

Encouraging sustainable entrepreneurship in climate-threatened communities: a Samoan case study

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South Pacific island states are at the forefront of climatic changes that have precipitated severe environmental events. These small countries also face economic and social challenges that require entrepreneurial solutions. We develop a model of how external factors and chance events impact on sustainable opportunity recognition and exploitation in this context. We assess the efficacy of this model in an in-depth study of Women in Business Development Incorporated, a non-governmental organization that helps women and families in Samoa to establish sustainable enterprises. Our findings make a significant contribution to the emerging literature on entrepreneurship, sustainability and resilience in at-risk communities by showing how key organizational capabilities are necessary for coping with exogenous shocks in this context. The findings have important implications for research, policy and practice.

Keywords: climate change; social entrepreneurship; community enterprise; sustainability; resilience

1. Introduction

Over the past two decades, small island nations in the South Pacific Ocean have experienced increasingly severe environmental events that appear to be linked to climate change. Social and economic changes, along with institutional voids, have also weakened the resilience of these developing states (Pelling and Uitto 2001). However, extreme situations may spark the emergence of institutional entrepreneurs who acquire, develop and leverage resources to create new organizational forms and processes (Fligstein 1997; Mair and Marti 2006). Women in Business Development Incorporated (WIBDI), a non-governmental organization that helps families in Samoa to establish sustainable enterprises, is an illustrative case. Samoa is an appropriate research context as the country faces economic problems that are compounded by the effects of increasingly violent storms and rising sea levels, resulting in coastal inundation, erosion, dislocation of village communities and contamination of drinking water supplies (Sutherland et al. 2005). Studies such as ours can help policy-makers gain a better understanding of how entrepreneurship can stimulate recovery and economic development after natural disasters and raise the esteem of disadvantaged groups (Galbraith and Stiles 2006).

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The goal of many community enterprises is to create ‘self-sustaining value whether that is economic, social or political’ (Ratten and Welpé 2011, 283). However, there is a need to investigate the conditions under which entrepreneurship can ‘simultaneously create economic growth, while advancing social and environmental objectives’ in developing economy contexts (Hall, Daneke, and Lenox 2010, 445). The capabilities that development organizations require to cope with and adapt to multiple exogenous shocks, such as those precipitated by changing climate, also require clarification. Therefore, our study explores ‘what is going on’ and ‘what this means’ for organizations such as WIBDI that are tasked with encouraging the development of sustainable enterprises among climate-threatened communities. Our guiding research questions, then, are the following:

- (1) How do exogenous shocks and other significant macro-environmental trends influence a development agency’s sustainable entrepreneurship opportunity identification and exploitation behaviours in a climate-threatened context?
- (2) What organizational capabilities do organizations such as WIBDI need to develop in order to improve resilience to exogenous shocks and other significant macro-environmental trends?

The primary aim of this revelatory case study is conceptual development. The starting point was Patzelt and Shepherd’s (2011) model of the recognition of sustainable development opportunities. We adapted and developed this model, based on our reading of the relevant literature, to guide our study in this context. We then analysed the case data using an extended form of the critical incident technique (CIT), which enabled us to identify key external influences, organizational responses and shortcomings, as well as capability enhancements that help improve resilience.

What follows are discussions of the research context, relevant literature, methodology, findings, conclusions and implications.

2. Research context

Samoa lies in Oceania, a group of South Pacific islands halfway between Hawaii and New Zealand. Samoa’s two main islands (Savaii, Upolu) are home to majority of the 195,000 residents who are mostly (93%) of Samoan (Polynesian) descent. Samoa, along with neighbouring island nations, is experiencing high emigration rates, with remittances from family members working overseas becoming a vital source of income. The other major contributors to Samoa’s GDP are fish and agriculture exports (e.g. taro, coconuts, bananas, yams, coffee, cocoa), tourism and foreign aid. Samoa has a traditional sociopolitical system called Fa’a Samoa, which means ‘The Samoan Way’. This influences family and community life, including relationships with people in authority.¹ New Zealand is an important trade partner, aid donor, former colonial administrator and home to expatriate Samoan communities. The country, which is similar in area to Japan, has a population of just over four million. It has an open economy dominated by small- and medium-sized enterprises and relies heavily on exports of primary products as well as tourism, education and film production services.²

The original purpose of WIBDI was to help a group of entrepreneurial women to raise finance for their own businesses. However, a series of environmental catastrophes caused WIBDI to adopt a more outward-looking stance and to refocus on the alleviation of poverty amongst rural families through sustainable economic development. Samoa is facing a worsening balance of payments deficit due to high imports, declining income from indigenous exports and the effects of natural disasters such as the tsunami in 2009 and cyclone in 2012. Although Samoa has relatively good soils, rainfall and fishing

grounds, and could in theory be self-sufficient, it imports large quantities of fresh and processed food and beverages.³ WIBDI's success at becoming the preferred provider of virgin coconut oil (VCO) to The Body Shop suggests that there are opportunities to increase the exports of high-value natural products. Our study improves the understanding of how entrepreneurship can stimulate recovery after natural disasters and raise the esteem of disadvantaged groups (Galbraith and Stiles 2006).

3. Literature review

There is growing interest in how development agencies in climate-threatened communities can create innovative solutions to social, environmental and economic needs. Studies initially carried out in developed economies into ways of overcoming institutional barriers and voids in times of uncertainty (e.g. Johannisson and Nilsson 1989; Johannisson 1990) have helped inform recent research in transitional economies (e.g. Peng 2003; Welter and Smallbone 2010) and emerging and developing economies (e.g. Seelosa and Mair 2005; Mair and Marti 2009; Yunus, Moingeon, and Lehmann-Ortega 2010).

Organizations such as WIBDI could be classified as institutional entrepreneurs (Johannisson, Rezpallisas, and Karlsson 2002), community entrepreneurs (Johannisson and Nilsson 1989; Johannisson 1990; Peredo and Chrisman 2006; Ratten and Welpel 2011), social entrepreneurs (Chell, Nicolopoulou, and Karataş-Özkan 2010), emergency entrepreneurs (Johannisson and Olaison 2007) and contextual or collective entrepreneurs (Johannisson, Rezpallisas, and Karlsson 2002). For ease of discussion, we include these closely related concepts under the broad rubric of community entrepreneurship.

We discuss the links between community entrepreneurship, social entrepreneurship, environmental entrepreneurship, corporate social responsibility (CSR), sustainable entrepreneurship, and resilience to climate threats. Our prime reason is to contextualize our research theoretically by synthesizing the common elements of these overlapping concepts to show how insights from these related fields can help us understand the motivations and behaviours of our focal organization, WIBDI, which appears to display elements of community, social and sustainable entrepreneurship. As Welter (2011, 165) argues 'There is growing recognition in entrepreneurship research that economic behavior can be better understood within its historical, temporal, institutional, spatial, and social contexts, as these contexts provide individuals with opportunities and set boundaries for their actions.' We then demonstrate how insights from these fields can be blended to create a process model of sustainable opportunity recognition and exploitation.

3.1 Community entrepreneurship

Community entrepreneurs fill institutional voids to create new structures and processes that benefit disadvantaged members of society (Handy et al. 2011; De Clercq and Honig 2011). The major goals tend to be social rather than economic, although there can be important economic and financial spin-offs (Peredo and Chrisman 2006; Ratten and Welpel 2011). Community entrepreneurs build self-respect and competencies of other community members, act as networkers and coordinators, seek projects that reduce socio-economic risks and inspire people to start their own businesses or community ventures (Johannisson and Nilsson 1989). Creating innovative ways of supporting local entrepreneurs (Johannisson 1990) reflects a common view that empowering people to be part of the commercial sector is an important value of society (Ratten and Welpel 2011).

Peredo and Chrisman (2006) argue that the *whole* community acts as both entrepreneur and enterprise in a community-based enterprise. WIBDI's community includes clients and staff. WIBDI helps women and families develop micro-enterprises by providing organic certification, business training, finance, marketing and distribution assistance. This results in a symbiotic relationship (Ratten and Welpel 2011). However, it could be argued that only part of a geographic community need be involved in a community enterprise (Somerville and McElwee 2011; Handy et al. 2011), so long as the simultaneous social, economic and political goals 'involve the self-expanding of value for the community' (Somerville and McElwee 2011, 327). Community-based enterprises can also help maintain cultural traditions (Dana and Light 2011). For example, WIBDI has been instrumental in reviving art forms such as fine mat weaving (Cahn 2008).

There are obvious overlaps between community and social entrepreneurship. It has been argued that community enterprises 'can also be classified as social enterprises insofar as they are controlled by their members and have social as well as economic aims' (Somerville and McElwee 2011, 319). Social entrepreneurship has been defined as 'the activities and processes undertaken to discover, define, and exploit opportunities in order to enhance social wealth by creating new ventures or managing existing organizations in an innovative manner' (Zahra et al. 2009, 519). However, social entrepreneurs exist on a spectrum between those whose primary concern is private wealth creation with coincidental societal benefits to those interested in creating societal benefits with coincidental economic benefits (Gundry et al. 2011). Zahra et al. (2009) posit three distinctive types: social bricoleurs who recombine existing resources to address small-scale local needs; social constructionists who address the needs of underserved clients and introduce reforms to the broader social system and social engineers who address systemic problems within existing social structures by introducing revolutionary change. WIBDI appears to have morphed from the first (local bricoleur) to the second type (broader socio-economic reformer) in the first 20 years of its existence. Although organizational forms vary widely, the social mission of social enterprises must be explicit (Peredo and McLean 2006; Bacq and Janssen 2011). Innovation is also needed to identify business opportunities and solutions for social problems (Peredo and McLean 2006; Chell, Nicolopoulou, and Karataş-Özkan 2010).

Corner and Ho's (2010) study of Trade Aid, an exemplar social enterprise in New Zealand, indicates that social entrepreneurs may mix causal and effectuation strategies (Sarasvathy 2001) when identifying and exploiting social opportunities, and that multiple actors, rather than a key sole entrepreneur, help to shape and implement those strategies. Chell, Nicolopoulou, and Karataş-Özkan (2010, 488) note that social enterprises also need to 'become and remain sustainable if they are to deliver maximum value along all three aspects of the "triple bottom line" (social, environmental and financial)'.

Environmental entrepreneurs are also important social change agents (Anderson 1998; Pastakia 1998) who identify and exploit opportunities inherent in market failures (Dean and McMullen 2007). Their solutions aim to reduce the environmental impacts while increasing the quality of life (Schaltegger and Wagner 2011).

For-profit enterprises that are socially responsive and develop supportive community relationships may engage in CSR activities (Wood 1991). As with community enterprises, CSR initiatives can also help empower disadvantaged individuals and communities (e.g. Ben and Jerry's efforts to help people in poorer parts of American cities to learn how to run and eventually own their own ice cream stores). According to Bacq and Janssen (2011, 378), the major difference between social entrepreneurship and CSR is that the latter 'does not give primacy to the social role although it integrates it'. There is also a risk of firms

focusing on short-term and ad hoc responses to social issues in response to pressure groups (Porter and Kramer 2006) and ignoring key tenets of sustainable development, such as helping people address current needs without compromising the well-being and capabilities of future generations (Hult 2011). However, the counter view is that CSR, as with sustainable views of entrepreneurship, can and should be used by firms to help alleviate poverty and encourage sustainable development (Kao and Kao 2010; Kao, Kao, and Kao 2011).

3.2 Sustainability and resilience

Community, social and environmental entrepreneurs have much in common with sustainable entrepreneurs. Sustainable entrepreneurship is an emerging field that focuses on *future* innovations (Cohen and Winn 2007; Shepherd and Patzelt 2011), particularly long-term solutions to environmental, social and/or economic problems. Sustainable entrepreneurship also provides a conceptual link between sustainable development and entrepreneurship (Parrish 2010). A key tenet of sustainable development is that natural systems have limits and any attempts to improve human well-being must be undertaken within those limits (Hall, Daneke, and Lenox 2010). Sustainable entrepreneurs should focus on what should be sustained (nature, sources of life support and communities) and what should be developed (economic, health and sociocultural gains) (Shepherd and Patzelt 2011).

Although sustainable entrepreneurship could be viewed as an umbrella term for community, social and environmental entrepreneurship that is focused on *enduring* benefits, this implies that related disciplines have a short-term focus. This is debateable, given that some definitions of community entrepreneurship (e.g. Peredo and Chrisman 2006; Ratten and Welppe 2011), social entrepreneurship (e.g. Peredo and McLean 2006) and environmental entrepreneurship (e.g. Schaltegger and Wagner 2011) focus on enduring solutions to market, government and institutional failures.

A key question, though, is whether sustainability is a realistic goal in the context of climate-threatened communities. Whiteman, Walker, and Perego (2013) suggest that three environmental boundaries – climate change, biodiversity loss and the nitrogen cycle – may have moved beyond global threshold points. The authors call for corporate sustainability researchers to ‘to reconsider the ecological and systemic foundations for sustainability, and to integrate our work more closely with the natural sciences’ (Whiteman, Walker, and Perego 2013, 307). This implies that resilience may be more practicable. By resilience we mean, ‘the capacity of a system, enterprise or a person to maintain its core purpose and integrity in the face of dramatically changed circumstances’ (Zolli and Healy 2012, 18).

Researchers in various disciplines have investigated sustainability issues for more than 40 years. Sustainability focuses on behavioural changes that help return unstable systems to a steady state. However, ecologists are becoming more concerned with resilience, which focuses on adaptation to exogenous shocks (Whiteman, Walker, and Perego 2013). Resilience could offer a more pragmatic approach for small nations whose limited economies make it difficult to respond to climatic shocks with capital- and technology-intensive mitigation programs. Resilience also resonates with entrepreneurial concepts such as bricolage, effectuation and improvisation (Fisher 2012).

There is a growing body of research that examines the resilience of entrepreneurs to a variety of challenges, including venture creation and development setbacks (e.g. Hayward et al. 2010; Baron, Hmielski, and Henry 2012), competitive pressures from innovation and

new business models (e.g. Hamel and Välikangas 2003; Dewald and Bowen 2010), and family-owned enterprise constraints (e.g. Danes et al. 2009; Chrisman, Chua, and Steier 2011). The impact of commercial entrepreneurship (e.g. Williams, Vorley, and Ketikidis 2013) and social entrepreneurship (e.g. Sonnino and Griggs-Trevarthen 2013) on the economic resilience of cities and regions affected by exogenous shocks and disasters is also topical. Although research into community resilience in the face of institutional, philosophical and political constraints is emerging (e.g. Steinberg 2009; Larsson 2012), few studies have investigated how entrepreneurship development agencies can help improve the economic and sociocultural resilience of climate-threatened communities.

3.3 Sustainable business models

Entrepreneurs have responded to market and aid program failures in poor countries by developing innovative business models that address economic, social and/or ecological problems. Examples include the Grameen Bank micro credit scheme (Yunus, Moingeon, and Lehmann-Ortega 2010), bottom of the pyramid initiatives (Prahalad 2010), and community enterprises (Peredo and Chrisman 2006; Thompson and MacMillan 2010).

A business model can be defined as ‘an organization-wide phenomenon, an architecture or design that incorporates subsystems or processes to accomplish a specific purpose’ (Baden-Fuller and Morgan 2010, 97). The purpose of many entrepreneurial ventures is to identify and exploit profitable market opportunities (Teece 2010; Chesbrough 2010). As well as organizational design, other key features are core capabilities and resources, narrative and sense-making, the nature of innovation, the nature of opportunity and the structure of exchanges between a firm, its suppliers and customers (George and Bock 2011). To be financially viable, though, business models need to evolve to cope with changing market opportunities and environmental threats (Chesbrough 2010; Teece 2010).

The emerging literature on sustainable market orientation suggests that organizations must balance the satisfaction of customer needs with the environmental, social and economic interests of wider stakeholders (Mitchell, Wooliscroft, and Higham 2010; Hult 2011). Organizational learning is an important component of market orientation (Darroch and McNaughton 2003). However, entrepreneurs and business development agencies in subsistence economies also need to learn how to ingrain social good in product, process and marketing innovations (Viswanathan et al. 2009).

Patzelt and Shepherd (2011) offer a novel model of sustainable development opportunity recognition that focuses on knowledge, skills and motivations (Figure 1). The authors argue that ‘the current explanations of opportunity recognition, based on entrepreneurial knowledge and economic motivation, are insufficient for modeling the recognition of opportunities for sustainable development’ (p. 631). They point out that the main weakness in previous conceptualizations is that the key drivers of environmental knowledge and motivation are downplayed. Understanding how the knowledge of past events and future opportunities has influenced the motivation of key executives to develop sustainable solutions is central to our inquiry. Therefore, the Patzelt and Shepherd’s model provides a promising starting point for our study. Although the model was aimed at individual entrepreneurs, there appears to be no reason why it could not be applied to entrepreneurial teams. This is because the leaders of entrepreneurial NGOs such as WIBDI (it has approximately 60 staff) rarely make decisions alone, but rather tend to act and learn collaboratively (Gibb and Adhikary 2000). Therefore, it would be wise to assess the knowledge and motivations of the lead entrepreneur, Adi Tafuna’i, as well as senior executives and board members.

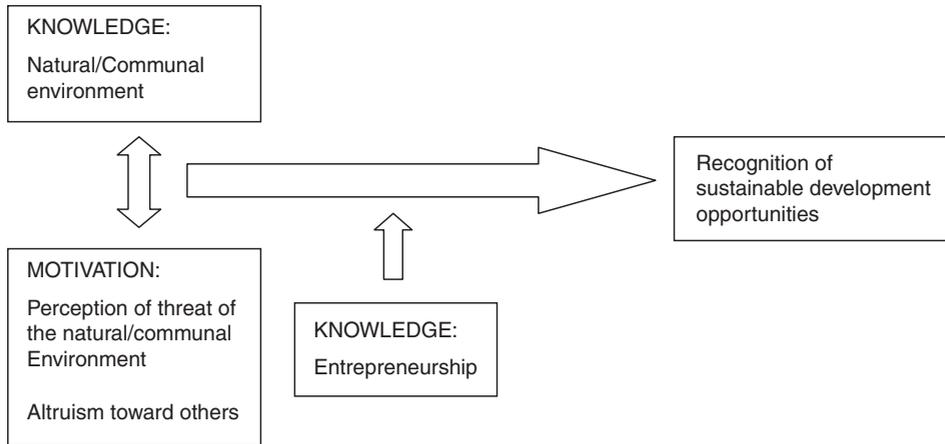


Figure 1. Sustainable opportunity recognition (Patzelt and Shepherd 2011).

The model has limitations, though. First, it is debatable whether entrepreneurship knowledge moderates the recognition of opportunities. Instead, it could be argued that entrepreneurial knowledge, skills and experiences are antecedents to opportunity recognition and exploitation (Shane 2000). Second, little attention is paid to chance occurrences and critical incidents that may spark inspiration (Corner and Ho 2010), even though contextual factors are acknowledged as important but under-researched aspects of entrepreneurship development (Chell, Nicolopoulou, and Karataş-Özkan 2010; Hindle 2010; Ratten and Welpel 2011; Welter 2011). Social embeddedness (Giddens 1984; Jack and Anderson 2002) and institutional theories (e.g. Hall and Taylor 1996; DiMaggio and Powell 1983) can help explain how external factors enable or constrain the identification and exploitation process. Third, the model does not show how opportunities might be exploited. Effective business models and practices can encourage innovative solutions ‘by overcoming or ignoring industry boundaries and categorizations’ (Mair, Battilana, and Cardenas 2012, 355). Fourth, the model lacks feedback loops. This contrasts with the resource-based view of competitive advantage (Day and Wensley 1988) which posits that organizations learn how to adapt to turbulent environments by reviewing outcomes and reinvesting profits in the renewal of key sources of advantage (e.g. business capabilities and practices).

Patzelt and Shepherd (2011) suggest individuals’ networks, cognitive structures and values may also influence opportunity recognition. We argue that the most important values are already subsumed under the key motivations in the original model, namely altruism and a concern for threats to the natural and communal environments. The effectiveness of cognitive frameworks – the ability to recognize patterns – appears to improve with entrepreneurial knowledge and experience as does the ability to develop business networks (Ozgen and Baron 2007). Including sustainable market orientation (Mitchell, Wooliscroft, and Higham 2010; Hult 2011) would also be appropriate, as customers (including distributors, retailers and end users) ultimately decide how valuable new product or service innovations are. Entrepreneurial expertise in establishing new ventures with a social, organic and/or fair trade focus would also be beneficial. In our extended model of sustainable entrepreneurship recognition and exploitation (Figure 2), we have added a business model(s) creation stage and feedback loops. Knowledge gained from past successes or failures can influence motivations and abilities to cope with future challenges such as the liabilities of newness (Politis 2005).

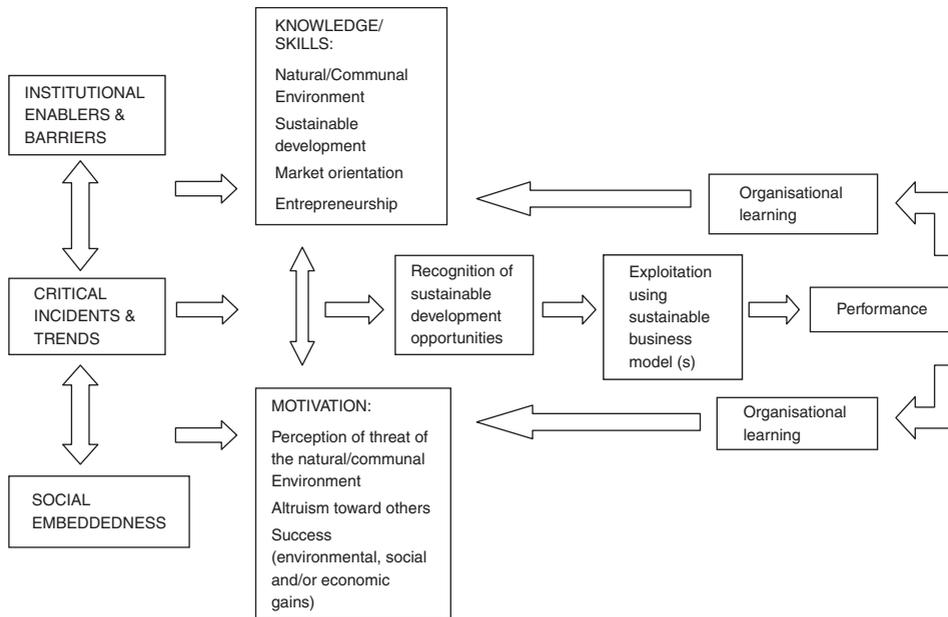


Figure 2. Augmented sustainable development process model.

To assess the usefulness of our conceptualization, we conducted an historical examination of WIBDI, an exemplar case in the climatically threatened country of Samoa. We were particularly interested in how WIBDI has adapted to exogenous shocks, as the influence of the external environment has received limited attention in social entrepreneurship research (Bacq and Janssen 2011).

4. Methodology

Our epistemology could be described as critical realist (Bhaskar 1975) and pragmatist (Rorty 1979; West 1989). Adopting a case study methodology enables us to engage in pattern matching (Yin 2003) to assess how well the data fit our posited model. Internal validity was enhanced when the patterns coincided (Dube and Pare 2003). An in-depth case study also allows us to be surprised by some findings (Eisenhardt 1989). However, we are mindful that opportunism can also be a weakness if the process is not well documented (Seuring 2008).

Following Langley's (1999) suggested strategies for theorizing from process data, we blend inductive and deductive approaches in the analysis of a revelatory case. As mentioned earlier, our main aim is conceptual development. Accordingly, we have adopted a narrative approach (Langley 1999) to explore the impact of critical incidents and macro-environmental influences.

Our embedded research design (Rowley 2002) includes content analysis of historical documents (e.g. academic articles, research reports and annual reports of WIBDI and its funders). This is supplemented with thematic analysis of in-depth interviews with key stakeholders representing governance, management, customers, clients, and network partners and funders. An historical study of a single organization can be justified if it is rare and serves a revelatory purpose (Ragin 1999; Dube and Pare 2003; Yin 2003) such as

understanding the causes and consequences of important events (Savitt 1980; Pettigrew 1990). Of relevance to our study is how macro-environmental influences can shape the strategic decisions of entrepreneurial organizations (Supapol, Fischer, and Pan 2008). However, caution is needed when using insights from past events and outcomes to predict future scenarios (Savitt 1980). Therefore, we utilize the heuristics of corroboration, sourcing and contextualization (Wineburg 1991) to contrast and compare documentary and interview data in a critical way (Robyns 2001) to ensure that we develop a plausible story.

The CIT proved useful in exploring how important incidents and environmental trends influenced WIBDI's development. Since Flanagan's (1954) influential treatise on how to conduct reliable and valid research, CIT has been applied to a wide range of studies. Although the technique has evolved to include documentary evidence as well as interviewing, observing or surveying key informants, the evidence criteria continue to be the antecedents, experiences and outcomes of the incidents (Butterfield et al. 2005). While acknowledging these guidelines, we broaden the technique to include key macro-environmental trends and sociocultural and institutional factors (Table 1).

Multiple interviews were held with the founder and executive director Adi Tafuna'i and her deputy Karen Mapusua to gather policy and strategy information and to help interpret findings. Interviews were also held with Ruta Sinclair, a senior member of the WIBDI board, plus representatives of the Small Business Enterprise Centre (SBEC), which provides financial and management support for WIBDI clients, as well as New Zealand Aid and Oxfam New Zealand, who are the main donors. Additional interviews were conducted in Samoa with an SBEC client who is developing an export fruit and vegetable business and in New Zealand with a Samoan entrepreneur who is developing a large-scale agricultural enterprise. The latter two informants are operating independently of WIBDI and felt they could comment critically about the constraints of using the organization's services, such as limiting endeavours to organic and niche markets, as well as the advantages, such as cultural sensitivity, business training and access to finance. One of the two exporters decided to forego organic certification to concentrate on a larger scale project that may require the use of artificial fertilizers, pesticides and herbicides to boost production and ensure consistency. To increase the validity of our study, one of the authors conducted an ethnographic study of six families on the island of Savaii in late 2012 to determine whether the experiences of WIBDI's clients supported other evidence.

Although this may imply a stakeholder approach, we are primarily interested in exploring the responses of key members of WIBDI, particularly senior executives and board members, to exogenous shocks. The other stakeholders who were observed and interviewed provided corroborating evidence.

Eight of the 16 interviews were electronically recorded and transcribed. Where recording was not possible, one interviewer took comprehensive notes which were later transcribed. The two lead researchers conferred regularly over the thematic analysis of the documentary evidence and interview data to reach a common understanding of the critical incidents and WIBDI's responses to them. We devised thematic codes (Miles and Huberman 1984; Strauss and Corbin 1990) to select relevant information for inclusion in constructing tables of evidence (Eisenhardt and Graebner 2007). A case protocol and database were utilized to improve reliability (Yin 2003). In order to draw valid meaning, we followed a documented process of data reduction, data display, pattern matching, and the drawing and verification of conclusions (Miles and Huberman 1984; Strauss and Corbin 1990; Yin 2003).

Table 1. Sustainable opportunity recognition and exploitation influences.

Development process (see Figure 2)	Critical incidents and environmental trends	Social embeddedness, networking	Institutional enablers, barriers
Motivation			
Perception of threat to natural/communal environment Altruism	Social, ecological and economic impacts of environmental disasters become increasingly evident WIBDI changes focus from inward to outward looking; altruism increases; core values of leaders extended to wider organization and clients	Social embeddedness assists identification of economic, social and ecological concerns – e.g. depletion of rural populations, loss of traditional arts and crafts, transformation from subsistence to cash economy, ecological problems caused by increasing use of artificial fertilizers and chemicals, lack of markets – and leads to appropriate strategies to address these issues	Institutional void existed before WIBDI was established, with no organization attempting to address ecological, social and economic concerns simultaneously Initially, there was a lack of institutional support for female entrepreneurs (e.g. finance, business training, marketing) Success at empowering women and families to become greater economic and social contributors to communities spurs WIBDI to continue filling institutional voids with help from partner organization
Success (ecological, social and/or economic gains)	Early successes (e.g. improved financial literacy and self-sufficiency of clients) and later successes (e.g. The Body Shop, disaster recovery) motivate WIBDI to look for new opportunities	Core values of founders, with their increasing interest in ecological, social and economic sustainability, become embedded in the wider organization	

<p>Knowledge/skills</p>	<p>Natural/communal environment</p>	<p>Environmental knowledge helps WIBDI develop disaster relief and business capabilities to mitigate risks (e.g. improve disaster preparedness of families and villages, encourage growers in other islands to become VCO suppliers)</p>	<p>Networking skills of Adi Maimalaga Tafuna'i, her senior executives and board, enable WIBDI to build strong partnerships with a wide variety of stakeholders and collaborators</p>	<p>Institutional void in the early days also included lack of organic market and industry information sources</p>
<p>Sustainable development</p>	<p>Early experiences suggest that sustainable development requires education of whole families (not just women entrepreneurs) in financial literacy, production, marketing, etc. and broader roles (e.g. families taking care of household while mothers weave mats)</p>	<p>Failed village-based projects by other aid agencies suggests that sustainable projects need to be family-based NOT community-based (i.e. family is core economic unit, whereas village is broader political entity) in Samoa</p>	<p>Institutional expectations changed after the most recent disaster (tsunami), with churches, politicians, government organizations and NGOs pressuring WIBDI to devote more of its capabilities, networks and resources to disaster relief</p>	
<p>Market orientation</p>	<p>Local trend to cash economy and growing international interest in ethical products addressed by linking families with local and international markets</p>	<p>Innovative projects address cultural (e.g. fine mats), ecological (e.g. fetau trees) and economic (e.g. organic markets) sustainability issues</p>	<p>Interactions with organic accreditation agencies led to awareness of shortage of trainers in the region and WIBDI becoming a leading South Pacific accreditation trainer and facilitator</p>	
<p>Entrepreneurship</p>	<p>Awareness and experience of critical environmental incidents and trends prompt exploration of land-based (e.g. organic products) and service-based (e.g. sustainable tourism) opportunities</p>	<p>Some opportunities, such as The Body Shop contract, arose serendipitously when publicity about WIBDI and international networking activities of Adi Maimalaga Tafuna'i coincided with a desire by the retailer to widen its indigenous community supplier base</p>	<p>Shop contract, arose serendipitously when publicity about WIBDI and international networking activities of Adi Maimalaga Tafuna'i coincided with a desire by the retailer to widen its indigenous community supplier base</p>	
<p>Identifying opportunities</p>	<p>International trend to ethical consumption suggests that WIBDI's focus on helping families develop niche, organic, sustainable businesses may become more economically viable</p>	<p>Some opportunities, such as The Body Shop contract, arose serendipitously when publicity about WIBDI and international networking activities of Adi Maimalaga Tafuna'i coincided with a desire by the retailer to widen its indigenous community supplier base</p>	<p>Shop contract, arose serendipitously when publicity about WIBDI and international networking activities of Adi Maimalaga Tafuna'i coincided with a desire by the retailer to widen its indigenous community supplier base</p>	

(Continued)

Table 1 – *continued*

Development process (see Figure 2)	Critical incidents and environmental trends	Social embeddedness, networking	Institutional enablers, barriers
Business models to exploit opportunities	<p>Business models need to be dynamic and responsive to changing environments but still be culturally appropriate</p> <p>Focus is on identifying and exploiting niche market opportunities</p> <p>Business models have to reflect three cornerstone values of technology, tradition and trade</p> <p>WIBDI has turned down aid or investments from some organizations that do not fulfil sustainability criteria</p> <p>Experience with sustainable commercial business model helps WIBDI incorporate some of these elements in its disaster relief/recovery model (see Figures 3 and 4)</p>	<p>WIBDI succeeds in developing family-based ventures where other aid initiatives have failed because its own business model – identify and exploit sustainable opportunities that produce economic, cultural, social and/or ecological benefits – is family focused and grounded in the local culture</p> <p>Social embeddedness constrains WIBDI to focus on activities that are culturally sensitive and favour sustainability over unbridled economic/financial growth (i.e. a conservation versus exploitation focus)</p> <p>Cultural barriers include traditional views of money (controlled by village chiefs or male heads of families) and fair trade (family members not working for wages, only receiving money for essential items). This makes it difficult to get Fair Trade certification for clients</p> <p>Earnings by women can sometimes cause husbands to become jealous</p>	<p>Institutional enablers include economic development (e.g. SBEC) and aid (e.g. Oxfam, NZ Aid) agencies who assisted WIBDI to transform policies and business models in three main stages: assisting urban female entrepreneurs = > promoting and enabling sustainable entrepreneurship = > combining disaster relief capabilities with entrepreneurship</p> <p>Local political structure of village chief-dominated decision-making can be an institutional barrier to entrepreneurship. WIBDI circumvents this by working directly with families</p>

<p>Performance</p>	<p>WIBDI reviews its processes and practices to improve performance (e.g. fund raising, financial, innovation, marketing and distribution capabilities)</p> <p>Success of sustainable, organic and cultural business development projects (e.g. improving self-sufficiency, social standing and confidence of clients) gives WIBDI confidence to translate its skills, resources and business model into disaster recovery (after 2009 tsunami)</p> <p>Rejection of fresh Misluki bananas by export markets causes WIBDI to look for more profitable alternatives (e.g. snack food)</p>	<p>Performance gains for clients may be more social than economic (e.g. relatively high price and inefficiency of family-based oil presses means it could take 10 years for families to pay back loans; limited growth and/or diversification opportunities for micro-enterprises)</p> <p>Traditional gifting obligations mean families often asked to donate relatively large sums to church and social events, lessening investment in entrepreneurship</p> <p>WIBDI may have to renegotiate contract with The Body Shop to gain higher prices for VCO (to reflect true costs of production) and look at establishing further large, centralized, more efficient oil presses that can service many growers</p> <p>Not all potential clients or supporters hold strong organic and/or sustainable values and goals, with some focusing on more exploitative business strategies, thus lessening WIBDI's impact on the wider economic and ecological system</p>
<p>Expectation from some funders (e.g. NZ Aid) is that WIBDI should become more financially self-sufficient [Note – its business operations struggle to break even, while its disaster recovery/mitigation efforts need on-going aid funding]</p> <p>Potential changes in policies of aid donors (e.g. whether NZ Aid continues to fund disaster relief) could hamper reinvestment in innovation, lengthening the time for WIBDI to become financially self-sufficient</p>		

(Continued)

Table 1 – continued

Development process (see Figure 2)	Critical incidents and environmental trends	Social embeddedness, networking	Institutional enablers, barriers
Organizational learning	<p>Learning not just single-loop (e.g. how to do things) but also double-loop (e.g. questioning systems, processes, solutions)</p> <p>Much of the learning about effective business development and disaster mitigation processes and models is experiential, involving experimentation and learning from mistakes</p> <p>Some knowledge is captured in a formal way (e.g. organic accreditation processes, training protocols, annual reports), but much is tacit (e.g. corporate culture and history, networks, experiences)</p> <p>Networking, organic accreditation and business training expertise is leveraged to exploit wider opportunities (e.g. supply chain internationalization)</p>	<p>Social embeddedness assists development of an open innovation system where value is co-created with clients, suppliers, aid donors, business development agencies and distributors (e.g. turning bananas into snack food)</p> <p>Experience with The Body Shop gives WIBDI confidence to look for wider market opportunities for VCO and other organic products (e.g. fetau nut oil, coffee, bananas)</p>	<p>Institutional void initially spurs core group of female entrepreneurs to improve their own business skills and access to finance and markets</p> <p>With the help of SBEC, WIBDI develops financial literacy, production and business management training for rural clients; sets up a micro-finance scheme</p> <p>Later, international researchers who include WIBDI in environmental, cultural, economic and/or disaster relief studies provide useful insights into how to improve practices and processes</p>

5. The WIBDI story

'Fa'amatagi' is a Samoan proverb that literally means 'from the direction of the wind' and metaphorically means to tell a story from the beginning. It denotes the importance of understanding the origin of events, the lessons learned and the impact the past has on future decision-making. In the spirit of fa'amatagi, our study explores critical incidents and macro-environmental trends that influenced WIBDI's development.

The CIT analysis raised further questions about the roles of social capital, intuitional influences and organizational learning, which are also addressed. The antecedents, experiences and consequences of key events and trends are summarized in [Table 1](#). The data sources for the CIT analysis are listed in [Appendix 1](#) and the sources for the pattern matching analysis (i.e. how well the case data fit our posited model) in [Appendix 2](#).

5.1 Motivation

WIBDI was originally established in the late 1980s to help aspiring female entrepreneurs gain micro-finance and business training. But a succession of natural disasters (e.g. devastating cyclones, taro leaf blight and a tsunami in 2009) caused the organization to become increasingly concerned about threats to the natural, social, cultural and economic environments. The level of altruism increased as the organization moved from an inward to outward focus, with the core values changing to a broader concern for helping families become economically self-sufficient in culturally and ecologically appropriate ways ([Mapusua 2010](#); [Tafuna'i 2010](#)). Social embeddedness assisted WIBDI to identify major problems – depletion of rural populations, loss of traditional arts and crafts, transformation from a subsistence to cash economy, ecological problems caused by increasing use of artificial fertilizers and chemicals, lack of markets – and to develop innovative strategies to address these issues (WIBDI [2007](#), [2008](#), [2009](#), [2010](#); [Coates, Hall, and Skeates 2010](#); [Beckett 2011](#)).

WIBDI filled an institutional void by attempting to address ecological, social and economic concerns simultaneously. Initially, there was a lack of institutional support for female entrepreneurs, particularly finance, business training and marketing assistance. However, WIBDI's early successes (e.g. improved financial literacy and self-sufficiency of clients) and later successes (e.g. The Body Shop contract for VCO in 2007, and disaster recovery and mitigation initiatives after the 2009 tsunami) motivated the organization to keep searching for new ways to fill these voids ([Mapusua 2011](#); [Tafuna'i 2011](#)).

5.2 Knowledge and skills

Environmental knowledge gained experientially and through studying similar situations in other countries helped WIBDI develop ways of mitigating risks (e.g. improving the disaster preparedness of families and villages, and certifying growers in other islands to become organic VCO suppliers to broaden the supply chain). The organization became aware that sustainable development required the education of whole families ([Mapusua 2010](#); [Sinclair 2010](#); [Tafuna'i 2010](#)) in financial literacy, production and marketing, and a broadening of traditional social roles (e.g. families taking care of housework while mothers earned income through weaving fine mats). WIBDI also identified opportunities related to two trends – Samoa's change from a subsistence economy to a cash economy and the growing international consumer interest in ethical products – and exploited these by linking family producers with local and international markets ([Beckett 2011](#)). WIBDI's projects address cultural sustainability concerns (e.g. reviving the weaving of traditional

fine mats), ecological concerns (e.g. planting fetau nut trees that help protect coastal areas and also provide valuable oils) and economic concerns (e.g. setting up organic produce markets).

The networking skills of Adi Tafuna'i and her staff and board members enabled WIBDI to build strong partnerships with a wide variety of stakeholders and collaborators (SBEC 2010). High levels of cultural awareness, coupled with knowledge of failed village-based aid projects, suggested that initiatives needed to be family-based as the extended family or *aiga* is the core economic unit in Samoa.

Well, one of the things that Adi has discovered . . . is in Samoa, you don't work as a village; you work as a family . . . And that's why village co-ops have never worked in this country. And that's why WIBDI works, because you work with the family, not the village. (Sinclair 2010)

An institutional void in WIBDI's early days was a lack of assistance with organic market and industry information and training, which forced the organization to develop links with international experts to gain the necessary skills (Mapusua 2010; Tafuna'i 2010). Institutional expectations altered after the 2009 tsunami with churches, politicians, government organizations and NGOs pressuring WIBDI to devote more resources to disaster relief (Oxfam 2010). As a result, the organization now supports a dual business development and disaster mitigation infrastructure.

5.3 Identifying opportunities

WIBDI's sensitivity to key macro-environmental incidents and trends prompted it to explore land-based (e.g. organic products) and service-based (e.g. sustainable tourism) opportunities. Its leaders then convinced aid and business development agencies to help provide finance and training to exploit these opportunities. Some opportunities, such as the exclusive The Body Shop contract, arose serendipitously when publicity about WIBDI and the international networking activities of Adi Tafuna'i coincided with a desire by the ethical retailer to widen its indigenous supplier base (Coates, Hall, and Skeates 2010; Beckett 2011; Schischka 2011). Other opportunities, such as becoming a leading organic accreditation trainer and facilitator for the South Pacific region, arose after research indicated a shortage of skilled trainers (Coates, Hall, and Skeates 2010; Beckett 2011). Thus, WIBDI appears to utilize a mixture of causal (i.e. planned) and effectuation (i.e. adaptive, relationship-based) strategies (Sarasvathy 2001).

5.4 Business models

WIBDI has transformed its policies and business models in three main stages over the past 20 years: (1) assisting urban female entrepreneurs; (2) encouraging sustainable entrepreneurship and (3) combining business development and disaster relief capabilities. WIBDI's current commercial and disaster recovery models are responsive to changing environments. The organization has succeeded in developing family-based ventures where other aid initiatives have failed because its commercial business model – which aims to identify and exploit niche market opportunities that produce economic, social and ecological benefits – links family-based producers with markets and is grounded in the local culture (Coates, Hall, and Skeates 2010; Sinclair 2010; Beckett 2011).

WIBDI's strategies are guided by its three cornerstone values of technology, tradition and trade (WIBDI 2007; Beckett 2011). Solutions have to be sustainable, and the

organization has turned down investments from some large financial institutions for potential projects that do not fulfil sustainability criteria.

People grab at funds and then try and work your way to satisfying what the funder says. WIBDI said no, that's not the way we work. Thank you very much – keep your funds. (Sinclair 2010)

The organization's commercial business model can be conceptualized as an adaptation of the Teece (2010) dynamic business model, where a sustainable market orientation (Mitchell, Wooliscroft, and Higham 2010; Hult 2011) and non-economic goals and benefits are introduced into the planning and execution cycle (Figure 3). An important departure from the Teece model is that WIBDI identifies market opportunities before developing technical solutions rather than searching for market opportunities after technological innovation. The model includes support mechanisms (e.g. finance, training, certification, marketing and distribution, hands-on assistance from field workers) to improve quality, establish links with markets and add value through a branding story that emphasizes purity, sustainability and country of origin (e.g. the stories featured in The Body Shop's in-store promotional materials). Knowledge gained in one product area (e.g. VCO) can help with the identification and exploitation of other opportunities (e.g. organic coffee, Misiluki bananas). The model can also be adapted to changing market conditions (e.g. WIBDI stopped exporting fresh Misiluki bananas to New Zealand when customers perceived the fruit was over-ripe, so instead partnered with a firm that created dried snacks).

WIBDI's business knowledge and experience enabled it to incorporate market-oriented elements in its disaster relief and recovery model (see Figure 4). As with the commercial model, the disaster response model is opportunity-led rather than technology-led. Traditional ways of minimizing damage and speeding recovery (e.g. planting fetau nut trees, relocating gardens away from coastal areas, securing water supplies) are combined with modern methods (e.g. risk management strategies, modern building designs and materials). However, the organization is keen to blend disaster prevention and mitigation strategies with economic development initiatives to create more resilient solutions (Mapusua 2011).

Fetau is ... a large coastal tree with a nut, and you press oil from the nut and it's valued in the cosmetic industry, so really rich, beautiful oil ... And we're trying to replant that because it

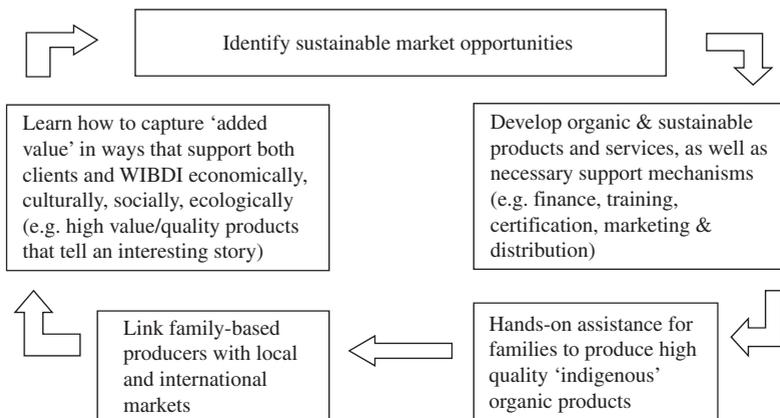


Figure 3. WIBDI's commercial business model.

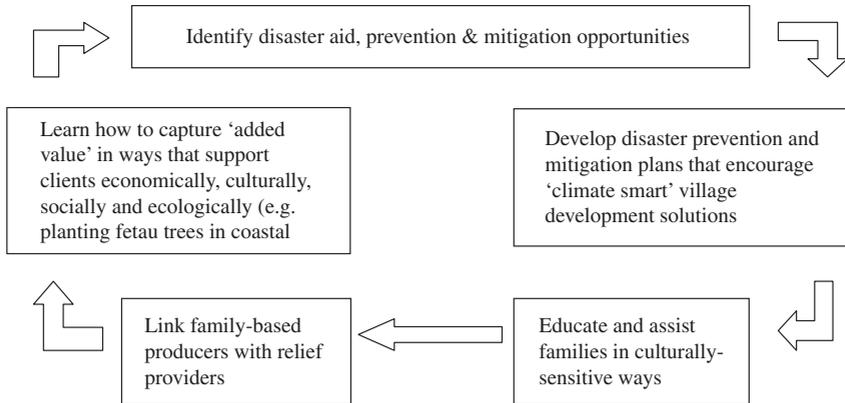


Figure 4. WIBDI's disaster response model.

offers really good coastal protection . . . We learnt in the tsunami that where there was a fetau tree, things behind it survived much better than in other areas. (Mapusua 2011)

While social embeddedness assists WIBDI to search for culturally appropriate solutions, it can also constrain entrepreneurial behaviour (Mapusua 2010). For example, it forces WIBDI to favour cultural and ecological sustainability over unbridled financial growth. Cultural barriers include traditional views of money (controlled by village chiefs or male heads of families) and potential negative impacts on fair trade (family members not working for wages, only receiving money for essential items). This makes it difficult to get fair trade certification. Earnings by newly empowered women can also cause male jealousy.

And now of course we have weavers whose weaving is the only source of income for the family and so all of a sudden, they're in quite a powerful position and it has caused some husbands to feel quite threatened and disturbed by this event. So helping them understand that this was an important role . . . has helped them adjust to that. (Mapusua 2010)

Institutional enablers include economic development agencies (e.g. SBEC) and aid agencies (e.g. Oxfam, NZ Aid, AusAid) that have assisted WIBDI over a long period. However, the local political structure of village chief-dominated decision-making can be an institutional barrier to radical innovations. WIBDI circumvents this by working directly with women and families and empowering them to make business decisions (Mapusua 2010).

5.5 Performance

WIBDI has added extra value to indigenous products, revived dying art forms and empowered large numbers of women and families to become self-sufficient. However, not all projects performed as well as anticipated. As mentioned earlier, there was overseas consumer resistance to Misiluki bananas until they were transformed into fruit snacks. Performance gains for some clients may also be more social than economic. For example, fine mat weavers have reported improved social standing and a greater ability to pay for home improvements and education for their children (Cahn 2006, 2008). Although weavers and VCO producers are generating much-needed income, their micro-businesses have limited potential for economic growth or diversification. The relatively high VCO price initially encouraged many coconut growers to generate extra income by establishing

presses. However, it can take 10 years to pay back start-up loans. As a result, a large number of families pulled out of VCO production because they could get similar returns by selling whole coconuts. The VCO decline was only reversed in 2012 when WIBDI appointed a new production manager who recommissioned abandoned presses and established a more efficient centralized facility.

Social constraints include traditional gifting obligations, with families often called on to donate relatively large sums to their church and important social events, lessening investment in entrepreneurship (Mapusua 2010; Tafuna'i 2010). Also, not all potential clients or supporters hold strong organic or sustainable values, with some producers focusing on more exploitative business strategies, thus lessening WIBDI's impact on the wider system (SBEC 2010, interviews with potential clients 2010).

Potential institutional barriers include changing priorities of aid donors (e.g. reducing disaster relief and commercial funding), which could hamper reinvestment in innovation. WIBDI's commercial operations struggle to break even and its disaster recovery efforts need on-going support (NZ Aid 2012). In December 2012, Cyclone Evan destroyed large parts of the urban and rural infrastructure (Ford 2012), which led to renewed requests for WIBDI's assistance (Oxfam 2012). Donors appear more likely to provide longer term support if WIBDI's success is acknowledged in public forums (SBEC 2010; Oxfam 2010, 2012). For example, Adi Tafuna'i was honoured at the 2012 Vital Voices Global Leadership Awards in Washington, D.C.,⁴ which helped secure aid funding for a further year.

5.6 Organizational learning

WIBDI's learning has been transformed from single-loop learning about how to do things to double-loop learning that questions systems, processes and solutions (Lizzio and Wilson 2004). Positive feedback from the successful development of family-based enterprises has reinforced the organization's sustainability motivations and strategies (Beckett 2011). Experiential learning, including learning from mistakes as well as successes, has enabled the organization to continually improve the knowledge and skills needed to manage natural, social and economic pressures as well as to develop sustainable, market-oriented enterprises.

This is before my time, but one of the original projects was a micro-finance project and it was a Grameen bank model project and it failed dismally, because it just doesn't work here without the opportunities. But I think that helped with the development of the philosophy that we needed to be able to create the opportunity and link people to market, and that was what was missing in all the work that was happening [previously] in-country. (Mapusua 2010)

WIBDI has identified and exploited niche market opportunities by developing international supply and distribution chains for natural products, 70% of which are exported.

We focus on adding value to organics and fairly traded products and services, which is why we're exploring new crops like vanilla and essential oils, as well as sustainable tourism. (Tafuna'i 2011)

Some knowledge is captured in a formal way (e.g. organic accreditation processes, training protocols, annual reports and research reports), but much is tacit (e.g. corporate culture and history, networks, experiences). The latter makes WIBDI vulnerable to the loss of key personnel, particularly its long-serving Executive Director, Adi Tafuna'i. In 2012, the organization's succession planning was tested when the deputy director, Karen Mapusua, left to take up a senior position with the Pacific Organic and Ethical Trade Community in Fiji to promote organic farming and ethical trade in the region.

Social embeddedness has assisted WIBDI to develop an open innovation system where value is co-created with clients, suppliers, aid donors, business development agencies and distributors (Beckett 2011; Tafuna'i 2011). One example was partnering with a food manufacturer to convert bananas into higher value snack food after initial exports of whole fruit faltered. WIBDI's networking, organic accreditation and business training expertise has also been leveraged to exploit wider opportunities (e.g. supply chain internationalization).

While an institutional void initially spurred a core group of 12 female entrepreneurs to improve their own positions, the continued support of business development organizations such as SBEC has helped WIBDI extend financial literacy, production and business management training to a wider group of rural entrepreneurs (WIBDI 2007; SBEC 2010; Mapusua 2010; Tafuna'i 2010). International researchers who include WIBDI in their studies also provide useful insights into how the organization can improve its processes and practices (e.g. Cahn 2006, 2008; Schischka, Dalziel, and Saunders 2008; Schischka 2011).

6. Conclusions and implications

To recap, our first research question was *How do exogenous shocks and other significant macro-environmental trends influence a development agency's sustainable entrepreneurship opportunity identification and exploitation behaviours in a climate-threatened context?*

In summary, our findings suggest that external social and institutional pressures, as well as environmental shocks and other critical incidents and socio-economic trends, forced WIBDI to move from an internal to external orientation. This coincided with the organization adopting more altruistic values and accessing or borrowing environmental, marketing, networking and entrepreneurship knowledge and skills from network partners before developing its own expertise (e.g. organic certification). This ability to access partners' resources is a feature of both entrepreneurial bricolage (Baker and Nelson 2005; Gundry et al. 2011) and effectuation (Saravathy 2001) strategies. This also helped WIBDI identify and enact sustainable business and disaster recovery opportunities using innovative market-led business models. Positive feedback from the social and economic improvements of female and family clients gave WIBDI the confidence to expand its entrepreneurship development programs.

Sociocultural embeddedness and institutional factors, along with a series of critical environmental incidents and socio-economic trends, provided both positive and negative influences.⁵ This supports findings of earlier entrepreneurial resilience research which suggests that exogenous shocks can, paradoxically, provide simultaneous opportunities for innovative enterprises as well as more obvious constraints and threats (Dewald and Bowen 2010). Our findings also support previous research which suggests that dual self- and collective interests improve opportunity identification and realization outcomes in challenging contexts (Van de Ven, Sapienza, and Villanueva 2007). Of concern, though, is WIBDI's inability to make its commercial operations financially self-sustaining and the continuing dependence on aid funding for commercial and disaster recovery initiatives. This vulnerability underlines the difficulties that community, social and sustainable entrepreneurs face in trying to balance triple bottom line objectives (Chell, Nicolopoulou, and Karataş-Özkan 2010).

The implications follow from our second research question: *What organizational capabilities do organizations such as WIBDI need to develop in order to improve resilience to exogenous shocks and other significant macro-environmental trends?*

At first glance, it appears that, contrary to the resource-based view of the firm (Penrose 1959; Wernerfelt 1984; Barney 1991), the major sources of advantage for development

agencies such as WIBDI are external rather than internal. However, accessing externally sourced resources and skills requires what we would term ‘social capability’. The ability to develop and leverage network relationships resonates with earlier studies of commercial entrepreneurs (e.g. Davidsson and Honig 2003; De Carolis and Saporito 2006) but needs to be tempered with the ability to work around sociocultural obstacles (Mair and Marti 2009). For example, WIBDI decided to deal directly with women and families and circumvent local political structures which could inhibit entrepreneurial initiatives. While embeddedness defines the social context (Granovetter 1985) and thus influences an organization’s policies and strategies, social capital is also reflected in entrepreneurial networking (Johannisson and Olaison 2007) and provides the means by which WIBDI can learn about problems and solutions from its local and global partners. The organization’s executive director, Adi Tafuna’i, is WIBDI’s key networker, fulfilling an important role in identifying opportunities and markets, and acquiring the resources and institutional support needed to exploit these opportunities.

Observational skills are also important. For example, WIBDI noticed that coastal regions where fetau trees had been planted had greater ecological resilience to inundation from high tides, cyclones and tsunamis. Furthermore, the trees also produced valuable nut oil with economic and social benefits for local communities. A major challenge for community and social entrepreneurs in climate-threatened contexts is to discover and exploit wider opportunities that improve the resilience of affected communities. This means heightening the sense-making ability (Mair and Marti 2009) and creative spark of key personnel to improve opportunity identification and innovation capabilities.

An organizational value that we term ‘moral imperative’ also needs to be bolstered. Being open to inspirational insights to cope with environmental shocks and trends is an important but insufficient condition for successful bricolage (Lévi-Strauss 1967; Baker and Nelson 2005; Gundry et al. 2011) or ‘making do with less’ in this context. Key stakeholders in sustainable development agencies also need to possess strong moral values (Spence, Gherib, and Biwole 2011) to help decide what is socially, culturally and ecologically acceptable behaviour. For example, WIBDI refused an offer of aid from a development bank because it did not share WIBDI’s organic and sustainability values. The values of community-based enterprises are often tied to the values and aspirations of focal sociocultural groups (Peredo and Chrisman 2006). As a result, community and ecological well-being tend to predominate over economic aims. This means that balancing self-interest (e.g. financial sustainability of the organization) with community interest (e.g. jobs, health, social enhancement) is a major challenge (Mair and Marti 2006, 2009; Van de Ven, Sapienza, and Villanueva 2007; Hall, Daneke, and Lenox 2010). Therefore, we would add ‘survival instinct’ to the requisite capabilities for organizational resilience.

There are also implications for entrepreneurship theory and future research. Our inquiry, the first to utilize an expanded version of the Patzelt and Shepherd’s (2011) sustainable entrepreneurship opportunity identification model (Figure 2) in an empirical study, suggests that our conceptualization is a useful way of assessing how important contextual factors – critical incidents and trends, social embeddedness and institutional enablers, barriers and voids – influence the opportunity identification and exploitation behaviours of community and social entrepreneurs. Because our study focuses on the ‘front end’ of the process (i.e. external influences and shocks) and is somewhat phenomenological, we acknowledge that there are a number of limitations and gaps, such as the need for a deeper understanding of how organizational culture influences the incorporation of externally sourced knowledge in opportunity identification and exploitation routines.

On reflection, while our model captures a number of key drivers of resilience to exogenous shocks (e.g. capabilities that encourage the development of innovative business models) and important challenges to organizational resilience (e.g. needing to adapt to a changing funding regimes), the model could be improved. As mentioned earlier, one of the aims of our study is conceptual development. We have discussed how our model could be enhanced by including other resilience capabilities, such as sense-making, networking, social, observational, creative, moral and survival capabilities. Other organizational factors such as flexibility (Hamel and Välikangas 2003), collective vision and mobilization (Sonnino and Griggs-Trevarthen 2013), management renewal and succession planning (Chrisman, Chua, and Steier 2011), family cohesion (Danes et al. 2009) and personal characteristics such as long-term orientation (Chrisman, Chua, and Steier 2011), cognitive resilience (Dewald and Bowen 2010), confidence (Hayward et al. 2010), positive disposition (Baron, Hmielski, and Henry 2012) and gender of the lead entrepreneur (Danes et al. 2009) could also be explored. Although a single revelatory case can help inform theory development (Eisenhardt 1989; Yin 2003), the findings are not easily generalizable. Therefore, future studies could explore the usefulness of an enhanced version of our model in other contexts, including commercial entrepreneurship, and delve deeper into the ‘how’ questions. However, drilling down into particular links and relationships to understand underlying process in greater depth may be more beneficial than trying to explore the whole model at a superficial level.

Another question raised in the literature review is whether resilience, rather than sustainability, is a more apt research lens in climate-threatened contexts. It appears that researchers often use the terms sustainability, longevity, survival and resilience interchangeably, particularly in reference to entrepreneurial organizations. We have acknowledged that the two may be linked in our two research questions. The first explores opportunity identification and exploitation practices aimed at assisting climate-threatened communities to develop sustainable (e.g. organic, fairly traded, socially sensitive) entrepreneurial enterprises. From this perspective, ‘sustainable’ could equate to ‘environmentally friendly’ in a broad sense. Under the second question, we reflect on what capabilities need to be developed and extended in order for WIBDI itself, as a community-based enterprise, to become more resilient. However, the degree to which resilience (adapting to exogenous shocks) and sustainability (returning systems to a steady state) can be balanced or traded off in order to help community enterprises adapt and flourish in climate-threatened contexts is worthy of further research. Linking resilience factors (e.g. attitudes, values, capabilities, networks, organizational forms) more closely to what should be developed (e.g. economic, health and sociocultural gains) and sustainability factors (e.g. future focus, triple bottom line) to what should be preserved (e.g. nature, sources of life support and communities) (Shepherd and Patzelt 2011) could be a productive pursuit. Because organizational resilience remains ill-defined (Dewald and Bowen 2010), clarifying definitional issues, such as whether resilience is a form of active or passive adaptation that can only be observed after the event (Danes et al. 2009), whether it should supplant sustainability in research into ecological systems (Whiteman, Walker and Perego 2013) or whether sustainability is a strategic orientation and means of achieving resilience, as implied in our own findings, are also areas for future research.

Management implications include the important role of leadership in community-based enterprises and entrepreneurship development agencies. Bhutiani et al. (2012) view social entrepreneurship as transformational leadership in action. They argue that transformational leaders such as Adi Tafuna’i inspire, influence, innovate and act as catalysts to implement actions, processes, organizational models and networks that benefit society. Effective

leaders do this by enhancing employee and other stakeholder efficacy and encouraging moral behaviour. This resonates with community entrepreneurship researchers who find that leaders' local and global networking abilities are crucial to the success of the small businesses they are trying to foster (Johannisson and Nilsson 1989; Johannisson 1990; Johannisson, Rezpasilas, and Karlson 2002; Johannisson and Olaison 2007).

Therefore, from a policy perspective, it is important that government, aid and economic development organizations help foster the identification and training of future community entrepreneurship leaders. The issue of succession planning also needs to be addressed, with assistance given to NGOs such as WIBDI so that they can recruit and train the next generation of leaders. A portion of aid and economic development assistance could also be earmarked for 'intrapreneurship' activities aimed at helping organizations such as WIBDI to explore ways to improve their own capabilities and financial self-sufficiency and reduce their dependence on aid. Without this they are unlikely to be able to address key social and environmental objectives over the longer term (Chell, Nicolopoulou, and Karataş-Özkan 2010; Ratten and Welpel 2011), such as improving the resilience of climate-threatened communities.

Notes

1. CIA. The World Factbook. Available at: <https://www.cia.gov/library/publications/the-world-factbook/geos/ws.html>
2. NZ Treasury. Overview of the New Zealand economy. Available at: <http://www.treasury.govt.nz/economy/overview>
3. Australian Government Department of Foreign Affairs and Trade. Samoa country brief. Available at: http://www.dfat.gov.au/geo/samoa/samoa_brief.html
4. As at January 2012, Adi had enabled more than 1,500 families to access economic opportunities to support themselves – effectively strengthening Samoa's economy and offering its youth an alternative to emigration. Adi is widely recognised for her wisdom and leadership and people from across the Pacific and beyond speak of her extremely highly. [<http://www.aid.govt.nz/media-and-publications/development-stories/june-2012/>]
5. It is worth noting that social embeddedness is also a feature of institutional theory (DiMaggio and Powell 1983; Hall and Taylor 1996; Karlsson and Honig 2009).

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Appendix 1. Data sources for CIT analysis

Analysis of critical incidents and trends	
Aspiring female entrepreneurs seek mutual support (1989–1991)	Oxfam (2007), WIBDI (2007), Tafuna’i (2010), Beckett (2011), Schischka (2011)
Cyclones Ofa (1990) and Val cause devastation (1991)	Sutherland et al. (2005), Oxfam (2007), WIBDI (2007), Coates, Hall, and Skeates (2010), Sinclair (2010), Tafuna’i (2010), Beckett (2011), Schischka (2011)
Taro leaf blight threatens subsistence economy (1993)	Coates, Hall, and Skeates (2010), Sinclair (2010), Tafuna’i (2010), Beckett (2011)
Visit by The Body Shop representatives (2007)	WIBDI (2008, 2009), Coates, Hall, and Skeates (2010), Mapusua (2010), Tafuna’i (2010), Beckett (2011)
Tsunami destroys coastal communities (2009)	Mapusua (2010), Tafuna’i (2010), Beckett (2011), Oxfam (2010), WIBDI (2009, 2010) Also WIBDI (2007), Oxfam (2007) (disaster preparedness program predated tsunami)
Cyclone Evan destroys infrastructure (2012)	Ford (2012), Oxfam (2012)
NZ Aid announces reduced financial support for disaster relief (2011)	Mapusua (2011), Tafuna’i (2011), NZ Aid (2012)
Move to a cash economy (last 20 years)	Sutherland et al. (2005), Mapusua (2010), SBEC (2010), Tafuna’i (2010), WIBDI (2010), Beckett (2011)
Loss of cultural identity (last 20 years)	Cahn (2006, 2008), WIBDI (2008), Coates, Hall, and Skeates (2010), Schischka (2011)
Growing international interest in sustainability (last 20 years)	Schischka, Dalziel, and Saunders (2008), Mapusua (2010), Tafuna’i (2010), Beckett (2011)

Appendix 2. Data sources for pattern-matching analysis

	Analysis of sustainable business development process
Motivation	<p><i>Critical incidents and trends</i> See Appendix 1 <i>Social embeddedness</i> WIBDI (2007, 2008, 2009, 2010), Coates, Hall, and Skeates (2010), Mapusua (2010), Tafuna'i (2010), Beckett (2011) <i>Institutional enablers and barriers</i> Mapusua (2011), Tafuna'i (2011)</p>
Knowledge and skills	<p><i>Critical incidents and trends</i> See Appendix 1 <i>Social embeddedness</i> Mapusua (2010), SBEC (2010), Sinclair (2010), Tafuna'i (2010), Beckett (2011) <i>Institutional enablers and barriers</i> Mapusua (2010), Tafuna'i (2010), Oxfam (2010)</p>
Recognition of sustainable development opportunities	<p><i>Critical incidents and trends</i> See Appendix 1 <i>Social embeddedness</i> Coates, Hall, and Skeates (2010), Beckett (2011), Schischka (2011) <i>Institutional enablers and barriers</i> Coates, Hall, and Skeates (2010), Beckett 2011</p>
Sustainable business models	<p><i>Critical incidents and trends</i> See Appendix 1 <i>Social embeddedness</i> Coates, Hall, and Skeates (2010), Sinclair (2010), Beckett (2011), Mapusua (2010, 2011) <i>Institutional enablers and barriers</i> WIBDI (2007), Mapusua (2010), SBEC (2010), Beckett (2011), Oxfam (2012)</p>
Organizational learning	<p><i>Critical incidents and trends</i> See Appendix 1 <i>Social embeddedness</i> Mapusua (2010), Tafuna'i (2011) <i>Institutional enablers and barriers</i> Cahn (2006, 2008), WIBDI (2007), Schischka, Dalziel, and Saunders (2008), SBEC (2010), Mapusua (2010), Tafuna'i (2010), Schischka (2011)</p>
Performance	<p><i>Critical incidents and trends</i> See Appendix 1 <i>Social embeddedness</i> Cahn (2006, 2008), Mapusua (2010), SBEC (2010), Tafuna'i (2010), Beckett (2011), Walton (2012) <i>Institutional enablers and barriers</i> Oxfam (2010, 2012), SBEC (2010)</p>

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