An Institutional Analysis of Value Creation from Lami Dump, Fiji

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Abstract

This paper presents a case study of the decision-making processes for the rehabilitation and reuse of Lami dump, Fiji, closed in 2005 after 60 years of contributing negative effects on human health, amenity and the condition of the surrounding environment. Using semi-structured interviews, this research investigated the value creation opportunities of reuse sought by a diverse range of parties including government ministries, local governments, the donor, NGOs and civil society, researchers, the private sector, and communities. The analysis is based on the Institutional Analysis and Development (IAD) framework, which defines institutions as the rules-in-place influencing whether and how actors are involved in a decision situation. The conversion of the site into a recreational park was the only feasible redevelopment option, constrained as it was by the amount of European Commission funding available for the site. Another significant factor was the low level and extent of stakeholder engagement. There are many institutions in place, stemming from legislation, which although emergent, have the potential to enable a wider range of values to be represented in future decision-making processes.
Introduction

For many small island countries in the Pacific region, waste generation and the problems of disposing of solid waste have led to problems of unmanaged or mismanaged pollution and contamination from dump sites, particularly in coastal areas. After dumps are closed, contamination continues to affect public health and environmental quality. There is, however, increasing interest in cleaning up and redeveloping contaminated sites for housing, tourism, recreation, business or other purposes. Whether value can be created from these ‘legacies of waste mismanagement’ depends on the way in which decisions about the cleanup and reuse of contaminated dump sites are made, and whose voices and values are reflected in decision-making processes.

This paper presents a case study of the decision-making process for the reuse of Lami dump, Fiji. Since its establishment in 1945 over a formerly State-owned mangrove swamp, pollution from Lami dump affected human health, amenity and the general environmental condition of Suva Harbour and its surrounding informal settlements as well as local through-traffic. Impacts have included odour, toxic fumes from fires, and leaching to coastal environments (Gavidi, 2004; Institute of Marine Studies, 2004). The initial area leased was approximately five hectares (5.16 ha) and over the years the dump site grew to around twelve hectares (12.15 ha), extending into the sea and nearby river. The sea unit is currently owned by the Ports Authority and the dump is currently situated in Lami Town Council, despite Suva City Council having previously managed the site. There has been an evolution of land tenure and ownership, with neither the Native Land Trust Board nor the Ministry of Lands being entirely clear over the historical traditional land boundaries. A number of claims have been made over parts of the site. Most stakeholders asserted Lands Department legal ownership of the land, above all other stakeholders; thus any construction must gain consent from the Minister of Lands, which at the time of research was a position held by the Prime Minister. About 50,000 tonnes of domestic waste, green waste, market waste, industrial waste and mixed waste were dumped there annually, the dump being used well beyond its capacity. During 2005, the persistent stench and smoke from a fire breakout enveloped Lami and Suva and in 2005 Lami dump was closed when a new landfill funded by the European Commission (EC) was established 16 km to the west of Suva at Nabaro. On request of the Fiji Prime Minister, the EC granted a further €550 000 (FJ$4.5 million) for the rehabilitation of the Lami dump site, with rehabilitation design commencing in April 2009 and the contract for works signed in August 2010 (Delegation of the European Union for the Pacific, 2010).

The case study explores value creation opportunities sought by a diverse range of public and private parties. The analysis is based on the Institutional Analysis and Development (IAD) framework (Ostrom, 2005, 2011), which was used to describe systematically the complex decision-making processes around the reuse of Lami dump. In evaluating the value created, we adopted the definition of value as articulated by Keeney (1994), who describes values as ‘all that [a stakeholder] care[s] about … in a given decision situation’ (p. 33).

The research involved interviewing individuals from a range of sectors and representing a range of perspectives, including government ministries, local governments, the donor, NGOs and civil society, researchers, the private sector, and communities. Twenty-four semi-structured
interviews were conducted in two separate weeks during June and August 2010. The interviews focused on stakeholders’ roles and extent of influence in the decision-making process, and extent of coordination between organisations. The related but much broader issues of waste and environmental management policy and donor funding arrangements were not explored in detail with the interviewees.

After a brief description of the international and Pacific contexts of contaminated site management policy and practice, the paper outlines how theoretical concepts of value-focused thinking were combined with the IAD framework to form the theoretical and methodological basis for the research. The subsequent section describes and analyses factors such as the biophysical environment, social norms, and environmental regulations that influenced the decision about reuse. Following this, we describe the perspectives of some research participants, relating to how (or not) they were involved in the decision making, and the extent to which the final decision reflected their values.

Contaminated site management: international and Pacific contexts

The Lami dump case study forms part of a broader international inquiry into value creation from remediating contaminated sites, drawing on lessons from Europe, North America and Australia. Across these continents, over the past three decades the broader paradigm of site remediation has shifted from potentially costly dig-and-dump solutions towards risk-based remediation (Amendola, 2002; Mfodwo, 2006), leading to a myriad of decision tools for cost minimisation. More recently, ‘green’ and ‘sustainable’ remediation approaches aim to balance the social, economic and environmental impacts of cleanup (SuRF UK, 2010; SuRF Australia, 2009; U.S. Sustainable Remediation Forum, 2009). Adopting Elinor Ostrom’s position that, given the right institutions, the commons – and indeed natural resources more broadly – can be managed from the bottom up for a shared prosperity (Ostrom, 2005), our premise is that beyond the remediation triple bottom line an opportunity exists for developers and communities to view some contaminated sites not just as problems to be fixed, but as opportunities for enhancing value from redevelopment. ‘Development’ can take many context-specific meanings, such as rehabilitated site development, community development and international development, or regional, local and national economic development. At the transnational scale, development is commonly interpreted in terms of the Millennium Development Goals. This interpretation of development is of particular interest to our research as it links to the funding and means by which the Lami dump issue was addressed.

In contrast to developed countries, most Pacific Islands Countries (PICs) do not yet have specific policy, regulation or guidelines in place to drive site cleanup decisions and practices, although policy developments are emerging that aim to address the environmental priority of solid waste management (SPREP, 2006). As for recognising that there is a balance to be achieved between the social, economic and environmental impacts and benefits of managing potentially contaminated land, existing guidance does not address this specifically. Furthermore, information and agreement about the number, location or chemical characterisation of contaminated sites in PICs is currently limited (UNIDO, 2011). However, the emerging nature of site remediation
policy and practice in PICs does not in itself present a barrier for transforming disused dump
sites into spaces of greater value; rather, recognition is dawning of the great potential and
opportunity for transforming waste dump sites to create value for multiple stakeholders alongside
the introduction of more effective waste management facilities and policies.

Typically, waste ‘management’ in Pacific Islands Countries (PICs) places mixed waste streams in
unlined landfills or open dump sites. These dump sites, both in use and after closure, can directly –
and negatively – affect the wellbeing, health and livelihoods of neighbouring communities,
especially squatter settlements. The consequent potential for enhancing value through improving
waste management and making progress against the Millennium Development Goals is significant.

**Analysing institutions – the IAD Framework and values assessment**

IAD is a general systems approach for policy analysis in which inputs are processed by policy-
makers into outputs that have outcomes (Blomquist & DeLeon, 2011). Institutions, in IAD, are
defined as human-constructed constraints or opportunities within which individual choice takes
place and that shape the consequences of their choices. IAD enables systematic analysis of the
nature and structure of decision situations, elucidating how rules and the attributes of the local
community and natural environment affect these situations over time (Ostrom, 2005).

IAD has been applied extensively to investigate common-resource allocation issues (Ostrom,
2011), but less so to other decision situations, and there have been recent calls to test the extension
of IAD to other institutional analysis contexts (Blomquist & DeLeon, 2011). Thus our research is
novel in its approach to applying IAD to analyse value generation from site rehabilitation. The
IAD framework has been widely heralded as a ground-breaking analytical tool to investigate
institutions, but other applications have revealed that it is not always practicable to apply (Smajgl,
Leitch, & Lynam, 2009). In light of this, our analysis of the Lami dump situation is informed by
the adaptation and tailoring of key elements of IAD.

At the core of the IAD framework is the concept of institutions as sets of rules, used by and
affecting individuals interacting in an ‘action situation’. Rules are statements about what actions
are ‘required, prohibited, or permitted and the sanctions authorized if the rules are not followed’
(Ostrom, Gardner, & Walker, 1994, p. 38). In an action situation, participants are affected by the
rules; these include rules that determine their positions and level of influence. Created by humans,
these rules are often the target of attempts to solve problems or to achieve new outcomes.

Ostrom (2005) makes a distinction between at least three types of rule, in addition to the physical
laws. Rules refer to regulations established by law; instructions; and precepts, which encompass
social and cultural norms. Stakeholders’ ability to influence the outcomes of remediation decision
situations depends on the formal and informal rules in the institutional setting (Ostrom, 2005).
These rules include who is eligible to influence and make decisions, what actions are allowed,
what procedures are required, and what information is provided.

As illustrated in Figure 1, within the IAD framework, rules-in-use are considered exogenous to
the action situation, as are biophysical/material conditions and attributes of the community.
Biophysical conditions determine what actions are physically possible: the same set of rules
may yield very different action situations depending on the goods and services being produced, consumed and allocated and the available technology as these determine what is acted upon by participants on the action situation. Attributes of the community are also important in affecting the action situation and include, for example, the behavioural values that are generally accepted in the community, the level of shared, common understanding of the action situation, or the diversity in preferences.

*Figure 1:* IAD Framework

*Source:* Adapted from Ostrom (2011).

The IAD framework does not focus on values per se. Rather, it emphasises evaluating the (potential) outcomes of action situations in terms of costs and benefits. Keeney (1994) described the limitations of conventional evaluation of alternatives in terms of (preference-based) costs and benefits as failing to reflect the interests and values of those affected by the decisions. Decision processes are more likely to reflect the complexity of social relationships and institutions when the values of affected individuals and communities are taken as a starting point. In this research, the outcomes of the decision situation around Lami dump are analysed by comparing the espoused values of each potential participant to what eventuated throughout the decision process.

**Action situations and levels of analysis**

The IAD framework recognises that individuals and organisations are involved in decision making at various scales. These interrelated scales are conceptualised as ‘nested units’, and application of the IAD framework involves dissecting complex systems and explaining outcomes at multiple levels and spatial and temporal scales (Ostrom, 2005). The IAD framework articulates the links between levels and the potential for institutional change through the concept of levels of rules, with the rules in place at each level being set in the level above. For example, the action situation that involves actors (such as government representatives) interacting to achieve environmental outcomes is influenced by the rules of legislation that were established at the ‘higher level’ action situation of parliament.
The key 'unit' of analysis in IAD is the action situation, in which participants' interactions are affected by exogenous variables, which in turn results in outcomes that affect exogenous variables and the participants involved. In the case of Lami dump, the focal action situation involves several participants interacting to decide the purpose of the rehabilitated site. There are a number of stakeholders with interest in the ultimate use of the site, but as explained below they have varying levels of influence over the final site reuse decision.

The decision about the reuse of Lami dump occurred alongside a number of other action situations (Figure 2). The decision to close Lami dump, and the funding of its rehabilitation, were closely linked to being able to find a site for a new landfill to replace the Lami dump location. The Lami dump reuse also occurs within the broader context of waste management policy and practice, which in Fiji is legislated within the relatively recently introduced Environmental Management Act (2005). Overlapping the decision for Lami reuse is the involvement of donors in financing waste management facilities and other areas of aid and development interventions in Fiji. In this respect, this is an action situation in which influence is vested with just a few participants, primarily the European Commission (financing), the Department of Environment (technical works) and a technical officer of a European consultancy company.

Figure 2: Lami dump site action (decision) situations
These broader situations are wide and complex and their comprehensive analysis was not the aim of our research. Rather, we explore how the rules affecting the reuse decision – specifically, rules about who was involved, and how – were established in the broader action situations of waste management policy in Fiji, and donor funding of activities in Fiji.

Action situation: rules, conditions and attributes and rules

Our analysis of the Lami dump case study employs selected elements of the IAD framework, including the notion that biophysical conditions affect decision situations. Further, Ostrom’s typology of rules (Ostrom, 2005), in extending beyond commonly analysed legal rules, gives recognition to the influence and importance of social norms in influencing individual interactions, actions and decisions. This is of particular relevance to the Lami dump case study, where nascent environmental management legislation has not yet resulted in comprehensive implementation of environmental impact assessment processes. What the interviews did make evident was the confusion among stakeholders as to the requirements of formal rules (legislation) regarding decision processes and responsibilities. This lack of clarity extends not only to those stakeholders with varying degrees of interest about outcomes, but also among those with formal roles in the decision situation.

Biophysical conditions

The location of Lami dump on mangrove ecosystems resulted in significant heavy metal contamination of the foreshore environment, including shellfish and root crops, sources of food for local squatter communities. Testing had indicated high levels of heavy metal leachate and bacterial contamination in the dump site (Gavidi, 2004). Although earlier testing had also revealed elevated concentrations of heavy metals in the water and shellfish in adjoining coastal and marine environments (Naidu & Morrison, 1994), some EU interview participants noted that subsequent tests conducted as part of the EIA did not show significant contamination levels.

The main physical attribute influencing the closure of the dump and the concerns from neighbouring Lami Town Council residents to ensure that the site would not be reused for waste management, was its location at the ‘gateway to Suva’, together with worries about public health and amenity, particularly around the persistent foul odours and final public outcry upon the breakout of a large fire in 2005.

The search for a new landfill location was hampered by ‘NIMBY’ (‘Not In My Backyard’) concerns, with availability of alternative locations restricted by high rainfall in many parts of the island. Furthermore, funding and agreement by surrounding Fijian landowners provided barriers to site selection. Due to challenges posed by land tenure and ownership issues, it does appear that neither the need for transfer stations nor the costs of transporting waste significantly influenced the majority of stakeholder opinions during the siting of the new landfill, although these costs related to distances came into play in the discussions about the reuse of Lami dump site.

Throughout its operational lifetime, Lami dump was an open-air, above-ground site, with little compaction undertaken. Any major infrastructure construction on the site would require
significant settlement of the material. The nature of Lami dump site and the duration of settlement significantly influenced the potential options and more so the costs of reuse options. The rehabilitation works lasted 12 months and included levelling of waste, slope protection using soil-filled geo-cells and armour rocks and covering the site with soil to ensure vegetation growth. However, it appears that risk analysis was not conducted to determine what level of remediation would have been required to achieve acceptable exposure levels associated with possible future use options at the site. It is important to note that the site was rehabilitated and not remediated.

Environmental legislation

The Environmental Management Act (2005) (EMA) represents a significant legislative development to protect and enhance environmental quality in Fiji. According to one private sector participant, 'the role of the EMA is attributed to being instrumental in the Government putting its best foot forward in regard to environmental responsibility'.

The EMA encompasses waste management, pollution control and contaminated site management. In the context of Lami dump, the most significant element of the EMA is the requirement for Environmental Impact Assessment (EIA) for developments, including a public consultation requirement. Although awareness of EIA requirements is high and growing in Fiji, application of the EMA to management is still in its infancy. Application of the EMA to the old Lami dump site was among the first of its kind since its inception. The implementation and enforcement of the broader requirements of the EMA are also affected by the Department of Environment’s resource constraints. Furthermore, EIA is seen as an 'end-of-pipe' assessment process; several decades of international EIA practice have revealed a number of limitations and deficiencies (Elliott & Thomas, 2009). One key criticism is that reliance on the EIA process prevents sufficient analysis of alternative development options earlier in the planning cycle, which in turn limits whose values are considered in the decision process.

At the time of interviewing, one public meeting had been conducted as part of an EIA for the site. Interviewees generally noted that consultation processes were focused on information provision rather than meaningfully engaging the public in the decision-making process. Both government and private sector participants observed that in Fiji, community members were not traditionally proactive in engaging in decision processes until well after the decisions had been made, noting that 'people in Fiji react when there's a problem rather than go to consultation' and that 'we have a culture of accommodating – people wait and see first, and then react'. Consequently the public meeting was reportedly not well attended.

Agency coordination

Cross- and within-agency coordination on environmental management issues is limited but developing. The introduction of Environmental Management Units (EMUs), situated within a range of government ministries, has been a major step in cross-departmental moves to increase visibility of environmental legislation and adherence to it across government ministries. Research participants suggested that to date EMUs have had limited capacity to effect change, but that their
potential for the future is great. Due to the timing of their introduction, they did not, however, have a major role to play in the rehabilitation of Lami dump. Although other government agencies did have input in the terms of reference for the rehabilitation and project management, the Department of Environment was the agency responsible for overseeing the technical works.

Ownership and development approval

In the past ‘ownership’ and responsibility for Lami dump was a contentious issue between Suva City Council and Lami Town Council. The dump was located in what was originally Suva City Council jurisdiction. During the time the dump was operational, Lami became a Town and the Lami Municipality boundary was drawn at the creek running down the site of the dump site, officially placing the dump within the new Lami Municipality. Suva City Council continued to lease the dump, and it held the waste of the Greater Suva City. Over time, as Lami grew, Suva City Council and Lami Town Council interests for the reuse of Lami dump diverged. Lami residents were of the view that ‘the dump is Suva’s legacy so Suva should take care of it’, and had publicly campaigned their local council to call on the national government to close Lami dump. However, as indicated below, ultimately representatives of both councils met together with the Department of Environment to discuss their views about the reuse of the site.

Another key aspect of complexity about rules is the process of approval for development. Considerations may include rezoning (involving the Department of Town and Country Planning); foreshore development (in which the Ports Authority has the first right of refusal); or determination of compensation of traditional land owners of the reclaimed land upon which part of the dump site sits (determined by the Fishing Rights Tribunal and the Native Land Trust Board). In the case of Lami dump site, despite a range of interests at stake, ultimately no applications for redevelopment were received, and the aforementioned processes were not triggered. This could be related to a lack of visibility of calls for applications for redevelopment.

Donor influence and rules

Donor influence and related rules and procedures had a fundamental impact on the scope of decision making, works and funding for end-use options at Lami dump site. The potential extent of rehabilitation of the old dump was almost entirely determined by the rules related to the constraints and amount of donor funds available to the national government. Accordingly, the biggest influence on end-use and value creation was described as coming from ‘the size of the (funding) envelope’, together with the stakeholder engagement approach taken. In this way the European Commission did not decide the reuse; however, the size of the envelope left very limited options given the lack of compaction and lack of remediation of the site.

According to the EU participants, under the EC rules of aid assistance, the Fiji Government was able to request funding for priority issues if the call was in accordance with the development funders’ strategic interests. These are structured according to funding themes determined by the EC in the European Development Fund (EDF) country strategies. The funding for the new landfill at Naboro was made available under the Environment Programme of the 8th EDF
(Republic of the Fiji Islands & European Commission, 2006). Government agencies indicated that subsequently the Fijian Prime Minister was able to request rehabilitation works at Lami dump as a national priority, even if the subsequent 9th EDF priorities had shifted to a focus on the education sector (Republic of the Fiji Islands & European Commission, 2007). As such, the FJ$4.5 million contract for rehabilitation was financed by the EC under an extended Environment Programme of the 8th EDF.

For other countries, EC aid funds are received and administered through a National Authorising Officer (NAO). Due to the EC and prevailing international sanctions against Fiji at the time of works, the Deputy Permanent Secretary of Finance acted like an NAO for the receipt of EC funds. According to the Ministry of Finance, ‘because of the current political situation there is no formal NAO’.

Under EC conditions, the Government of Fiji has almost total independence in managing works at Lami dump. The Delegation of the European Union (EU) to the Pacific is closely involved in all tender and contractual matters, and oversees contracting together with a works contractor based at the Department of Environment. Beyond their contractual role, donor rules state that the EU delegates all matters of the rehabilitation to the Department of Environment. However, due to the Department of Environment’s limited human resources, much of the responsibility for overseeing the works lies with the one international technical contractor based at the Department of Environment, who project-managed the design and works. Interviewees stated trust and confidence that the consultant would make the best decision on behalf of the ministry as he was perceived as an expert and one of the team.

In terms of the rules governing country independence and responsibility for donor funds, under EC rules, the terms of reference for the scope of works at Lami dump site was developed in partnership between the Department of Environment and the EC. The department holds a technical role and the Ministry of Finance holds financial, contracting and approvals roles.

**Participants, values, power and interactions**

A wide range of values emerged from our participant interviews. The values expressed are influenced by attributes and rules, which in turn also affected the level of involvement and interactions that each participant had in the decision process; and ultimately the degree and character of control, influence or concern over the reuse decision. The participants, what they value, their interactions and their level of power are summarised in Figure 3. For confidentiality reasons, we do not refer to individuals or positions. We sought to interview a range of participants but for practical and availability reasons were not able to canvass the views of all possibly interested stakeholders. For example, we interviewed only one NGO and one CSO, although ideally, other representatives of civil society would also have been consulted.
**Figure 3:** Selected research participant: stated values and degree of power over decision process

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Community, business and NGOs

For the communities living near Lami dump site, the closure of the dump heralded the end of several decades of adverse amenity and health impacts. Following closure, the community and businesses manifested considerable interest in what potential the site had for commercial and financial reuse value. As one potential developer enthused, the dump site was equivalent in location and potential development value to the ‘Sydney Opera House of Fiji’. Commercial development ideas included an industrial park or shopping centre, and there was also interest from investors and government in the potential for gas capture for waste-to-energy. Intertwined amongst the community and business interests was their perception that EU donor involvement would bring contracts of large sums to Fiji. Community views included a fun park and a shopping mall, and many people felt sure that a decision had been made to capture energy from the site to bring in significant monetary gains to the city. Most stakeholders had heard second- or third-hand stories about reuse decisions and felt confident that what they had heard was correct.

Despite strong interest in the site, most interviewees from the private sector and the community were unaware that a firm decision had been made to rehabilitate but not remediate the site, and that design work had been commissioned for a recreational park only. Further, very few interviewees knew the difference between rehabilitation and remediation. In their perception, the site would be fully ‘cleaned up’ by rehabilitation. At mid-2010, few interviewees were aware that the reuse decision had already been made; suggestions for reuse or the impression that it would be shops or a car park were still being put forward.

As highlighted, despite the conduct of an EIA for the rehabilitation works, which included a public engagement meeting, in Fiji implementation of the formal rules of stakeholder engagement is in its infancy. Coupled with the tendency for communities to respond to decisions after they have been made, formal or informal stakeholder engagement in the reuse decision was limited. The perspective of one government participant was that the community would not be very interested in the rehabilitation of the site, because ‘it was only a recreational park – not any major construction’.

During the operational lifetime of the dump, the community had expressed concerns about the health, amenity and environmental impacts. Interviewees noted that before the dump was closed, the local community frequently wrote to the national newspaper (the Fiji Times), and that some Lami residents had threatened not to pay their council fees unless Lami Town Council acted to close the dump.

After closure, squatters who lived alongside nearby rivers grew dalo and continued to collect shellfish from the foreshore. The site was rich in organic matter and one local squatter pointed out how well dalo grows on the site. As another research participant observed, ‘many people in Fiji are living below the poverty line so people are more likely to farm [on the site] out of desperation’. Neither the Environment nor the Health departments had the resources to prevent – and Suva City Council was met with resistance when they attempted to prevent – access to the site.
An NGO representative interviewed confessed little involvement in the decision around Lami dump, as this was 'not the central focus of the organisation'. In general, of environmental and health advocacy, he noted that civil society organisations are under-resourced for advocacy on behalf of the people overlooked, adding that the interests of overseas funding via international NGOs and bilateral agencies determine their programmatic interests in the country; 'civil society organisations are limited in their resources to respond and be a voice for the most vulnerable communities', such as squatter communities near the site whose voice is currently unheard, as befits their 'invisibility' from public consciousness.

Local Government

Suva City Council's stated preference was for Lami dump to be developed into one of many waste transfer stations. This reflects the council's concern about waste transport costs, and the inability to recoup these costs through levies. The cost of waste management in Fiji continues to be a concern, with high levels of government subsidies, and this does not appear to be comprehensively integrated into the decision to locate the new landfill at Nabaro. At the time of our fieldwork a scoping study into transfer station and costing and citing was underway.

However, Lami Town Council, representing its constituents, strongly opposed any waste management activity occurring at the Lami site post-closure. Its residents had been those most affected by the dump, and as one participant noted, 'If there's a proposal for a transfer station it will need to go to public consultation and people won't be happy', and 'We objected – No more rubbish in Lami Town Council! 100 years is enough smell and it doesn't look good to enter a Capital city with a dump out the front', and 'It's Suva's rubbish so Suva should take care of it'. Lami Town Council voiced concerns and threatened not to pay their rates. The opportunity to raise these concerns in a meeting facilitated by the Department of Environment was a key outcome. Lami Town Council staff noted their interest for somewhere to recreate and rezoning for a future industrial or commercial development (e.g. apartments and a supermarket) to bring in revenue. In practice, however, private or public investment available to stabilise and develop the site for that purpose is unlikely to be available.

National Government

The Department of Environment, within the Ministry of Local Government, Urban Development, Housing and Environment, is the national government agency with primary responsibility for oversight of the technical rehabilitation of Lami dump. In practice, the Delegation of the EU to the Pacific implemented this responsibility by contracting a technical officer, from an EU-based consulting business, as a project manager to oversee the rehabilitation and help build capacity within the Department of Environment, which has severely limited resources and capacity to implement the EIA requirements and to achieve its interests in terms of environmental outcomes.

The Ministry of Finance is the key contracting national agency with the EC. This ministry is ultimately responsible for the terms of reference for the EU technical contractor, and for approving payments for contracts for rehabilitation works. Unlike the Department of Environment, the
ministry has a significant administration role but as an agency, did not have specific responsibility over environmental matters, health outcomes or public engagement. However, the complexities of the donor process as noted by the ministry have translated into delays, which in turn affected the time available for decision-making.

European Union

The EC, represented in Fiji by the Delegation of the EU to the Pacific, was the participant with the greatest effective power over the reuse options available in the decision process. This level of control arises from the EC’s determination of the ‘size of the envelope’ (the amount of funding available for the site). The funding for both the new landfill at Naboro and the rehabilitation of Lami dump was made available on the specific request of the government of Fiji to the EC.

As the representatives of the EC, the Delegation of the EU to the Pacific had responsibility for administering and overseeing the arrangements between the EC and the Fijian government. Nevertheless, the delegation itself did not appear to have influence or did not seek to influence the funding available for rehabilitating the dump site.

A central value the EC affirmed is to ensure the Fiji government’s autonomy over the processes and decisions for the use of donor money. In upholding this value, the European Commission did not attempt to intervene to drive or shape the decision processes of stakeholder engagement, nor were these within the terms of reference for the EU technical contractor. In this way, the representatives of the most powerful participant sought not to influence the rules that determined who would be involved in the rehabilitation decision, nor whose values should count. In this case, the rules-in-place in Fiji were the main determinants. To widen stakeholder engagement, this is an important area for potential improvement, providing countries with an object lesson in self-help in their own capacity building.

In his pivotal role at the nexus of the EC and the Fijian government, the EU technical contractor held a high degree of influence over the works at Lami dump. He noted his interest beyond the letter of the terms of reference in ensuring effective and efficient waste management in Fiji, and avoiding dependency in the design and construction of works. He had a key role in facilitating a meeting between Suva City Council, Lami Town Council and the Department of Environment to discuss reuse options, but did not have influence over processes to widen stakeholder engagement. Like the Ministry of Finance, the EU technical contractor noted that delays in finalising the agreement between the Fijian government and the EC had an impact on the time available for designing the project.

University Sector

The regional University of the South Pacific (USP), owned by the governments of its 12 member countries, is a major institution of higher learning in the Pacific region. USP interview participants reported an ongoing interest in Lami dump from a number of research angles including: heavy metal testing; waste management in PICs; property rights and rules that govern the site and adjacent land. They were not, however, generally aware of whether the site was
being remediated or rehabilitated, which highlights the constricted limits to which information was openly communicated to potentially central actors in the action situation.

University participants who were well placed to understand the scale of remediation and stabilisation works required for construction believed that families in Suva would greatly value a commercial development at the site, particularly on the weekends. Like the land valuers, university interviewees identified the land as some of the best in the City and believed that the reuse should take this into consideration.

USP students in Land Management studies will be among those who lead land management decisions across the region in the future. USP participants identified the lack of tertiary courses on site remediation as a shortcoming in the region’s capacity and expertise to deal with managing the problems of the ‘many Lami dumps’ around the region; without building this expertise, PICs continue to be dependent on engaging external consultants to provide site remediation and other environmental management services and advice. In acknowledging the importance of equipping students with relevant skills to Fiji and the greater region, in mid-2010 USP was about to commence offering a subject in the School of Land Management and Property Rights that looks at land and climate change issues. This major step forward is indicative of USP’s desire to be at the forefront of emergent environmental issues in the region.

Conclusions

Our research revealed a wide range of stakeholder interests in the reuse of the Lami dump site. The closure of the dump itself created substantial value to the communities living near the site through drastically reducing public health, amenity, odour and environmental impacts. After the closure, interest in the site and its future use continued to rate highly on local and national agendas.

Ultimately, only one redevelopment option was feasible given the funding available – that of a recreational park. This outcome, whilst arguably far preferable to ‘doing-nothing’, emerged from the interactions between the formal and informal rules governing the decision situation. These interactions limited the extent to which other values and options were considered. The chief influential factor for Lami dump’s reuse was the EC’s funding for the site. Overseas development aid was necessary for any works to be constructed on the site; but in turn, the amount of funding, or ‘size of the envelope’, prescribed the scope and extent of works. This amount was sufficient only for rehabilitation and site stabilisation; it was far from sufficient for any remediation or geo-engineering works that would have enabled other redevelopment options involving construction, such as commercial or industrial uses.

The decision of the amount of funding available was made ‘exogenously’ to the specific reuse decision situation at the focus of this research. That is, none of the stakeholders involved in making decisions about the reuse of the site was involved in the decisions about the size of the envelope. Analysis of this apparent mismatch lies within a ‘higher order’ institutional level involving the prioritisation and governance of aid provision and ensuring aid effectiveness. These issues, although critical and wide-ranging, were not explicitly addressed through the context of
this research. They give rise, however, to further consideration by both funders and national governments requesting funds.

Stakeholder engagement in the decision-making process is a key determinant of whose values and interests are reflected in the reuse decision. Had there been flexibility in determining the amount of funding available, the outcome would still have been strongly shaped by a number of formal and informal rules influencing stakeholder engagement. These rules were not driven in any way by the European Commission, as in the interests of country-led development the stated values of the EC were for the Fijian national government to drive the rehabilitation process. The government has made significant progress in setting up the national and sub-national processes and mechanisms for improved coordination, including the Environmental Management Units and environmental legislation for enhanced community consultation processes. Embedding and using these will enable wider participation and potential reuse options to be considered in similar situations in the future. It would also increase upward and downward accountability and transparency among all potential stakeholders. The relatively new Environmental Management Act (2005) requires environmental impact assessment to include stakeholder engagement, and in the case of Lami dump there was at least one public meeting. Participants noted that there is increasing familiarisation with the processes of EIA, including community engagement. The enabling character of this formal rule was offset at least somewhat by the informal rule stemming from a general cultural reluctance noted by several participants to delay pro-actively engaging in decision processes until after a decision has been announced. Attention to more culturally appropriate modes of consultation would be constructive.

Engagement of civil society through NGOs would be one avenue to enhance stakeholder engagement, and funding this involvement as part of the package would be beneficial. Their role in the Lami dump reuse decision and other decision processes was limited by their own resources and, particularly for larger INGOs, the degree to which the issue fits within their thematic program priorities.

An enabling set of rules outlines the organisational roles and responsibilities of local governments. The two local governments concerned, Suva City Council and Lami Town Council, had diverging views about the reuse of the site, but with both wanting leasing rights for future commercial or industrial development of the site (post-material settlement). Despite this they met together with the Department of Environment to discuss preferred options. This worked well and was a progressive step for cross departmental decision making and engagement. Both local government agencies contributed strong voices on behalf of their constituents, representing values and concerns about the impacts of waste management facilities and also the costs of alternative facilities. There is potential for local governments, as representatives of their communities, to continue to influence decisions and strategic planning for a wider range of waste management issues in Fiji through mechanisms such as this.

The University sector participants indicated that USP was not involved in the decision situation around the reuse of Lami dump site. They were cognisant of the need for enhancing the skills and expertise in contaminated site management in the Pacific, and suggested that government–university partnerships focused on future environmental management action situations would
enable university research to inform the decision making, and simultaneously enable student access to practical learning experiences.

Overall, the outcome of transforming Lami dump into a recreational park is far from a negative outcome for the local communities, local government or national government. However, the rules-in-use overall prevented exploration of other options to better enhance value. These range from the systemic, and threshold rules such as those governing the amount of funding available for works; to rules placing limits on the involvement of actors in the decision-making processes. Nevertheless, many institutions are in place, stemming from legislation, which although emergent have the potential to enable a wider range of values to be represented effectively in future decision-making processes.

Our institutional framing of reuse decision-making offers a useful analytical framework for other PICs facing rehabilitation of open dump sites. Also, Ostrom’s IAD framework, when used with other tools, is beneficial in informing the thinking needed to design effective decision-making processes in reuse contexts and has great potential to be considered in waste management planning at national and regional levels with the participation and engagement of sub-national, national and regional bodies.

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