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Discoursing Disasters: Vulnerability and Gaps in Rationalities

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Discoursing Disasters Vulnerability and Gaps in Rationalities

Although Filipinos live with the realities of recurring extreme weather occurrences, some are more vulnerable to disasters than others. Using discourse theory, this article seeks to understand how a community's vulnerability is connected to the marginalization of its rationality. It traces the conditions brought about by Westernization that created and sustained the vulnerability of the marginalized. It explores the gaps that exist in the rationalities of policy makers and disaster-vulnerable persons and the consequences of these gaps for the vulnerable in order to argue for the need to found genuine disaster risk reduction (DRR) programs on the principles of inclusive discourse.

KEYWORDS: DISASTER PREPAREDNESS · DISCOURSE THEORY · RISK · VULNERABILITY · RATIONALITIES

very Filipino lives with the realities of recurring disasters caused by earthquakes, volcanic eruptions, torrential rains, destructive winds, or storm surges. Whether the life-threatening disaster is from an occasional geological phenomenon or the seasonal disruptions of extreme weather occurrences, Filipinos have built strategies into their ways of dwelling as a coping mechanism. To the extent that Filipino cultures are built around the reality of the regular disruptions arising from nature's dangerous movements, I agree with Greg Bankoff (2003) in referring to the Philippines as constituted by cultures of disaster. After all the Philippines is one of the most disaster-prone countries in the world (Gaillard 2010, 27), and its people have created systems for living creative lives framed by these disasters.

Some Filipinos are more vulnerable to disasters than others. In fact they are defined as populations at risk. The marginalized sectors of society, because of a lack of capability and resources, have been driven to live in areas that are prone to hazards due to geographical location and capability deprivation; in turn, this condition is caused by their lack of knowledge or skill to navigate the rationalities that define how tenure is secured in more hospitable areas. These populations at risk are keenly aware of the hazards to which they are exposed since they suffer from multiple disasters on a regular basis.

Despite this awareness, the populations at risk find it hard to reduce their vulnerability and to participate in government, nongovernment, and multilateral agency programs that are meant to make their lives safer. Whether these programs involve relocation or the reconfiguration of their communities in order to make them more resilient to the effects of natural calamities, many communities seem to resist the presumed "better judgment" of scientists, technocrats, and planners. This article seeks to understand the complex phenomenon of the vulnerability of the margins to disaster. More precisely, it is an inquiry into how a community's vulnerability is connected to the marginalization of this community's rationality. It explains how Westernization has created the conditions of the vulnerable marginalized and how its dominance continues to keep them in that position. It explores how policy makers and disaster-vulnerable persons articulate and respond differently to disasters, vulnerability, and disaster mitigation.

Being an academic trained in philosophy, I am interested in exploring the social construction of vulnerability and disaster. Thus this article does not purport to be an ethnographic study; rather it is an exploration of discourses made available by policy makers and found in studies of vulnerable communities. This article aims to bring to light the gaps between rationalities and show the possible consequences of these gaps specifically for the vulnerable. For this article I attempted to dialogue with members of marginalized communities to verify some of their insights, which have enabled me to explore the ground of their vulnerability and argue for the need to rethink the meaning of their vulnerability and the need to found genuine disaster risk reduction (DRR) programs on the principles of inclusive discourse. At the very least, an inclusive discourse involves all stakeholders as equal partners in systems of deliberation that determine the most strategic and responsive DRR systems the vulnerable should adopt.

Most of the literature on disasters focus on disaster mapping, effective DRR management, and understanding the effects of disasters on communities and the various sectors of these communities. These studies help us identify who are most affected adversely by disasters and how best to prevent damage and recover from major disruptions. There are also studies that explore the meaning of disaster in the lives of the vulnerable and what it disrupts. However, these studies, notably the Red Cross/Golden Crescent World Disaster Reports, contain articulations of top-down efforts at DRR and how experts control the discourse and further marginalize vulnerable populations. Thus, the participatory process of disaster preparedness and rehabilitation is a concern in the DRR literature. There is a growing realization that the imposition of Western systems does not necessarily produce the most effective results. However, this realization has not yet been explained in the literature from the perspective of rationalities. Such perspective could account more profoundly for the need for participatory practices that are rooted in the reality of the plurality of rationalities and why the Western colonization of these rationalities does not serve the purposes of DRR.

As a frame for analysis, this article reflects on these questions from the perspective of the marginalization of rationalities, which here refers to how dominant systems defined by Western rationality deprive non-Westernized peoples of the capability to function effectively in the modernized world. In many societies that have large segments of the population that are not fully Westernized, the marginalized are composed of peoples who are unable to realize their own understanding of a good life because the imposition of an alien rationality's systems renders their conceptual and valuation systems ineffective for human flourishing. This article reflects on how the vulnerability of populations at risk is rooted in this marginalization of their rationality by the impositions of the dominant rationality favored by the Westernized sectors of society that govern the economic and political systems.

Research for this Study

This study blends philosophical discourse theory with disaster research. It was inspired by my discussions with communities in Cagayan de Oro, Marikina, Quezon, and Pasig cities who suffer from flooding. For this article I have supplemented the existing literature with informal conversations with families considered vulnerable. These exchanges took place in the form of nonsystematic discussions with focus groups gathered from relocated families in Cagayan de Oro, river bank dwellers in Marikina, families living near drainage creeks in Quezon City, and populations at risk in Pasig City's floodways. Dialogues in all these areas were conducted in the format of focus group discussions or FGDs.

In Cagayan de Oro City, colleagues from the Philosophy Department at Xavier University who shared my research interest conducted the discussions. The informal FGDs of Groups 1 and 2 were all composed of survivors from Typhoon Sendong (international name: Washi) that hit Cagayan de Oro in the evening of 16 December 2011. The FGD participants originally resided in areas deemed as danger zones or floodplains, namely, Sitios Cala-Cala and Tambo in Barangay Macasandig, Sitio Acacia in Barangay Carmen, Sitios Puntod and Crusher in Barangay Balulang, and Sitio Isla Delta in Barangay Consolacion. All of the participants were beneficiaries of the Xavier University Ecoville Resettlement Project and at that time were to be awarded permanent dwellings in Barangay Lumbia, Cagayan de Oro City. The FGDs for Groups 1 and 2 were held on 23 February 2012 at the resettlement site in Xavier Ecoville. Each group had eight participants, all adults with ages ranging from 26 to 63. They were invited based on availability and their position as decision maker in their respective households. The conversations were conducted in Binisaya. Colleagues at Xavier University translated to English selected transcripts of these interviews, which they then shared with me.

I also held discussions with families living in places marked as vulnerable along the Marikina River, the Manggahan Floodway in Pasig City, and an informal settlement in a flood-prone zone in Quezon City. The Marikina families were located near the banks of the river, and the Quezon City families lived near a creek (both the river and the creek are flooded regularly). The Pasig families were being evicted because they lived in a floodway. The discussions were a series of informal conversations held between March and June 2013 by a team of colleagues who were trying to understand the persistence of people to stay put in their dwellings. Three FGDs were held, with each group having seven participants aged 30 to 70, with the Marikina and Quezon City groups composed of four women and three men and the Pasig group composed of four men and three women.

The discussions with the communities were used to validate and deepen insights gained from reading the literature. These were free discussions that focused on how the people understood and felt about their vulnerability, how they constructed their own strategies for survival, and their hopes given the difficulties. Thus the main research method for this study consisted of a critical reading of the outputs of current research on the voices of the poor with regard to their conceptions of vulnerability and a good life in order to understand how they respond to disaster.

Disparate Rationalities: Relocation as a Case in Point

The years 2011 to 2013 saw some of the most devastating storms in the history of the Philippines. The high casualty rates of Typhoon Sendong in 2011 (more than 1,268 deaths; Tan 2011), Pablo (international name: Bopha) in 2012 (more than 1,020; PDI 2012), and Yolanda (international name: Haiyan) in 2013 (with 12,203 deaths and the destruction of a city; Official Gazette n.d.) are telling. The high death tolls were caused by a lack of awareness and preparedness of the local populations. The victims were mostly people who lived in danger zones, some of which had been marked as vulnerable by local officials (Akut et al. [2012?] 1). These disasters seem to demonstrate that the casualties were high because people lacked an adequate appreciation of risk and unnecessarily exposed themselves to the dire effects of natural hazards. Despite the Filipinos' profound acquaintance with disaster, despite having cultivated a culture of disaster, people seem to have failed to assess risk effectively and avoid its most dire effects.

According to then Secretary of the Interior and Local Government Manuel "Mar" Roxas, in Metro Manila alone in 2013 there were some 104,000 families that needed to be relocated as they were said to be living along canals, rivers, and creeks as well as by railways and in dumps (Calleja 2013). Outside Metro Manila many communities are similarly located in areas that are vulnerable to

natural hazards. In various studies of vulnerable communities, it is clear that people know about the risks they face and have strategies for coping with these risks. Why do they put themselves at risk? Perhaps they consider the risks of disaster to be manageable, given the daily risks they have to face. It is possible that the people choose to dwell in hazardous areas because the social system that causes their poverty has rendered them incapable of choosing to live in safer places, and the places where they dwell afford them the best kind of life they are allowed by the dominant system. As discussed below, the lack of capacity to navigate the dominant economic system, to engage the structures of governance effectively, and to fruitfully utilize scientific rationalities keep the poor from getting away from seemingly avoidable risks and prevent them from human flourishing.

One can argue that much of the poverty in the world exist on account of the aggressive imposition of extractive and alien schemes of wealth accumulation and production upon traditional societies. Traditional peoples were driven from their lands and deprived of their commerce by entities like the Dutch East India Company, the British East India Company, the Spanish conquistadors, the Boers, and the European colonizers of the New World (Acemoglu and Robinson 2012, 245-73). In every former colony there is a history of the exclusion of colonized peoples from meaningful participation in the dominant systems and more importantly from any process that would have allowed them to shape economic and governance structures responsive to their own understanding of a good society (cf. ibid., 302–34). The marginalized communities then have become the vulnerable populations today because they have been driven to hazardous places by the further and continued colonization of safer locations by the dominant sectors of society and because of their inability to earn a regular and liveable income in the dominant, formal economic system.

One way by which these communities have been marginalized further is through top-down DRR methods that effectively nullify traditional knowledge. Governments and multilateral agencies impose on communities defined as at risk projects and plans based on Western, scientific, and technological solutions (Mercer et al. 2008). Experts and policy makers decide what risks to focus on, how these risks should be addressed, and what programs people should adapt based on the experts' priorities (Cannon and Schipper 2014, 72). Their solutions often clash with the community's conceptions of vulnerability and risk. In a Cagayan de Oro FGD, evacuees identified a risk-filled community as "a community with no jobs, no income, no work, and having nothing to do for the day." When articulating their vulnerability that is of the everyday kind, they talked about their being susceptible to hunger and income deprivation. They spoke of being liable to relocation, of being moved to places far from income opportunities or access to basic services. Thus respondents in Cagayan de Oro as well as those in Marikina chose to live in their disaster-prone locations as a response to the risks of daily survival and the possibilities for building relatively viable lives. Displaced residents in Cagayan de Oro recalled that their former location was good because "all our jobs were nearby or we could always find a way to earn a living."

In the informal conversations I held during the months of March and June 2013 in hazardous areas in Metro Manila, participants stated similar reasons for staying put. Viewing the community in Manggahan, Marikina, as a community at risk, the government has set it for relocation. The residents understand the risk as they are exposed to yearly floods. However, they do not consider their lives to be in such danger as to make relocation imperative. These communities consider floods as part of the reality of their landscape and take measures to cope with the flooding. As Marikina residents noted:

May early warning na kami na may sirena sa loud speaker dito sa barangay. Ang mga Tanod pinupuntahan din kami sa mga bahay. May mga nagbabantay rin sa ilog na nakakaalam kung kailan kami dapat magbalot.

Here in the barangay we already have an early warning system that uses sirens in the loud speaker. The barangay *tanod* [watchmen] also come to our houses. There are also those who watch the river, who know when we need to pack up.

They also note that

Sanay na kami sa baha. Abala pero ganoon lang talaga ang buhay. Nililipat na lang namin ang mga appliance sa taas, at minsan lumilikas. Naglilinis na lang kami pagkabalik. We are used to flooding. It is an inconvenience but that's life. We just transfer our appliances to the second floor, and maybe evacuate. We just clean up on our return.

Marikina respondents also said, "Mabuti na dito, may mga eskuwelahan at health center na malapit" (This place is all right. There are schools and a health center nearby), as they contrasted their homes to possible relocation sites.

Evidently people on the margins have their own conception of risks and effective ways of coping with those risks. They consider disasters as regular occurrences with which they can cope. They plan on using all possible systems of warning and preparation oriented toward the preservation of their means of survival.

When they talk of risk, foremost in their minds are not impending disasters but rather the issues of security of tenure and the lack of income, which to them are greater concerns in view of the everyday risks of survival and subsistence. People who live in danger zones believe that the loss of livelihoods and support structures imbedded in their community is a greater disaster than the possible devastation that floods may cause.

Here we see the contrast between the rationalities involved in DRR management. On the one hand are people who belong to the community of persons constantly at risk because they are deprived of the basic capabilities to survive and flourish in the world as defined by Western development. The marginalized are mainly interested in preserving what they understand to be a viable life within the frame of their marginalization. On the other hand are the Western-educated policy makers who aim to bring marginalized communities to a level of safety defined by the West.

Experts like to make risk assessment maps that focus only on geological hazards without factoring in the everyday concerns of the vulnerable. Such experts focus on logistics—quick response of rescuers, procedures of prediction and calculation that aim to manage disaster risks, and the like. They have their own categories for risk management such as the counting of people displaced, killed, and evacuated. To reduce the number of victims policy makers and researchers need their own procedures drawn up based on their own calculus. Bankoff (2003, 181) goes so far as to say that DRR strategies are applied with "a strict, rigid and para-military approach."

These strategies, although necessary, do not address the question of whether the marginalized are indeed capability deprived. DRR strategies often fail to consider the established ways of the marginalized—such as their system of monitoring hazards using local knowledge, their evacuation processes, and their return procedures—as potentially effective. In many of these communities, it is clear that people feel their own method of evacuation and return is the most feasible and desirable way because it keeps their community and support system whole and preserves social capital. Previously they would have migrated to safer areas with their communities remaining intact. However, these potential migration sites are now owned and controlled by others. And so people are forced to stay put in areas that make them vulnerable to disaster. Of course, experts would rather permanently relocate these communities to places they deem safe. But the marginalized do not consider these areas suitable dwellings, unlike those areas where they could choose to evacuate temporarily in times of danger.

We can see at work two rationalities that perceive two disparate sets of risks. On the one hand is the rationality of the marginalized, focused as they are on the risks of subsistence and daily survival; on the other hand is the rationality of the DRR experts, who emphasize the risks of seasonal or extreme events and often do not perceive the subsistence risks as essential considerations for DRR planning. The marginalized see the catastrophic risks as less fundamentally threatening than the risks to their everyday subsistence. From the experts' perspective, traditional ways are ineffective because they do not fulfill the objectives of the dominant rationality, which are to reduce casualties through the application of technical knowledge and the inclusion of the vulnerable other in the systems of the dominant rationality. However the imposition of these strategies may cause the loss of traditional ways that have helped the community cope with risks to be replaced with strategies that are not responsive to the community's lived situation.

J. C. Gaillard (2010, 33) quotes an unnamed expert, who was influential in setting the direction of the UN's International Decade for Natural Disaster Risk Reduction, as asserting: "Disasters in the less affluent world were caused by people's lack of knowledge of natural hazards, the absence of monitoring systems, the failure of warning systems, the weakness of emergency planning, the disorganization of post-disaster management and finally, by the lack of security measures." In the minds of experts in multilateral organizations is the idea that the vulnerable are so because they are not capable of understanding risk in the way that the UN and other multilateral agencies do (Loh 2014, 208). Thus, much of DRR is focused on perfecting the hazard maps, the logistics of delivery systems, the clearing of people from hazardous areas, the putting up of relief goods supply lines and evacuation centers, and the educating of people about disasters and how they should prepare for this eventuality. These are all important aspects of DRR, but they do not address the reality that the marginalized (those deemed as other) are excluded from the mainstream economy and that such exclusion is at the very heart of their vulnerability.

Clearly the dominant system has great confidence in the correctness and universality of its conception of risk, which it needs to impose on the marginalized. But in the early 1980s Mary Douglas and Aaron Wildavsky (1982, 29–48) already questioned the basis of the rational decisions that modern people make in their decisions about risk. They demonstrated that contemporary, Western peoples like to believe that they form judgments regarding risks—for example, which to consider as genuine dangers and what to focus on—based on a direct or objective understanding of reality. This understanding, though, is also colored by value judgments. Douglas and Wildavsky show that politicizing intervenes in how moderns perceive, prioritize, and assess risks. For instance, the ideas that Western societies have about pollution and its dangers are for these authors "an ongoing political debate about the ideal society" (ibid., 36). Thus, the very definition of pollution, its causes, and levels are socially defined. But once decided, these perceptions are accepted as truth.

Even the idea that non-Western cultures are less able to perceive in general the catastrophic risks that threaten them is an assessment born of a certain rationality that believes science can know reality directly and its application can shape that reality for the good of society. It is also born out of a certain naive optimism that science can anticipate, overcome, and mitigate the destructiveness of natural hazards. But this perception seems to belong mainly to the international DRR community and Westernized academics and policy makers. Because of this belief, the marginalized are confined to their category as vulnerable. The effectiveness of their response to this vulnerability is measured within the frame of Western, scientific rationality. Yet the poor see vulnerability from a totally different perspective.

Defining Vulnerability

DRR is a strategy to reduce a disastrous event's overwhelming impact such that communities suffer less damage and casualties. In order to ensure this outcome, DRR agencies believe that "the response to disaster should be focused on mitigation through the dissemination of technical information and transfer of scientific and engineering knowledge" (Bankoff 2001, 25). It can be observed that "external 'experts' generally arrive in the role as pathologists, to right the wrongs of inadequate and inferior technology. They assume superior expertise and solutions rather than recognizing there is as much to learn as to impart" (Cannon and Schipper 2014, 138). The continuing casualties that disasters bring about are tied to the inability of the marginalized others to cooperate with and utilize these technological solutions. Thus, efforts are focused on education and technology transfer. However, this is a simplification of a multilayered problem that we must unpack.

Firstly, we must look at disasters as a social construct. The meaning of disasters and the discourse that defines it are determined by the rationality in which the discourse occurs. For the marginalized whose income, land tenure, and access to government services are precarious, disasters can take the form of the disturbance of the balance of survival strategies they have been able to construct for themselves where they dwell. For the experts, disaster is cast in the form of loss of life, destruction of property, and the adverse effects on the Gross National Product of extreme calamitous events. The expert focuses on the calculation of risks and the formulation of appropriate responses within the formal systems of the locality, while the marginalized are concerned with the preservation of life as they know it. But more than the meanings of its effects, the construction of the meaning of a disaster differs for these two groups.

When it comes to extreme events such as typhoons and earthquakes, those most affected by these events, the so-called vulnerable, live in a moral and spiritual cosmos, while those from the dominant rationality occupy a disenchanted universe (Bankoff 2004, 103). Disasters from the point of view of the vulnerable are more the result of the movements of a moral world order. An offended and abused mother nature can send floods. Volcanoes erupt because they are the acts of powerful natural entities that have a personality and a personhood (Douglas and Wildavsky 1982). Science cannot and does not mitigate the movements of such a spirit-filled and -moved nature—especially if its movements are precipitated by a sense of moral violation.

In this case, the community would rather rely on the intervention of the *babaylan* (shaman), spirit guides, and persons of power.

Disaster experts tend to regard this perspective of the marginalized not only as irrational but also as dangerous if the local populations insist on using these perspectives to face disasters since their analysis and solutions do not seem to prevent the loss of homes, incomes, and lives. These views also prevent the vulnerable from adopting modern solutions. Instead, people focus their energies on solutions like prayers and rituals, or they surrender to fate, actions that do not have any positive effect on disaster prevention (Cannon and Schipper 2014, 194). Thus, for the Western-trained planners and disaster prevention experts who study the situation of the vulnerable margins, the solution includes finding a way to impart to the marginalized the scientific and technological knowhow that will mitigate the effects of disaster. Loh Kah Seng (2014, 208) clarifies:

Disaster expertise that incorporates technical measures may be said to be modernist. By modernist, I refer to the optimism, based on scientific rationality, that the future is not preordained but capable of improvement; natural hazards can thus be anticipated, overcome, and mitigated through human endeavor. A modernist response is distinguished, for instance, from a religious worldview that life is preordained by divine forces, or from customary practice in which common people accept hazards as natural and beyond their means to control.

For obvious reasons, those who work with the dominant rationality take scientific and technical knowledge to be the more useful and correct perspective to take. According to this rationality, the marginalized are the cause of their vulnerability because of their lack of effective knowledge about the workings of nature.

Persons who subscribe to the dominant rationality do not understand the other rationality as potentially effective or even helpful as frame for understanding reality because the marginalized do not conform to the dominant rationality's rendering of nature as a machine that can be abstracted and systematized for effective manipulation and management (ibid.). For traditional communities who conceive of the world as a moral cosmos (Furendi 2007, 483), their own way of understanding the spirit-filled reality better serves their being in the world because it gives them a sense of wellbeing, belongingness, and peace; it also serves their resilience and capacity to recover. The *World Disaster Report* of 2014 makes this observation:

Yet on another level studies imply that traditions and religious customs play a significant role in building disaster-resilient communities through rituals and festivities. In Tohoku [Japan], the most disaster-affected region, there is evidence of Shinto shrines having played a significant role in keeping communities together. Having miniature shrines carried throughout the disaster-affected areas contributed to revitalizing the local towns and communities, as seen in the district of Shishiori in the Miyagi prefecture. According to Katsuhiko Takizawa, associate professor at Nagasaki University, it is possible to find historical and cultural roots in a number of events and activities carried out by local communities. For instance, 'Fujin-Boka Club', a women-led community post-disaster support group in the city of Iwanuma is well connected to the concept of kou (講) which has its roots in Buddhist and Shintoist culture, from the Edo period (1603–1868). By looking at individual local communities, Takizawa concluded that religions, culture and customs play a significant role in disaster preparedness and recovery. (Cannon and Schipper 2014, 50)

The traditional rationality's perspective of a spirit-filled cosmos may not prevent a higher number of casualties, but it affords the people a greater capacity to survive unavoidable hazards and to rebuild lives afterwards. Beyond just disaster preparedness, traditional conceptions of the cosmos give them a profound sense of connectedness to nature and allow them to find many forms of contentment (Nono 2008, 172). In her studies of the babaylan and oralists in the Philippines, Grace Nono shows that people of many cultures in this nation, whether rural or urbanized, Catholic, Muslim or pagan, subscribe to a traditional view of the relatedness of the person to nature because it gives them a sense that nature is not arbitrary and that spirits can be negotiated with to ensure well-being. Her study, which documents the roles of various healers from a sampling of cultures and regions, illustrates how the health and well-being of a person are tied to an ability to negotiate with and navigate a personal universe. The marginalized person's understanding of disaster and disaster prevention and mitigation stems from this cosmology, which takes disaster to be the separation of the marginalized from the order that supports their existence. Disaster prevention is rooted in the need to live in harmony with nature and respect its spirits. This kind of knowledge helps non-Westernized people face the dangerous movements of nature and see it as meaningful, and more importantly to recover from the tremendous loss, giving them the capacity to rebuild. Usually DRR systems are imposed without considering this rationality in grasping what people see as effective and reasonable strategies to plan for disasters, given that the modern world places them in hazardous situations.

Unfortunately the contemporary world order has rendered these paradigms inutile. As Gaillard (2010, 36) points out, "technological adjustments fostered by the West have deeply eroded traditional systems of coping with natural hazards and the intrinsic capacities of traditional societies to overcome the impact of disaster." As shown below the vulnerable had effective ways of coping with disaster, such as seasonal migration, temporary evacuation, adjustments in planting seasons, and adjustments in consumption patterns-some of which are still applied today. However, many traditional societies have had to cope with their insertion into cash economies, mass production systems, and environmentally destructive production and resource extraction methods that have rendered their own survival techniques ineffective. Clear examples of this erosion are the many stories of indigenous peoples who have lost their own means of survival and flourishing because of the encroachment on their ancestral domain by nonindigenous agents of development. This situation is true of the indigenous peoples of Palawan, whose very survival is threatened by government-imposed conservation strategies that further their "dietary deficiencies" (Novelino 2000, 358).

Marginalization and the Calculus of Vulnerability

People may argue that, in the case of extreme weather events, the poor's vulnerability is a direct result of their inability to adapt to and take advantage of Western rationality and its ways. After all, if they understood hazard maps, they would not live in dangerous areas. If they comprehended gustiness and precipitation levels, they could evacuate on time. If they accepted government relocation packages, there would be fewer incidents of misfortune among them. However, this belief misses a very important issue, i.e., the poor's vulnerability is a direct result of the encroachment of aggressive, Western systems on their lifeworlds. As Bankoff (2003, 12)

succinctly puts it: "Vulnerable populations are those at risk, not simply because they are exposed to hazard, but as a result of a marginality that makes their life a 'permanent emergency." It is always the poor who are vulnerable because they are forced into circumstances that make them vulnerable. P. C. Kesavan and M. S. Swaminathahan (2006, 2194) have noted about their situation: "Poverty, environmental degradation and hazard vulnerability form a vicious spiral, and are mutually reinforcing. The poor are compelled to exploit environmental resources for survival and also to live dangerously close to the high tide zones, and thus become highly vulnerable to cyclones, tsunamis, etc." As Andrew Maskrey (1957) notes, many studies show that low-income groups live in hazardous locations because market forces have pushed them to reside in places they certainly would not view as ideal and may see as hazardous. But "unequal economic relations" give them little choice but to build their dwellings in danger areas (ibid., 12).

And so, using their own calculus of risk, the people factor in other more pressing considerations such as availability of water, support systems, security of tenure, and social capital. Thus, it is not lack of information that drives them to place themselves in locations that make them vulnerable but the complexity of their calculus rooted in a keen awareness that they are already faced with the daily hazard of living (the everyday risk of subsistence and survival mentioned earlier) as marginalized people in societies that continue to push them further toward disaster. Placed more exactly:

Vulnerability to hazard may be chosen as a lesser evil, because the hazard is infrequent, compared to the more pressing day to day problems of homelessness, lack of income or inaccessibility. Poor people are vulnerable to hazard as a result of processes that have deprived them of any power to affect their own physical, social or economic environment. Their only freedom of choice is to choose between different disasters. (ibid., 25)

Given their scarcity of accumulated capital and limited cash availability, people make choices between urgent needs. They never really prepare for a calamity because it is not an urgent concern until it happens. Expenses for education and health emergencies are more urgent, and so no money is put away for disaster preparedness. People do have their own conception of what disasters are, and they comprehend the movement of nature in their traditional ways of understanding, as we see below in the discussion on Cagayan de Oro communities. These ways were effective before they were marginalized by the imposed dominant systems. As Lindsey Knight (2009, 40) in the *World Disaster Report* observes: "Climate change, environmental degradation, migration and other detrimental trends have exacerbated the communities' level of vulnerability, rendering traditional coping strategies inadequate and depriving communities of the same degree of protection or disaster recovery options that they enjoyed in the past."

Due to their vulnerability, they make their own calculations based on their own rationality. Let us take two examples from two different provinces. These examples illustrate how the calculus of risk of some marginalized communities differs from that of the dominant, at least on the level of livelihood and well-being.

Further Observations from the Philippine Experience

As discussed earlier, people in communities choose to stay in high-risk areas because their location provides them livelihood, some security of land tenure, a sense of community, and social capital. There are further insights to be gained by looking at various experiences in the Philippines. For the most part, people in Cagayan de Oro City as well as in Pampanga province were not aware of the impending disaster when it first struck. But even after the devastation happened, they measured the threat to their lives against the cost of daily living and the well-being they derive from community rootedness. This is how their rationality reckons with risk. While experts prioritize relocation and a better integration to the mainstream system of location planning, the marginalized prioritize the preservation of their way of life.

In January 2009 a series of floods hit Cagayan de Oro City and affected more than 21,000 families. The devastation caused by the floods made the residents of the city and its neighboring municipalities realize that they were not prepared for flooding on this scale. Many homes were destroyed and families displaced because of a lack of preparedness (Akut et al. 2012?). However, no one really anticipated such floods to hit Cagayan de Oro since it is in a part of the Philippines that, from experience, is seldom hit by typhoons. As one respondent who participated in the 23 February 2012 FGD held in Xavier Ecoville explained: We were comfortable and happy in our communities. Flooding in Acacia, Carmen, happens usually but it is not life-threatening. So we take it as merely a logical consequence of just living along the river and under the bridge. Living there, we did not think so much of taking risks and dire consequences, but we just thought we were living with the discomfort or inconvenience of expected flooding in the area.

Unfortunately various communities in Cagayan de Oro were inundated. In 2011 a larger, deadlier flooding occurred, which confirmed the worst fears of engineers and scientists who had sought to help the devastated communities relocate to safer areas or improve their communities' protection after the 2009 flood. Lives were lost and property destroyed on an unprecedented scale in the whole of Cagayan de Oro City. Sitio Cala-Cala with 400 homes was completely washed away. Some of these losses could have been prevented if after 2009 families heeded the warnings.

One of the primary reasons the people stayed on was that no one could have imagined the devastation. A respondent said, "We did not experience any flooding since we lived in Crusher, Balulang. Even during Sendong, we believed that the floodwaters came from the mountainside and not from the river overflow." The flood of 2009 was for them a one-time event that would not be repeated until perhaps a decade or so later. In a 23 February 2012 FGD held in Xavier Ecoville one participant said, "Heavy rains make us anticipate some flooding. The occurrence was never strange to us because we were commonly aware that our area is located along the riverbanks. So we did not prepare very much because we did not expect the flood to destroy our things."

Another reason for staying put was the fact that some residents had already begun the process of claiming formal ownership of their land. In this case, the choice was defined by the sense of ownership registered in the formal system mixed with the sense of belonging to the place. A female respondent said, "Not that we did not believe in the warnings, but we had to stay because we paid for our rights in Cala-Cala. Besides, Alae [a proposed relocation site] seems to be an impossible place—it is very far, we cannot survive there." Moreover, and this seemed to be a major reason, the respondents in two FGDs reiterated that Cala-Cala was a happy community. According to a resident, "There were many festive activities in Cala-cala. It was a happy community. The festive activities were prepared for and anticipated." Although they did not explicitly state during the FGD whether their community remained "happy" after the disaster or that they had no regrets remaining there, these various considerations determined the people's desire to stay put in Cala-Cala despite the assessment by scientists at a nearby university that it was prone to disaster.

Dialogue with the marginalized reveals that people value their own communities and the life they have built. The calculus they use shows that, because of their position as income-deprived populations, they have to prioritize certain pressing risks over others. However, we also see the importance people give to a place that they value as their dwelling, as the following discussion also indicates.

In 1991 the second worst volcanic eruption of the century occurred in the Philippines. Mount Pinatubo's eruption was so powerful that it affected the world's temperature and affected ozone levels (USGS 2015). This eruption, although it did not cause a great number of casualties, did cause the destruction of the vibrant town of Bacolor in Pampanga province through successive lahar flows, i.e., volcanic mudflows. From 1991 to 1997 the town was buried in about 6.5 to 8 meters of volcanic material. But despite the fact that they had an 84 percent high to very high perception of the risk of the lahar returning every year with the rainy season, about 400 families of Bacolor chose to stay in their town or at least return when the lahar threat ended with the rainy season. These hardy people would be the pioneers of the town's rebuilding after 1997 when the lahar flows ceased (Crittenden and Rodolfo 2003, 53-54). They were able to survive in this situation because they had a system of mitigation. Every year 57 percent of them raised their houses on posts, 31 percent relocated seasonally, and 25 percent sandbagged the area around their homes (Gaillard 2010, 71–73).

Although relocation would seem to be a more rational and simple response to the danger of yearly lahar inundation, one author explains the refusal to transfer to the relocation site:

Ideally, those inside the danger zones should move out and be ready to be relocated elsewhere. In Pasig-Potrero, as in other places around Mount Pinatubo, relocation before disaster strikes was not carried out. The people adamantly refused to leave their places. At best, threatened residents only transfer to temporary evacuation centers when they sensed danger was near. Some of the residents even returned to their buried houses. The more daring ones dug up their houses while others rebuilt on stilts. (Arboleda 1997, 269)¹

Clearly, their risk taking was calculated. Gloria Nelson (1997, 297) noted that the people of Pampanga had a "sentimental or emotional attachment to their tangible securities and established occupations." And for survivors like them their primary goal was to restore what had been lost to them. Their tenacity was applied to rebuilding their lived world in the dwelling they recognized as home (ibid.).

A study by the Institute of Philippine Culture (2012, 17) explains that marginalized communities perceive rehabilitation to be a restoration of their lived world. Thus, in Bacolor's case, even those who were already in the new resettlement areas returned to the town to vote and meet regularly with friends; generally they waited until they could return and settle back in the town (Crittenden and Rodolfo 2003, 55). They did not live permanently in the relocation sites but returned instead to their homes despite the risks because they were struggling to restore the world that they could discern. This strategy was reasonable in the psychosocial sense, but also in the sense that they could still earn income by returning to their homes. In the resettlement areas there were no opportunities to resume the kind of livelihood that had proven to be effective for them, but in Bacolor they could be employed in constructing dams and lifting and repairing houses; there were also incomegenerating opportunities in the nearby provincial capital. On top of the income-generating opportunities, Bacolor was a ground for their identity. Those who stayed felt that they were being loyal to the town while those who left were disloyal (ibid., 54). In their tenacity these residents of Bacolor, having coped with more than six years of constant lahar threats, have made it again into a viable municipality.

The Play of Reason

Those who read the story of Bacolor from the perspective of the dominant rationality may find the residents' loyalty to the town irrational and their decision to stay irresponsible. They like to think that people's decisions regarding risk and disaster can be made from an abstract, mechanistic level; that knowledge has a direct insight into the actuality of nature; and that scientific, technical knowledge is unclouded and better able to judge what ought to be (Douglas and Wildavsky 1982). Those who operate within the dominant rationality may like to think that risk and response are determined through "the development of meta-criteria, or better, a computational algorithm able to determine risk" (Healy 2006, 79). In fact the creation of risk, its determination as risk, and the effective, human response to it are rooted in a complex play of concrete circumstances.

We do not have a shared world that can be arranged according to the certainties theorized by a mechanistic view of nature and human societies. It is not just the general public of a Westernized world that has to confront and conform to the solutions of experts. Technocratic solutions from the Westernized, dominant rationality are imposed on the non-Westernized, marginalized rationality supposedly for the well-being of the marginalized. Ultimately the discourse of disaster and disaster mitigation may further the imposition of Western conceptions of development and order upon the margins because they bring with them a colonizing rationality that insists on, using Martin Heidegger's (1966, 45-46) terminology, enframing the world in calculative thought. Over and above this act of enframing, the traditional rationality being imposed upon belongs to a multiplicity of peoples and cultures, each with its own understanding of well-being and conception of nature and the human engagement with it; these peoples and cultures also possess various degrees of openness to and assimilation of Western rationality. In the earlier examples we spoke mainly of communities that had a calculus based on well-being and livelihood.

The dream of a calculable universe where risks can be averted through DRR measures that are applicable to all cultures can only be realized if Western conceptions of the universe reflect the actual principles that define the cosmos. However, the Western, scientific–mechanistic cosmology is one model that is as legitimate as other models that satisfy the human need to find meaning and order in the universe. The mechanistic model of the universe serves certain persons and their need for certainty, while the moral cosmos model serves other people and their need for a personal and communal world order. These models could be equally valid explanations and sources of meaning of our shared reality. Both could equally serve our collective well-being and human flourishing. Who is to say that a safer world defined by science and engineering is a more humanly nurturing world than a less predictable, moral, and communal cosmos? Furthermore, who is to say that these conceptions of the universe are incompatible?

Those who work with the dominant rationality feel that these views are incompatible. Even Douglas and Wildavsky (1982) often have a tone in their writing that implies that their aim in deconstructing the naïve belief in the rationality of modern risk assessment is important for a less clouded, more accurate, and perhaps genuinely scientific conception of nature and its order. It will be difficult to know if the marginalized rationality can be considered effective as long as the discourse of disaster risk reduction, defined by Western rationality, is aggressively promoted by advocates who ultimately believe in its singular superiority.

However, the social construction of risk is multirational. People from a different mode of rationality find it difficult to adjust to a system imposed by a dominant rationality that is not open to the rationality of the marginalized. Thus, it has become necessary to create more participatory or discursive DRR practices. For instance, participatory techniques have been applied to DRR research in which members of vulnerable communities are involved in its various aspects through participatory risk assessment, participatory mapping, and discursive data collection methods. These processes are designed to involve the people in the study of their community and the definition of risk.

Nevertheless, these participatory processes are prone to Western capture as well:

It was proposed that participatory techniques were a way of ensuring that indigenous communities had control over and became owners of the research. However, in reality this is an ideology impossible to achieve when research is initiated by an external researcher as he/she will always have an agenda. Even if this agenda is to ensure communities have complete control over and become owners of the research, inevitably there will be some element of control whilst the researcher is present. (Mercer et al. 2008, 178)

In this case, the people's conception of disaster, its causes, and its mitigation are still gathered by researchers who operate within a Western discourse. The input of the marginalized will be interpreted ultimately by the rationality of the researcher because it feeds his or her question and must be translated into a study that will be useful to funders or valid to journal referees. It is the same for participatory methods of DRR. DRR participatory processes aim to involve the people in the understanding and crafting of disaster mitigation plans. The implementers of these participatory processes are said to disempower the marginalized communities by imposing their own priorities and their own agenda. For instance, they tend to focus on "physical hazards instead of people's lived experience" or the "stories with metanarratives drawn from technical experts" (Loh 2014, 208).

Ultimately, even if DRR practitioners invite the marginalized to engage in participatory processes, the marginalized are only able to contribute within already predetermined Western frames of constructing DRR efforts. In such a schema of engagement and governance, there is no space for the rationality of the marginalized to influence the thinking about genuine responses to risk and disaster. A Red Cross report admits:

Many DRR institutions do not change their projects to fit local people's own priorities, and in many cases the external priority given to the severe hazard can be imposed on the local people. Risk assessments like VCA [vulnerability and control assessment] are often carried out with a predetermined hazard in the minds of the DRR organization or their donor. So even if local people prefer to fix their water supply or reduce malaria, they get incorporated into the disaster risk project anyway. A significant part of this mismatch is that DRR organizations approach local people based on funding they have obtained for dealing with certain hazards and not for other types of problems that the people themselves might prioritize. (Cannon and Schipper 2014, 79)

If this system persists, it will mean the continued marginalization of other rationalities and the loss of other ways of comprehending disaster.

Toward Genuine Discourse

Disaster management demands a complex transformation of societal systems because vulnerability and risk are rooted in structures of injustice and domination. Thus, DRR is not just a question of fixing a faulty system; it is a question of reimagining society so that all people of all rationalities can flourish. This process begins with a genuine discourse with the marginalized other.

Borrowing from Jürgen Habermas (1998, 138), I define genuine discourse as the form of discourse that includes all stakeholders in a process of shared will and opinion formation. This discourse, if I may add, must occur in a way that allows stakeholders from various rationalities to express their conception of the good from their particular rationalities, and other stakeholders must be open to the possible validity of each other's conception of the good. In order to realize this ideal, discursive systems must involve all stakeholders in the process of shared opinion and will formation with regard to what risk is, what disasters are, and how to prioritize risk mitigation. More importantly, all stakeholders must engage in communal reflection on the shared world they are building. If we wish to genuinely manage disasters and their attendant risks, we must engage the marginalized in the process of creating systems that respond to the real risks that place them in hazardous situations. This recommendation means building modes of governance in which the marginalized are able to participate effectively in the formulation of policies and systems that address their desire to build safer and more humane communities.

Efforts have begun with participatory research and disaster risk management systems. But those who implement these measures have to be conscious of the fact that Western rationalities still frame the discourse and the other is only made to speak in that frame. These processes must be refined so that a genuine mutual opening to rationalities can be realized. It must begin with processes of decentering wherein practitioners and policy makers are given opportunities to engage the marginalized in a process of mutual justification. Here participants have to justify to each other their own conceptions of risk, risk reduction, and even the causes of disasters. There are already examples of how, in various disaster-prone communities, DRR methodologies have adapted to the priorities of the people.

In Kenya a group called the Adaptation (ADA) Consortium was able to formulate a climate information system that used both indigenous and scientific means of climate assessment and adaptation methods. Because the consortium consulted the communities in various counties in arid and semiarid lands, they were able to include "community-prioritized adaptations to climate variability and change," "user-relevant climate information services," and the "integration of weather and climate information and resilience assessment tools" (Cannon and Schipper 2014, 83). The organization listened to the communities and realized that these communities had their own monitoring and adaptation systems. This example illustrates how genuine discourse works and how DRR can accommodate local knowledge. However, one wonders if these projects address the lack of participation by the marginalized in shaping the shared world and if these projects move them out of the peripheries of mainstream society.

As argued earlier, the marginalized have been rendered such by the imposition of the dominant rationality upon them. The way for them to get past vulnerability is through a genuine engagement in the discourse that defines the shared world. Participatory systems of planning and policy making must be continuously refined so that the processes orient all stakeholders to be open to the potential legitimacy of the discourse of the other. It begins with participatory DRR processes, but it must continue into participatory governance and policy-making processes.

Only a person who is not capability deprived can effectively and creatively respond to the dangers their world can bring. The marginalized are pushed further into capability deprivation by a greater degree of blind incorporation into a world order that denies the validity of their rationality and ways of life. There must be ways by which the dominant system can engage the discourse that defines a nourishing and safe world for all who dwell in it. Until that happens, all attempts at disaster mitigation will only lead the margins further into disaster.

To conclude, the vulnerability of the margins is defined by the imposition of a dominant rationality that has cast them to vulnerability by marginalizing their mode of rationality. The imposition of the dominant rationality has rendered the marginalized inutile in navigating the mainstream world order. Thus facing the dual threats posed by nature and an inhospitable socioeconomic order, they create responses that allow them to survive according to their understanding of the good. DRR strategies, rather than helping the poor, can intensify their marginalization if these strategies serve to further impose the dominant rationality. Genuine discursive processes must be instituted to respond authentically to the risks that the so-called vulnerable face.

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1 The original text contains grammatical errors that are reproduced as is in this extract.

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