

# Nearshore fisheries and human development in Vanuatu and other parts of Melanesia

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## Abstract

There is a nascent interest in both how fisheries can contribute to the furthering of human development, and the need for alternative measures of human development. Vanuatu and neighboring countries in Melanesia share high levels of customary land and/or reef tenure systems, dichotomous economies between urban and rural areas, and a wealth of pre-existing or traditional knowledge systems for promoting household food and social security. These conditions provide unique scenarios for exploring alternative human development measures that are not well captured by conventional indicators such as gross national product (GNP), human development index (HDI) or Millennium Development Goals (MDGs). These ideas are briefly explored from the perspective of the human development goals of reducing poverty, enhancing education and promoting gender equity, and with the objective of stimulating more interest within the region in the human development value of nearshore fisheries, and developing alternative human development models and measures that better reflect Oceania's unique characteristics. This paper argues for greater recognition of the value of nearshore fisheries and their inclusion as an important indicator of the human development goals of poverty reduction, education and gender equality.

## Introduction

The Republic of Vanuatu is an archipelago of some 83 islands inhabited by a predominantly Melanesian population of 229,000, divided into more than 110 different cultural-linguistic groups. This gives Vanuatu one of the highest per capita cultural diversities in the world. It remains a United Nations least developed country (UNLDC) with a per capita GDP of USD 1500. That has increased 5–7% per annum over the last three years (Gay 2008), largely as a result of the forces of globalization and the adoption of a foreign investor oriented development policy as well as high global commodity prices. In particular, tourism, coastal real estate<sup>2</sup> and associated services industry have grown (Gay 2008.).

This economic growth has been concentrated largely in the two urban centers, where 20% of the population resides. Rural areas, where 80% of the population continues to live on their traditional lands, rely primarily on an agricultural and fisheries based economy. The disparity in economic growth reflects the strongly dichotomous nature of Vanuatu's economy: the formal cash-based economy operating in the urban centers and the largely "cash-less" informal or "traditional economy" of rural areas. With economic growth mainly concentrated in fast grow-

ing urban areas, the disparity between the "haves and have-nots" widens, and provides a backdrop that may lead to increasing crime and social unrest (Gay 2008).

Throughout much of rural Melanesia, people continue to live a non-commercial or subsistence lifestyle supported by pre-existing knowledge systems, and where there is virtually no unemployment and a significant amount of leisure time. These knowledge systems include support and barter networks among extended families, along with customary land and marine tenure systems that allocate access rights within kinship groups.

## The dichotomous economy: Rural vs urban economies

Most Melanesian economies are highly dichotomized into the formal (cash) economy of urban centers, and the informal or traditional economy of rural areas based on traditional wealth systems. The traditional economy includes not only access to land and resources, but also forms of social currency that include exchange, barter, credit and social capital networks, and traditional knowledge and resource management systems that are used for promoting household food and

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2. On the central island of Efate, extensive coastal areas are now alienated largely for expatriate housing and some tourism development. Conflicts over access to traditional fishing grounds are becoming increasingly common as luxury subdivisions and resorts now make access difficult for reef custodians, and hamper their ability to monitor and manage marine resources. This in turn adversely affects livelihoods and contributes to the erosion of customary marine tenure systems.

social security. These forms of social currency are largely intangible, so, by definition, they are difficult to measure or valorize.

Tangible traditional wealth items used in exchange rituals include land, pigs, mats, greenstone, kava, yams and numerous other food items and marine resources, such as turtle and turtle shell jewellery, shell money, fish, and shellfish, among other items. Papua New Guinea's *kina* and Fiji's *tabua* are other well known marine examples. Traditionally in Vanuatu, coastal villagers bartered marine resources in inland exchange networks, in exchange for crops and other resources from inland areas (Hickey 2006, 2007). Inter-island exchange systems between trade partners also existed throughout the archipelago (Huffman 1996). These systems of barter allowed for the redistribution of food and other resources between different island biomes during times of seasonal abundance, while strengthening kinship alliances and maintaining peaceful relations among trade partners (Hickey 2006, 2007).

### Definition of poverty

Many of these wealth items, however, are not captured by GDP or HDI,<sup>3</sup> yet support most rural Melanesian populations as well as many urban dwellers who remain, to varying degrees, part of rural barter systems. Access to land and marine resources also provides opportunities for participation in the market economy that, in turn, furthers human development options by increasing access to education and

healthcare systems. This creates the rather unusual situation in Vanuatu and other parts of Melanesia where an extended family may have custodianship of over 300 hectares of fertile mountainside that slopes down to a long white beach fringed by a large fringing reef teeming with marine life. This is part of their corporate estate, yet they are labelled by most international development measures as being poor and living in poverty!

However, a recent economic study in Vanuatu by the New Zealand Agency for International Development and the Australian Agency for International Development reports that "many of the functions of modern growth — well-being, stability, equity, social cohesion and sustainable livelihoods for an expanded population — are also well provided for through Vanuatu's strong and deeply held customary values including its custom economy" (Beazely and Mullen 2006). It was also noted that the traditional, largely non-monetarized, rural economy has successfully managed to absorb a 90% rural population increase since Independence (in 1980), without resulting in food shortages or a landless class of people, and that the "most understated productive-sector success is the massive response within its traditional (island) economy to a rapidly growing population. Historically, Vanuatu's traditional economy has supported populations that were much higher again" (Beazely and Mullen 2006).

In the Melanesian context, development efforts and measures such as MDGs or HDI concepts of



A family returning from the garden, happily leaving a minimal environmental footprint (Image: F. Hickey).

3. An important alternative to GDP is HDI, developed in 1990. It includes measures of life expectancy (at birth), literacy and educational attainment, as well as GDP. The UN adopted this measure for comparing countries as well as for classifying them as developed, developing or under-developed. That, in turn, relates to the level of aid support available to them. Critics of HDI conclude that while it moves toward considering social indicators beyond GDP, it is still considered a crude measure of human development and is of limited value for making inter-temporal comparisons.
4. Poverty is measured in these two models through per capita GDP and the proportion of people living on less than USD 1/day.

poverty<sup>4</sup> should be closely re-examined, as much of the capital possessed by ni-Vanuatu, such as traditional rights to land and resources and social capital in the form of exchange networks, is not captured by GDP, HDIs or MDGs. In reality, whereas it is estimated that 51% of rural people live on less than USD 1/day (ADB 2003), there is very little real poverty (with the exception of some makeshift urban settlements). It is noteworthy that in 2006, Vanuatu was recognized as the “happiest country in the world” by the UK-based New Economics Foundation, which published “The Happy Planet Index” (HPI).<sup>5</sup> This ranking was based on the three indicators of well being: life satisfaction, life expectancy and ecological footprint all of which reflect resource use sustainability.<sup>6</sup>

Starting in 2004, the traditional economy model was promoted within Vanuatu by the Vanuatu Cultural Centre with the support of UNESCO. This is viewed as the most appropriate sustainable livelihoods development model that holistically incorporates all sectors (with the management of resources as a pivotal sector) and that is by definition pre-adapted to the Pacific’s cultural milieu (Ruddle and Hickey 2008). Based on the promotion of this model, the national government recognized its relevance, and adopted it as their national development theme in 2007 and again in 2008.

The national government recognized that the traditional economy contributes significant capacity to provide food and social security, employment, livelihood diversity, good governance, life-satisfaction, and sustainable human development. At the same time it provides self-reliance and resilience to buffer the national economy in the face of international market economy swings and crashes, like those currently being experienced in late-2008. For example, tourism development, mainly centred on three islands, now generates nearly 20% of Vanuatu’s GNP. However, with the now emerging global financial crisis this sector is expected to be one of the first to decline. Australians, the main visitors to Vanuatu (Gay 2008), are being encouraged by their government to spend holidays at home to help offset the financial crisis (Pacific Pulse 2008). It will therefore be important over the next few years for communities and households who have increasingly relied on tourism for livelihoods to revitalize their traditional economies, to strengthen household food and social security to resist negative impacts resulting from global economic fluctuations.

### **Melanesia’s cultural landscape: The need for alternative indigenous development models and measures**

The cultural landscape that supports and is integral to the rural or traditional economy in Vanuatu includes the following general characteristics:

- Most land/reefs remain under customary tenure (97%);
- Day-to-day use of vernacular languages in communities (Vanuatu has an estimated 113 vernacular languages);
- Traditional kinship ties and relationships provide the major form of social organization and currency;
- 80% of people produce their own nutritious organic food from gardens supplemented by small-scale livestock and from fishing;
- A tradition of non-specialization remains strong, assisting in spreading risk and promoting household food and social security in the face of external threats such as cyclones, earthquakes, tsunamis, etc;
- Ritual life is strongly observed on many islands, and still dominates the focus of most communities’ energies;
- Rituals serve to redistribute wealth and strengthen relationships. Vanuatu’s rural economy is not traditionally a culture of wealth hoarding, but one of wealth accumulation for redistribution purposes; and
- Traditional governance and leadership remains an important element of social organization, and includes restorative conflict resolution mechanisms, including for resource management.

Although much of this cultural landscape extends throughout Melanesia and other parts of Asia and the Pacific, many island groups have experienced high rates of erosion of these characteristics from the impact of colonialism and the application of Western development models. Soon after European contact, land and marine tenure systems as well as traditional leadership systems were often targeted by colonial powers for pacification and westernization (Nari 2000; Van Trease 1987; Crocombe 1987). Many countries continue to struggle with fragmented systems of traditional governance and land/reef tenure systems (Johannes 1978; Foale and Manele 2004). These systems of land/reef tenure and local governance, however, remain central to effective pre-existing or traditional systems of natural resource management (Johannes and Hickey 2004).

5. [www.happyplanetindex.org](http://www.happyplanetindex.org)

6. The HPI index was developed by the New Economics Foundation to consider not only human well-being but also the environmental cost or sustainability of maintaining that well-being. In that respect it is not really an index of “happiness” (which remains extremely subjective and so resists quantification) but is more a measure of environmental efficiency of supporting well-being, or an estimate of the amount of natural resources used to sustain a nation’s lifestyle. It effectively operationalizes the IUCN’s call for a quantification of the measure of the production of human well-being (not necessarily material goods) per unit of extraction of or imposition upon nature (Adams 2006).

Strategies to promote diversification of household and social security are not limited to the Pacific Islands, but are also practiced throughout Asia and other parts of the world. Diversification of livelihood strategies assists in not only enhancing household security by drawing on a range of options and opportunities, but also reducing pressure on natural resources thereby proactively reducing vulnerability of households and communities to shocks or stresses arising from seasonal cycles of tides, resource abundance and availability and external changes such as climatic variability and change (Nowak 2008, Hickey 2007). Diversification of household security promotes long-term household and community resilience and adaptability while actively maintaining a broad range of skill sets.

### **Economic value of agriculture and offshore, coastal and nearshore fisheries in Vanuatu**

Measures of fisheries production and contribution to GDP in the Pacific region are often aggregated with data for the agricultural, forestry and livestock sectors. From a census and livelihoods point of view, this makes sense as they are all inextricably linked in rural economies. In recognition of the traditional economy, the Vanuatu National Statistics Office (NSO) estimates and includes subsistence production for both agriculture (including forestry and livestock) and fisheries in GDP estimates. Total agriculture subsistence and commercial production accounted for approximately

14.3% of Vanuatu's overall GDP in 2007 (NSO 2008). The overall contribution of both commercial and non-commercial fisheries to Vanuatu's GDP was estimated at only 1%. This is in comparison to the services sector, which contributes some 72% towards GDP, including the main contributors of wholesale and retail trade, transport and communication, tourism, government and offshore banking sectors, all primarily located in the urban centers. However, agriculture (including forestry, livestock and fisheries), along with subsistence contributions, represents the second highest contributor towards the GDP, and engages more people than any other sector (Gay 2008).

The estimated small contribution of fisheries to GNP is a somewhat misleading indication of its national contribution to human development, as a 2006 agricultural census indicates 86% of rural and 48% of urban people (for an overall mean of 78%) depend on nearshore and coastal fishing for subsistence and/or income generation, up from a mean of 61% in the 1999 survey (NSO 2006). A more detailed census of fishing activities indicates that rural households make, on average, three fishing trips per week (NSO 2007) to support household food security. In fact, the value of the nearshore subsistence catch in most Pacific nations, including Vanuatu, was estimated to be worth more in economic terms than commercial coastal catches (Dalzell et. al. 1996). For Vanuatu, it was estimated that the nominal value<sup>7</sup> of the annual subsistence catch totaled USD 1,953,360

while the commercial coastal catch was valued at USD 1,514,364, giving a total for both of 3,467,724 (Dalzell et. al. 1996). Although these estimates are now outdated, they indicate the value of these fisheries. Interestingly, both of these figures exceed the value from resource rental derived from foreign flagged vessels to access offshore tuna resources, estimated at USD 1,000,000 for Vanuatu<sup>8</sup> (Department of Fisheries 2007).

However, non-commercial catches used for home consumption are not always considered in Pacific Islands' fisheries contributions to GDP. This results in an under-estimation of the value of their contribution to GDPs, as well as not acknowledging sub-



Irrigated taro ponds where fish, prawns and eels fertilize the taro (Image: F. Hickey).

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7. For this study, calculation of their monetary value was based on what they would have sold for. Access to fresh, nutritious seafood also assists in import substitution and, therefore, towards alleviating Vanuatu's trade imbalance, while contributing positively to the nation's nutritional status.
8. This relatively low value realized from the commercial offshore tuna resources occurs because tuna catches are processed elsewhere, which results in the loss of value-added opportunities in Vanuatu. (The potential for onshore facilities to add value to tuna catches and create employment and underpin further human development in Vanuatu and other Pacific countries is beyond the scope of this article.)

sistence fisheries (Zeller et al. 2005). Moreover, even when the contribution of small-scale subsistence fisheries to GDP is estimated, these researchers found that they may be significantly underestimated, thereby contributing to their further marginalization (Zeller et al. 2005). Similar findings were made by Gillett and Lightfoot (2001), when they noted that fisheries contribution to GDP is underestimated in most Pacific countries. Reasons for this included the omission of subsistence catches in official figures (e.g. Papua New Guinea and Federated States of Micronesia) and widely varying methods used by different countries to calculate fisheries production and contribution of fisheries to GDP. After standardizing and recalculating fisheries contribution to GDP, the value across the Pacific Islands surveyed was found to average 7% versus 5.4% prior to standardization (Gillett and Lightfoot 2001).

Nearshore catches are also generally made with minimal capital investments, thereby reducing intermediate costs and resulting in higher value-added ratios (Gillett and Lightfoot 2001) and greater net profits to fishers. Nearshore catches in Vanuatu are often made on foot from shore, over fringing reef flats, or along reef drop-offs or lagoons from outrigger canoes. Cast nets and gill nets, free-diving gear and spearguns, handlines and traditional methods (reef gleaning, spears, traps, etc.) are also typically used. The low investment needed to enter nearshore fisheries ensures accessibility to all, and at a low financial risk.

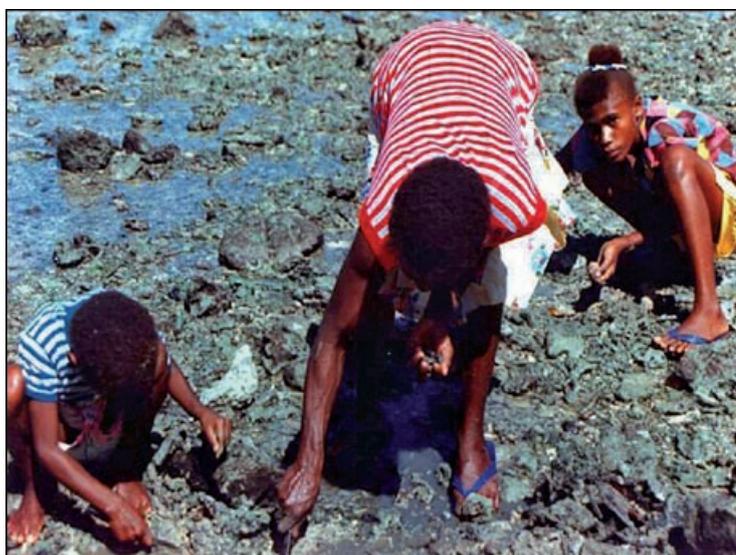
### Promoting gender equality

Whereas coastal and offshore waters are normally restricted to men using powerboats and other capital investments, access to the nearshore is widely available to women and children. Women's contribution to fisheries in the Pacific and worldwide is often understated and underacknowledged (Williams 2008; Nowak 2008). A commonly promoted theme in human development indices, including MDGs, includes the empowerment of women and gender equity. Traditional access to nearshore resources by women in the Pacific advances this goal, as women remain the quintessential nearshore fishers on most islands. Moreover, research on women's fisheries in the Pacific reveals women are not just gleaners but are involved in all aspects of fisheries, from harvesting through processing to marketing. They make fundamental contributions to local food security, and in so doing often free-up time for males of

the family for commercial fishing activities. Women are increasingly involved in both food and commercial fisheries that use modern technologies as well as employing their traditional skills and ecological knowledge (Novaczek and Mitchell 2004).

Most rural-based women fishers use their catches primarily to ensure household food security. Since no cash is involved, these fisheries are viewed by policy-makers and donors as less important than commercial fisheries (Novaczek and Mitchell 2004). However, women are becoming increasingly involved with commercial fisheries, including for trochus, as well as in adding value to their catches. Many women with access to markets in Vanuatu, collect fish, octopus and shellfish, including giant clams, for preparation with traditional puddings covered in coconut cream to produce a value-added product for sale in municipal markets or other popular outlets, such as kava bars. Alternatively, some women in the urban areas simply purchase reef fish from urban outlets for preparation in puddings for sale at various outlets, thereby adding value to these catches. Conversely, most male fishers simply sell their catch without any addition of value. It has also been observed in Vanuatu and elsewhere that income generated by women's fisheries and value-adding activities are largely devoted to household food security and educational purposes, whereas income from men's catches are not always available to meet these needs (Kronen and Vunisea 2007).

Women perform their fishing, value-adding and marketing activities amidst a range of other household activities (again, largely unpaid and underacknowledged), including gardening, child care, providing healthcare, household management,



Women and children providing household food security by reef gleaning (Image: F. Hickey).

and other roles that embody an exceptional range of gender specific skills and traditional knowledge. Yet the management value of this knowledge, particularly of nearshore resources, remains largely untapped (Tarisesei and Novaczek 2005). Research has shown that, in part, the predominantly male-oriented Western fisheries paradigm promoted in Oceania has contributed to promulgating this stereotyping and undervaluing of women's roles (Novaczek and Mitchell 2004).

Promoting awareness of women's roles in making critical contributions to household food and social security, and their gender specific knowledge of nearshore habitats and their management, would assist in improving recognition of the true value associated with women's fisheries and potential management contributions. Owing to the nature of women's gender specific roles and knowledge systems in Oceania, employing women fisheries field officers would help facilitate the fuller participation of women in fisheries development, particularly by promoting better extension and other communication.

#### **Nearshore fisheries management, customary marine tenure, traditional ecological knowledge and education**

Aside from national fisheries regulations that impose size limits on specific nearshore commercial resources, such as trochus, beche-de-mer and green snail, and which protect turtles and control the export of marine products, the management of nearshore reefs is vested primarily with traditional reef custodians, through customary marine tenure (CMT). CMT is legally recognized in Vanuatu in Chapter 12 of the Constitution, which states;

Article 73: 'All land in the Republic of Vanuatu belongs to the indigenous custom owners and their descendants in perpetuity.'

'Land' is further defined in the Land Reform Act to include ....'land under water including land extending to the sea side of any offshore reef but no further....'

Article 74: 'The rules of custom shall form the basis of ownership and use of land in the Republic of Vanuatu.'

These articles provide customary owners rights to manage their land and reefs as they have traditionally done for centuries. However, "custom ownership" has largely been interpreted in a Western sense of individual ownership, rather than the Melanesian sense of communal ownership of land (Regenvanu 2008; Nari 2000). This has led to a recent increase in the "sale" (actually long-term leases typically

of 75 years) of customary lands by individuals to foreign investors for development and speculation purposes, often without consent of others with *bona fide* traditional vested interests.

Because most such land has been coastal, and "regard for statutory requirements for physical planning, foreshore development and preliminary environmental impact assessments were routinely being ignored" (Regenvanu 2008), environmental impacts have become increasingly apparent. These include erosion, sedimentation and the destruction of critically important fisheries habitats, including estuaries, mangroves, coral reefs, and seagrass meadows. These impacts adversely affect fisheries, tourism, livelihoods, and natural barriers to storms and sea level rise, as well as the future options for human development from these important resources. Owing to their downstream effects, such impacts in coastal environments also undermine the value and effectiveness of traditional, closed fishing areas still commonly found in Vanuatu under CMT systems (Johannes and Hickey 2004; Hickey 2007), as well as MPAs that are increasingly promoted in the Pacific to conserve marine resources (Ruddle and Hickey 2008).

Vanuatu has a strong heritage of managing resources through CMT and a combination of traditional ecological knowledge (TEK), beliefs and practices that include privileged user's rights, species specific prohibitions, seasonal closures, food avoidance, gear restrictions, behavioral prohibitions, and spatial-temporal refugia (Hickey 2006, 2007). Vanuatu's Department of Fisheries actively supports customary practices and recognizes CMT as a viable, decentralized system of resource management that fosters a sense of responsibility among communities to manage their own resources well. Traditional village leaders also continue to view the management of resources under their tenure as their traditional responsibility, and one that draws upon pre-existing, restorative community-based systems of dispute resolution.

Communities and their leaders also took up the role of monitoring and enforcing national regulations, once made aware of them and their underlying rationale (Johannes and Hickey 2004). This service saves the government considerable funds (that could be used towards improving education and health services, for example) from attempting to centrally manage resources throughout the archipelago.

Traditional resource management systems are also pre-adapted to the cultural milieu of Oceania, having been derived from centuries of observation and adaptive management approaches that are based on local cycles of abundance, tidal and metrological cycles, as well as local socio-cultural and eco-

conomic considerations (Ruddle and Hickey 2008). In fact, all of the Western strategies adopted by Western science in natural resource management are already found in traditional strategies already found throughout most of Oceania (Johannes 1978; Hickey 2006, 2007).

Many elders retain an impressive body of TEK, including resource specific spatial-temporal distribution, including for spawning migrations and aggregations, preferred habitats, traditional fishing calendars, environmental cues, linguistic skills, and other knowledge relevant for management. This knowledge and capacity should be mobilized into community-based nearshore reef management plans. Unfortunately, many donor driven projects often ignore pre-existing knowledge systems (Ruddle and Hickey 2008), which leads to their further marginalization and attrition. However, because many Pacific Island nations lack human resources and financial capacity, they are often obliged to accept Western-based approaches, in order to access donor funding. It is similar with agricultural projects that promote new crop production methods, including for example, donors' intentions of introducing oil palm production in Vanuatu (which relies extensively on pesticides and will not withstand hurricanes and so is destined to fail) (Weightman 1989).

Given the recent dramatic increase in imported food prices, it is increasingly important to maintain the wealth of TEK that has promoted household and social food security in the Pacific for thousands of years, while buffering impacts from global market fluctuations that are largely controlled and influenced by nations far from the Pacific. It is also widely acknowledged that the organic food produced in mixed gardens — which is typically found in Mel-

nesia and other parts of Oceania — is far superior in nutritional value and general quality, compared with Western foods that rely on an assortment of chemicals in their production. Thaman (2008) also notes that the “combination of both species and genetic diversity of both wild and domesticated plants and animals makes traditional polycultural agricultural systems much more biodiverse and much more resilient than modern agriculture.”

Additional value from nearshore areas comes in the form of coastal protection from hurricanes, storm surges and impacts from sea level rise. Nearshore coral reefs, mangroves and associated forests form natural barriers to erosion from these threats, and protect coastal areas where most Pacific cities, villages and infrastructure are located. This physical protection from seasonal threats and global warming and sea level rise are additional reasons to ensure sustainable, non-destructive use of nearshore areas.

Nearshore fisheries remain critically important to virtually all islands of Vanuatu in promoting easily accessible household food and social security and diversification of livelihoods (including for revenue that may be used to pay for education and access to health facilities) (Gay 2008). Nearshore fisheries in Vanuatu continue to rely on a large body of TEK inherited by both men and women from their forebears for enhancing catches, as well as preparing, preserving and managing these resources (Hickey 2006, 2007).

## Education

The promotion of universal education in development priorities such as MDGs often implies Western education, which typically lacks local context and the acknowledgement of Oceania's knowledge systems.



A fisherman uses his knowledge of fish and habitats to enhance his catch (Image: F. Hickey).

Today, the majority of young people in Vanuatu obtain most of their education from the formal education system, which, for secondary school, means boarding schools away from home islands. This also means that they no longer speak their own vernacular languages or continue to practice the knowledge systems of their forebears that produce household food and social security, and that underpin resource management systems. Formal education systems rarely include the management value of pre-existing systems of food production or resource management, but concentrate primarily on promoting Western models as presented in textbooks produced overseas. As a result, students generally leave the formal education system convinced that their TEK is of limited value, and so not worth maintaining or integrating into contemporary forms of management.

In addition, the wealth of vernacular languages found in Vanuatu and throughout Melanesia are rapidly eroding and disappearing (Lynch and Crowley 2001). The inherent relationship between environment and language is well acknowledged, as well as TEK, which is inherently found within language. However, very little attention is given to maintaining the linguistic wealth of Melanesia, or to stemming the rate of its loss. In Vanuatu, for example, the languages of education continue to be French and English — two colonial languages. With today's greater mobility and increased number of mixed marriages (of people from different cultural-linguistic groups), the transmission of vernacular languages naturally continues to decline.

The loss of value associated with TEK by youth could be easily remedied by incorporating it into the formal education system to promote its value to students today (along with the complementary value of Western or scientific knowledge). To further this objective, the Vanuatu Cultural Centre, in collaboration with Vanuatu's Ministry of Education and UNESCO-LINKS, has recently launched a programme to develop curriculum materials for primary schools, profiling the value and use of TEK within the traditional economy and resource management systems.

It is also important to recognize and support traditional systems of education that emphasize "learning by doing" outside of the classroom. Informal systems of transmitting TEK remain extant in many Oceanian societies, but receive little formal recognition or support. Youth, women's and church groups may be appropriate fora within which these systems could be re-vitalized. And given the broad range of cultural knowledge and practice found throughout Melanesia, it is also important to recognize "other ways of knowing" outside of the Western cosmological framework generally adopted by the formal education system.

### **Alternative measures of human development, well-being and life satisfaction**

It is widely acknowledged that "human development" includes various dimensions that complement and go beyond a focus on "basic income". Various definitions of human development include "a process of enlarging peoples choices and freedom" (Sen 2000), and "human flourishing in its fullest sense — in matters public and private, economic and social, and political and spiritual" (Alkire 2002).

A number of other human development measures have been developed in addition to HDI and MDGs to expand and include or emphasize different measures of human development. These include, for example, Bhutan's gross national happiness (GNH) index, which seeks to balance Western-style development with Bhutan's own value systems based on Buddhist principles. The four pillars of GNH are the promotion of equitable and sustainable socioeconomic development, the preservation and promotion of cultural values, conservation of the natural environment, and the establishment of good governance.

Given Melanesia's unique characteristics of high cultural diversity, high proportion of customary land/reef tenure, considerable intangible heritage, and actively practiced traditional economies, the Pacific Islands region should work toward developing a unique system of measuring development that more accurately reflects the social capital and value systems that maintain its cultural diversity, identity, economic self-reliance and resilience. This is important so that Oceania's development will not be informed or driven by what are widely accepted as inadequate or flawed measures of human development that miss much of the value of Pacific societies, including life satisfaction, well-being, productivity and quality of life.

To further this objective, the Vanuatu Cultural Centre submitted a concept paper to the last meeting of the Melanesian Spearhead Group, which voted to endorse the concept of researching the potential to develop Melanesian-specific human development measures. Funding has been secured to hold a workshop that will include representatives from throughout Melanesia and other countries already developing alternative measures (e.g. HPI, as well as from the United Nations Development Programme, the Secretariat of the United Nations Permanent Forum on Indigenous Peoples (which has been advocating for development of such indicators), the Tebtebba Foundation of Ethiopia, and the International Indian Treaty Council. The workshop will convene in 2009 to discuss these concepts, and will be a first step towards developing alternative meas-

ures for Melanesia, which will be more appropriate for guiding development in a sustainable way.

## Conclusion

It is critical that global development priorities such as MDGs are implemented within the existing socio-cultural context of Oceania. This includes special recognition of the traditional economy, customary land and marine tenure and social currency systems, TEK, and other forms of intangible cultural heritage that support human development but are not captured by conventional measures such as GDP or HDI.

These pre-existing knowledge and social currency systems need also be included in formal education systems, in order for them to contribute sustainably to economic and human development, and not undermine the very values and knowledge systems that provide economic self-reliance and resilience as well as cultural identity within Oceania. Thorough consultation with community and traditional leaders and government personnel regarding the most appropriate ways to support these knowledge systems and in their introduction to the formal education system would assist towards this end.

It should also be recognized that fisheries, despite their limited contribution to GDP (acknowledging that it is largely under-estimated), remain central for many coastal and inland communities as a regular source of organic nutritious animal protein, and for the furtherance of human development through income generating options. To better understand and acknowledge the dynamics of fisheries' contribution to traditional economies and human development, it remains paramount that donors support the refinement of methods of censusing, sampling and estimating nearshore and freshwater fisheries catches and to support options for adding value to expand human development opportunities. Updated censuses would assist by providing accurate estimates of nearshore catches in light of the ongoing introduction of modern fishing gear, high population growth, continued monetization of marine resources, and an increasingly cash-based economy in many rural areas. National fisheries officers should work closely with statistics department officers in developing these refinements. Refined methods of estimating nearshore contributions to household food and social security will also assist in monitoring fisheries production as an appropriate proxy and useful indicator of human development for rural areas.

Women's role in fisheries, particularly nearshore fisheries, need also to be better understood and acknowledged, especially with regard to their contribution to household food security and human development. Efforts to support the empowerment of women and promote gender equity should go hand-in-hand with this. Women's gender-specific TEK and management insights should be highly-valued for improving management of marine resources. Female fisheries officers trained in social sciences and the value of TEK would help advance these objectives.



Nutritious fresh fish from the reef for lunch (Image: F. Hickey).

Globalization carries attendant risks as reflected in the current world financial crisis and economic downturn. These events should prompt regional organizations, donors, governments, and individuals to reflect on the value of the pre-existing and long-proven traditional economy that has provided food and social security in Oceania for thousands of years. Greater recognition of its self-reliant nature, wealth of pre-adapted TEK to the socio-cultural context of Oceania as well as genetic diversity needs be promoted. Strengthening the social currency and fabric of island societies has numerous other benefits, including stronger local governance and, in turn, better local land, marine tenure and resource management systems. It could be said that the traditional economy is the best suited livelihood development model to underpin the rural economies and maintain the Pacific way into the future.

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