



## **The social sustainability as a condition for conservation: the case of Ilha do Mel – Brazil**

Milena Kiatkoski Kim<sup>1,2</sup> & Náina Pierri<sup>2</sup>

<sup>1</sup>James Cook University, Australia

<sup>2</sup>Federal University of Paraná, Brazil

### **Abstract**

It is a consensus that the implementation of protected areas in inhabited places should attempt to match economic development and nature conservation. The aim of this research is to assess the compatibility between the tourism model developed at Ilha do Mel (Brazil) and its conservation. The field work consisted in interviews to key informants and to a representative sample of the economic agents of Ilha do Mel. The analysis attempted to integrate various sustainability dimensions considering its inter-relationship, and having the social sustainability of the population majority as the main criterion. The results reveal that the conflict between conservation and development at Ilha do Mel is centred in the question of who receives the benefits generated by the actual development model. The natural landscape is the major attractive of the local tourism; it is proposed that the extension of the tourism benefits to the majority of the population would increase the probability of engaging them in the conservation. However, this extension of the benefits will not happen spontaneously by the market action. A conscientious and committed governmental intervention is proposed, in order to control the market and protect the majority of the population.

### **1 Background**

Protected areas (PAs) are a key element to ensure environmental protection and may play an important role in Integrated Coastal Management by balancing conservation and development objectives. As landscape planning tools they ideally optimize the use of land, water and resources for production and conservation, therefore contributing for the maintenance of ecosystem services and the support of leisure and tourism (Scherl et al. 2004). Nevertheless, the distribution of these benefits has been increasingly recognized as an important matter. As the 5<sup>th</sup> IUCN World Parks Congress acknowledged, “a considerable part of the earth’s biodiversity survives on territories under the ownership, control or management of indigenous peoples and local (including mobile) communities” (Scherl et al. 2004). These relatively deprived populations depend on the natural resources for a number of goods and services, and often their lifestyle and weak links to the market contributed to conservation. Despite their stewardship role, these populations usually lose rights, access and control over the resources when a PA is created (Alpert 1996, Scherl 2005). Even when the creation of a PA is associated with alternative sources of livelihood such as tourism, there is no guarantee that local communities will benefit; if the market forces are unregulated, the wealth is directed to those who have more capital to invest and do not reach significantly the majority of the population (Morris & Vathana 2003). If the costs of the conservation are not compensated by its benefits, the creation of PAs might find enemies in the local population (Alpert 1996, Scherl et al. 2004).

Predominantly, the implementation of PAs with the human presence seeks to combine development and conservation by imposing limits of access and use of resources. Within this strategy the lack of effective conservation is interpreted as a result of the violation of these limits, due to a lack of both environmental conscientiousness of the population and control or enforcement by the environmental agency. Conversely, the poverty of native communities living in PAs is attributed to these limits to

resource access. The present research questions these interpretations, evidencing that the central problem is to let the market regulate the implementation of investments and the appropriation of benefits. The process of social differentiation derived from competition alienates the majority of the population of the resources, therefore discouraging their compromise with the conservation.

This question is discussed using the case of Ilha do Mel (Honey Island), the most important tourism destiny of the Paraná State coast, located in Brazil. The native population's livelihood was originally based on artisanal fishery and subsistence agriculture. It went through a period of intense changes in the natural space and the local society due to the tourism development in the 1980's. Subsequently two restrictive PAs were created intending to control the expansion in land use; together they cover 95 % of the island's surface, leaving 5 % to be used by residents and visitors. Such area is also subjected to restrictions, but it has not avoided the development of a mass tourism model, resulting in a threat to conservation and even to the tourism (Esteves 2002, Kim 2004).

## 2 Objectives and methods

The central question is the compatibility between the tourism model developed at Ilha do Mel and its conservation. The objective is to assess the hypothesis that, in PAs with human presence, the measures centred in limiting the access to natural resources are insufficient to effectively achieve conservation. Conversely, it requires a special attention to the social aspects, particularly to the distribution of the opportunities and the benefits of the economic activities. First, in order to support the analysis, the history of occupation, the management plans and the conservation measures of Ilha do Mel are described. Subsequently, data of the economic evolution and the current business are presented and analyzed, focusing on how the benefits are differentiated. Finally, the main conclusions are formulated, including recommendations to improve the socio-environmental management of similar cases (the complete study can be accessed at Kim 2004, in Portuguese).

The evaluation was based on a literature review complemented by fieldwork. First, key informants were interviewed, such as the staff responsible for the island's management, health and education agents, representatives of NGOs and researchers. The second stage consisted in interviews to a representative sample of the economic agents at Ilha do Mel. Between January and July 2004, 106 businesses were interviewed: 65 guest houses (68.5 % of the total number of guest houses), 35 camping sites (45.5 % of camping sites) 39 bars or restaurants and 17 businesses categorised as "others", including gift shops, outdoor accessories, grocery shops, internet cafes, a juice house and a liquor shop. A stratified analysis representing three social groups was adopted when required (adapted from Reichmann Neto 1999):

- Native: descendants of families established in the island for several generations, mainly consisting of disadvantaged people with low literacy;
- Immigrants: residents of the island for at least one year. Originally from several Brazilian states, but mainly from Paraná;
- Non-residents: business owners who do not live at Ilha do Mel but visit it seasonally or sporadically.

## 3 Results

### 3.1 History and management plans

Ilha do Mel is located between the coordinates 25° 29' S and 48° 21' 18'' W and has an area of approximately 2,900 ha (Figure 1; De Britez & Marquez 2005). Until the 1960s the main livelihoods of the local population were artisanal fishery and subsistence agriculture. In the 1970's a road to Pontal do Sul, the nearest point to the island in the continent, was built. The island started receiving

visitors seeking contact with nature in a beautiful landscape, mainly young people camping at the beaches or at residents' backyards. Since then, the local population started to provide services to these visitors and the tourism gradually became part of the natives' livelihood. In the early 1980's the tourists' influx increased considerably and the local population started to live closely with their social dynamic. The consequence was a radical change in the native lifestyle (Tomaz 1996). The tourism development was further stimulated by the provision of electricity in 1988 and the construction of a pier. From December 1987 to January 1988 the island received 36,560 visitors and 80,295 from December 1996 to January 1997 (Esteves 2002). Currently the island receives about 140,000 visitors per year with a peak of 2,000 to 5,000 tourists per day from December to March (SEMA 2004, in Dos Santos Junior 2007).

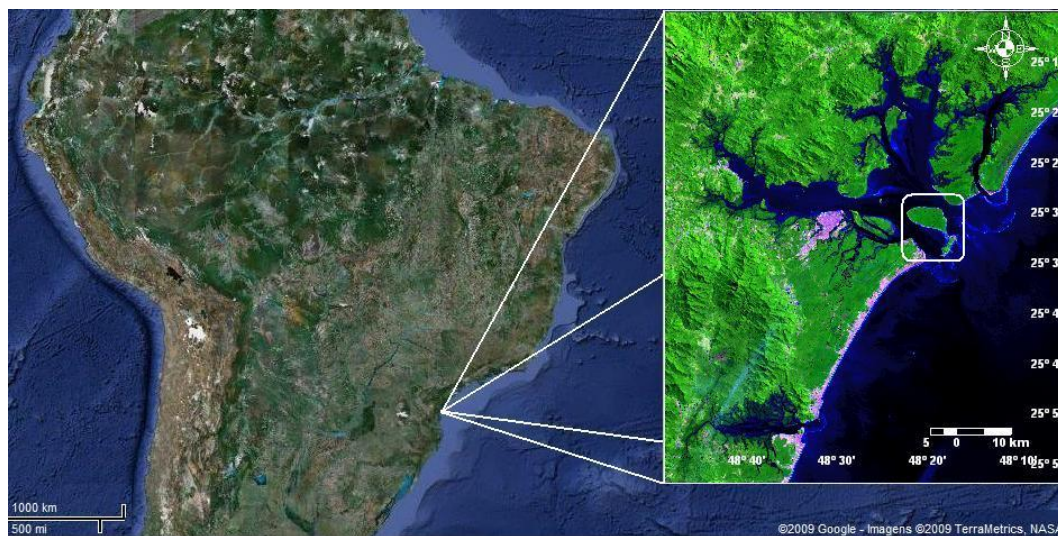


Figure 1: Localization map (Google 2009; Coastal Oceanography and Geoprocessing Laboratory, Federal University of Paraná 2004)

In the 1980's and 1990's the island received several immigrants, e. g. wealthy people seeking quality of life who started a business or deprived people looking for the opportunities derived from these new businesses. The permanent population increased from 574 habitants in 1970 to 1,448 in 2004, an increase of almost 150 %. The number of buildings also augmented, from 120 in 1970 to 758 in 2004, an increase of 6.3 times (Table 1; Dos Santos Junior 2007, Esteves 2004).

Table 1: Permanent population and buildings at Ilha do Mel, from 1970 to 2004 (after: \*Esteves 2004, \*\*Dos Santos Junior 2007, modified). Note: The data from 2002 exclude the villages of Praia Grande and Ponta Oeste, the two smallest villages of the island.

Year	Number of residents	Number of buildings
1970 *	574	120
1980 *	606	294
1991 *	515	463
1996 *	570	531
2002 *	906	700
2004 **	1,448	758

Although in 1980 the rising number of secondary residences was visible, the augment of tourism enterprises became evident only in 1995 when many secondary residences turned into businesses (Reichmann Neto 1999). The advance of tourism intensified the occupation. This expansion happened disorderly, increasing the pressure on the land and the impacts on the ecosystems. Reactively, the state

environmental agencies like IAP (Instituto Ambiental do Paraná – Environmental Institute of Paraná, the agency responsible for law enforcement and monitoring), the Environmental Secretary and the Forest Police were mobilized intending to regulate the land use (Tomaz 1996).

The first juridical mention of Ilha do Mel was in September 1946, when it was considered federal property. From the 1970's on, several architecture offices submitted tourism development plans to the federal government. Reactions of the society to such plans included the creation of a group supporting the preservation of the island and its legal acknowledgement as Historic, Artistic and Natural Heritage of Paraná State in 1975. This was a first attempt of the state government to regulate the land use, the architectonic set and the use of local flora and fauna (Paraná 1986).

In 1980 a proposal named 'Director Plan: tourism integration of Ilha do Mel', credited to a Portuguese business group, was presented to the federal government requiring the leasing of the island. It intended high profile tourism without considering the needs of the local population; the plan contained several structural problems and inadequate propositions. Facing a strong reaction to this proposal, the state government required the impediment of this lease to the federal government, simultaneously asking to hold legal responsibility over Ilha do Mel (Paraná 1986).

Foreseeing a positive response, the state government created a special commission designed to suggest measures to acknowledge the value of the Paraná islands. In 1981 this commission created the 'Use Plan of Ilha do Mel', the first systematic and wide-ranging study about the island. The plan had a diagnosis and a series of proposals emphasizing land property and use problems. A marked difference from previous plans is the clear statement of protecting the natural environment and improving the population quality of life as central objectives. The social goals were addressed by improving the infrastructure for health, education, security and sanitation (Paraná 1986).

In 1982 the management of Ilha do Mel was transferred to the Paraná State. Since then, it has administratively belonged to the municipality of Paranaguá, but it has been under the jurisdiction of IAP. The Use Plan mentioned above entered into force in 1982. Several plans were presented after the Use Plan (Paraná 1986). Progressively, the diagnoses became more elaborated and the proposals were more adequate. However, the proper implementation of these proposals has been setback by the discontinuity of the governments, the lack of financial and human resources for the environmental bodies and insufficient political will.

### **3.2 Conservation measures**

When Ilha do Mel was transferred to the state and the Use Plan had entered into force, the government had a conservationist position. To fulfil the contract with the federal government, it created an Ecological Station (a highly restrictive PA where visitors are not allowed), with 2,240.69 ha encompassing almost the entire north part of the island. The zoning of the Use Plan also established a State Park (allowing visitors but not residents) in the southern part of Ilha do Mel (Paraná 1986).

The initial effort to create the PAs has not been continued to effectively implementing them. The management plan of the Ecological Station was edited only in 1996, 14 years after its creation, and the management programs of this plan have not been implemented at the time of writing (June 2009). The State Park was legally created in 2002 and still does not have a management plan (the Brazilian PAs system states that a management plan must be released up to 5 years after the creation of the area), and none of the PAs has a specific administrative body (Paraná 1996). Despite the lack of legal enforcement, the creation of these areas maintained the vegetation of about 95 % of the island's surface (Figure 2).

The PAs only partially restrained the urban expansion. The occupation areas also have rules intending to maintain a pattern of constructions with low impact in the landscape. These rules regulate the land ownership, the percentage of private terrains that can be built and the sort of materials allowed to be used in constructions. Nevertheless, the effective control of the occupation by enforcing these rules

depends heavily on the government in power and how compromised it is with the conservation. As the enforcement is erratic, the density of occupation areas has progressively increased and there are illegal houses and businesses inside of both PAs (Telles 2004).



Figure 2: Map presenting the areas with and without vegetation cover at Ilha do Mel (Kim 2004).

The growth of occupation areas has not been accompanied by a proportional offer of basic infrastructure, such as sanitation. The intensification of the urban density combined with seasonal peaks of visitation during the summer has caused the contamination of soil and watercourses. It also affected the seawater quality and, consequently, the tourism. Further negative impacts of the insufficiency of services such as water supply and waste collection include shortage of drinking water and rubbish accumulation during the tourism season (Esteves 2004).

The local authorities focus the control of the tourists' number to a limit of 5,000 visitors per day established in the 1990's. This number was based on the accommodation capacity and water supply at that time. This capacity has increased to 8,000 in 2004 but the limit did not change, raising complaints from a part of the local business (SEMA 2004, in Dos Santos Junior 2007). A symbolic entry fee of about US\$ 2 is also charged. The visitor control is made at the ferry on the continent side, which is the main entry to the island, though not the only. Tourists can embark from other places or utilize private boats, weakening this limitation. The new Use Plan, created in 2004 but not completely approved, includes measures to make the control of visitors stricter and the implementation of a higher visitation fee, proportional to the number of days that the tourist stays on the island.

The land use limitations imposed by the PAs affected the natives negatively, since their traditional occupation model did not include any regulations: a family member getting married usually found a piece of land unoccupied to build a new house. When the real estate speculation started after the tourism, many natives sold their land to immigrants intending to move to an unoccupied terrain, but the Use Plan stated that no new occupation areas should be opened and those who sold their terrain should leave the island (Frank et al. 1991, Tomaz 1996). This has been a conflict since then: the natives declare that their population is growing and they are confined to small terrains, therefore demanding licences to build in the protected areas.

### 3.3 Access to the tourism benefits

#### Origin and income of the economic agents

The growth rate of the number of businesses was fairly constant around 195.5 % between 1988 and 1997, with an evident increase in the number of external investors during this period. In 1988 the relative majority (45 %) of the businesses belonged to natives. In 1992 the situation had changed: 47 % of the businesses belonged to immigrants, 35 % to natives and 18 % to non-residents. In 1997, 66 % of the 93 businessmen of the island were immigrants and 34 % were natives (Figure 3). Complementarily, a survey of the households from 1998 revealed that, of the 193 immigrants interviewed, 32 % had their own business. Among the 322 natives surveyed, only 10 % were entrepreneurs (Reichmann Neto 1999).

The findings of the field study in 2004 confirm this tendency: 59 % of the businesses surveyed belonged to immigrants, 22 % to natives and 19 % to non-residents. Comparing these results with the

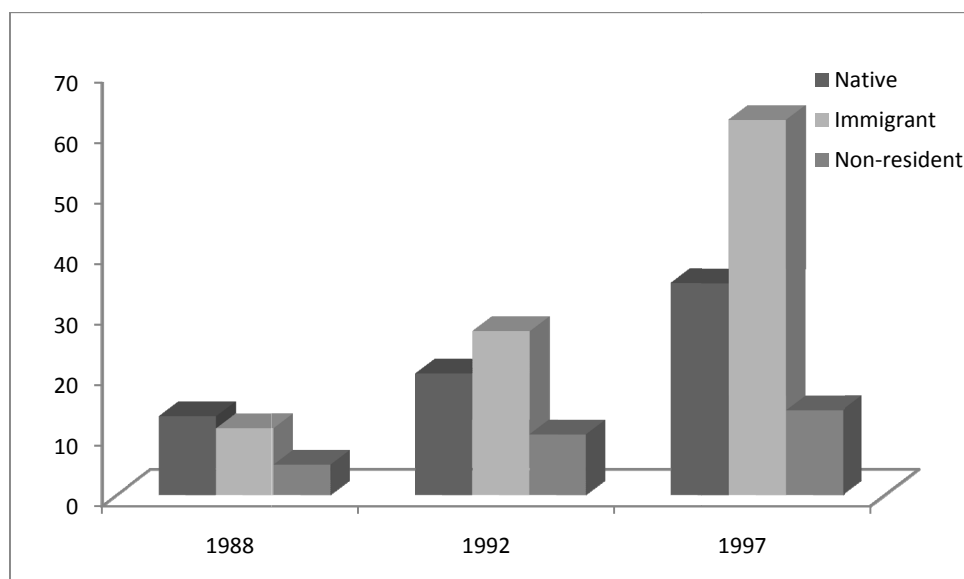


Figure 3: Evolution of the number of businesses according to the owner's origin (after: Reichmann Neto 1999, modified).

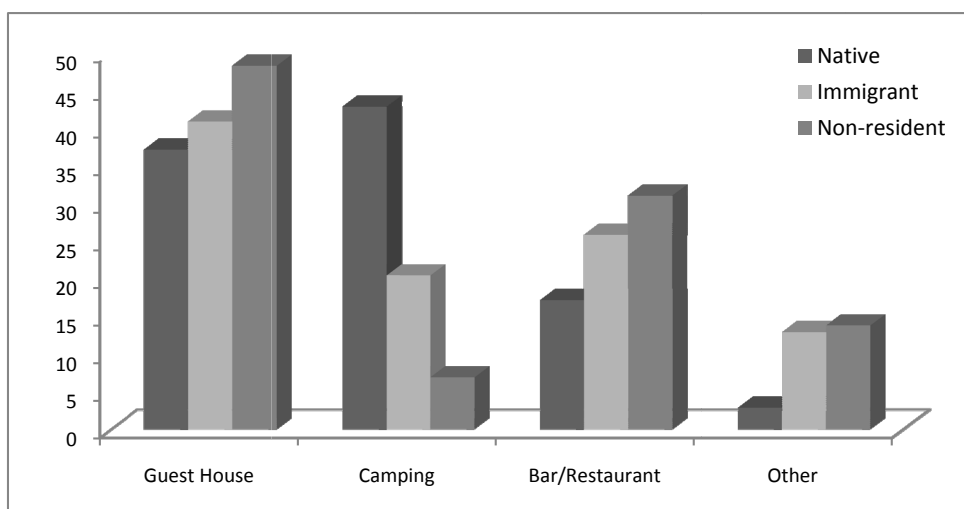


Figure 4: Percentage of business owners: origin of the proprietor per business category (Kim 2004).

survey performed by Reichmann Neto in 1997, there was a slight decrease in the proportion of immigrants (from 66 % to 59 %). This did not favour the natives, whose proportion also diminished (from 34 % to 22 %), evidencing the augment of non-resident businessmen. Such data support the inference that the richness generated for the tourism at Ilha do Mel is progressively appropriated by outsiders, especially by people who do not even live at the island, diminishing the probability of incorporating this wealth within the local economy.

This disparity was also reflected in the businesses quality. Immigrants and non-residents were predominantly owners of guest houses, while natives were the majority of camping sites' proprietors (Figure 4). The presence of external investors enhanced the quality of the services. Nevertheless, the natives were relegated to types of businesses that require lower investment in infrastructure and labour, also generating lower profit. This happened because external investors have more capital available to invest and better market knowledge, which constitutes a great advantage over natives.

Table 2: Businesses classified by quality and origin of the owner (Kim 2004)

Origin	High Quality		Fair Quality		Low Quality		Total	
	Pers.	%	Pers.	%	Pers.	%	Pers.	%
Natives	2	8	11	42	13	50	26	100
Immigrants	17	27	34	55	11	18	62	100
Non-residents	6	33	12	67	-	-	18	100

The businesses were classified according to the quality of their services (high, fair or low), considering their declared structure (number of bedrooms, individual or collective showers, variety of food offered, among others) and general appearance. By establishing the relation between the business quality category and the origin of the owner, it became evident that the majority of native residents had low quality businesses while the immigrants owned fair or high quality, and the non-residents held the larger proportion of high class enterprises (Table 2).

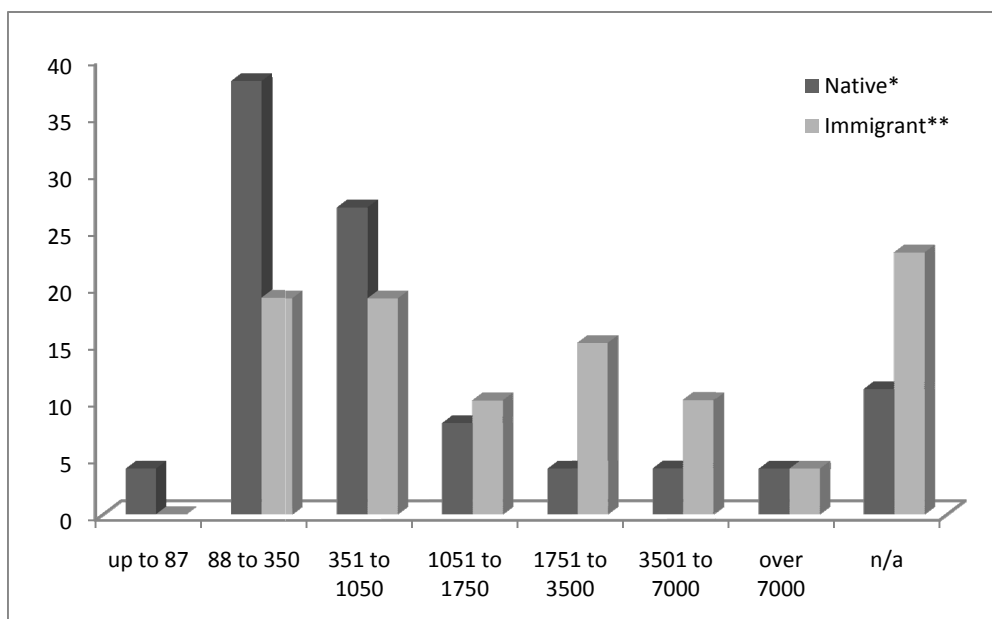


Figure 5: Average monthly family income of the businessmen during high season according to their origin, in US\$ (Kim 2004). Notes: \* Percentage of the total number of interviewees. \*\* Percentage of the total number of immigrants that answered by season.

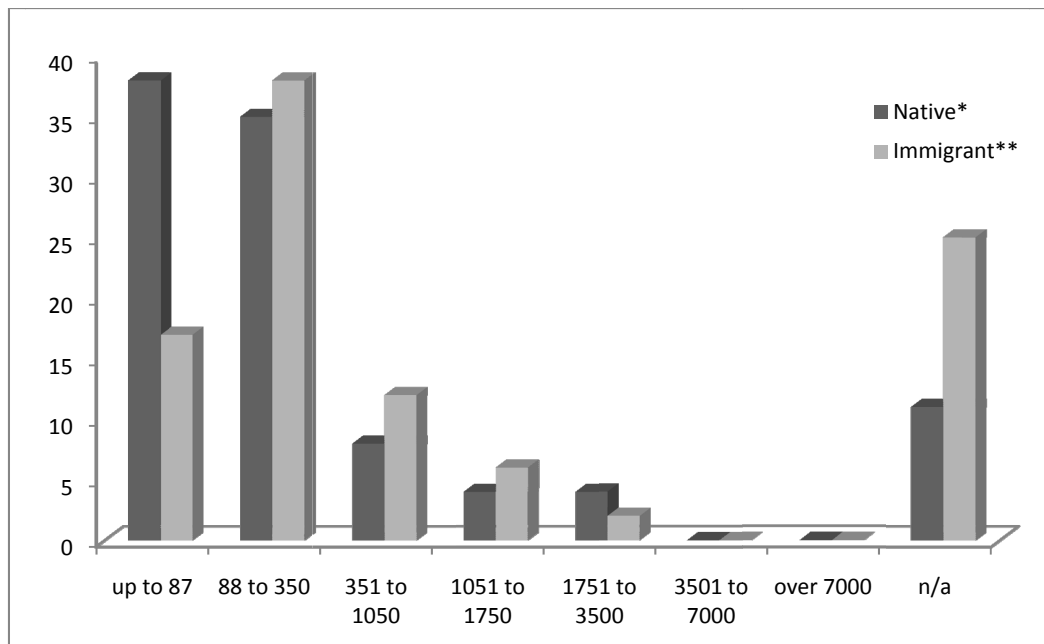


Figure 6: Average monthly family income of the businessmen during low season according to their origin, in US\$ (Kim 2004). Notes: \* Percentage of the total number of interviewees. \*\* Percentage of the total number of immigrants that answered by season.

A major consequence of the market dominance by externals is the income inequity. Businessmen were asked to point a category representing their average monthly household income, differentiating between the low and high tourism season. Categories are in US\$, corresponding to a value in Brazilian Reais (the exchange rate was R\$ 0.35 to US\$ 1 in January/2004). Although the mode of both natives and immigrants was between US\$ 88 and 350/month in the high season, the natives were noticeably concentrated in the lower range while the immigrants had a fair distribution within the middle and higher income categories (Figure 5). During the low season the average income was obviously inferior; however, the immigrants sustained a similar income to the high season, while natives had even lower average earnings (Figure 6).

Comparing the average income declared by immigrants and non-residents, it became evident that non-residents had the highest revenues among the social categories. Beside higher returns of the island's investments, their income may also be complemented by investments elsewhere (Figure 7).

### Job opportunities

The employment offer at Ilha do Mel is influenced by the tourism seasonality. The field survey asked businessmen about the number of permanent and temporary jobs offered without considering posts occupied by family members. Among the 106 interviewed, 42 % did not hire any employee outside their families; 31 % hired permanent employees, and 27 % hired temporary ones. The total number of permanent jobs generated was 110, but many of these were taken by immigrants who established themselves at the island to work. Temporary jobs lasted for a mean of three months, but several people were hired on a daily basis at busier periods. This was also true for services like gardening or cleaning. The sum of temporary jobs of all the businessmen interviewed was 166. Many of them declared preference to non-residents, stating that the local workers charged higher salaries and had neither the training nor the discipline required. Therefore, only 49 of the 166 temporary jobs could potentially be fulfilled by local residents.



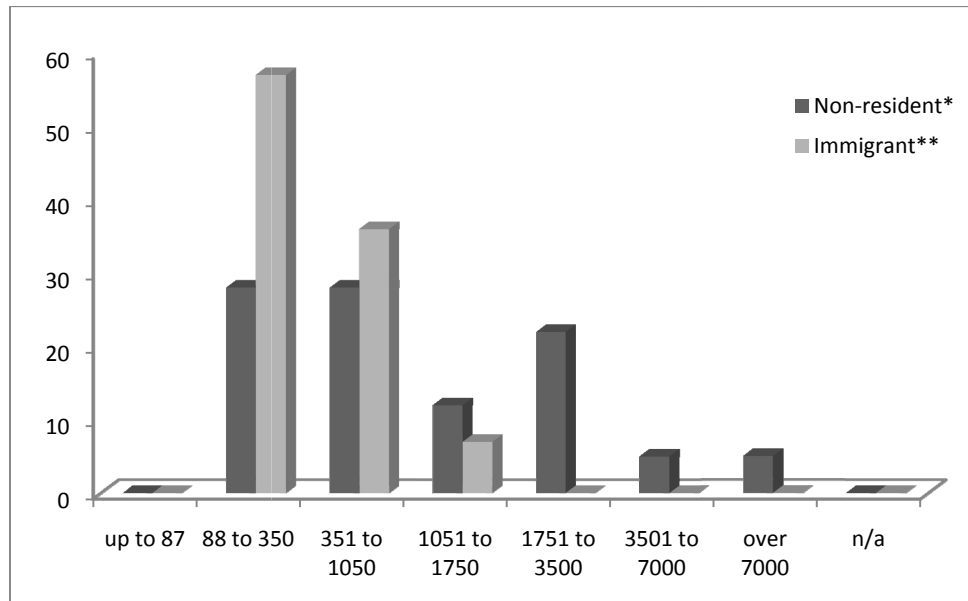


Figure 7: Mean monthly family income of the businessmen according to their origin, in US\$ (Kim 2004). Notes: \* Percentage of the total number of interviewees. \*\* Percentage of the total number of immigrants that answered by the annual mean.

The businessmen declared to pay wages between US\$ 84 and 280 monthly (Table 3), and the most quoted value was US\$ 84, equivalent to the Brazilian minimum wage at that time.

Table 3: Number of employers per wage category paid to their employees (Kim 2004)

Wage categories	Employers	%
US\$ 84 to 105	22	39
US\$ 106 to 142	18	32
US\$ 143 to 210	14	25
US\$ 211 to 280	2	4
<b>Total</b>	<b>56</b>	<b>100</b>

Summing the values of essential items to support a four-member family to survive at Ilha do Mel, the wages should be of at least US\$ 252, or the equivalent of three Brazilian official minimum wages at the time of the survey. There was no information on whether the permanent jobs provide the workers' legal benefits, but most temporary jobs usually do not support workers' rights and the salary does not assure a fair survival for the local families.

In brief, the job opportunities were mostly seasonal and informal, and the demand was supplied by a considerable proportion of non-residents. This situation contributes to the natives' hostility towards outsiders, either employers or employees. However, this space cannot be occupied by natives since just a small proportion of them has the adequate qualification and attitude demanded by the market.

### 3.4 Education, training and environmental engagement

The preparation to compete in the market depends on both formal education and specific training. The formal education at Ilha do Mel was limited to the primary school (4 years of study) until 2003; for further studying children had to travel daily to the continent. Recently, the secondary school (up to 11 years of study) has been gradually implemented on the island. The offer of technical or professional courses related to tourism is extremely poor. There have been language courses and workshops of food hygiene and customer service. Nevertheless, these courses qualify people to work in subordinate posts

without giving them the opportunity to search for a better job; it definitely does not prepare entrepreneurs or business managers, which is an element required to increase the quality of local services.

An indicator of the result of the formal study deficit was the study level of the businessmen interviewed, particularly the natives', who studied on the island: 53 % of them studied up to 4 years, only one of them completed the secondary school, and none studied more than 11 years. Conversely, the relative majority of the immigrants (36 %) completed the secondary school, and 19 % has an undergraduate degree. The non-residents are the group with most years of study (Figure 8).

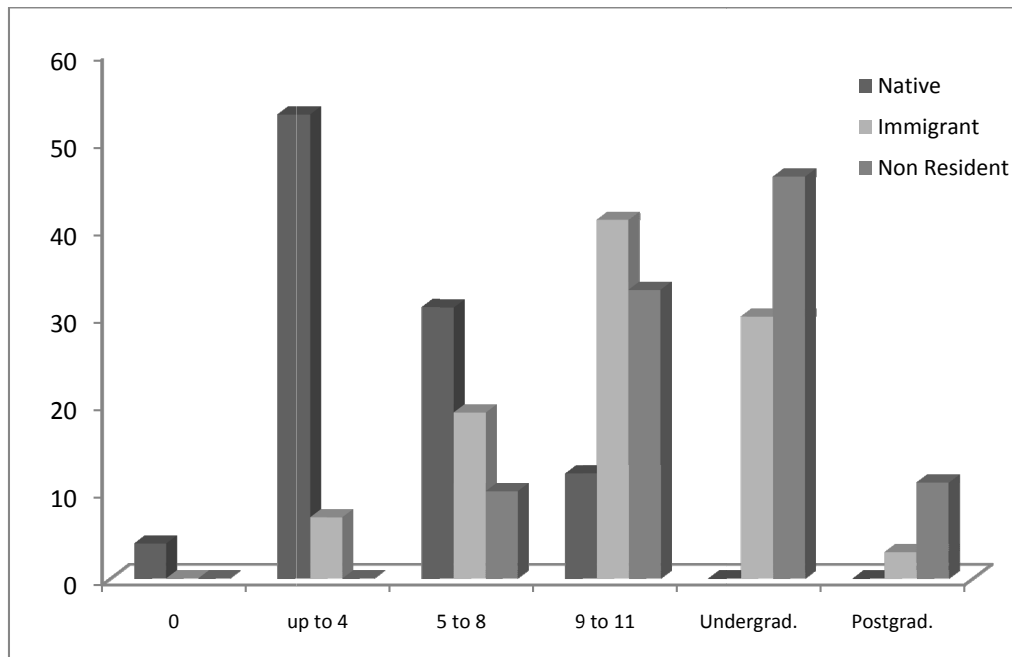


Figure 8: Years of study of the businessmen of Ilha do Mel, per origin (Kim 2004)

The deficiencies in formal study and especially the lack of professional training for the local population reproduces the natives' disadvantage and might amplify the social differentiation at Ilha do Mel to the detriment of the majority of the population, markedly natives and lower-income immigrants. This aspect exemplifies a significant governmental omission in taking measures that could favour the social equity.

Consequently, most natives interviewed supported reducing conservation measures. The businessmen were asked about the restriction on the tourist number and about the possibility of making this restriction stricter and increasing the entry fee. The majority of both immigrants and non-residents (predominantly owners of high quality businesses) agreed with the current restrictions, and several declared to support more restrictive measures (Table 4). As a result, the access to the island would be only affordable to wealthy visitors, attracting their potential clients. Conversely, the majority of natives and the owners of low quality businesses were against the present limits and fees since they restrain the access of low income visitors, their potential customers.

Table 4: Businessmen's opinion about the limits of visitor's numbers according to their origin (Kim 2004)

Origin	Agree with restrictions		Disagree with restrictions		Total	
	Pers.	%	Pers.	%	Pers.	%
Natives	8	31	18	<b>69</b>	26	100
Immigrants	34	<b>55</b>	28	45	62	100
Non-residents	14	<b>78</b>	4	22	18	100

#### 4 Discussion and conclusion

As seen in the first section of this paper, the debate about PAs and populations in the Third World is intrinsically related to poverty and development issues. The case of Ilha do Mel provides several insights that might contribute to this discussion. The first point concerns the relation between tourism and conservation. PAs may act as tourism drivers, especially when preserving charismatic wildlife and beautiful landscapes. In many cases tourism has been acknowledged as a preferential activity in PAs because of its non-consumptive ways of generating revenue (Archabald & Naughton-Treves 2001, Bushell 2005). However, the success of such relation depends on how the conflict between conservation and development is articulated. At Ilha do Mel the first purpose of PAs' creation was to protect the nature by containing tourism expansion. A clear benefit was the maintenance of the natural landscape that is today the main attractive for the tourism. Nevertheless, the lack of effective PA planning and management in a context of growing tourism evidences a weak capacity to make conservation durable and effective. In the occupation areas, the conciliation between conservation and development is centred in the limitation of visitors, which is weakly conceived and inefficiently enforced.

The second important issue is the PA relation to the local population; i. e. if it is conceived as an "island of conservation" where the communities are perceived uniformly as a threat to nature, or if they are integrated in a holistic perspective and society is regarded as formed by diverse sectors with different roles within conservation. The case of Ilha do Mel is an example of a conventional conservation model centred in the nature: the population is considered a homogeneous and ahistorical block that causes mainly negative impacts on nature and, therefore, must be controlled, limited and punished (Foladori 2001). The government and the environmental agencies, as in many other cases, do not consider the social inequities and the way various economic sectors differently affect conservation, thus not intervening in the economy with regulatory measures. By letting the market act spontaneously, the authorities have contributed to the unequal distribution of the benefits generated by the natural landscape of Ilha do Mel.

This leads to the third insight presented by this study case. There is an increasing acknowledgement on the need of compensating those who suffer the burdens of PA creation by sharing the economic benefits generated in these areas. It is also understood that these burdens are differentiated among stakeholders, and the benefits should be addressed primarily to those most immediately affected by a PA (Archabald & Naughton-Treves 2001). At first, this is a matter of justice, especially when the local community had a low impact lifestyle that implied in poverty, but contributed to conservation; in such cases benefits may be regarded as a reward due to their stewardship role. Second, by sharing these benefits PAs would be more likely to fulfil their responsibility towards sustainable development, addressing social equity goals together with conservation ones. Third, it has a potential to increase conservation support since it is expected that communities will act according to their own best interest (Bushell 2005, Ostergren 2005). The recommendations arising from the Third World Parks Congress specifically recognized that people living in or near PAs can support its management "if they feel they share appropriately in the benefits flowing from protected areas, are compensated appropriately for any lost rights, and are taken into account in planning and operations." (Third World Parks Congress, in Scherl et al. 2004).

During the last decades, the attempts to improve the relation between communities and PAs through tourism varied from revenue-sharing programmes delivering entry fees and hotel levies, to Integrated Conservation and Development Projects (ICDPs) or enterprise-based approaches (Archabald & Naughton-Treves 2001, Scherl 2005, Scherl et al. 2004, Silva 2002). The results are as varied as the initiatives, but it is a fact that failing in considering the diversity of stakeholders and letting the market forces unregulated might result in benefits being concentrated in the hands of local elites or opportunist outsiders, increasing existing social inequities.

At Ilha do Mel, the natives have been expropriated of their richness by both the limitations imposed due to the PAs' creation and the marginalization strengthened by the market. For being those less benefited, they perceive the conservation as contradictory to their welfare. Therefore, instead of being aligned with the conservation they prefer to lessen protection measures, claiming the entry of more visitors and an increase of occupation areas.

The conflict between conservation and development at Ilha do Mel is, therefore, centred in the matter of who benefits from the actual development model. The challenge is to turn the economic sustainability from a threat to an ally of the conservation objectives by embedding it in social equity. It can be done taking into account social differences, controlling the economy and the richness distribution. This regulation could include measures such as:

- Awarding credits, subsidies, training and technical assistance to ensure the inclusion of natives in the main economic activities delivering quality products and services;
- Control of new external investors in quantity and quality;
- Require that external investors employ a quota of trained native workers receiving adequate wages and work benefits;
- Require all businessmen to reverse part of their profit to the conservation of PAs, the maintenance of the occupation areas' infrastructure and to the well-being of the local population.

The integration of the sustainable development dimensions does not succeed simply by the spontaneous action of the market; conversely, it requires a conscientious and compromised governmental intervention. This is proposed to be operationalized as an environmental policy, under a conception of environment that does not alienate humans from nature. It is necessary to preserve the nature to present and future generations, but without excluding those who directly depend on it. As in the present society they are subjected to uneven conditions, the political option is to either continue to favour the privileged minority or to promote the deprived majority, intending to alleviate their historical burden.

## References

- Alpert, P. (1996): Integrated conservation and development projects. In: *BioScience* 46 (11): 845-855.
- Archabald, K. & L. Naughton-Treves (2001): Tourism revenue-sharing around national parks in Western Uganda: early efforts to identify and reward local communities. In: *Environmental Conservation* 28 (2): 135-149.
- Bushell, R. (2005): Building support for protected areas through tourism. In: McNeely, J.A. (ed.): *Friends for life: new partners in support of protected areas*. IUCN, Gland, Switzerland and Cambridge, UK, pp. 141-144.
- De Britez, R.M. & M.C.M. Marques (2005): General characterization. In: Marques, M.C.M. & R.M. De Britez (eds.): *Natural history and conservation of Ilha do Mel*. Curitiba: Ed. UFPR, pp. 13-17 [original in Portuguese].
- Dos Santos Junior, O.D. (2007): Ilha do Mel tourism development context. UNESP (<http://www.rosana.unesp.br/revista>, May 30<sup>th</sup> 2008) [original in Portuguese].
- Esteves, C.J.O. (2004): Aspects of the relation between tourism and the occupation process of Ilha do Mel. Curitiba. Dissertation, Federal University of Paraná [original in Portuguese].

- Esteves, C.J.O. (2002): Environmental degradation and tourism at Encantadas village (Ilha do Mel/PR): A view from the water. Curitiba. Monograph, Federal University of Paraná [original in Portuguese].
- Foladori, G. (2001): Limits of sustainable development. Campinas, Editora da Unicamp [original in Portuguese].
- Frank, C.A., M.H. Ferronato, M. Zanin & M.T. Fortunato (1991): Ilha do Mel – No one's land. Curitiba Law Faculty. Curitiba.
- Kim, M. K. (2004): Sustainability analysis of the development model of Ilha do Mel. Monograph, Federal University of Paraná [original in Portuguese].
- Morris, J. & K. Vathana (2003): Poverty reduction and protected areas in the lower Mekong region. Parks, IUCN, 13 (3).
- Ostergren, D. (2005): Making connections: the tactics, art and science of building political support for protected natural areas. In: McNeely, J.A. (ed.): Friends for life: new partners in support of protected areas. IUCN, Gland, Switzerland and Cambridge, UK, pp. 155-168.
- Paraná State, Land, Cartography and Forest Institute (1986): Ilha do Mel Law and documentation collection (1946-1985). Curitiba [original in Portuguese].
- Paraná State, Environment Secretary (1996): Ilha do Mel Management Plan – Preliminary Report. Curitiba [original in Portuguese].
- Reichmann Neto, F. (1999): The inter-relations between electric energy and comfort and modernity aspects in small communities: the case of Ilha do Mel. Thesis, Federal University of Paraná [original in Portuguese].
- Scherl, L.M., A. Wilson, R. Wild, J. Blockhus, P. Franks, J.A. McNeely & T.O. McShane (2004): Can protected areas contribute to poverty reduction? Opportunities and limitations. IUCN, Gland, Switzerland and Cambridge, UK.
- Scherl, L.M. (2005): Protected areas and local indigenous communities. In: McNeely, J.A. (ed.): Friends for life: new partners in support of protected areas. IUCN, Gland, Switzerland and Cambridge, UK, pp. 101-111.
- Silva, P.P. (2002): Common Property to Co-Management: Social Change and Participation in Brazil's First Maritime Extractive Reserve. Thesis, London School of Economics.
- Telles, D.H.Q. (2004): The land occupation at Encantadas village, Ilha do Mel: analysis of the use expansion and conflicts. Monograph, Federal University of Paraná.
- Tomaz, L. (1996): Social representations of Ilha do Mel natives. Monograph, Federal University of Paraná.

## **Acknowledgement**

The authors are thankful for the information provided by IAP and the support of the Social Environmental Laboratory of the Marine Research Centre – Federal University of Paraná.

## **Address**

Milena Kiatkoski Kim  
James Cook University  
School of Earth and Environmental Sciences  
Townsville, QLD 4811, Australia

[mipontal@gmail.com](mailto:mipontal@gmail.com)