Environmental Securitisation and the Case of Eco-DRR in Tublay, Benguet[1]

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ABSTRACT

Subsequent to an environmental risk assessment of Benguet province sponsored by the Food and Agriculture Organization of the United Nations (UN-FAO) and the Ministry of Agriculture, Forestry and Fisheries (MAFF) of the Government of Japan, the local government unit (LGU) of Tublay municipality endorsed a series of programs within a framework of Ecosystem-based Disaster Risk Reduction and Management (Eco-DRRM). The most recent of these is a combined agroforestry-reforestation-conservation intervention in the community forests of the Ambongdolan and Tuel barangays of Tublay. This paper is an assessment of a proposal to align these Eco-DRRM programs with tourism-promotion activities of the LGU. Although innovative, this bundling of risk management and tourism promotion by Tublay LGU is not unproblematic, as the orthodoxy in security-related and tourism related research is to regard risk reduction and tourism promotion as distinct and separate modalities. Conversely, certain forms of Eco-DRRM encourage the pro-activity of stakeholders whose well-being is assured by the long-term viability of ecologically important and culturally significant environments.

Keywords: Ecosystem-based Disaster Risk Reduction (Eco-DRR), Nature-based Solutions, Agroforestry, Environmental Security, Tublay

Introduction

In an interview with the SunStar news agency on 10 January 2016, Ruben Paoad, mayor of Tublay municipality in the province of Benguet, Cordillera Administrative Region (CAR), said that the "need to make our mountains productive while conserving them as our watersheds" could be met by the promotion of coffee-related agriculture. He spoke of the "coffee industry as country-side agriculture and ecotourism means of development while enhancing climate disaster resiliency,"

and mentioned that the key to attaining these developmental goals is in "mechanising the (coffee) production process (to thereby) encourage more farmers to plant (more) coffee trees" (SunStar Baguio 2016). The claim that individual projects could fulfil the multiple government-endorsed goals of agroforestry, ecotourism, and climate-related disaster risk reduction and management (DRRM) is not, in this case, a result of spontaneous and creative policymaking but, instead, appears to be a result of cumulative pressures for the local government unit (LGU) to align with non-local agendas.

In 2009, Paoad hosted a Disaster Preparedness and Response and Climate Change Adaptation (DPR/CCA) project of the World Food Programme (WFP) that installed automated weather stations and slope stabilization measures on behalf of Tublay LGU. This program also included coffee-related livelihood activities for Tublay farmers (Rivera 2015). Paoad also aligned with the Benguet Organic Coffee Arabica Enterprise Limited (BOCAEL), which is one of several coffee-related advocacies in the province, to promote coffee farming as a profitable and environmentally friendly form of agriculture (Tuazon 2009). In 2010, Paoad and Tublay vice-mayor Armando Lauro, advocated the planting of coffees and other trees to counter the worsening water scarcity in Tublay, to reverse some of the environmental damage caused by small-scale mining, and to ensure the viability of Tublay as a watershed for the Ambuklao and Binga hydroelectric dams (Wayas 2010). In 2011, Paoad and municipal agricultural officer (MAO) Jeffry Sotero affirmed that the planting of coffee helps to mitigate the risks in Tublay associated with climate change; specifically, damage to crops caused by increased precipitation during the rainy season, reduced water-holding capacity of watersheds, and rain-induced erosion in landslide-prone areas (Sinumlag 2011). On 24 July 2014, Tublay LGU hosted a delegation led by U.S. Ambassador to the Philippines Philip S. Goldberg, who inaugurated an emergency operations center facility, and also gave recognition to a coffee agriculture training program that was funded by the United States Agency for International Development (USAID) and the World Food Programme (WFP). The coffee program, "which was designed to prevent landslides in Tublay, also helped boost the average income of women farmers" (United States Agency for International Development 2014). And, in October 2018, new Tublay mayor Armando Lauro discussed the possibility of creating an ecotourism-oriented "artisan village" with a group of mentors that included Pacita 'Chit' Juan, who is the president and co-chair of the Philippine Coffee Board and Southeast Asia Regional Coordinator of the International Women's Coffee Alliance (Llanes 2018).

It was into this environment that a project entitled "Enhancing Community Resilience to Climate Change in Mountain Watersheds"

was introduced in October 2020. Developed by the Food and Agricultural Organisation of the United Nations (UN-FAO) and the Ministry of Agriculture, Forestry and Fisheries of the Government of Japan (MAFF), the project was intended to draw attention to mountain communities in the Philippines and Peru, particularly those whose "forests and mountain ecosystems play a crucial role in reducing negative impacts of climate-related disasters for both upstream and downstream communities." Although the activities of the project were very specific about the link between environmental disaster risk-reduction and ecosystem management,[2] the project as a whole was guided by the general idea that "sustainable forestry and agricultural practices can effectively serve as tools to reduce risks and thereby ensure sustainable livelihoods while improving the resilience of farmer communities" (Food and Agricultural Organisation of the United Nations 2021).

In mid-2021, an environmental risk assessment of Benguet that was commissioned for the project included a recommendation for measures to arrest the decline of forest cover and the subsequent deterioration of forest land throughout the province, regardless of the classification of the land on which forested areas may be found. The subsequent selection of the barangays Ambongdolan and Tuel of Tublay as the pilot sites of the Philippine component of the project coincided with a goal of the Tublay LGU to replicate the success of previous reforestation projects in the erosion-prone areas of the municipality, the geography of which is predominantly mountainous.

By January 2024, the local implementing organization Center for Conservation Innovation PH Inc. (CCIPH) had overseen the planting of 2,137 native and naturalized tree saplings in the communal forests of both barangays, as well as the rehabilitation of the Tublay municipal plant nursery in Ambongdolan. Both communal forests are vulnerable to fire damage and rain-induced landslides, but could be maintained with planting stock from the municipal nursery, after the facility would have been rehabilitated after years of neglect. As the activities of CCIPH had involved the staff of the Municipal Environment and Natural Resources Unit (MENRU) and the Municipal Disaster Risk Reduction Management Unit (MDRRMU), the conduct of the activities appeared to be consistent with the promotion of sustainable forestry and environmental risk reduction at the community level. Moreover, the inclusion of saplings that could be utilized for commercial gain in the local communities, such as arabica coffee (*Coffea arabica*), local blueberry (*Vaccinum benguetense*), *hauili* (*Ficus septica*), petroleum nut or *dael* (*Pittosporum resiniferum*), *deguai* (*Saurauia bontocensis*), *malatibig* (*Ficus congesta*), and Philippine oak (*Lithocarpus* sp.), was in keeping with the objective to ensure "sustainable livelihoods" for the barangays where the project sites are located. As of February 2024, the

Tublay LGU is drafting a communal forest management plan (CFMP) for the project sites that would include provisions for reforestation and afforestation, Indigenous knowledge systems and practices (IKSP), preparedness for abnormal events and disasters, and a business plan that would have aspects of ecotourism and agritourism.

Environmental Securitization, or Governance during Environmental Insecurity

The case in Tublay could appear as an example of the developmental decentralisation/devolution concept in practice, whereby an LGU has implemented a project in accordance with broader national priorities, but largely without funding and direct supervision from the national capital-based government agencies (Mercado 2002, 20–21). The case might also be regarded as an example of a synergistic approach to sustainable development-related governance in the Philippines as described by the Organisation for Economic Co-operation and Development (OECD). That is, the top-down directive for a sustainable development agenda is operationalized in the activities of sub-national organizations (Swanson and Pinter 2007, 61–62). From these conceptual frameworks, the implementation of developmental projects would appear to follow a top-down flow: the environmental agenda that was initially set by high-level decision-makers is subsequently reconciled with the planning, budgeting, implementing, and reporting capabilities of grassroots-level non-governmental organizations and LGUs. This approach appears to be consistent with the implementation of the DRRM concept in Benguet, wherein the received practice appears to be the promotion of "localized decision-making (for) recognizing the importance of local and indigenous knowledge, expertise, and solutions to address identified priorities as well as the recognition of the role of community-based organizations" (Tamulto 2021, 156). The Tublay case does appear to fit within the conventional decentralization/devolution framing. As part of its project-related deliverables, Tublay LGU approved measures related to DRRM, agroforestry, and ecotourism. It also approved the protocols through which these measures are to be monitored; that is, directly from the mayor's office (MO), through its MENRU and MDRRMU sub-offices without the need for permission from the provincial- and national-level government. These measures also appear to be mutually reinforcing, and therefore seem to indicate a progressive self-help mindset that is able to match introduced concepts such as ecosystem services and nature-based solutions with the indigenous governance practices of the community.

This alignment of the political agenda of the LGU with the environmental security principles of the internationally funded

development project even appears to be in accordance with Priority 2 of the Sendai Framework for Disaster Risk Reduction 2015-2030, particularly in regard to the "coherence of national and local frameworks of laws, regulations and public policies" (United Nations Office for Disaster Risk Reduction 2015, 35). Notwithstanding the successful close-out of the project, doubts remain about whether indigenous concepts of environmental security and risk were adequately communicated or were simply assumed as compatible with the conceptual basis of the project to facilitate its implementation. A key criticism of the Sendai Framework in particular, and of the decentralization/devolution approach to developmental projects in general, is that technocratic approaches to risk and insecurity avoid "the political inconveniences of claiming the need to change the social, cultural, and economic structures" that cause insecurity and risk (Osorio Pineros 2020, 333). Although this may be regarded as a concession towards the end of maximizing operational expediency, the omission becomes evident in gaps between differing representations of insecurity and risk on the one hand, and, on the other, the ontological or lived conditions that, depending on the circumstances, may or may not be represented as hazardous, risky or insecure (Fox 1999, 17–20).

Such a gap is observable in the drafts of the communal forest management plans from both Ambongdolan and Tuel that were written as part of the deliverables of the project. Although the plans listed several measures for the protection and enhancement of their forest resources,[3] none of these were explicitly defined as environmental security measures that are intended to resolve environmental risks. Moreover, there is only an oblique reference to the environmental security concept by these documents in their respective mandate sections, which are invariably based on Section 440 of the Local Government Code of 1991/Republic Act (RA) No. 7160.[4] This item of legislation obliges LGUs to coordinate and deliver "basic, regular and direct services and effective governance of the inhabitants within its territorial jurisdiction" (Securities and Exchange Commission 1991). By deflecting concerns about its limited ability to define and resolve environmental insecurity with an endorsement of a project that could satisfy an eco-agri-tourism agenda, Tublay LGU would have nonetheless kept to its mandate under RA No. 7160. However, the issue of whether the LGU had thereafter been working with more grounded, less top-down definitions of environmental risks remains unresolved. The broadening of the security agenda in Tublay to include environmental dangers may have caused a revitalization of DRRM- and resource-management operations within the LGU and barangay administrations. However, the net result is, paradoxically, the continuation of activities that the LGU could have done on its own

without the environmental security concept, or even interaction with CCIPH, MAFF or FAO. Put differently, in a case where securitization language can vary between the designation of existential danger and the assertion of political prerogative, desecuritization can also vary between the designation of safe conditions and the re-direction of political prerogatives towards other issues. And as the case in Tublay shows, shifts in the use of security-related language do not necessarily indicate the resolution of an existentially insecure condition, or, particularly from the perspective of the local residents, whether there was an existentially insecure condition at all.

The Tublay case is, therefore, not simply a matter of a political agenda that had been made to appear more urgent through the language of DRRM and environmental security. It is, rather, an example of how the focus of security-related language can and does shift its object from endangered lives specifically to power-driven sociopolitical relations in general. Nation-state systems and their respective governance subsystems are invariably the most effective aggregators of power. But wielding the means for environmental governance does not result in definitive demarcations of environmental security issues, conventionally because DRR agencies and other environmental security-related systems are not sufficiently empowered to enforce environmental security regulations (United Nations Office for Disaster Risk Reduction 2023, 41). More importantly, the orthodox view of environmental governance has, since the mid-1970s, been shaped by the fields of global environmental politics and global political economy, an important focus of which has been the regimentation of the extraction, processing, and trade of natural resources. States have, therefore, prioritized "economic growth and the supposed benefits for all of globalization" and have yet to be effectively constrained by issues related to the destruction of natural systems by industrial activities (Dalby 2022, 44).

The effect of this regime approach—or the normalization of governance and interstate relations through the "replication of exemplars of general patterns of activity" (Keohane 1988, 383)—on security governance has been the prioritization of security protocol formulation rather than of de-escalation and neutralization of issues before these become problems. In practices, this rational costs-versus-benefits approach caused international security institutions to be characterized by the alignment of less powerful states with the standards and agenda of more powerful states rather than by equitable and multi-perspective multilateralism, a sort of "governance by decrees than by democratic decisions" (Trombetta 2008, 588). Security and insecurity are therefore a matter of degree, as security programs of less capable states cannot be expected to operate at full efficiency or effectiveness relative to the institutional standards to which these

are aligned. Conversely, nationalist politicians and environmentalists who desire more autonomy to determine environmental security measures will very quickly discover that "sustainability now has to be considered at the global scale if it is to grapple with key economic transformations that are pushing the earth system into previously unknown configurations" (Dalby 2022, 46). For a small LGU in the Philippines specifically, a catchall or broad security agenda, such as the unconventional agri-eco-tourism program with eco-DRR characteristics of Tublay, and the operational agility it entails, is necessary for communities in a high environmental risk, low operational capacity location.

The identification of a broadened security concept as a "thick signifier" was made by Jef Huysmans in his assessment of late-twentieth century literature on the endangerment of the human existential condition by causes other than war and widespread violence. His observation was that an intolerable condition of insecurity could be distinguished from a more bearable condition of hardship by the language used to describe the insecure condition rather than by numeric measurements of the factual characteristics with which the condition could otherwise be framed. "Security language implies a specific metaphysics of life… (to) not just explain how a security story requires the definition of threats, a referent object, etc., but also defines our relations to nature, to other human beings, and to self. …Security becomes self-referential. It does not refer to an external, objective reality but establishes a security situation by itself" (Huysmans 1998, 232–33). The acknowledgment of an increasingly vast array of dangers to human life is problematic not mainly because of the genocidal levels of lethality that these dangers could inflict. Rather, unfiltered knowledge of these dangers could cause the collapse of material and psycho-social coping mechanisms, upon which even present-day socio-political and even organic human existence depend. From his perspective, the environmental security concept is meaningful because it presents the possibility of deriving criteria by which persons and their societal orders can be reordered in friends/enemies or valuable/disposable matrices. Because a broadened security agenda facilitates "a generic structure of meaning which organizes dispositions, social relations, and politics according to a rationality" (Huysmans 2006, 24–25), it can be effective as a tool to improve social cohesion and interpersonal relations among individuals who are expected to work towards distant goals, under difficult conditions, for extended periods of time.

Two consequences may be observed with the "thick signifier" broadening of the security agenda. The first is, paradoxically, the ensconcement of insecurity as a core component of sociopolitical existence. In societies where grand authoritative narratives are

subject to skepticism, members start to become aware of alternative life strategies, including a "negative" form of security through which the fellow feeling developed through creation and strengthening of social bonds displaces the anxiety associated with the previously desirable, but practically unattainable, norms and aspirations. "Security practices cannot eliminate insecurity because they constitute insecurities; …since security is a strategy to free oneself from a threat, it cannot exist without threats" (Huysmans 1998, 248). Although the social disruption attributable to the attainment of environmental goals can be overstated, the effectiveness of environmental insecurity as an organizing principle for policies, projects and social organizations is quite high, particularly if formal structures such as governments and intergovernmental organisations become involved. This was observed with the deployment of a DRRM-specific group in Ambongdolan for the rehabilitation of the plant nursery under the supervision of the Tublay MDRRMU in January 2024, which was only two months away from the culmination date of the project in March 2024. When the members felt that their group was underutilized, rather than disband they filed a protest that required the intervention of CCIPH, Ambongdolan barangay government, and Tublay LGU. As the group was formed with local volunteers with the approval of the Ambongdolan barangay council, the deployment of this group to work on other environment-themed projects is quite likely, even after the end of the project and regardless of whether the subsequent deployment is consistent with the current project objectives. Part of the preparation for these deployments was the formal registration of the group with the Department of Labor and Employment (DOLE) under the name Ambongdolan Farmers Eco-DRR Association.

The second consequence is the increase of socio-political pressure on persons involved in governance to escalate their commitment to securitization as the preferred means to engage with the public, as the lower-profile processes of bureaucratic operation and political accommodation will appear to be less appealing by comparison. This has the further effect of blurring the border between securitization, which is the use of measures that would be acceptable to the public only during emergency conditions (Buzan, Waever and de Wilde 1998, 25), and the less drastic interest-articulation and negotiation of non-emergency politicisation. In cases where hierarchies of power are contested or not altogether clear, the use of security-related rhetoric will not likely improve either the credibility of the so-called securitizing actor or the solidarity among the members of the audience to which the rhetoric is directed (Floyd 2013, 23). However, when the basis for the authoritative behavior is mostly unquestioned, the appeal to security could appear as a turn to "different modalities, other logics, and different contexts" (Trombetta 2008, 589), and thereby

supplant the confrontational logic with an invitation for new actors to gain relevance. The meaning of security is neither in the attainment of a safe existential condition, nor in the recourse to exceptional measures under crisis conditions, but rather in the attributability of threat-response language in "a political setting determined by power struggles" (Iglesias 2017), or the amelioration thereof. The effective use of securitization language likely contributed to the re-election of Armando Lauro to a third term as mayor of Tublay LGU, on an environmental security platform that emphasised such measures as garbage disposal and recycling, finding new sources of potable water, and the aggressive promotion agri- and eco-tourism (Herald Express 2022). Prior to this, Chit Juan, of the Philippine Coffee Board and a main advocate of agri-eco-tourism in Tublay, approved of the environmentalist governance by the mayor Lauro, as it exemplified the need of officials "to run (for election) unopposed so they can perform their nine-year reign (three terms of three years each) without worrying about security" (Juan 2018).

Just Grin and Bear it?

This amalgamation of security-related and development-related discourses in the governance by Tublay LGU corresponds to the nature of the environmental risk that is found in Benguet. An environmental disaster risk assessment of Benguet, based on a 5-level risk matrix scoring system (i.e., from 0 designating 'no risk' to 4 designating 'very high risk'), was submitted for consideration to the UN-FAO and MAFF in 2021. The evaluation took the following variables into account:

- Natural hazard: seismic-volcanic (earthquake intensity, intensity of ground-shaking relative to distance to fault-lines and volcanoes) and hydro-meteorological (rain-induced landslide, storm surge, severe wind, and flood
- Exposure (residential density/households per square kilometre)
- Vulnerability (annual income per capita, age-dependency ratio, and ease of access to disaster-related infrastructure)

The key findings per set of variables are as follows:

- The occasional high severity of seismic hazards and the seasonal high severity of hydro-meteorological hazards compound the logistical and other operational difficulties of maintaining economic and socio-cultural activities in the high altitude and high gradient communities of Benguet. The

persistence of these communities in these conditions despite the natural hazards indicate the presence of coping and adaptation practices and systems, particularly in regard to the stabilization of land for productive use, the conservation of water resources, the design and construction of environment-resilient infrastructure, and the prevalence of social practices that are associated with values such as robustness, low consumption, and high durability.

- The low population and residential density indicate the limited economic and industrial activities throughout the province. But this also indicates a diffused exposure of the population to environmental dangers. Most financial and commercial activities are concentrated in La Trinidad, the provincial capital, and thus indicate a larger and more concentrated population that is exposed to environmental dangers. La Trinidad functions mainly as a processing and distribution center for the crops grown in other municipalities of the province, as well as a retail and distribution hub for equipment and other inputs for agriculture done in other municipalities.
- The communities in Benguet have a high level of vulnerability, and therefore have a limited ability to independently recover the costs of expensive development projects if these are damaged by disasters. Conversely, the high-vulnerability characteristic can be an inducement for the identification of local products and practices that are well-adapted to local conditions, and can be developed with local resources and capabilities for commercial and other forms of socio-economic engagement within the Philippines and beyond.

The conditions in Benguet may be summarised as: high hazard, low exposure, and high vulnerability. This corresponds to the risky environmental conditions of high-altitude and steep gradient conditions of settlements in the Cordillera Administrative Region (CAR) in general. The "natural hazard" level of Benguet province as a whole was evaluated at 2.994 (moderate to high), with the most hazardous municipalities being Kabayan (3.369), Tuba (3.246), Buguias (3.243), Itogon (3.222), and Bokod (3.2). The relatively low population density (average of 261 persons per sq. km.) and relatively low residential density (average of 62.268 households per sq. km.) in Benguet correspond to an "exposure" score of 1.0 (low) for the province as a whole and for its constituent municipalities. The "vulnerability" score for Benguet province as a whole was evaluated at 3.146 (high to very high), with the most vulnerable municipalities being Kibungan (3.279), Bokod (3.267), Atok (3.244), Kapangan (3.207), and Tuba

(3.183). Altogether, the environmental disaster risk of Benguet province was evaluated at 2.38 (moderate to high), with the highest at-risk municipalities being Kabayan (2.493), Bokod (2.489), Tuba (2.447), Itogon (2.441), and Mankayan (2.438). Although very little can be done to mitigate the dangers of the occasional high impact seismic hazards and the seasonal high impact hydro-meteorological hazards, the possibility remains of improving exposure and vulnerability ratings, particularly through the preservation and stabilization of topographic conditions.

Also included in the environmental disaster risk assessment was an evaluation of key environmental risk data included in the CAR Regional Development Plan 2017–2022. The plan has several baseline years for its developmental goals, which can also serve to assess the trajectory of environment-related DRRM. The rate of forest cover increase was to be reversed from -0.1% in 2016 to 5% in 2022. However, by 2020, the figure was at -2%, which indicates a worsening net forest cover loss. Moreover, there was a goal to increase the number of reforested areas from 17,746 hectares in 2015 to 86,557 hectares in 2022. However, the province had a net reforestation of -424 hectares from 2016 to 2020, which indicates a net deforestation (Global Forest Watch 2024). Conversely, the poverty rate throughout CAR was reduced from 28.7% in 2012 (Philippine Statistics Authority 2024) to 12.2% in 2020 (Philippine Statistics Authority 2024), which, at 16.5%, far exceeded the 2% net reduction that was to be attained in 2022. There appears to be a correlation between a reduction in poverty on the one hand, and a worsening of forest cover/worsening of environmental conditions on the other. This link between environmental degradation and economic advancement is not an unknown feature of the Philippines and the CAR (Habito 2009, 2–3; 17). Also well-known are the significant economic losses attributable to environmental hazards, whether the occurrence or worsening of these is attributable to climate change, or not (Israel and Briones 2013). Tublay does not appear to figure significantly in terms of natural hazard (2.525), exposure (1.0), vulnerability (3.162), or overall natural disaster risk (2.229). However, the Tublay LGU is likely very aware that the improvement in the economic conditions in CAR and Benguet might yet be negated by the worsening of environmental conditions in CAR and Benguet, particularly if DRRM-associated expenditure would be increased because of an increase in severity of environmental hazards. The Tublay case demonstrates the willingness of the LGU to frame the management of environmental risk as a positive contribution to community development, if only in terms of increasing the engagement of community members in natural resource management and highlighting the importance of agroforestry to the agricultural economy of this mountain community.

From DRR to Eco-DRR

The conclusion of the FAO-MAFF project in Tublay and the attempt of Tublay LGU to operationalize its agri-eco-tourism/environmental governance security framework could indicate a way past the two contending approaches to DRRM in the Philippines. The first is the conventional tiered approach, through which the concept of security becomes equated with the resources and procedures to preserve, or return to, a safe *status quo*. At present, actual DRRM programs are formally implemented by the local DRRM councils (LDRRMCs) that have been organized by the elected officials of municipal governments in their respective areas of supervision. The membership of these councils follows the format set by the National Disaster Risk Reduction and Management Council (NDRRMC), and operates in coordination with the policies and programs of numerous line agencies (Office of Civil Defense of the Republic of the Philippines 2024). In principle, the Office of Civil Defense (OCD), a national line agency, regulates all aspects of DRRM programmes, including those intended to reduce vulnerabilities and hazard risk. The main policy instrument for this function is the National DRRM Plan (NDRRMP) 2011–2028 (National Disaster Risk Reduction and Management Council of the Republic of the Philippines 2024). In practice, however, the OCD deploys soldiers and resources mainly for search and rescue, evacuation, and recovery operations, as it operates under the Department of National Defense (DND), which also commands the Armed Forces of the Philippines (AFP). The NDRRMC and the OCD coordinate with regional DRRM councils (RDRRMCs), which, in turn, coordinate with provincial-, city-, and municipal-level LDRRMCs. For the CAR and Benguet specifically, the CAR RDRRMC has operated according to a formal Standard Operating Procedures and Guidelines document since 2017. According to the document, the core functions of DRRMCs in the CAR are: (1) hazard alert and monitoring, (2) multi-agency coordination, (3) mobilization of disaster response resources, (4) information management, (5) upgrading of disaster operations capabilities, and (6) triggering emergency responses to disasters (Office of Civil Defense of the Republic of the Philippines 2024). Under this protocol, the agri-eco-tourism initiative of Tublay LGU would not be formally considered as a DRRM measure, regardless of the environmental benefits of the eventual policy or the deployment of MDRRMU staff to assist in programs that were conducted under the policy. Although an agri-eco-tourism initiative may be linked to the "disaster prevention and mitigation" category of the NDRRMP 2011–2028, its broad scope would cause an administrative overlap of government agencies, which may give cause to doubt the appropriateness of the narrow "security" categorization.

The second is a grounded, community-based approach that emphasises the variability of the circumstances under which disasters occur, as well as of the DRRM-related capacities of government line agencies and LGUs. The CAR Regional Development Plan is explicit in the assignment of priority to environmental preservation and is specific in the identification of environmental services that its forests provide. It is definite on intervention measures, which are close analogues of the disaster prevention and mitigation measures included in NDRRMP 2011–2018 and the Contingency Planning Guidebook 2020. These include reforestation programs, forest patrol and surveillance, organization and strengthening of water basin management councils, computerization of all land titles, the localization of the Ancestral Domain Sustainable Development and Protection Plan (ADSDPP), and the designation of Water Quality Management Areas (WQMAs). It also specifies that the operationalization of disaster prevention and mitigation measures has caused problems such as (1) competing land uses and conflicts in resource use, (2) constraints in improving land tenure, (3) lack of incentives and mechanisms for providers of environmental services, (4) poor waste management, and (5) ineffective environmental governance measures (National Economic Development Authority, Republic of the Philippines 2024). This protocol is the closest equivalent to the Ecosystem-based Disaster Risk Reduction (Eco-DRR) framework that is advocated by the UN. This framework links efforts at the restoration and long-term sustainable management of natural environments with disaster prevention and recovery, hazard mitigation, climate change adaptation, and a broad range of potential co-benefits. In the case of Benguet, the most important of these are the support for heritage conservation and the contribution to sustainable livelihoods. Because Tublay is a subtropical highland environment that is affected by seismic activity and seasonal typhoons, the most appropriate hazard reduction and mitigation measures of the Eco-DRR framework would be those which correspond to mountain forests and vegetation on hillsides. Such measures would correspond to such principles as (1) vegetation cover and root structures protection against erosion and increase slope stability by binding soil together, preventing landslides; (2) forest protection against rockfall; (3) catchment forests, especially primary forests reduce risk of floods by increasing infiltration of rainfall, and delaying peak floodwater flows, except when soils are fully saturated; and (4) forests in watersheds are important for water recharge and purification, drought mitigation and safeguarding drinking water supply (United Nations Office for Disaster Risk Reduction 2020, 12–20). Inasmuch as the funders of the project are the UN-FAO and MAFF, the compatibility of the Eco-DRR framework with agri-eco-tourism initiative of Tublay LGU is to be expected. But the newness of the

framework relative to the older Philippine DRRM protocols may give cause to doubt its quick adaptation in other mountain communities of Benguet and CAR.

Conclusion

The adoption of an Eco-DRR approach by Tublay LGU indicates not only the diffusion of the broadened security agenda beyond national-level agencies, but also the importance of modifying government policies and protocols to match. In Benguet, the direct relation between economic development and environmental degradation has been articulated as existential. Therefore research into how, or to what extent national- and local-level governments and officials adapt their language, policies, and programs is in order. For further research in Tublay, as in other places where the Eco-DRR agenda appears to have gained traction, the following may serve as conceptual guides:

- Eco-DRR interventions help to attain and/or do not prevent the attainment of previously set economic and socio-cultural goals;
- Eco-DRR interventions increase savings and/or do not increase expenditure associated with disaster response measures;
- Eco-DRR interventions increase opportunities for indigenous communities to interact with national-level and international-level organizations but do not decrease the ability of Indigenous communities to administer their own affairs;
- Eco-DRR interventions help to mediate and/or do not aggravate struggles for power and authority in Indigenous communities and/or between Indigenous communities and non-indigenous persons and organizations.

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Notes

1. The original version of this paper was presented at the 7th National Coalition on Indigenous Peoples Higher Education (NiCHE) conference that was organised by the Cordillera Studies Center (CSC) of the University of the Philippines Baguio (UPB) on 6 March 2024.
2. These are: 1) Institutional and technical capacity development using the risk-based watershed management approach for forest and land management at regional, province and community levels; 2) Design and implementation of a regional level multi-hazard risk assessment; 3) Design and implementation of a local and community level risk and vulnerability assessment which includes mapping, planning and design for risk-based forest and land use management and risk-based agricultural value chain development; 4) Technical assistance on the implementation of risk mitigations measures such as promoting sustainable land management, agriculture, forestry, agro-forestry activities and resilient mountain agricultural value chains; 5) Publication of the lessons learnt; and 6) Dissemination at the global level.
3. The chief measure is the demarcation of smaller "production areas" (from which forest resources may be harvested by barangay residents in accordance with municipal regulations) and larger "protection areas" that function as watersheds and biodiversity safe zones.
4. Section 440. Role of the Municipality. The municipality, consisting of a group of barangays, serves primarily as a general purpose government for the coordination and delivery of basic, regular and direct services and effective governance of the inhabitants within its territorial jurisdiction.

References

Buzan, Barry, Ole Waever, and Jaap de Wilde. 1998. *Security: A New Framework for Analysis.* Boulder & London: Lynne Rienner Publishers, Inc.

Dalby, Simon. 2022. *Rethinking Environmental Security.* Cheltenham and Northampton: Edward Elgar Publishing.

Floyd, Rita. 2013. "Analyst, Theory and Security: A New Framework for Understanding Environmental Security Studies." In *Environmental Security: Approaches and Issues*, by Rita Floyd and Richard A. and Matthew, 21–35. Oxford: Routledge.

Food and Agricultural Organisation of the United Nations. 2021. *Enhancing Community Resilience to Climate Change in Mountain*

Watersheds. October 5. https://www.fao.org/forestry/watershedmanagementandmountains/98466/en/.

Fox, Nick. 1999. "Postmodern Reflections on 'Risk', 'Hazards' and Life Choices." In *Risk and Sociocultural Theory: New Directions and Perspectives*, edited by Deborah Lupton, 34–58. Cambridge: Cambridge University Press.

Global Forest Watch. 2024. *Forest Change in Benguet, Philippines.* July 15. Accessed 15 July 2024. https://www.globalforestwatch.org/dashboards/country/PHL/13/?category=forest-change&dashboardPrompts=eyJzaG93UHJvbXB0cyI6dHJ1ZSwicHJvbXB0c1ZpZXdlZCI6WyJkb3dubG9hZERhc2hib2FyZFN0YXRzIiwic2hhcmVXaWRnZ

Habito, Cielito F. 2009. *Economy and Environment in the Philippines: Issues and Imperatives*. March. https://www.eria.org/uploads/media/Research-Project-Report/RPR_FY2008_6-2_Appendix_6.pdf.

Herald Express. 2022. Tublay Mayor to Focus on Solid Waste Management, Agri, Ecotourism. May 25. https://baguioheraldexpressonline.com/tublay-mayor-to-focus-on-solid-waste-management-agri-ecotourism/.

Huysmans, Jef. 1998. "Security! What Do You Mean?: From Concept to Thick Signifier." *European Journal of International Relations* 226–55.

———. 2006. The politics of Insecurity: Fear, Migration and Asylum in the EU. Oxford: Routledge.

Iglesias, Ana Isabel Rodriguez. 2017. "(In)Security: From Thick Signifier to Empty Signifier." May 14. https://www.e-ir.info/2017/05/14/insecurity-from-thick-signifier-to-empty-signifier/#google_vignette.

Israel, Danilo C., and Roehlano M. Briones. 2013. *Impacts of Natural Disasters on Agriculture, Food Security, and Natural Resources and Environment in the Philippines.* August. https://www.eria.org/ERIA-DP-2013-15.pdf.

Juan, Chit U. 2018. "Management Association of the Philippines Insights." October 8. https://www.bworldonline.com/opinion/2018/10/08/191964/culture-and-economics/.

Keohane, Robert O. 1988. "International Institutions: Two Approaches." *International Studies Quarterly* 379–96.

Llanes, Jonathan. 2018. "UC's Tublay Ecotourism Plan Now Underway. October 26. https://www.sunstar.com.ph/baguio/local-news/ucs-tublay-ecotourism-plan-now-underway.

Mercado, Ruben G. 2002. *Regional Development in the Philippines:: A Review of Experience, State of the Art and Agenda for Research and Action.* PIDS Discussion Paper Series, Makati City: Philippine Institute for Development Studies. https://pidswebs.pids.

gov.ph/CDN/PUBLICATIONS/ris-old-backups/dps/pidsdps0203.pdf.

National Disaster Risk Reduction and Management Council of the Republic of the Philippines. 2024. *National Disaster Risk Reduction and Management Plan (NDRRMP) 2011–2028*. February 12. https://ndrrmc.gov.ph/attachments/article/41/NDRRM_Plan_2011-2028.pdf.

National Economic Development Authority of the Republic of the Philippines. 2024. *Cordillera Administrative Region (CAR) Regional Development Plan* (RDP) 2017–2022. February 12. http://www.neda.gov.ph/wp-content/uploads/2018/02/CAR-Cordillera-RDP-2017-2022.pdf.

Office of Civil Defense of the Republic of the Philippines. 2024. *Mandate, Mission, Vision, Quality Policy, and Core Values*. February 12. https://ocd.gov.ph/index.php/about-ocd/mandate-mission-and-vision.

———. 2024. *Member Agencies, National Risk Reduction and Management Council*. February 12. https://ndrrmc.gov.ph/index.php/member-agencies.html.

———. 2024. *Standard Operating Procedures & Guidelines, Cordillera Regional Disaster Risk Reduction & Management Council Emergency Operations Center*. February 12. https://drrmkc.ocd.gov.ph/uploads/files/RDRRMC_CAR_EOC_SOPs_and_Guidelines.pdf.

Osorio Pineros, Julan David. 2020. "Technocracy, Disaster Risk Reduction and Development: A Critique of the Sendai Framework 2015-2030." Revista Derecho del Estado, Universidad Externado de Colombia. doi:https://doi.org/10.18601/01229893.n47.10.

Philippine Statistics Authority. 2024. "CAR Poverty Incidence Estimated at 26.7% During the First Semester of 2015." July 15. Accessed 15 July 2024. http://rssocar.psa.gov.ph/pressrelease/car-poverty-incidence-estimated-267-during-first-semester-2015.

———. 2024. "PSA Stats Shows Drop in Poverty Incidence in CAR." July 15. Accessed 15 July 2024. http://rssocar.psa.gov.ph/pressrelease/car-poverty-incidence-estimated-267-during-first-semester-2015.

Rivera, Dale. 2015. "Philippines: Drivers of Disaster Resilience in Benguet." PreventionWeb of the United Nations Office for Disaster Risk Reduction. January 28. https://www.preventionweb.net/news/philippines-drivers-disaster-resilience-benguet.

Securities and Exchange Commission. 1991. "The Local Government Code of the Philippines." Security and Exchange Commission of the Republic of the Philippines. https://www.sec.gov.ph/wp-content/uploads/2022/01/1991RA7160.pdf.

Sinumlag, Alma B. 2011."Tublay Mitigates Agricultural Effects of Climate Change." July 24. https://nordis.net/2011/07/24/topic/agri/tublay-mitigates-agricultural-effects-of-climate-change/.

SunStar Baguio. 2016. "Tublay Town Shifts to Coffee Farming." January 10. https://www.sunstar.com.ph/more-articles/tublay-town-shifts-to-coffee-farming.

Swanson, Darren, and Laszlow Pinter. 2007. "Chapter 4. Governance Structures for National Sustainable Development." OECD Sustainable Development Studies: Institutionalising Sustainable Development. Accessed 17 November 2024. https://www.researchgate.net/publication/277289457_Governance_Structures_for_National_Sustainable_Development_Strategies#pf1f.

Tamulto, Ferdinand A. 2021. "Rethinking Relocation as a Post-Disaster Rehabilitation and Recovery Strategy: The Case of Itogon, Benguet in Northern Philippines." *The Cordillera Review* 11 (1–2) 132–66.

Trombetta, Maria Julia. 2008. "Environmental Security and Climate Change: Analysing the Discourse." Cambridge Review of International Affairs 585–602.

Tuazon, Glo Abaeo. 2009. "Tublay Coffee / Kabayan Roads". July 20. https://northphiltimes.blogspot.com/2009/07/tublay-coffee-kabayan-roads.html.

United Nations Office for Disaster Risk Reduction. 2015. "Sendai Framework for Disaster Risk Reduction 2015–2030." United Nations Office for Disaster Risk Reduction. March 18. https://www.undrr.org/media/16176/download.

———. 2020. *Ecosystem-Based Disaster Risk Reduction: Implementing Nature-based Solutions for Resilience.* November 30. https://www.undrr.org/media/48333/download.

———. 2023. *Report of the Midterm Review of the Implementation of the Sendai Framework for Disaster Risk Reduction*. Geneva: United Nations Office for Disaster Risk Reduction. https://sendaiframework-mtr.undrr.org/media/86858/download.

United States Agency for International Development. 2014."U.S. Ambassador Goldberg Visits Benguet to Promote Disaster Risk Reduction Activities." July 27. https://2012-2017.usaid.gov/philippines/press-releases/july-27-2014-us-ambassador-goldberg-visits-benguet-promote-disaster.

Wayas, Adela Deyaen. 2010. "Tublay Faces Scarce Water Supply." September 19. https://nordis.net/2010/09/19/article/tublay-faces-scarce-water-supply/.