


Living with flux in the Philippines: Negotiating collective well-being and disaster recovery

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Abstract: *Anthropogenic climate change poses huge challenges to humanity. The frequency and magnitude of extreme weather is increasing. As more attention turns to disaster preparedness and recovery, it is worth recognising that many communities have a long history of living with the flux of planetary dynamism. They are experienced in negotiating collective well-being with one another and with the earth. Other communities have less experience and know-how and have had to adopt more experimental approaches. In this paper we draw on planetary social thought and critical disaster studies to re-think disaster recovery. We present stories of communities in the Philippines differently negotiating collective well-being in the face of climate uncertainty.*

Keywords: *climate change, community economy, disaster, livelihood, typhoon*

Introduction

Anthropogenic climate change is increasing the frequency and magnitude of extreme weather, posing huge challenges to the liveability of all earthly beings. Weather-related loss events have doubled worldwide since 1980 (NatCatService, 2015), and as the latest IPCC 2021 report demonstrates, the world is experiencing epochal change. The unprecedented scale, intensity and accelerated temporality of extreme weather poses challenges to how disasters are conceptualised and how they are prepared for, coped with and recovered from.

One region bearing the brunt of this change is Asia. In 2019, Asia accounted for 43% of catastrophic events, 48% of fatalities and 50% of overall losses (NatCatService, 2020). Over the last 50 years, this region has witnessed a ‘Great Acceleration’ of population growth, economic expansion, urbanisation and resource extraction, intertwined with the degradation of earth systems (Steffen *et al.*, 2015). The damage wrought by so-called ‘natural’ hazards, such as cyclones and flooding, is often exacerbated by the extent of low-lying settlements and limited planning controls (Aslam, 2018).

Building on research conducted in Asia over the past decade, in this paper we discuss ways of *living with* the flux of extreme weather. With reference to stories drawn from the experience of three communities in the Philippines, we explore collective negotiations within more-than-human co-habitations as a key driver for surviving well in the face of anthropogenic change. Drawing on planetary social thought and critical disaster studies, we propose a new pathway forward for disaster preparedness and recovery.

Clark and Szerszynski (2020) propose that planetary social thought is concerned with ‘the depth and diversity of the ways in which humans have accommodated themselves to the inconstancy of the Earth and to the flows and structures that are [generated] by planetary dynamics’ (p. 83, insert added). These authors are wary of the geosynchronicity implied by naming an end point to the Holocene and a beginning point to the Anthropocene, along with the implication that the earth system is a potentially governable domain. They call for attention to be paid to multi-scalar temporalities, to non-linear change, and to the multiple

and different experiences of negotiating planetary transition (p. 175). They employ the idea of ‘earthly multitudes’ to invoke ‘collectives, lineages, networks of knowhow associated with dwelling amidst the variegation and volatility of the Earth’ (p. 72). At one point they refer to this know-how as ‘earth-attuned’ knowledge and practice (p. 184), nicely identifying, as we see it, livelihood practices that live in/with/as earth. The focus on the ‘multi’, that is, the diversity of human practices, aligns closely with the approach to livelihoods developed by diverse economies scholarship (e.g. Miller and Gibson-Graham, 2019).¹ And the idea of earth attunement resonates strongly with community economies thinking about more-than-human ethical negotiation. As community economies activist/academics, our ongoing interest in making other worlds possible is inspired by planetary social thought’s foregrounding of earth’s multiple temporalities. We take up the challenge laid down by Clark and Szerszynski (2020) to devise ways for earthly multitudes to work collectively and inter-dependently *with* planetary forces. This line of approach has obvious implications for disaster management, and indeed, demands a rethink of disaster response.

Within disaster studies there is a critical rethinking of disaster response. Some scholars question the outcomes of top-down modernist approaches to disaster mitigation and recovery, and argue that community-led, place-based disaster preparedness is more effective (e.g. Gaillard and Mercer, 2013; Bankoff, 2015). This work recognises the value of indigenous, traditional and local knowledge, and ‘culturally, socially and economically accepted ways of coping with natural disaster [and extreme weather]’ (Gaillard and Mercer, 2013: 97, insert added), making the case for their inclusion in disaster recovery strategies. Building on this important work, our paper brings planetary social thought to bear on critical disaster studies, and delves into what we are encouraged to call the ‘earth-attuned livelihood practices’ that equip communities to live with geophysical and geosocial flux in three communities in the Philippines: Batan Island in Batanes Province, Digkilaan in Lanao de Norte and Banaba in Rizal Province. Drawing on community economies thinking, we foreground the negotiation of collective well-being within three place-based, more-than-human assemblages each

with their own temporalities and lineages. The next section expands upon the theoretical approach adopted and the empirical methods used to compile three stories we present and think *with*. Third to fifth sections present three very different cases of earthly multitudes living with flux and negotiating collective well-being. Conclusion section reviews what we have learnt about conceptualising disaster and doing disaster recovery differently.

Earth-attuned livelihood practices

Accepting that the planet is self-organising in ways we cannot predict and have little control over, what scope is there for acting to avoid the damaging impacts of climate change? Planetary social theorists Clark and Szerszynski (2020) propose that the ‘potentiality for improvising responses to emergent ecological and geophysical conditions’ will be aided by taking seriously the wealth of experience that ‘our species – in all its diversity and differentiation – has ... in negotiating planetary transition’ (p. 181). They warn against overconfident investment in technical control and attempts to manipulate nature (p. 185), and propose instead that we look at the many ways, over the span of human history, that earthly multitudes have joined forces with different geophysical fluxes to ‘negotiate with the varied temporalities of their physical worlds’ (p. 177).

Research on community economies in Asia has noted many such earth-attuned livelihood practices that have co-evolved with flux over the long *durée* – in this case the dramatic climate variations associated with the monsoon. Along the Mekong River, for example, living with the flood has entailed yearly adjustments to livelihoods, housing and modes of transportation, and the use of ephemeral infrastructure (Gibson *et al.*, 2018). In Cambodia, a 1.5-km bamboo bridge has been built and dismantled with the fall and rise of the Mekong waters for decades (Gibson-Graham *et al.*, 2016; Salazar and Gibson, 2019). In Bangladesh, farmers adapt their agricultural calendar to take advantage of the flood waters (Tauli-Corpuz *et al.*, 2009). Maritime communities in the pathways of yearly typhoons in the Philippines have devised distinctive building designs and ways of food preservation and storage as part of their

culture of living with the wind (Uy and Shaw, 2008). In Vietnam, indigenous people have planted windbreaks along the coast in order to break the waves of tropical storms (Magni, 2017). These ways of living with geophysical flux are informed by place-based know-how, that is, embodied, tacit knowledge accumulated over generations of habitation. Planetary social thought encourages us to see these earth-oriented collective practices as more than environmental adaptation. Emphasis is on co-learning and feedback travelling back and forth between humans and the non-human world. Emergent practices are forms of attunement by which earth's dynamism shapes life itself, bringing more-than-human communities or earthly multitudes into being through multi-directional negotiated interdependencies (Gibson-Graham *et al.*, 2016; Gibson *et al.*, 2018).

Relatively little is known in the Western scientific canon about the geography and detailed design of these innovative and resilient earth-attuned livelihood practices.² This is because, as part of the modernising project of development, knowledge about such matters has generally been 'disqualified and rendered invisible, unintelligible, or irreversibly discardable' (de Santos, 2004: 238–239). As the Great Acceleration has ramped up there has been a 'selective erosion and marginalisation of earth-oriented collective practices' (Clark and Szerszynski, 2020: 183). Under the pressure to increase efficiency and productivity multiple material practices have been driven into uniformity (p. 183). Clark and Szerszynski (2020) draw attention to the way that human skill has been codified and routinised and embedded in machinery so that the body no longer negotiates sensitively with the non-human world. At the same time, 'the environment has been made more smooth, frictionless, [and] predictable' (p. 183, insert added) – rivers have been canalised, roads tarmacked, coastlines walled and land reclaimed. Underpinning this loss of the diversity of practices and the ability to keenly sense the world, is a conceptual separation of 'Economy' from 'Environment' and an increasing investment in mastery over nature (Miller and Gibson-Graham, 2019).

Disaster management is built upon a mastery paradigm that advocates the manipulation of nature. Modern states deploy technocratic measures such as engineering structures to mitigate disasters, technology-based monitoring and

warning systems to anticipate the occurrence of extreme weather and hazard-based land-use planning (Gaillard and Mercer, 2013: 97). The norm is for the state to use military or civil protection institutions and military chains of command, and to treat extreme-weather events such as typhoons as 'enemies which should be fought against' (Gaillard and Mercer, 2013: 101). This mode of response calls for large investments of government and aid funds and creates ample opportunity for corrupt siphoning of funds away from those who need it most, often towards generating market opportunities for corporate actors – what Klein (2007) names 'disaster capitalism'. The command-and-control approach to emergency reduces people, with all their rich experience, to lives that must be rescued (Fassin and Pandolfi, 2010) and opens the door to social and economic engineering (Klein, 2007: 8).

Those critical of top-down approaches to disaster management point to the many endogenous ways that communities have of coping with hazards that could become part of a more holistic response. They note, for example, that 85% of post-disaster survivors are rescued by their friends, kin or neighbours, who are on hand at the time of the event (Quarantelli, 1986–1987, as reported by Gaillard and Mercer, 2013: 98). Critical disaster scholars advocate bottom-up, community-based risk reduction measures and collective processes of post-disaster repair and recovery that put resources into the hands of communities, so that they can take charge of rebuilding. They call for greater attention to be paid to mobilising indigenous, traditional and local knowledge, social capital and community capacities (e.g. Bankoff, 2007, 2015; Gaillard, 2010; Gaillard and Mercer, 2013). After all, these practices have contributed to long-term survival and resilience (Bankoff, 2007).

But gaining recognition for the relevance of place-based know-how is difficult given the dominance of vulnerability analyses that focus on all the conditions that make it possible for hazards to become disasters, including exogenous forces, unequal distributions of wealth, local power struggles and the frequent failure, or lack of, community governance (Seng, 2014; Cook, 2015; Tan-Mullins *et al.*, 2021). When community modes of coping are recognised, they can be seen as stop gap measures at best,

or susceptible to co-option by corrupt local officials and elites (Porteria, 2015: 198). Similarly, community capacities and assets, while recognised as valuable forms of ‘mutual aid’, are often cast as historic remnants under threat of extinguishment by modernity, or as intermittent or of peripheral value, with the effect of diminishing their relevance and legitimacy in disaster response agendas.

Staying curious about these concerns, we seek to better understand how community know-how and capacities might contribute to improvising responses in the contemporary epoch, where disaster has become the new normal. To do so we build on our research into strengthening resilience in Monsoon Asia (Gibson *et al.*, 2017).³ This project researched collective livelihood practices that have co-evolved with flux. We sought to understand how earth-attuned livelihood practices are embedded in complex assemblages, involving government agencies and institutional infrastructures that can either enable or disable ongoing negotiation of collective well-being. In the rest of this paper we present three stories about living with geophysical and geosocial flux, and draw out lessons for doing disaster recovery differently. Each story comes from a site where we have interviewed local people and worked with researchers and government and non-government personnel doing field work or action research.⁴

Maintaining collective livelihood practices honed to living with flux in Batanes

Batanes is the northernmost remote island province in the Philippines and home to the Ivatan ethnolinguistic group. The archipelago lies in the direct path of most typhoons that start in the Pacific Ocean and sweep towards the Chinese mainland (Hornedo, 2000; Uy and Shaw, 2008). No part of Batanes is far from the shoreline and the effects of the strong winds and rough seas that batter it. Here, coping with extreme weather is part of life, and earth-attuned livelihood practices are a form of know-how that is passed on between generations to support people in times of disaster.

Food preservation has traditionally been a focus of community life because extreme weather causes lengthy periods in which nothing

can be grown, harvested or caught. Households set aside unhusked rice and corn, and dried salted fish, for times that are lean, or for when extreme weather keeps residents indoors for several days. They also gift and barter preserved foods. One passionate fisherman in his 70s, who began fishing as a child, related how preserved and stored dorado fish operated as a community currency. Rather than selling fresh fish for instant cash, families would dry, salt and preserve it. The dorado became a ‘bargaining chip with all those you needed help from’, in the next fishing season or weather event (Interview, Manuel Baldomar, 3 July 2016). He explained how, over time, the fish gained value and this knowledge led to a ‘do not sell’ principle.

Traditional house building and repairs are carried out through a cooperative labour practice called *kamañidungan* (or *kapanidungan* in some parts of the main island Batan such as Itbud). *Kamañidungan* involves skilled and unskilled labourers representing 10 to 20 different households gathering together to work on one house, contributing all the materials, skills and labour among them. The Ivatan house design deploys distinctive materials, technologies and practices.⁵ To withstand typhoons and strong winds, houses are built with locally sourced limestone. Walls are two- to four-foot thick, and layers of reeds and *cogon* grass are bound together into a thick thatched roof. Ceilings are low. Windows and doors are small and narrow, closed with thick solid wooden shutters. Three of four walls have windows. The fourth wall, facing the direction of the prevailing winds, is kept free of windows and doors to create optimal strength.

Collective labour practices across Batanes are underpinned by an ethic of sharing labour to meet collective needs, described locally as the code, that is, the principle of ‘work you do not need today, when invested with a townsman in need today, will be paid back to you when and where you need it in the future’ (Uy and Shaw, 2008: 62; also see Hornedo, 2000). Cesar Hostellero, an Agricultural Officer of the Provincial Government, highlights, for example, post disaster practices that ensure housing is repaired after typhoon damage and food security is maintained:

The Ivatans are used to that, to working together, not in money terms ... it’s a tradition

that is very much needed nowadays. It's a tradition that has to be perpetuated through the generations ... After a typhoon everybody goes out and helps each other with the houses. With agriculture it is still dependent on *yaru* [cooperative labour]. When you plant *ubi* [aromatic purple yam] it is expected that someone will go from each household to help, families send someone from each household. With the house building a different process because specific skills [are] needed for house builders and those who don't have those skills join the cooking group. (Interview, 4 July 2016, inserts added)

The continuation of these collective earth-attuned livelihood practices is by no means assured. Residents must contend with new environmental regulations, such as prohibitions by the Department of Environment and Natural Resources against gathering limestone to repair houses.⁶ According to older farmers younger generations imbued with the 'Manila mindset' of getting ahead, are less interested in participating in *kamañidungan*, and certainly less interested in farming than in employment in urban services.⁷ Some see corrugated iron as a better roofing material. As the Mayor of Uyugan municipality stated:

Even if in the long run, [if] it's more expensive to maintain the corrugated iron roofs, it's easier than *cogon*. Although we still have *cogon*, most of it is not free anymore. Even labour is no longer free ... and *cogon* is becoming expensive. (Interview, 2 July 2016, insert added)

Interestingly, the Provincial Government has begun to play a crucial role in recognising the value of local community practices and fostering their continuation. Agricultural Officer Cesar Hostallero puts it this way:

the *Payuhan* [cooperation] spirit needs to be revived. Government has a role in that [to] strengthen and capacitate those community groups. We actually do it in the production farms. They work in clusters, they do work on one farm and they then rotate from one farm to the next – they are paid but they model the collective labouring. They call it '*mayuhu*'. (4 July 2016, insert added)

In response to the monetisation and privatisation of *cogon* growing, the Provincial Government has

protected, financed and managed communal *cogon* reserves around Ivana and Uyugan, on Batan Island. There are reasons to support a return to *cogon* roofing. Corrugated iron is 'extremely vulnerable to the stormy weather' (Hornedo, 2000: 66–67) and has a short lifespan, due to rust from constant sea spray. Locals interviewed in 2016 estimated an iron roof would last around seven years and a *cogon* roof around 30 years.⁸ The Provincial Government has now established a scheme whereby community members can access the *cogon* for free, so long as they have a low-cost permit and use the *cogon* for roofing.

People can take from there, but they need to have a permit from the municipal government – they only need to pay around 20 pesos for the permit as long as it's for roofing. (Interview, Cesar Hostallero, 4 July 2016)

In Batan Island, skilful negotiation of the temporality of the earth's dynamics involves keeping alive a diverse range of earth-attuned livelihood practices so that collective well-being is maintained. A wide more-than-human assemblage supports the work of this earthly multitude. Today old earth-attuned practices are morphing into contemporary ones. Informal community governance is melding with formal state governance to perform collective care of the grasslands, to preserve and reproduce intergenerational *cogon* roofing skills, and ensure continued practice of *kamañidungan*. This case presents one pathway for living with the dynamism of extreme weather, in ways that both continue past practices and innovate for the future.

Experimenting with collectivity in the face of destruction and disruption in Digkilaan

Mindanao's landmass is volcanic in origin and its rugged topography is structured by major mountain systems. In the Bukidnon-Lanao region of Northern Mindanao, massive basaltic lava flows, interspersed with ash, tuff and sandstone of Tertiary age, have built up a plateau surface dissected by 'deep, narrow canyons and ravines with steep walls' (Wernstedt and Spencer, 1967: 35). This is a lively geologic environment where landslides and river action,

particularly after heavy rains, continually reshape the geography. A number of major river systems have carved out valleys rich in fertile alluvium, and, where they meet the coast, deep embayments that make ideal ports. Under the influence of global warming the regular path of monsoons is deviating, more regularly dipping south across the Philippines. For those living in Mindanao, the unexpected arrival of these major weather systems with their massive rain dumps and wild winds brings more uncertainty to a landscape already experiencing great geophysical and geosocial flux.

When in December 2011 Typhoon Sendong (known internationally as Washi) battered Northern Mindanao, it interacted with the landscape in a deadly way. Flash floods gushed down the narrow upland valleys, washing away entire villages. The flood surge, laden with debris, spewed out onto the coastal plains and into the ocean, devastating coastal communities. Along the Mandulog River, inland from Iligan City, and in coastal settlements around Iligan Bay, this weather event killed over 1200 people, destroying over 1000 houses, and damaging 40 000. Confronted by the unfamiliar, in the form of a severe typhoon, people have little stored-up community know-how to draw upon. This is particularly the case for many whose families' residences in northern Mindanao date no further back than three generations.

Geosocial flux has shaped Mindanao and produced a unique set of challenges. The population is made up of the 'tri-peoples', that is, indigenous first peoples, 'consisting of the various Lumad [Visayan word meaning 'native'] tribes and the Islamised Moros, on the one hand, and those who came recently, mostly as settlers of the twentieth century from Luzon and the Visayas, and their descendants' (Rodil, 2010a: 15, insert added). Rodil writes that both the Moro and Lumad were severely affected by 'mainstreaming and marginalisation ... acculturation and deculturation, expanding operationalisation of the modern form of governance and the defanging of traditional customary laws' (Rodil, 2010b: 24). Acts of dispossession were backed up by armed conflict, and accompanied by resource exploitation and large-scale land grabbing by foreign corporations and dominant national families. The legacy of this history is written into the landscape with large-scale

deforestation and environmental degradation. This history of violent confrontation, dispossession and displacement is still being played out and remains alive today, as the Marawi siege of 2017 and the breakdown of negotiations around the Bangsamoro Autonomous Region in Muslim Mindanao and indigenous people's self-determination attest. The temporality of conflict is unpredictable, as is the temporality of climate-change effects, meaning that a state of ongoing flux has become the norm.

Digkilaan is a municipality located up river from Iligan City, in an area once populated by Meranaos and Higaonons, but more recently home to settlers from the Visayas. In the aftermath of Sendong, a resettlement area was established close to the Municipal office and the Red Cross built family-housing units in Purok Tres. It was here that we participated in a focus-group discussion among women survivors who had received assistance from Unlad Kabalyan that afforded many insights into the complex challenges of coping after crisis. One woman recounted how, 'None was left [referring to houses]. Our coconuts were destroyed. We were left with nothing ... we got back to zero' (Focus group, 14 December 2015, insert added).

Previous experience with collective livelihood practices was relatively limited by the geography of the municipality and the crisis of Sendong severely challenged the fragile fabric of mutual assistance. As one participant put it 'We really like helping each other. Fiestas, we really have those. However, in terms of *bayanihan*, all of us were affected by the typhoon'. Making connection with others across the municipality was new.⁹

Wala Ma'am. Dili mi magkaila ani sa wa pa mi nahitaboag Sendong. Ngano man? Dili mna mi magkameet ani kung wala nagkagrupo.

No, Ma'am. We didn't know one another before Sendong. If it weren't for the typhoon and the cooperative, we wouldn't meet.

Lagyo man pud ang ilang mga balay.

Also, we live far apart from one another. (Focus group, 14 December 2015)

It was in the context of an early livelihood rehabilitation project, delivered by the NGO Unlad Kabayan Migrant Foundation,¹⁰ that a

cooperative effort was instigated. Grocery packages to the value of PHP 5000 were allocated to approximately 62 women, to help them set up *sari-sari* stores and service the local community with basic supplies such as rice, sugar, soap, housewares and cigarettes. The understanding was that once they had sold these goods, they would pay back the value of the goods into the Mindanao State University–Iligan Institute of Technology National Multi-Purpose Cooperative Bank, so that it could be made available to another beneficiary. At some point the Cooperative Development and Livelihood Office of the City of Iligan offered to pay a counterpart of PHP 3000 per woman if they would identify a common space and conduct a common activity. The decision was made to build a cooperative *sari-sari* store in the middle of town that could service community events and supply outlying vendors with reasonably priced goods, thus allowing local women to save the cost of travelling to Iligan City for supply.

The women had no prior experience with trading or in working with others. At the time of the focus group, the coop store, which was named Twelve Seventeen Mini-Mart in memory of the date that Sendong hit, had recently opened for business. Clearly there was much disagreement about how the cooperative ethos was to be enacted. At one point, May-an Villalba, Director of Unlad Kabayan, who was helping to facilitate the discussion, urged the women to separate personal feelings of proprietariness or disgruntlement from more organisational matters:

Your coop has only been around for three months. This is the perfect time to discuss about how you want to run it. You should talk among yourselves and formulate policies so that when problems come, you will know how to solve it. If you don't, you'd no longer be a collective. You don't want that, do you? (Focus group, 14 December 2015)

This story illustrates some of the challenges of activating an earthly multitude and building new capacities in a fractured situation where trauma is still present, flux is difficult to work with, and there is no bedrock of shared community know-how. Time and support are needed for trust to build and collective negotiating

capacities to be developed. Even recovery strategies, aimed at the community, are not immune to the pitfalls of top-down implementation. It is also worth questioning how retailing of consumer goods will feed into longer-term collective well-being. At the very least, experimenting with a form of collectivity that was unfamiliar with most participants certainly stimulated the active engagement of women as citizens in the public sphere. This in itself is of benefit in a society in which rural and poor women's voices are rarely heard, or where people are cast in passive roles as recipients of aid rather as active participants in their own recovery.

Generating new forms of collective well-being while learning to live with flux in Banaba

The Barangay of Banaba, in Rizal province, Metro Manila, is situated on semi-alluvial floodplains of the Marikina and Nangka Rivers in the Marikina Valley. Most of the residents in the barangay, who live within a 1.5-km² area, are subject to the flux of flooding rivers associated with monsoonal weather systems. Flux is not only apparent in relation to weather and water, but also to livelihoods and human settlement. Over the past few decades, Metro Manila has experienced rapid urbanisation. In the 1970s Banaba was still largely agricultural, but Rizal soon became the most densely populated province in the Philippines. Migrants in search of work and affordable housing came from other provinces seeking employment in newly established industries, such as chemical manufacturing, food processing and textiles (Seng, 2014). Banaba's population grew exponentially, from 7500 in 1990, to over 21 000 by 2007. Many of the newly arrived took up low-waged informal employment on construction sites, in factories, driving taxis, tricycles and jeepneys (open buses) or working in newly opened family-run enterprises such as *sari-sari* convenience stores. With a lack of savings households frequently borrowed funds to make ends meet from high interest micro credit lending schemes. A 2009 survey revealed a glut of competing *sari-sari* stores along Banaba's main road and limited other sources of local employment; it highlighted 50% of the barangay population had a monthly average income of

PHP 5000 (US\$ 106 in 2009) and 10% had no income at all (Zoleta-Nantes *et al.*, 2012).

Many families took up residence on riverbanks or in other areas where they had no legal title to reside which left them vulnerable to the possibility of eviction. This tenuous and dynamic settlement pattern continues to this day. Houses built on the floodplains are subject to certain risks. When it rains heavily and continuously, the flood waters of the Nangka River collide with those of the Marikina River, pushing the waters of the latter back upstream. Floodwaters erode riverbanks, inundate houses and undermine foundations, and in some cases, cause buildings to slide into the river (Christian Aid, 2012). Today Banaba has several densely populated informal settlements, and an estimated few-thousand informal settler families, out of a total population of 24 950 (Philatlas, 2015).

The most significant extreme weather event to affect Banaba and Metro Manila in recent history was Typhoon Ondoy (known internationally as Ketsana) which made landfall in the Philippines on 26 September 2009, and dumped 450 mm of rain, more than a month's worth, within 12 hours. It was the highest volume of rainfall in the country since the 1960s (Seng, 2014). Flood waters gave rise to tons and tons of debris and garbage, much of which ended up clogging natural waterways and drainage systems. Hundreds of thousands of people took shelter in evacuation centres. Even more stayed in their homes, attempting to save their properties and belongings. Power was down in most parts of Metro Manila, mobility was very limited because most major streets were either deep in floodwaters or filled with stranded vehicles and people, and economic and social activities were severely hampered. Within 24 hours most local governments had declared a state of emergency, and the national government had officially called for assistance from the UN and international humanitarian organisations (Christian Aid, 2012). What is remarkable is that Banaba sustained no casualties from drowning, structural collapse or soil erosion of the riverbanks, because of the way it mobilised specific survival strategies.

The involvement of People's Organisation Buklod Tao (meaning people bonding together) in working for the community's safety and resilience, paid off during Typhoon Ondoy. This

organisation was established in 1996, to mobilise residents against a construction company which had built a cement plant on land used for vegetable production (Abinales, 2003; Seng, 2014). Since its establishment, Buklod Tao has initiated innovative action in the areas of environmental protection, community-based disaster preparedness and community economic development. Projects include planting bamboo grasses and indigenous trees along river banks, and the building of a 3-km stretch of gabion walling (galvanised wire with compacted rock inside) along the Marikina river, to reduce the risks of erosion and flood damage to the riverbanks. Buklod Tao organised and co-coordinated volunteer work teams to undertake these tasks, and has trained community members to be environmental protectors. It has also fostered intergenerational transmission of know-how, for example, through teaching teenagers from local schools to be 'community watchers', and detect early warnings of weather events and identify high-risk areas, such as steep, sloping, eroding river banks (Interview, Ka-Noli Abinales, 21 June 2010). During Ondoy, Buklod Tao was able to warn people to evacuate to safer places. Those who needed to be rescued were assisted using rescue boats and brought to higher ground.

Ondoy, with its huge international aid response,¹¹ presented to Buklod Tao an opportunity to do disaster recovery and development differently. The NGO's leaders saw the opportunity to shift focus, from individuated disaster payments and livelihood rebuilding, to harnessing funding and effort for collective benefit. They had seen previous cases of individually distributed disaster assistance come to little, after initial handouts were spent by households to meet immediate needs (Interview, Ka-Noli Abinales and Jojo Rom, 21 June 2010). Here was a chance to improvise and experiment with a new response (Hill and Diprose, 2019).

After the initial distribution of emergency-relief goods and cash handouts to affected households, Buklod Tao stepped in to initiate a new approach to a Cash for Work programme, and, some eight months after Ondoy struck, organise a community-enterprise focused Livelihood Assistance programme. Working with a partner NGO, COPE, a 'livelihood committee' was formed, to manage donor funds and disaster recovery. Membership of this committee

included Ka-Noli Abinales, two other Buklod Tao members, three independent Banaba community members and COPE livelihood coordinator Jojo Rom. The committee was an important catalyst for a new kind of negotiation between donor funding, funding agencies, Banaba residents, materials and flooding rivers. The committee invited Banaba households to join forces with river systems, weather, 'waste' materials and each other, to devise radically different local economic development pathways.

When Cash for Work began the committee explained to funding agencies they wanted to shift focus from household effort to collective effort during the programme. One strategy for this was to ask workers paid PHP 382 a day (the minimum daily wage in Metro Manila), to contribute PHP 50 each (about 1 AUD), to cover the cost of tools and gloves. In making this contribution, working community members became financial contributors in their own right to disaster recovery, and had something to show for it in the form of quality shovels and rakes. Asking the community for their contribution helped to initiate a sense of strength and capacity – residents were enrolled not as beneficiaries in need of a handout, but as citizens who had something to offer. Having made a contribution, they were entitled, at will, to borrow tools free of charge from the tool library. This work helped generate a shared identity and consciousness around improving collective well-being (Hill and Diprose, 2019).

The Cash for Work programme also created an opportunity to learn new earth-attuned practices. Initially, small work teams were assigned different clean-up tasks in different areas along the rivers, but when a vast amount of illegally dumped rubbish was discovered in the Nangka River, all 166 workers combined forces in a collective clean up. People from across the neighbourhood established new connections with each other and also with the river. As they joined together in one big effort, they attained new place-based know-how. They learned about sustainable river health and the resilience of natural systems. The river itself was a connector, a site of negotiation and teacher of living with flux.

A second important strategy that signalled a different way of doing disaster recovery involved the livelihood committee convincing international donor-fund agencies and community members

themselves, to prioritise livelihood rebuilding over relief provision. After a series of community consultations, 1232 households agreed to waive their rights to a PHP 5000 household cash handout, and to pool their funds to develop an experimental community-based enterprise cluster, that worked with what the typhoon had brought to Banaba (Hill and Rom, 2011; Hill and Diprose, 2019). Waste materials, such as silt and tetra-pack juice cartons washed down in the floods, were reframed as materials to be worked with in enterprising activities. Jojo Rom, Buklod Tao and EU donor-fund representatives participated in community livelihood re-building and training activities, that inspired local food production and waste management.

Banaba residents formed groups, attended various workshops on enterprise, and submitted loan applications with business plans for livelihood projects they were interested in. Applications were screened against social and environmental criteria, and for economic viability with emphasis on collective well-being of people and ecological systems, such as waterways. Five community-based enterprises were established in the process. They were: urban container gardening (350 member households); organic compost production (150 member households); tetra-pot production (432 member households); fibreglass fabrication (100 member households); and green-charcoal trading (200 members). The scale-up implications of pooling human and financial resources were significant. For example, the start-up capital allocated to tetra-pot production of PHP 1 447 000 enabled the group to buy sewing machines, and to set up a small factory in Banaba.

Key to the Banaba enterprise development process was the creation of interdependence between enterprises. The compost enterprise made container-gardening growing medium, then sold it to the urban-container gardening enterprise. The tetra-pot enterprise turned discarded waste tetra packs into 'tetra-pots' for growing vegetables, then sold them to the urban-container gardening enterprise. The fibreglass fabrication enterprise made waste-collection bins and compost barrels, then sold them to the compost enterprise.

The story of Banaba illustrates a different mode of disaster recovery and local development. It shows how local organisations helped community members to learn to live with

geophysical and geosocial flux, provoking new social connections and new earth-attuned know-how in the process. Individual household handouts were resisted, as was a return to *sari-sari* stores and exploitatively micro-financed enterprises. A collective-capital fund was established, and local leaders and a livelihood committee acted as catalysts for change, through mobilising people to work collectively. Ondoy, together with Buklod Tao, taught people to work with each other and with ecological systems, rivers and materials in new ways.

Conclusion: Becoming earthly multitudes

Disasters of the kind that once were called ‘natural’ and seen as exceptional events have become a weekly occurrence around our climate-changing world. Perhaps it is time, as Clark and Szerszynski suggest, to cautiously de-exceptionalise catastrophe, and remind ourselves that ‘our species – in all its diversity and differentiation – has a wealth of experience in negotiating planetary transition’ (Clark and Szerszynski, 2020: 181). If we are to live *with* flux rather than control it, what does this mean for disaster recovery and post-disaster development? In this paper we have argued that first, we need to understand more about earth-attuned livelihood practices, and how they can be recovered, maintained, supported and created anew. Secondly, we have argued that developing the collective nature of earth-attuned livelihood practices will be key to the improvisation needed to keep abreast of planetary dynamism.

We have presented three stories about living with flux in the Philippines that afford lessons of relevance to disaster recovery. The case of living with the dynamism of extreme weather in Batan Island alerts us to the presence of earth-attuned livelihood practices and the importance of understanding how collective practices are performed. We learn from Batan that living with flux involves accepting temporal rhythms that are not human-centred, planning for scarcity and drawing on natural materials that have evolved *in situ*. We see how informal community governance can work together with different levels of government so that practices are supported and continue to evolve.

The case of living with political and social unsettlement and the unfamiliar dynamism of extreme weather in Digkilaan alert us to the difficulties of marshalling a collective response as an earthly multitude. In Digkilaan, as in many areas of the world, people are relatively recent settlers. Their relationship to each other and to the earth and its dynamism are tenuous. Building trust and earth-attuned know-how is something to be nurtured, and it may take a while, given that the experience of trauma is still recent and ongoing. The role of NGOs and local government in supporting communities to build pathways forward is crucial, but we learn that collectivity cannot be imposed in a short time frame. The decision to funnel aid and disperse funds locally to larger groupings to promote cooperation might appear to be a good community-focused strategy, but unless there is a developed community capacity to act together, this may well backfire. As the focus group discussion in Digkilaan revealed, attunement to cooperation emerges from practice so opportunities to try it out are important to initiate.

The stories from Banaba shed light on what is possible when poor, informal settlers are supported by a people’s organisation over time, to become an earthly multitude. In the face of a volatile riverine environment, and in a context of social flux, local community leaders have worked with residents to mobilise collectively and build new earth-attuned livelihoods. The experience of working together over two decades has built up place-based know-how and a trust in cooperation. The community has learnt to live with the river’s flux and to harvest the usually devalued outputs of disastrous floods. From Banaba we learn that an extreme weather event like Ondoy can provoke innovation in financing. By resisting individual handouts and pooling financial aid, an innovative community-led enterprise development pathway opened up.

Together these sites present different kinds of earthly multitudes. In each place there is a complex assemblage of diverse livelihood practices and human groupings, embedded connections or disconnections and displacement, permanent and temporary settlements, associations, agencies and institutional infrastructures, as well as ever-changing weather systems, eroding landscapes, native grasslands, rivers, rain, silt and refuse.

Community economies are centred on the negotiation of more-than-human collective well-being. In this paper planetary social thought has helped us clarify what negotiating collective well-being entails, and what role earth-attuned livelihood practices can play in achieving collective well-being, in a dynamic world where, as a species, we learn to live with planetary flux rather than seek to control it.

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Notes

- ¹ The concept of 'earth-attuned livelihoods' picks up on what Miller (2019: 161–162) calls the 'minor' becomings of the sustainable livelihoods approach (SLA), that is, the reciprocal relationality between habitat and inhabitant that Chambers and Conway had in mind when they originally mobilised 'livelihoods' in their development practice. Subsequently more technocratic iterations of SLA have narrowed 'myriad living relations' into an 'asset base' constituted by five 'capitals' (p. 162) from which livelihood value flows.
- ² This knowledge is of course maintained and practised in many non-Western contexts and informs the 'survivance' of many indigenous peoples around the world (Vizenor, 1999).
- ³ The research project was funded as an Australian Research Council Discovery Project 150102285.
- ⁴ Fieldwork was conducted with Darlene Occeña-Gutierrez and Lavinia Occeña, Batan Island, Batanes

Province, June to July 2016; with May-an Villalba in Digkilaan, Lanao de Norte, December 2015; and with Perfecto (Jojo) Rom, Banaba, Rizal Province, June to July 2010 and January 2015. Interviewees and focus group subjects were invited to participate in the research by our local research partners. Ethics approval was obtained for all interviews.

- ⁵ An amalgam of Spanish and indigenous technology as noted by Hornedo, 2000.
- ⁶ Interview with Mayor of Uyugan Jonathan Enrique Nanud Jr.
- ⁷ Interview with Daniel and Teofila Bogadar, 5 July 2016.
- ⁸ Mariano Cabugao, a local farmer, described how his 47-m² cogon roof involved 10 people labouring over four to five days – some of the labour 'free' reciprocal labour, some paid at PHP 400 a day. The roof required 20 baras of cogon (12 bundles per bara, costing PHP 100 per bundle) at a total cost of PHP 24 000 in total. But despite this sizeable effort and cost, it was something Mariano wanted to do to maintain the traditional house design (5 July 2016).
- ⁹ The action research project in Jagna discovered a similar lack of interaction across the Municipality because of terrain, the costs of travelling and limited opportunity to meet outside of close barangay and family networks.
- ¹⁰ Unlad Kabayan Migrant Services Foundation has over 20 years of experience with livelihood and enterprise development in the Philippines (<http://www.unladkabayan.org/>).
- ¹¹ From Swiss Solidarity, Hilfswerk der Evangelischen Kirchen Schweiz/Swiss Interchurch Aid or HEKS, and Christian Aid.

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