist influence (Romani 1956: 236, Po 1980: 31-32, Clarke 1998: 58).

The immediate independence period was dominated by events connected to the Huk Rebellion and the military operations involved in its suppression from 1946-1954 (Kervliet 1979). At the village level, though, formal and informal associations continued to provide communities with their only reliable form of security against hazard and misfortune. Fieldwork studies conducted in the 1950s and 1960s show the presence of these reciprocal labor arrangements (Hart 1955: 431-433, Hollnsteiner 1968, and Lewis 1971: 128-138). In parts of Luzon, small neighborhood associations called *puroks* concerned themselves with over-all municipal improvements which were often accomplished in co-operation with local PTAs (Rivera and McMillan 1952, Romani and Thomas 1954 and Romani 1956: 235). Equally interesting is the evidence of rotating credit associations and the existence of other forms of organizations associated with social as opposed to financial savings (Pal 1956: 408 and Lewis 1971: 147-150). As certain newly radicalized sectors of the population began to organize themselves to oppose the dictatorship of Ferdinand Marcos, the first progressive or development-oriented NGOs began to emerge in the early 1970s and to proliferate with the restoration of democratic government after 1986 (Clark 1998: 70-71). The increasing visibility of their activities, however, draws attention away from the local community-based associations or people's organizations (POs) on whose behalf they ostensibly operate. It is these latter associations and networks that are the modern day manifestations of the cofradías, turnuhans, early unions, civic clubs, and PTAs of former years. If the relationship between NGOs and POs creates a degree of ambiguity between the two, the growing emphasis placed on community-based disaster management in recent decades is only a recognition of the essential nature and form that mutual assistance has historically played at the community level (Delica 1997: 34-50, and Heijmans and Victoria 2001: 13-18).

Communities in the Philippines, then, can be said to enjoy a form of 'social capital' if the evident range and extent of formal and informal associations and networks that provide succour and assistance in troubled times are accepted as indicators of its existence. There is evidence, too, that as Putnam et al. argue, social capital is inherited if the

persistence of such forms of civic engagement through the centuries can be taken as a measure of its ability to transcend the generations (Putnam, Leonardi, and Nanetti 1993). Of course, the nature of such associations and networks has not remained static but has evolved both to suit the changing political climate (primarily church-based during the Spanish period, more educationally-related during the American administration, and increasingly politicised since independence) and to meet the contingencies of place and occasion (agriculture, irrigation, house construction, artisanship etc.). Much of the criticism levelled at the extension of the term social capital from the individual or family to the community and the society has focused on the "logical circularity" of the argument: that evidence of its existence leads to positive outcomes which, in turn, are proof that it exists (Portes 1998: 19). According to Michael Woolcock, however, definitions should rather "focus primarily on its sources rather than its consequences since long-term benefits…are the result of a combination of different…types of social relations…[that] shift over time" (Woolcock 1998). While no single factor can suffice to explain why circumstances were so conducive to the formation of social capital in the Philippines, perhaps the important role hazard has played in the daily life of its peoples encourages forms of mutual dependence and cooperative activity (Bankoff forthcoming).[5]

CONCLUSION

Too often our approach towards disaster management mirrors the wider divisions and cleavages between and within societies. Consider again the cultural assumptions behind the tale of the three pigs: how the 'lazy' and 'not quite so lazy' pigs who built in straw and wood exposed themselves to hazard and only found safety by seeking shelter with their brother who evidently had both the forethought and industry to apply the appropriate technology to meet the hazard. Low and medium developed countries are continually being encouraged to adopt large-scale technologically-based solutions to hazards that they can ill-afford, that are of dubious efficacy, and that often impact negatively on already disadvantaged local residents. But the hazards that beset states like the Philippines also engender societies whose very vulnerabilities have fostered particular forms of resilience to adversity and misfortune that express themselves at the neighborhood or community level.[6] Recognition of the importance of such coping practices affects not only the way in which affected populations are "perceived" but also the manner in which disasters should be "managed". Emphasis is placed on enlisting people's participation, more fully integrating their capabilities and applying low-level technology in a manner that is better suited to local conditions and limited financial resources. Such an approach, moreover, contributes to better understanding the roots of people's

vulnerabilities and the structures or conditions that generate them.

The point that expertise in disaster management comes in different forms and is not the exclusive preserve of external (normally "western") nations is brought very much to the fore in this special issue of the PSR. The ensuing discussion on community-based disaster management is envisaged more in the way of a dialogue between those principally engaged in its practice in government (Arnel Capili), NGOs (Zenaida Delica-Willison, Lorna Victoria, Eugene Orejas, Kaloy Anasarias and Celso Dulce), academe (Kelvin Rodolfo and his colleagues, Kathleen Crittenden and her co-authors, Emmanuel Luna and Jean-Christophe Gaillard), and, most importantly, in the communities themselves (Manuel "Ka Noli" Abinales). Not all, alas, are represented in equal measure due to the chosen medium (and language) of exchange that favors some voices over others. And since the contributors come from such varied backgrounds, the application of academic conventions has not been rigorously enforced as it seemed often inappropriate to the particular context and yet another form of "foreign" imposed expertise. Some articles are "documents" in their own right. Interestingly, though there are no dissenting voices about the importance of greater community involvement in disaster management and the need to recognize local capabilities: all advocate the same outcome though not always necessarily for the same reason. There is also a progression in the order in which the articles appear that gives added weight to the overall argument though of course each contribution can be gainfully read in its own right. If Hurricane Katrina can be said to have a 'lesson' for any of us, it is to suggest that western developed countries may have as much to learn about disaster preparedness, management, and recovery from nonwestern developing countries as the latter do from the former.

NOTES

1 Susanna Hoffman and Anthony Oliver-Smith refer to this human-environmental interaction in terms of 'mutuality' and argue that disasters occur where there is a lack of it (Hoffman and Oliver-Smith 1999: 6).

2 Private Communication with Annelies Heijmans, Center for Disaster Preparedness Foundation, Manila, 14 December 2000

3 See Rey Ileto on the role of the Katipunan (1979).

4   A mutual aid association existed among shipyard workers at Cavite from 1851 where the first recorded strike occurred in 1872 (Runes 1983-5: 66-67). Worker associations existed in the late nineteenth century based around craftsmen belonging to a particular shop or neighborhood and the first attempts at organizing a trade union movement occurred in 1902 with the creation of the *Unión Obrera Democrática*.

5   It is interesting to note that one of the other societies that exhibit many of the same attributes as the Philippines is Bangladesh, a country also noted for the frequency and magnitude of its hazards (Zaman 1999).

6   In the Philippines, these more culturally specific forms of coping practices are often talked about in terms of concepts such as *bayanihan*, *pakikipagkapwa*, and *pakikisama*. While these terms are often used interchangeably to denote forms of common association and shared identity, the emphasis is subtly different in each case (Jocano 1999 and Bankoff 2004).

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