Culture, Vulnerability & Resilience in Madagascar

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YMCA

Contents

Foreword

The number and scale of disasters triggered by natural hazards are increasing across the world.

Climate change compounds the intensity and impact of such disasters, often halting or reversing development gains and pushing people into poverty. Nowhere is this clearer than in the plight of small-holder farmers in Madagascar where consecutive years of drought, made worse by the El Niño in 2016, have left 850,000 people in need of urgent humanitarian assistance.

2015 was a pivotal year for disaster risk reduction (DRR) and climate change, with both the Sendai Framework for DRR and the Paris Agreement on Climate Change setting out a way forward for the world to cope with this increasing disaster risk. The World Humanitarian Summit also emphasised the importance of local actors in the humanitarian landscape. 'Understanding disaster risk' has been highlighted as the first of four key priorities in the Sendai Framework, stressing the need to cover all dimensions of vulnerability, capacity, exposure and assets of communities for effective disaster risk reduction.

It is impossible to fully understand the many dimensions of risk without rooting analysis firmly in the context of culture. This research study examines the impact of culture on vulnerability and resilience in Madagascar.

Y Care International believes that any activity seeking to improve lives and reduce disaster risk must be informed and shaped by local people, especially young people. Young people have fresh and interesting insights into how culture and traditions impact their lives. Supporting them to identify and address these underlying causes of disaster risk and resilience is essential. The staff and volunteers of our YMCA partners are embedded in the context, language and culture of the communities we seek to assist. They are in a unique position to inform and analyse the impact of their rich cultural heritage on vulnerability and resilience.

We have a long-established partnership with Madagascar YMCA, which has recently embarked on a DRR pilot project across five communities in the Analamanga and Alaotra-Mangoro regions, involving 250 young people living in rural areas.

This study is the fifth from our valuable partnership with Kings College London. We are grateful to Ben Andrews for the immersive research study and discussions carried out with a range of people in two rural Malagasy communities. The views and interests of disaster-affected people must always be at the forefront of our analysis and efforts in building relevant and effective resilience and disaster response.

Y Care International aims to integrate the recommendations outlined in this report as far as possible into future resilience and DRR activities. In this way we can ensure that young people are leading the effort to help their communities to become less vulnerable to disasters, and thus better places to live.

Adam Leach

CEO

Y Care International

Acknowledgements

Acknowledgement from Y Care International

Y Care International would like to thank the people involved in this research and acknowledge the young people around the world living and working in rural areas that face extreme hazard and climate-related risks, and who are working towards reducing these for themselves, their families and their communities. We are very grateful to the National Council of YMCAs of Madagascar and to the local YMCA branch in Moramanga for their time, dedication and efforts in supporting this research in-country.

Particular thanks is expressed to King's College London for the invaluable partnership and support which made this research possible. Y Care International also thanks Ben Andrews for his dedication and enthusiasm in completing this research.

We aim to work alongside Masters Students at King's College London to carry out more research on young people and their role in resilience, DRR and climate change adaptation which can increase learning, improve and deliver effective programmes for vulnerable young people worldwide.

This research contributes to broadening the contextual analysis and tools that we use for our DRR and resilience programmes. It serves as a reminder to keep the people and their reality, which includes their culture, traditions and values, at the forefront of everything we do.

Acknowledgement from Ben Andrews

I want to express my deepest appreciation for the hospitality I received by the people of Madagascar, in particular Marovoay. To all who welcomed me into their home, whether it be for dinner, an interview or a bowl of corn soup; from those interactions I made some wonderful memories and learnt a great deal.

Many thanks to Y Care International who sponsored this project and provided contacts and support in country. To the YMCA in Madagascar and more specifically the YMCA Moramanga - I really couldn't have done it without you, thank you for all your help and most importantly friendship. To Jhard Rochtane, my translator, who went the extra mile every day to assist me with my research.

Lastly, I want to pay particular thanks to my project supervisor, Helen Adams, who helped develop my way of thinking and provided me with much needed support along the way.

List of acronyms

DRR –Disaster Risk Reduction

NARE–Non-Agricultural Rural Employment

NGO –Non-Governmental Organisation

YMCA –Young Men's Christian Association

YCI – Y Care International

About

About Y Care International

Y Care International is the YMCA's international relief and development agency. We work in partnership with YMCAs and other local partners across the developing world to respond to the needs of the most disadvantaged young people.

The needs of disadvantaged young people in developing countries are often neglected, making the transition into adulthood difficult. We help young people develop alternatives to a future of poverty and empower them to contribute to the development of their communities. www.ycareinternational.org

About Madagascar YMCA

Established in Madagascar in 1924, Madagascar YMCA and its 10 local branches across the country are committed to working with young people through activities, projects and programmes to develop their potential for holistic development and to enable them to be fully involved within their own communities. Madagascar supports young people to become positive agents of change for a better quality of life.

About King's College London

King's College London is one of the world's leading research and teaching universities based in the heart of London. It is also one of England's oldest, founded in 1829. King's is dedicated to the advancement of knowledge, learning and understanding in the service of society.

www.kcl.ac.uk

Executive Summary

Farmers planting seeds using traditional farming methods. Photo: YMCA Madagascar

Culture is increasingly being recognised as playing a key role in DRR and development. This study looks at the relationship between culture and vulnerability in two villages in Madagascar, to examine how socio-cultural factors impact the vulnerability and resilience of local people. The study found that traditional belief systems and values, associated with a strong culture, could be seen to increase certain metrics of vulnerability. These were, however, generally offset by increased levels of social capital and kinship, which contributed to community resilience. The study reflects on western conceptual frameworks such as the Vulnerability & Capacities Index[1], and highlights the importance of including key cultural factors into resilience frameworks despite their innate complexity.

Key Findings

▶ A strong culture is not necessarily a cause of societal vulnerability – instead societal vulnerability depends on the nature of the beliefs and value systems held by a particular community;

▶ In this case study, there were incidences of traditional beliefs having both a positive and a negative effect on vulnerability and resilience. Exhumation ceremonies were a prime example: on one hand they were a drain on a household's resources, but on the other hand they provided opportunities to develop social capital between relatives, friends and community members;

▶ The culture of the two communities is changing at different rates. The smaller, more isolated community of Androfia has a stronger culture, which in this context contributed to greater community resilience. Marovoay has a more diverse population as a result of its location and infrastructure. The more fluid culture present in Marovoay had a detrimental impact on social capital, which directly reduced its resilience to hazards;

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[1] Mustafa, D., Ahmed, S., Saroch, E. and Bell, H. (2011) Pinning down vulnerability: from narratives to numbers, Disasters,35 (1), 62-86

- ▶ Greater access by youth to external influences such as TV, social media and film is catalysing the rate of cultural change. This has led to a rise in certain social issues such as single parenthood that compound vulnerabilities;

- ▶ A strong culture has significant positive implications for DRR due to its association with high levels of social capital, which can be accessed and leveraged during times of shock. This increases community resilience to natural hazards, and offers an opportunity to NGOs to build on these informal social safety nets to further enhance resilience.

- ▶ Activities to reduce disaster risk were scarce in both communities. Early warning systems were limited and there was no evidence of pre-positioning food, water and seeds to prepare for a cyclone. These activities are critical for reducing vulnerability and increasing resilience, and no cultural factors were identified that would affect their successful implementation.

Key Recommendations

- ▶ The vulnerability of rural livelihoods to hazards and the negative impacts of climate change is a key issue which needs to be addressed by government and NGO actors alike. Access to financial services (such as capital investment or credit), training programmes for climate-sensitive agricultural production including short-cycle crops as well as NARE activities, and inputs to support livelihood strengthening or diversification are required to help the local farmers adapt to the changing climate and natural hazards.

- ▶ Disaster mitigation and preparedness activities such as establishment of strong early warning systems, contingency funds and kit held at community-level, improved climate information services and linked advisories, as well as access to these is needed.

- ▶ Greater emphasis should be placed on learning and embedding cultural factors into tools and models of community assessment and programme design. The key to improving a community's resilience lies in understanding underlying causal factors of its vulnerability as well as its capacities – in both of which culture can play a key role. By doing so, programmers and researchers can better adapt tools to the needs of the community members they seek to understand and support.

- ▶ In relatively multicultural and diverse communities such as Marovoay, social mobilisation through establishment of DRR committees must be planned carefully to include all social groups. Special efforts may be needed to increase the 'bonding capital' within the community to enhance resilience.

Introduction

Community members in Androfia, Photo: Ben Andrews/YCI

Global temperatures are rising and the climate is changing. The associated effects of this warming, such as a rise in sea levels and changes in precipitation patterns, impact the frequency and intensity of natural hazards. This is of particular concern in Madagascar, a country with a quarter of its population already living in high risk zones. Climate models show that it is likely that the intensity of cyclones in Madagascar will increase as a result of climate change. The need to reduce vulnerability and increase resilience to natural hazards in the country is paramount, as these hazards, particularly cyclones, are a major contributing factor to food insecurity and widespread poverty in Madagascar.

Culture is beginning to be seen as a contributing factor to the social construction of vulnerability. This study looks at the intersection between culture and vulnerability, in particular vulnerability to natural hazards, to examine how socio-cultural phenomena interact and clash with concepts of vulnerability and resilience.

Some western studies suggest that vulnerability can manifest from 'maladaptive' behaviour –which originates in the cultural fabric of a society, and restricts or limits development and humanitarian interventions (Jenkins, 2000)[2]. This study posits that whilst culture may create behaviours that lead to various forms of vulnerability, these behaviours also contribute to forms of adaptability and resilience. This research will seek to obtain a holistic view on how cultural phenomena, such as beliefs and values, interact with vulnerability, resilience and disaster risk.

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[2] Jenkins, T. N. (2000) Putting postmodernity into practice: endogenous development and the role of traditional cultures in the rural development of marginal regions, Ecological Economics, 34, 301– 314

In a previous YCI publication, Biskupska (2014)[3] looked at *attitudes* towards risk in two communities in the same rural Moramanga region of Madagascar. For this study, *behaviours* are considered because they manifest from the belief systems and values of the community and its members. It is these behaviours that DRR initiatives generally seek to influence. This study will build upon the previous research, by reflecting on the impact that cultural aspects have on both behaviours and attitudes of the participants.

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[3] Biskupska, N (2014) Young People's Prioritisation of Disaster and Everyday Risks, YCI, Policy Brief

Overview of key concepts

Madagascar is one of the most vulnerable countries to natural hazards, with cyclones, droughts and floods all contributing to disaster risk. Photo: Zibran Choudhury/YCI

Vulnerability

The term vulnerability is defined and used differently across a range of disciplines. For the purposes of this paper, the UNISDR definition of vulnerability will be used as follows: '*The characteristics and circumstances of a community, system or asset that make it susceptible to the damaging effects of a hazard.*'

Vulnerability may arise from various physical, social, economic and environmental factors, and may vary within a community and over time. In studies that identify the causes of a population's vulnerability to hazard events, the impact of various economic and political processes has been well documented and understood. An area that has not been addressed with sufficient rigour, however, is culture. Whilst there has been a common understanding of disasters being socially constructed within the DRR community, there has been little acknowledgement of the role of culture in this paradigm.

Culture

This study focuses on the subsection of culture that includes the beliefs and values of the society, and the practices and behaviours that result from them.

There is a growing recognition that cultural factors affect vulnerability and, potentially, the way a community, government or organisation might prepare for and respond to disaster risk. Sometimes the issue of cultural obstacles is highlighted in an attempt to work with, or around, said obstacles; however on occasion the discourse moves to demand a 'cultural shift' in disaster-prone communities. Caution is needed when the discourse focuses on changing or shifting cultural phenomena to reduce risk. This is because many communities do not prioritise disaster risk for a variety of reasons other than cultural ones, for example due to a lack of information, or the prioritisation of other aspects of their lives such as livelihoods. Further, the cultural phenomena that many are debating how best to 'shift' away from may be critical to the social fabric of the community, which in turn impacts a community's resilience and coping mechanisms.

Resilience, Livelihoods and the Capital-based approach

The term 'resilience' is ambiguous as it has been used by a multitude of systems, environments and thematic areas. There is a baseline consensus however, that resilience refers to a system's ability to prepare for, respond to and recover from shocks and stresses. Whilst several frameworks have been developed to measure the concept of resilience, this study uses the Capital-Based approach proposed by Mayunga (2007)[4], according to which five capital assets are central to the resilience framework. The idea of capital and its relation to livelihoods is a central feature of DFID's Sustainable Livelihoods Framework, in which livelihoods include an array of assets, outcomes, processes and strategies. Within assets, the framework states that there are five forms of capital: Financial, Human, Social, Physical and Natural, which are key to understanding livelihoods. In the Capital-Based approach, Mayunga links these capital domains with resilience indicators.

This study includes aspects of livelihoods and its various capital domains, because livelihoods are inextricably linked with vulnerability, resilience and culture. Economic circumstance and poverty often force people to live in areas that are deemed at high risk from hazards. This might be due to the availability of land and/or proximity to a favoured livelihood, which may be better in areas at higher risk of hazards e.g. flood plains or coastal regions. Inhabitants of both rural and urban locations will usually give priority to livelihoods, as they can justify the benefit of the day-to- day livelihood opportunities against the possibility of a future hazard. Although the requirement to obtain livelihoods puts people at risk, it is also critical in reducing vulnerability - by providing people with shelter and nutrition amongst other tangible and non-tangible outcomes.

Social Capital

A generally accepted definition of social capital is *'the product of social interactions with the potential to contribute to the social, civic or economic well-being of a community of common purpose'*. This study will seek to identify these traits because they are related to the culture of a community and directly contribute to its resilience.
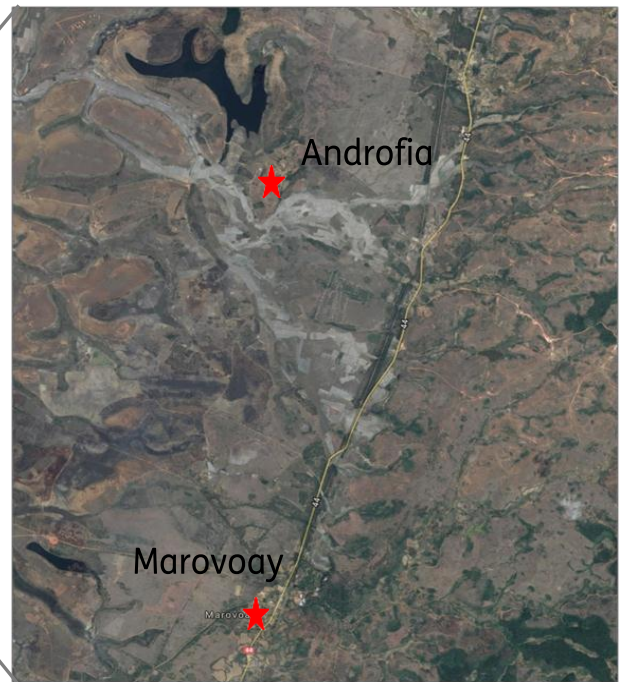
'Bonding capital' and 'bridging capital' are terms used to specify two main types of social capital; the difference is that bridging capital is inclusive and refers to the connections between heterogeneous groups, whilst bonding capital is exclusive and refers to the building of connections within homogenous groups.

A 'strong culture', in this study, is a term used to describe a culture that is rigid, less malleable and demonstrates homogeneity within the community. This study will also assess the associated strength of beliefs and values as a metric for 'strength of culture'.

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[4] Mayunga, J.S. (2007) Understanding and Applying the Concept of Community Disaster Resilience: A capital-based approach.

Madagascar

Madagascar is one of the most vulnerable countries to natural hazards, with cyclones, droughts and floods all contributing to disaster risk. With climate change affecting the intensity of these hazards, there is a growing need to reduce vulnerability and enable local communities to adapt to this ever present risk. Political instability from 2009-2013 further contributed to a high crime and unemployment rate as well as increased food insecurity. Food insecurity has been greatly exacerbated by the devastating effects of the El Niño, which has led to severe drought conditions. Crop losses caused by the lack of rainfall have led to around 850,000 expected to remain food insecure into 2017.

The research was conducted in two rural villages, Marovoay & Androfia, located three and a half hours east of the capital, Antananarivo. Marovoay was the central research site, where 20 interviews were conducted. The village had a population of ~3400 who were predominantly farmers, some subsistence but some larger farms that sold produce to Moramanga - the regional hub that sits on Route 2, approximately three hours' drive from the capital city, Antananarivo. The town had several churches, a Level 1 healthcare centre and a primary school. The secondary school is located in Morarano 10 km away from Marovoay. There were a few *Hotelys* (roadside cafes) and several stores to buy produce and household items. Although the majority of the houses were made from traditional materials, with earthen cob packed into a wooden framework and a thatched roof, there were many examples of houses with bricks and concrete and metal tin roofs.

Androfia was smaller, with only ~400 residents. It did not have any shops or cafes and all the residents were subsistence farmers, growing vegetables and rice. There were other roles such as house builders, but these were always secondary to the main profession of farming. The village had a primary school, a church and a part-time health facility. Androfia was very traditional in that the livelihoods were all subsistence, and the houses were all made from traditional materials, with mud bricks, consolidated onto wood, with a batter on the outside to protect the bricks.

Madagascar traditionally consists of 18 ethnic groups, one of which is the Benzanzano, who are the traditional ethnic people of the Moramanga region - the area in which the two research communities in question are located. These groups share cultural attributes, such as the reverence of ancestors and the widespread practise and adherence to cultural prohibitions, called *Fady*, which play a significant part in daily life. *Fady* are rules or taboos that may apply to a range of people, actions or objects, and vary by region within Madagascar. They are closely linked with the cultural practise of ancestor worship common in Madagascar.

Both populations have increased in the last few decades, but in different ways. According to the village chief or *Fuktany*, Androfia's population has increased from about 200 to 400 in the last 20 years, due to an increase in existing family sizes rather than immigration into the village. The population of Marovoay had also increased, however much of the data pointed towards an increase in migration to the town as a major contributing factor. The ethnic makeup of the sample frame provides weight to this argument; with all except one of the participants from Benzanzano descent having been born in the village. Conversely, all of the participants who were not of Benzanzano descent, were not born in the village and had arrived at a later date, again except one who was born in Marovoay and was of Merina descent. The *Fuktany*, who is of Merina descent, is a perfect case in point, having moved to the village in 1978 when he was 27.

Methodology

This study used a grounded theory approach, incorporating 27 semi-structured interviews in the two communities, to report on the participant's cultural viewpoint with regard to risk, vulnerability and resilience.

This study tried to capture the views and opinions of a range of demographics, paying particular attention to age and gender. Without being too formulaic, the sample frame was split by age; between ages 18-30, 31-59 and 60+. This allowed the study to develop a comparative view of cultural phenomena, to identify trends and correlations between the young (18-30yrs) and the older generations.

Table 1: Participant demographics

Breakdown	Marovoay	Androfia
No. Participants	20	7
Gender %		
Male	55%	71%
Female	45%	29%
Religion %		
Christian	100%	100%
Ethnicity %		
Benzanzano	40%	100%
Merina	45%	0%
Betsilio	10%	0%
Sihanaka	5%	0%
Age %		
18-30	40%	57%
31-59	20%	29%
60+	40%	14%

As per Table 1, 100% of the participants from Androfia were Bezanzanos. According to the *Fuktany*, 95% of the population were Bezanzanos, whilst the remaining 5% were from other ethnic tribes, who had married into the village. By contrast, the ethnic makeup of Marovoay, was comparatively multi-cultural, with a greater mix of ethnicities. From the twenty participants in Marovoay, nearly half were from the Merina tribe (45%), with several other ethnicities also represented: Benzanzano (40%), Betsilio (10%) and Sihanaka (5%). Both villages sat within the Benzanzano ethnic region, so to have such a large number of participants with Merina descent in Marovoay, who originate from the region of the capital city, was of interest to the study.

The approach relied primarily on semi-structured interviews, but remained flexible and driven by observation and guiding questions. The interview stage was also supplemented by community observation, informal interviewing, discussions with community members and participating in daily life. These methods were used to achieve the following research objectives:

▶ **RO1**: Determine the unique aspects of local culture in Madagascar such as beliefs and values

▶ **RO2**: Assess how socio-cultural phenomena affect a Malagasy community's vulnerability and resilience

▶ **RO3**: Critically reflect on the western notion of vulnerability and associated conceptual frameworks within a local cultural context

Results

Community members raising awareness about health issues through song and dance performances. Photo: Zibran Choudhury/YCI

Beliefs (*Fady* and Exhumation)

> *"Tradition is important here. Before, there was a Fady that required people to go to the Sacred Hill and give offerings and ask for blessings from the ancestors, however recently people broke that Fady and in 2006, there were killings by crocodile in the river. The villagers decided to go the Hill to restore the Fady and since then there have not been any crocodile killings" – (Male, 30, Farmer)*

Fady, or cultural taboos, dictate social norms across Malagasy communities, and are revered and passed down through generations. A common perception in the communities studied was that "breaking a *Fady* would lead to bad luck." In Marovoay, there was an assortment of *Fady*: from not fishing certain rivers, not working certain days, to refraining from eating certain animals. In Androfia, only two *Fady* were recorded: not bringing pig and onion into the village, and not working certain days.

The study identified belief systems that could be viewed as contributing both positively and negatively to vulnerability. Some community members practised a *Fady* that did not allow one to work on particular days. One informant (Male, 63, *Fuktany*) said: "I dont like the *Fady* much because I cannot work as much and it affects how much I can harvest." This would have an impact on

financial and natural capitals, which are metrics of vulnerability. On the other hand, sacred places, believed to be home to the ancestors, such as the 'Sacred Hill' in Marovoay are protected from abuse and exploitation by *Fady*. This has made the Hill an oasis of flora in an area where so little remains. Without the protection which the *Fady* affords, the Hill would be vulnerable to human exploitation and degradation, leading to the increase of several disaster risks – such as flooding caused by increased levels of surface run off in the wet season, landslides due to soil erosion, etc.

The main impact of traditional beliefs on vulnerability was the amount of financial and natural capital spent on the exhumation ceremony. The ceremony, known in Madagascar as *'Famadihana'*, is a ritual where an ancestor's bones are exhumed and turned over, usually during the dry winter months. Ancestors are worshipped in most Madagascan communities and they play a prominent role in daily life. *Famadihana* is thus an important ceremony, based on the belief that the spirits of the dead do not join the 'superior world' of the ancestors until after the body is completely decomposed. Until that time, the spirit of the dead is still present and able to communicate with the living. *Famadihana* is an occasion for celebrating together with the dead, bringing together family members and friends.

The practise of *Famadihana* featured heavily in discussions around vulnerability and decision making. For example, one of the female participants (aged 59) stated that "Although we need the money to fix the roof, we would never stop doing exhumation because the people who are dead are taking care of you, so we must take care of them." The youth who were present contrasted that view saying that they "would prefer a nice new roof." This difference between the younger and older generations in upholding traditional values and beliefs was observed in both communities, but most significantly in Marovoay.

The extent of financial capital required for *Famadihana* is demonstrated by this quote from a male informant (aged 30):

"Some families might do [exhumation] every year if they are rich, poor families might do it every 7 years. It costs a lot of money because they have to get an oxe, and prepare lots of things, but sometimes three oxe if lots of people come. The party size can be up to 1500 people, as people and family come from all over Madagascar"

Although monetarily it is a costly practise, many villagers described its importance. For example: "It makes the family close and is a proof of love. Some family members live very far away but all come together for the exhumation. Plus a lot of people from the community come, so it is good for bonding with them." From a resilience point of view, the social capital, in particular 'bonding capital' and 'cultural capital' gained from such occasions could potentially counteract the loss of financial and natural capital spent on the ceremony.

For the poorer community members, contributing to the cost of an exhumation ceremony was a hardship, but was necessary to avoid household shame and potentially losing valuable social capital. It is important that resilience programming considers these practises and their impact at household level at the programme-design stage. For example, by including a component on savings and access to credit, programmes may be able to enhance the economic resilience of vulnerable households. Capacity for social credit may also be built into this mechanism for occasions such as *Famadihana*.

Beans grown on a small-holder farm. Photo: YMCA Madagascar

Beliefs, Livelihoods and Climate Change Adaptation

Studies on the subject of culture, religion and DRR have made reference to some communities' lack of preparation for a natural hazard because they believe it to be 'God's will'. This was not observed in either community in this study. Both reported that they would actively prepare if they could, but as with many Malagasy communities, they are limited in their ability to prepare, particularly for cyclones, by "insufficient warning." One villager said that "although we get a radio warning usually three days before, we aren't told how big it will be." This lack of detailed early warning made decision making difficult, particularly for the most vulnerable who do not own a radio to receive vital cyclone warnings. Further, previous YCI research amongst rural communities in Madagascar has shown that cyclone preparedness is not necessarily seen as a priority amongst vulnerable small-holder farmers. They prioritise instead the day-to-day of living, such as health care, livelihoods and agricultural activities. These non-cultural, pragmatic reasons are more likely to impede disaster preparedness initiatives than cultural ones.

Most vulnerable to natural hazards – particularly cyclones – are farmers' livelihoods. This was mentioned by participants from both communities, which were mostly comprised of small-holder farmers. Even if adequate warning is given, participants noted that harvesting crops before a cyclone

hits is usually unviable due to the timing of the cyclone season. According to a study[5] conducted in 2016 on how 200 small-holder farmers prepared for cyclones in Madagascar, a key coping mechanism was storing food, water and grain for use during cyclone-season. The food and water is used for survival during and after the cyclone, and the grain to replant their fields afterwards. These preparedness activities were not reported in either Androfia or Marovoay. Such proactive early warning and disaster preparedness actions should be promoted and encouraged by the government and local organisations. No cultural factors observed in this study prevent these initiatives from being successfully implemented. Short-cycle crops may also be promoted to counteract the impact of the cyclone season; however care must be taken to ensure that these are culturally and contextually appropriate. YCI ensures that all its livelihoods programmes in Madagascar include a component of disaster risk reduction through community mobilisation and preparedness.

One common factor observed in both Androfia and Marovoay was the changing climate's impact on inhabitants' livelihoods. Many participants reported that the usual seasonal cycles are being distorted, and knowledge of how to react to this growing threat was limited.

"the rainy season, when we plant crops is now too dry, and the dry season, when we dry the harvest is now too wet" (Farmer, Male, 71)

Whilst many of the participants had an attachment to place, there is little reason to leave in search of better livelihood opportunities in a country where the impacts of natural hazards are so widespread. The prospect of changing or adapting livelihood strategies was found to be limited in the communities in question, with few villagers managing to find NARE. There is also the opportunity for farming strategies to adapt to fit a changing climate, as most villagers had little or no training in climate-sensitive agricultural practises. There was little resistance (on cultural or other grounds) to such ideas, with many participants expressing a wish for support and training to facilitate this change. This finding was echoed in a 2016 survey conducted for the final evaluation of an EC-funded YCI programme in Madagascar. 83% of young people surveyed opted for training in self enterprise that included NARE, demonstrating the demand for adaptive livelihoods in an uncertain climate. 81% of those trained are now working and nearly 50% are setting up their own businesses. Further, according to the final evaluation of this programme, 55% (51% male; 51% female) of the targeted young people in this project reported having some savings following the project. This contributes to their resilience as it provides a safety net that they can draw on in case of disasters.

There is a huge need to roll out training programmes to develop farmers' skills and knowledge to combat the growing threat of climate change in agriculture, as well as to diversify their livelihoods strategies into NARE. Without adapting to this threat, the livelihoods of the communities will be greatly affected and vulnerability will be exacerbated.

Values

The value of respecting elders is found in many cultures throughout the world. In Madagascar, with its deep links to ancestors and traditional belief systems, this value is particularly embedded and prevalent.

Through conversations and interviews, this custom was identified amongst both the old and young generations in Androfia. Participants noted that "Young people in Androfia are very hard working, very disciplined, and have respect for elders." Although there were some contrasting views, the

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[5] Rakotobe, Z. L., Harvey, C. A., Rao, N. S., Dave, R., Rakotondravelo, J. C., Randrianarisoa, J & Rajaofara, H. (2016) Strategies of smallholder farmers for coping with the impacts of cyclones: A case study from Madagascar. International Journal of Disaster Risk Reduction,17, 114-122

general perception was that there was not much of a difference between the young and old when it came to discipline and respect for elders.

Conversely, in Marovoay it was widely reported that the mentality of the youth was changing, and they were more prone to indiscipline and a lack of respect for their elders. This perception was reported by both the old and the young: for example, "Before the children have fear of parents; now they don't and the young are bolder... [this is] not good, as you always need to respect the elders" (male, age 30).

The effect of this new dynamic on vulnerability is hard to quantify. The *Fuktany* of Marovoay (male, age 65) had mixed views on the subject. Whilst he said that "before young people were polite and courteous, now they don't value it and don't show as much respect," he later went on to say that "this isn't that bad, it is actually good that the youth are looking for change and are trying to define themselves."

Whilst indiscipline and a lack of respect are perhaps not in themselves detrimental attributes for people's vulnerability, a number of participants, both young and old in Marovoay, said that it was having a negative effect on the community. Without discipline and respect for the wishes of the older generations, it was reported that young people are having sexual relationships earlier, which in this context usually required the couple to get married. This was expressed most notably by one informant (male, age 24), who stated that "the youth used to be close with their parents, we were more responsible because there was nothing to do but work with their parents, but now it's changed, there are more distractions and sometimes the youth have children at 15." For a rural farming household this can be an issue because "people get married earlier and leave the household, therefore it is hard to keep hold of children" (female, age 64). This is essentially a loss of human capital for the household to work on the family farm. Participants highlighted other issues attributed to this change in mentality: "the young are getting married and pregnant earlier, which is a problem if the family unit is not strong as they can easily get divorced and then it makes it harder for the children to be provided for" (female, age 59).

Young single-parent headed households, particularly those that are female-headed in rural agricultural communities are more likely to be vulnerable in the face of natural hazards, especially if they don't have the support of their wider families[6]. Although in Androfia the youth were generally more disciplined and responsible, if a young woman has a child, she would customarily move out of the family house regardless of whether she is married or if the father is still around. This practise has led to nine single mothers in the village being made to set up a new household away from their families according to one source - many of whom are now financially insecure and vulnerable to shocks. This practise, tied to cultural phenomena, was found to increase vulnerability for impacted households. Further research is needed to fully understand the impact on vulnerability and resilience of these mental parting of ways between the younger and older generations in the communities studied.

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[6] Mustafa, D., Ahmed, S., Saroch, E. and Bell, H. (2011) Pinning down vulnerability: from narratives to numbers, Disasters,35 (1), 62-86

Traditional hut in Androfia. Photo: Ben Andrews/YCI

Strong Culture

The primary research question set out in this study was: does a strong culture affect societal vulnerability and resilience? When observing the communities through the lens of beliefs and practises, Androfia can be said to have a 'stronger culture' as compared to Marovoay: inhabitants were ethnically homogenous and shared the same practises and beliefs such as *Fady* and exhumation (100% of participants practised exhumation in Androfia, compared to 60% in Marovoay). The same can be said about the values and attitudes of both communities. In Maravoay, older generations were found to hold traditional values and attitudes in high regard, whilst the youth are increasingly leaving behind traditions and were more reluctant to adopt the values of their parents. In Androfia, on the other hand, there was a widespread view that although the youth are changing, generally they hold the same values and attitudes as the older generations. Overall therefore, in terms of the strength and homogeneity of beliefs, practises and values that were observed and recorded in both communities, Androfia was found to have a stronger culture.

A sentiment that was widely shared in Androfia was summed up by one informant, who said, "People are happy to help because they have the same life." This was observed throughout the community. Inhabitants were generally found to live in the same type of houses, with the same livelihoods, and with less economic hierarchy than was found in Marovoay, where inequality was far more pronounced. This could be because a considerable amount of 'bonding capital' exists through informal social networks between the community members in Androfia. This enabled them to relate and emphasise with each other's circumstances more than members of Marovoay, who were culturally more diverse. There were several accounts of individualism and a breakdown in community cohesion, as well as highly stratified levels of class/economic standing in Marovoay relative to Androfia. An informant from Marovoay described Androfia as a "close-knit village…"

where "although there isn't great wealth, there is little poverty... because the people in Androfia are families that help each other out."

This difference appeared to be more pronounced in times of shock. For example, when Cyclone Giovanni hit the communities in 2012, the contrasting accounts of the communities' response was distinctive. In Marovoay, some of the most vulnerable residents who did not own a radio were not informed by their wealthier neighbours or community leaders of the approaching cyclone. Neither did they receive help when they needed to seek shelter: "when our roof was blown away, our neighbours did not help; instead we had to shelter in our chicken coop." Even afterwards, the only assistance they received was from external organisations. This is in stark contrast to the high levels of community action seen in Androfia after the same cyclone. Androfia residents testified: "People were more than happy to help with repairing and rebuilding houses." When the school was damaged, everyone over the age of 18 reportedly contributed to its repair.

Significantly, community resilience and social capital was most abundant when the impact of the cyclone was felt unequally. If the shock was felt by everyone equally, then households typically prioritised their own needs before helping others, demonstrating that social capital cannot always be relied upon. This is an important point, because it reveals a limit to social capital. An over-reliance on social capital in small holder farming communities such as Androfia could lead to intensifying vulnerabilities to natural hazards, especially if the severity of natural hazards increases.

From the data, it was observed that a strong culture enhanced Androfia's community unity and coping mechanisms, which offered them greater levels of social capital and community resilience. These informal social safety nets are invaluable and must be fostered and built on to improve community disaster resilience. It is also critical however to recognise the limits to this social capital for community resilience, and take steps to strengthen community disaster preparedness as well as household-level disaster resilience.

Finally, this study concludes that the level of 'connectedness' of the two settlements had a direct impact on the strength of their culture. Marovoay sits on Route 44 - a road that was completed in 2004, which connects Marovoay to the hub town of Moramanga and leads directly to the capital. Androfia, on the other hand, sits in a more remote location - 1km from Route 44. The location of Marovoay as a roadside village has led to an increase in its exposure to external cultural influences which have largely by-passed Androfia. It has increased the pace at which the "youth are parting ways with traditional culture of the town." The correlation of these two phenomena leads this study to suggest that this exposure to external cultural influences is directly linked to the changing perspectives of the youth and lower levels of cultural cohesiveness. It should be noted that in this context, access to basic infrastructure may be detrimentally affecting the culture of Marovoay; however it also enhances its access to basic services and improves livelihood opportunities for the villagers. Androfia's relative isolation and Marovoay's connectedness therefore have both positive and negative implications for their inhabitants' resilience. This study found that the social capital achieved from cultural cohesiveness in Androfia outweighed the benefits of Marovoay's greater accessibility in terms of enhancing community resilience.

Conclusion

Route 44 connecting Marovoay to Moramanga. Photo: Ben Andrews/YCI

This research, although limited, concludes that there is not necessarily a causal link between a strong culture and increased vulnerability. Instead, societal vulnerability depends on the nature of the traditional beliefs and value systems held by the community in question. Within the local context studied, the cultural dynamic offered both positive and negative consequences for societal vulnerability. Particularly at risk were the agricultural livelihoods that the majority of the participants relied upon. With a changing climate causing the intensification of natural hazards, the threat to livelihoods in both communities will only increase. In efforts to improve resilience, the need to understand the cultural context will be key, as no two communities are the same. Cultural phenomena present in other communities may affect the way initiatives are implemented and adopted.

Adherence to traditional values, such as respect for the elders and discipline, was observed to be deteriorating within the youth demographic, especially in Marovoay. A key concern for vulnerability in both communities is the prevalence of young, single, female-headed households that do not have adequate social support networks. The changing youth culture and subsequent change in values witnessed in Marovoay could exacerbate this problem.

This study found that the degree of cultural homogeneity of the community in Androfia had a considerable impact on resilience. The 'cultural capital' and 'bonding capital' improved community resilience to hazard events in Androfia. This in turn was driven by close links between community members as a result of shared beliefs and values. Conversely, in Marovoay the culture is changing at a greater rate, with a population that consists of a wider range of ethnicities. Belief systems were

more diverse and young people's values were seen to be changing. This can be largely attributed to the accessibility of the village. Whilst there were some notable benefits of being located on a main road with greater levels of access, this has had a detrimental impact on social capital and community resilience.

From this research there are many implications for disaster risk management and development programming, some obvious, others more nuanced. One implication is that rural agricultural communities are not always homogenous entities, and that **community-wide activities and initiatives to reduce vulnerability in a culturally fluid village such as Marovoay need to be undertaken with due considerations of its heterogeneity.** The communities' ability to diversify into NARE or adapt their livelihood strategies was severely limited by macro-economic forces and a lack of training respectively. More needs to be done at a local level by NGOs and government bodies to **help small holder farmers in Madagascar prepare for climate extremes and shocks to reduce vulnerability, through promoting climate-sensitive agricultural practises, diversification of livelihoods into NARE and community-based disaster risk reduction.** No cultural reasons were identified that would prevent such measures from being successfully implemented.

This study highlighted the need to be cautious about the application of some common tools used in resilience programming without adequate regard for contextual socio-cultural specificities. Whilst assessing community disaster resilience, Mayunga (2007) points towards a Capital-based approach. Here the author states that the "lack of physical infrastructure or critical facilities may have direct negative impacts on community capacity to cope with disasters." While this is generally found to be true, in the long term, this study has unearthed greater complexity with that assertion. The study found evidence that certain physical infrastructure - specifically, Route 44 - was a contributing factor in the changing socio-cultural nature of Marovoay. This in turn has affected social structures, reduced bonding capital and, consequently, reduced community resilience to natural hazards. As a result, this study advocates that **any assessment needs to be rooted in contextual analysis and highlight the complexities that exist in deciphering resilience and vulnerability.** Nothing can replace immersive and participatory studies that factor in an understanding and awareness of local socio-cultural elements into their assessments. Understanding the local cultural context is critical when trying to address the needs of local people. Whether this can be quantified or qualified by a tool remains to be seen.

This study recognises that there is a need to effectively communicate vulnerability, but the growing recognition of cultural phenomena in the causation of vulnerability needs to be constantly at the forefront of this discourse for it to be relevant. There should be a **greater focus on learning and embedding the 'cultural language' into matrices, indices and models.** By doing so, programmers and researchers can better adapt tools to reflect the needs of the community members they seek to understand and support.

Areas for further research

▶ This study did not delve deeply into the impact on vulnerability and resilience of traditional values such as respect for the elders and discipline. This, together with the impact of the changing perspectives amongst young people, needs further research.

▶ Beliefs and values were identified in this study as aspects of culture that affect vulnerability, to which its scope was also limited. Further research may be undertaken to assess how other components of culture affect vulnerability and resilience

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