Conference Paper

Transferring The Mauri Model of Decision Making Framework from New Zealand to Merauke Regency in Southern Papua

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Abstract

Today sustainable development is a concern around the globe. Sustainable development should include improving well-being, equitable distribution, and the integration of ecological concepts which pass from generation to generation and across time. Sustainable ways of life have actually been practised by indigenous peoples inter-generationally. The Indigenous Peoples have similarities around the world in that they are inseparable from nature, and use their knowledge to maintain their ecosystems of origin. This attribute reflects the potential for traditional ecological knowledge to sustain the environment and help people survive. This increases the motivation for considering including traditional ecological knowledge when making decisions and assessing the environment and development, including development in the agricultural sectors. One of the environmental assessments which integrates traditional values is the Mauri Model Decision Making Framework (MMDMF) which was developed in and for Aotearoa New Zealand. This assessment approach uses the concept of 'mauri'. Mauri is an important element in Māori culture. It is the essence or life force, the spark of life and a central concept that informs sustainability. The framework measures four dimensions of wellbeing as the basis of the sustainability assessment: the mauri of community (social), the mauri of the family unit (economic), the mauri of the ecosystem (environment), and the mauri of the tribe (culture). Merauke regency is the location of a new agricultural development scheme, called the Merauke Integrated Food and Energy Estate (MIFEE). MIFEE is a national programme to develop the regency as a national and local granary. The purposes of this paper are to examine the feasibility to transfer this assessment in the context of Merauke and to assess the sustainability of 1.2 Million Ha Merauke Integrated Food and energy Estate. The results show that the MMDMF is transferable and that although the assessment shows the project benefits the economic and social dimensions, the cultural and environmental dimensions are diminished.

Keywords: mechanism of defeating self, powerlessness, social-economic

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Received: 16 July 2016
Accepted: 14 August 2016
Published: 25 August 2016

Publishing services provided by Knowledge E

Selection and Peer-review under the responsibility of the ICSBP Conference Committee.

OPEN ACCESS

1. Introduction

The word "sustainable" has different meanings depending on the context. In an environmental context sustainable is definedas "relating to designating forms of human

activity that enhance economic. Resilience, equitably promote human and social well-being, and protect and enhance the natural resource base and ecosystem functions " (Guttenstein et.al., 2010). The Cawthron Institute also explains the definition of sustainability as,"when need is met, without overwhelming the rest of nature and society"(Challenger 2013, quoted from Roberts 2005). Therefore the concept of sustainability can be defined as an activity to use natural resources to enhance well-being, but also sustains the needs of the future generations. Development cannot be separated from the uses of natural resources. However, development without concern for the sustainability of those activities will lead to destruction. Thus the concept of sustainability should be incorporated in all aspects of the development.

One popular definition that explains the meaning of sustainable development is taken from the Brundtland Report of 1987, also known as Our Common Future (Langhelle, 1999). The report defines sustainable developmentas; "development that meets the need of the present without compromising the ability of future generations to meet their own needs" (McLaren and Simonovic 1999, Redclift 2005, Lélé 1991, Roy and Chan 2012). Our Common Future promotes four dimensions for sustainability: safe guarding long- term ecological sustainability; satisfying basic human needs; promoting inter-generational sustainability; and intra-generational equality (Holden et al., 2014). This concept of sustainability becomes important when development causes an environmental impact, social conflicts, or inequity (Hopwood et.al. 2005). Thus the decision makers should act in a sustainable way. Bellagio STAMP establishes the guiding principles for developing a sustainable framework. It contains eight principles of sustainable frameworks (Becker 2004 and Pintér et.al., 2012), which consist of the guiding vision, the essential consideration, framework and indicators, transparency, effectiveness and communication, broad participation, continuity, and capacity.

The Mauri Model Decision Making Framework (MMDMF) is a unique sustainability assessment approach that was developed in and for Aotearoa community in New Zealandby Te Kipa Kepa Morgan (Morgan 2008, Hikuroa et.al. 2010a). This assessment uses the concept of 'mauri'. It was introduced for the first time atthe Lake Roturua Conference in 2003 (Morgan 2011). The framework has been applied to engineering and environment case studies such the impact of the disaster caused by the Rena oil spill in New Zealand (Platia, Fa'aui and Morgan 2014), water management (Morgan 2006 and 2008, Morgan et.al. 2012, and Peacock et.al.2012), infrastructure (Morgan 2003), geothermal (Hikuroa et.al. 2010a), and other cases (Hikuroa et.al. 2010 and 2011, Kawerau 2012b, Pikiao et.al. 2010, Nelson and Tipa 2012 and Sardelic and Waretini 2012). The framework measures four dimensions of well-being as the basis of the sustainability assessment: the mauri of community (social), the mauri of the family unit (economic), the mauri of the ecosystem (environment), and the mauri of the tribe (culture).According to the Cawthron Report 2224 (Challenger 2013), the Mauri model is one of the sustainability indicator sets which fully meets the eight principles of the Bellagio STAMP criteria (Pintér et.al. 2012). This suggests that the framework could be appropriate for use outside the contexts of Aotearoa, New Zealand.

Recently, there has been a significant interest in the potential of the lowlands in Papua, which have been the focus of recent development projects, especially the Merauke regency. The regency is the location of a new agricultural development scheme the Merauke Integrated Food and Energy Estate (MIFEE) (Ginting and Pye 2011 and 2013, Manikmas 2010, Obidzinski et.al. 2013 and Lamonge 2012). The MIFEE, a national programme to develop the regency as a national and local granary, was launched on 11 August 2010. The main purpose of the programme is to accelerate the development. However, if the government proceeds with development in an unsustainable way, it will create complex and potentially irreversible problems. The problems will not only include those of related to the environment but also the impact to the indigenous people of this area, especially the Malind Anim, the largest tribe in the area. To minimise unsustainable development, an assessment of local conditions should be applied in this region. Therefore, the purposes of this paper are to examine the feasibility to transfer this assessment in the context of Merauke and to assess the sustainability of 1.2 Million Ha Merauke Integrated Food and energy Estate.

2. Methods

The qualitative and quantitative research will be utilitized in this study. The qualitative research is conducted to understand the epistemology and ontology of the indigenous peoples around the study areas and to address the ecological problems. The research uses the Participatory Action Research (PAR) method. Participatory Action Research is chosen to empower the community. The participants are chosen based on the interest groups such as the community, local government, NGOs, the Catholic Church, NGOs from the Church (including the museum of Agats), the indigenous peoples and the trans-migrants. To collect the data we conducted interviews and small group discussions, and distributed questionnaires. To maximise the results, a key person was chosen from each group. The chosen participants included the elders, local government officials, the NGOs and the community. The elders and the Catholic Church of this area contributed a lot in in the gathering of the epistemology and ontology of the case study areas. The community and local government and NGOs contributed to the issues of injustice and inequity of the distribution of the development of the areas. The qualitative approach of this research is to collect the information regarding the MIFEE in Merauke Regency. The combination of data is used to analyse the research using the Mauri Model Decision Making Framework. The Steps of the MMDMF can be seen in the Figure 1.

3. Results and Discussion

3.1. The feasibility of transferring the mauri model

The first step before transferring the framework of one ethnic group to the context of another is the importance of understanding the concept of the indigenous people of those groups. According to a previous study (Wambrauw and Morgan 2014), there are

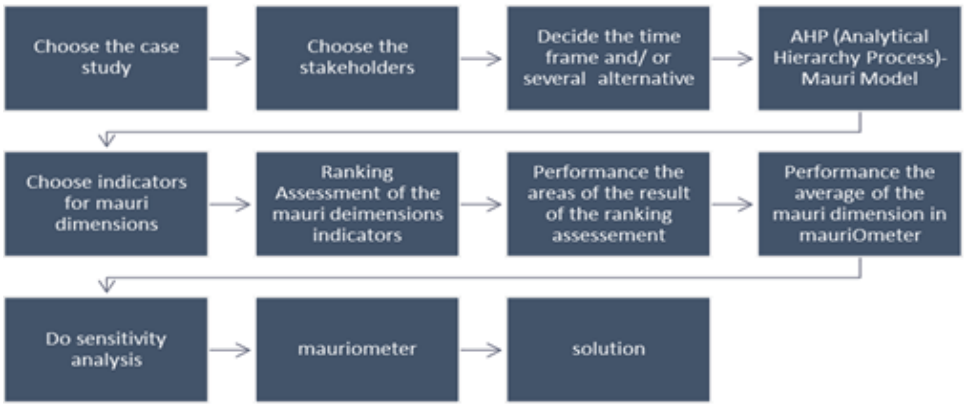

Figure 1: The Steps of the Mauri Model Decision Making Framework.

The concepts	The Māori	The Malind Anim
Guardianship	Kaitiakitanga (guardianship environment, enhancing mauri)	
Leadership	mana (authority)	
Land and water for the next generation	Whatuangarongaro te tangatatoitā te whenua	
The balance of life	mauri (life force), kaitiakitanga (guardianship environment)	(Wih) life force
Ancestral spirits	ancestral spirits in carvings	Dema and Totemism
Deities	atua	Dema
Traditional knowledge	mātauranga Māori	traditional knowledge
Constellations	Yes	Yes
Lunar Calendar	Yes	Yes

Table 1: the similarity between those tribes.

some similarities between the Asmat People and the Māori of Aotearoa, New Zealand so the MMDMF has been applied to assess water supply for Agats Township in Asmat. Both the Asmat People and the Malind Anim are part of the Trans Fly people who live along the rivers and are part of Anim Ha, one among seven Papua's cultural zones.So there is a possibility to find a similarity between Māori People and the Malind Anim.

The Malind Anim also have a concept of astronomy recognising star constellations and using a lunar calendar. This knowledge determines their lifestyle including setting times for hunting or fishing or gardening. The Māori also make use of lunar calendar, which is called *Maramataka*(Scmidt 2013) and constellations (Best 1910). Beside astronomy, the Māori People and the Malind have similarities in the concept of deities. The Māori People believe that in the beginning there was a god of the sky (*Ranginui*) and a god of the earth (*Papatuanuku*) (Solomon 2004), while the Malind People have *Dinadin* (the sky dema) and *Nubog* (the earth dema). The Malind Anim also have the concept of *wih* as a life force. The similarity can be seen in the Table 1.

The table 1 shows that there are some parallels between those tribes so the Mauri Model Decision Making Framework can be transferred in the Merauke Regency.

3.2. The assessment using the mauri model decision making framework

To analyse the project, certain stakeholders associated with the project were chosen: the agribusiness companies, the small holder (trans-migrant), the Malind Anim (the major indigenous group of this area)and the local government. The perspective of the stakeholders were weighted using a modified pair-wise comparison based on the Analytic Hierarchy Process (Saaty 1980). The comparative importance between mauri dimensions ranges between -3 to +3 where the maximum score shows the most important of the mauri dimensions from the particular stakeholder's perspective.

The calculation of the priorities uses assumptions based on the observation study (Wambrauw 2012 and 2014), literature reviews (including books, newspapers and news), primary data (questionnaires and interviews), and personal experiences of the writer. For the agribusiness companies, the priorities are assumed to be purely economic which puts the priority of the agribusiness companies 100 % in the economic dimension. This assumption is supported by the report of the Franciscans International (2011) which states that while the project is directed at the food and energy estate, actually the motif seems to purely economic since most of the area is planned to be used for industrial timber plantations.

After doing the AHP-Mauri Model, the indicators of the mauri dimensions are chosen in the context of Merauke. The Results of the mauri dimensions can be seen in the following pictures (Figure 2).

The Result shows that MIFEE project only has visible economic and social benefits. The mauri of the cultural and environmental dimension, on the other, will be harmed. The result of the sustainability parameter of the project based on the perspective of each stakeholders can be seen in the Figure 3.

Based on this analysis, the world view of the MalindAnim goes to negative and the agribusiness companies get greatest benefit in representing a transfer of mauri. Thus, there is a 20.9 (approximately 21 mauri years) diminishing value of the mauri based on the perspective the Malind Anim, while in the worldviews of the agribusiness companies, there is an increase of 25 mauri years for the MIFEE project.

4. Conclusions

Currently the Malind Anim face a lot problems such the decrease of its population and difficult cultural adjustments. This alone makes it important to assess any development project using a framework which involves their cultural aspects. The Asmat and Malind Anim are inseparable from nature and have some similarities, an even more, the Malind Anim share some cultural features with the Māori People, which makes the MMDMF transferable to Merauke. The MMDMF shows that the MIFEE only benefits agribusiness companies and not the community.

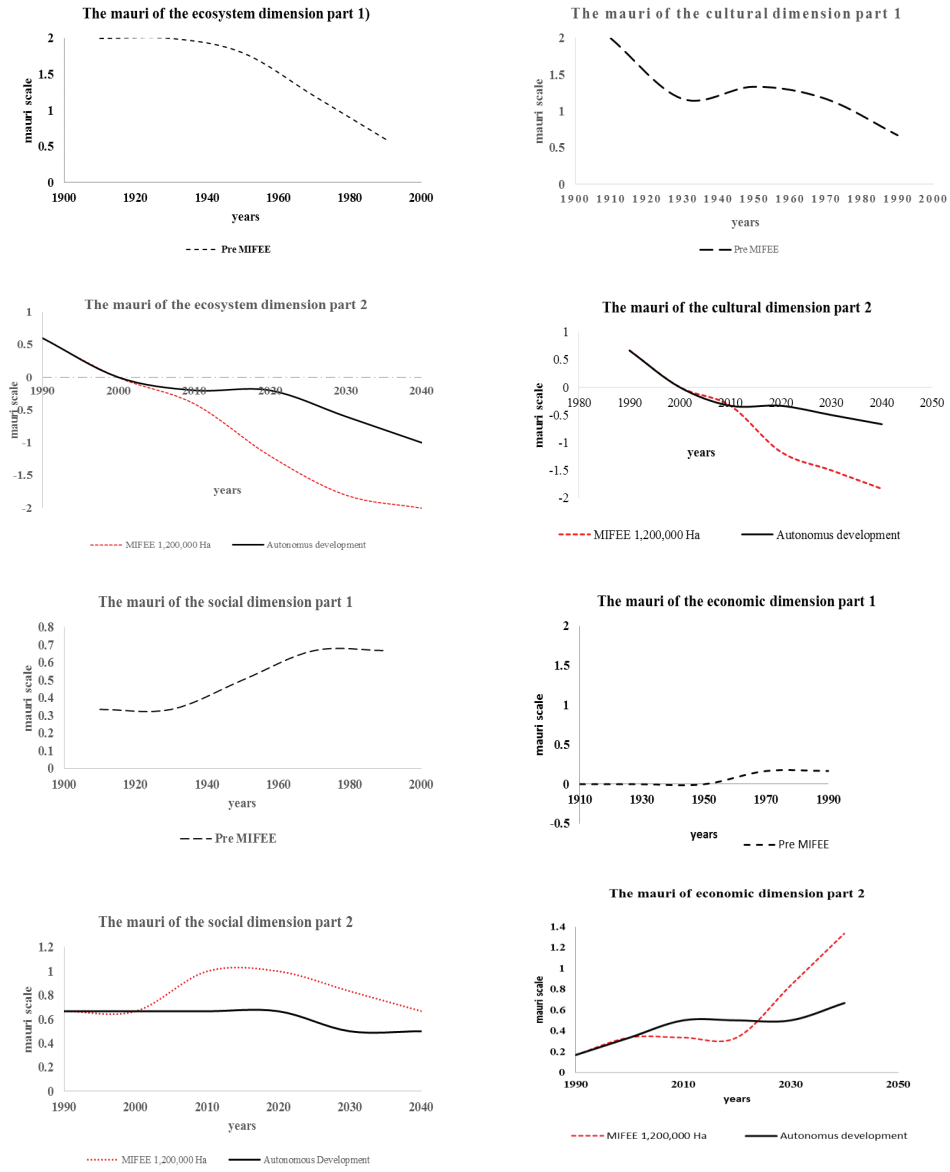

Figure 2: The impact of the mauri dimensions.

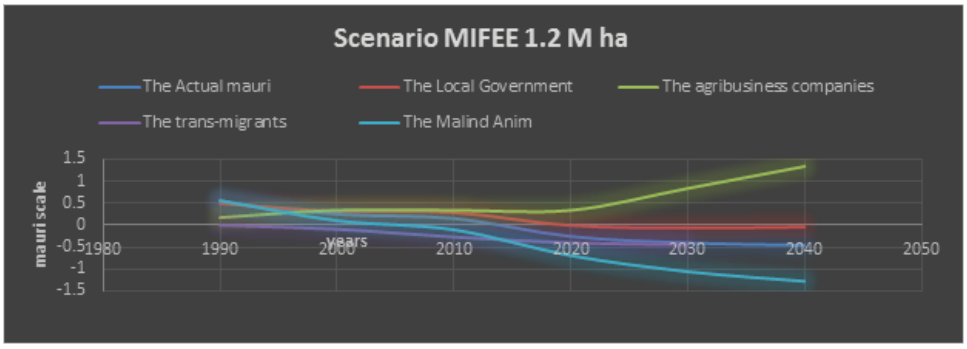

Figure 3: The Scenario MIFEE 1.2M ha.

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