

# ► The West African Protected Areas Newsletter



« La Lettre des Aires Protégées en Afrique de l'Ouest »

N°39  
February 2011

*Economical analysis of PAs in West Africa*



The IUCN-Programme on protected areas in West and Central Africa (IUCN Papaco) has conducted in 2010 a survey about the local economic benefits that populations, around a soudanian Protected Area, may expect from this territory.

This APAO newsletter presents a summary of the main results of this study...

*This study has been conducted by a consultancy office (ECOWHAT, Yann Laurans and Schéhérazade Aoubid) ([www.ecowhat.fr](http://www.ecowhat.fr)) in partnership with the Senghor University from Alexandria in Egypt (Moustapha Ciss), and was financed by the French Global Environment Fund (FFEM). The full report of the study (including bibliography) can be downloaded on [www.papaco.org](http://www.papaco.org) (publications page).*

## Local economic benefits from protected areas in West Africa

### 1. Objective: *ex ante* valuation of benefits from a protected area for local populations

The management of protected areas aims to meet objectives for the preservation of the environment, in terms of natural resources, biodiversity and landscape quality, among others.

These objectives concern the economy and society at different levels: for example, the global level where the conservation of genetic heritage or carbon are concerned; the regional or national level for the consumption of natural resources such as water; and the local level for food supply to nearby populations.

The establishment and then the management and extension of protected areas require negotiations and

discussions between the actors responsible for the conservation of nature and their partners. One of the central issues of these discussions is **the nature of the economic relations that local populations may forge with the protected areas** (Naidoo, 2008). Indeed, any development project today is set up with the local economic spin-offs in mind, which may or may not be high on the list of priorities and may or may not be explicit. Many projects are promoted by highlighting what they can offer in terms of jobs, subsistence, economic security and tax revenue, etc.; in other words, *the creation or preservation of economic activities*.

From this perspective, IUCN-PAPACO sought a tool that would enable it to make *ex ante* estimates of the nature and scope of the local economic benefits that a protected area would be likely to generate for local populations in the West African sub-continent. It is thereby adhering to the recommendations and approaches already put forward by the collective work published by Bishop in 1999, and in particular its recommendation, which has unfortunately been somewhat ignored to date, that "*an important priority is thus to develop routine systems for monitoring and evaluating non-timber forest benefits on a national and local scale.*"

### 2. The approach adopted: quantifying the benefits for the vicinity of a protected areas

This research therefore attempts to express the mean value of the economic benefits, revenues and spin-offs for people living in villages around a West African protected area (PA). These benefits are compared with the average agricultural income for these sectors. A relationship is then inferred between the benefits from a PA and "standard" agricultural incomes levels (Gram, 2001).



The aim is to compare normal (agricultural) subsistence activities with the positive and negative “extras” represented by protected areas, and to express the proportions: **how does proximity to a protected area benefit a farming village?** (Pearce, 1998; Peters et al., 1989).

However, conducting this type of study for every discussion context may seem arduous if it has to be done for each protected area. The aim is therefore to attempt to provide *reusable* elements:

- Figures, scales and **average benefits** from protected areas as found in scientific and technical literature, where they can be **transferred** to other protected areas (provided the characteristics of these areas are as close as possible to those of the PA concerned by the bibliographical reference).
- **Compared observations** for three West African PAs, made using similar or identical methods. Naturally, these results are also compared with those found in the literature. This makes it possible to assess, clarify, select and possibly reject certain references.

The assessments were made using the following sources and methods:

- Economic spin-offs of the Nazinga (Burkina Faso) and Pendjari (Benin) PAs. These benefits were investigated on site by Moustapha Ciss (of the Francophone University of Senghor, Alexandria) from April to July 2010 under the supervision of Ecowhat and IUCN-PAPACO. The study consisted in conducting surveys among all actors and economic agents in order to determine the activities concerned and to evaluate them: quantities produced, market values (for products), or purchasing values (for extras used for home consumption); production revenues distributed locally (through salaries received by locals).
- Local economic benefits from the W park in Niger. These benefits were estimated in 2009 by Hamissou Halilou Malam Garba (2009) as part of a final dissertation for the Protected Area Management Masters organised by IUCN-PAPACO.
- Quantified references from the global literature on the benefits from protected areas collected and processed by Ecowhat.

### 3. The method used: an empirical comparison

The principle of the assessments conducted is simple: the aim is to calculate the net economic

benefits for people living near a PA. These net benefits are made up of all the positive effects of the PA on the standard of living of locals, after deducting the negative effects. This calculation implicitly compares the situation of locals with that of a similar kind of population (for example, same region and same kind of farming), but without the effects of the PA.

However, so far it has proved impossible to carry this approach through to completion. “Counterfactual” assessment (with a control site) has not been possible, due to a lack of means and the unavailability of organisations with the necessary information.

Consequently, the assessment clearly distinguishes the benefits and spin-offs that are specifically associated with the PA, but can only make a rough estimate of its potential disadvantages (especially those linked to the presence of wildlife for crops or for people).

The benefits for local people may vary greatly in nature and be added together:

- The **income** generated by the economic activities made possible or facilitated by the PA, where the income and activities concern local people (rather than economic agents some distance away, or even outside the country).
- The **consumption of products** from the PA or the local ecosystem, where it is different from that in farming areas with no PA around. This “supplementary” consumption enables people to increase their purchasing power (by avoiding the need to pay the equivalent cost). This is the case, for example, for fuelwood, if it is gathered in a sustainable manner and is more abundant in the vicinity of the PA.

Type of valuation	Activity	Indicators adopted
Subsistence	Farming and livestock rearing	Production value/sales price
	Gathering market products (shea, néré, brooms, honey)	
Supplementary activities	Gathering NTFPs	Purchasing value / purchasing power gained
	Fishing for home consumption	
	Fuelwood	
Commercial activities	Pharmacopoeia and traditional medicine	Trade turnover
	Tourism	
	Fishing concessions	

The assessment thus implies taking all activities into account, and distinguishing between those that are encouraged, discouraged or neutral in relation to the proximity of the PA, then calculating the percentage represented by these advantages in relation to other sources of income. The list of different activities and methods for their valuation are presented in this table.

Table 1. Activities observed, valuation and indicators adopted for their measurement (page before)

#### 4. The Nazinga PA: A remarkable concentration of wildlife in southern Burkina Faso

The Nazinga forest was protected by Decree n° 8327/SE of 04/12/1953. It was called the Nazinga Game Ranch in 1979 and, situated in central southern Burkina Faso, was the only one of its kind in West Africa at the time. It was aimed, *inter alia*, at ensuring the survival of wildlife in its natural habitat in order to better exploit it to the benefit of local people (Kristensen, 2004). It owes its current status to Decree n° 2000/093/PRES/PM/MEE of 17/03/2000, with an area of 91 300 ha. Its objectives include ensuring the sustainable production of wildlife resources, organising all possible sustainable uses of wildlife and contributing to maintaining ecological balances, and finally optimising the well-being of local populations (RAPPAM-IUCN-PAPACO).

Burkina Faso also has a network of more than 70 protected areas, covering a total of over 3 800 000 ha and around 14% of the national territory. These PAs consist of 2 national parks (390 500 ha), 14 total and partial wildlife reserves (2 545 500 ha), protected forests (880 000 ha), hunting areas and finally community conservation areas (ZOVICs) (Kaboré, speech 2010).

Wildlife in Nazinga stands out for its relatively high density, which unquestionably makes it a valuable protected area in Burkina and one of the richest and most widely studied in West Africa (Sournia, 1998). It is home to a dozen species of ungulates, and the number of elephants living there has risen significantly. The Nazinga PA also boasts 274 species of migratory and sedentary birds, and is part of the Kaboré-Tambi-Nazinga Important Bird Area. Finally, it has several reptile species, including the Nile crocodile, two species of monitor lizards, tortoises, snakes and lizards, and 32 species of fish (RAPPAM-IUCN-PAPACO).

#### 5. Benefits from the Nazinga PA

##### a) per inhabitant of the local area

The Nazinga PA and its area are not inhabited, but about 10 villages surround it.

The benefits and activities presented above are first calculated per inhabitant (of local villages; population slightly below 8 000 people). But from this perspective, the benefits taken into account are **only those that affect and concern local people**; the income and activities that benefit economic agents outside the area are not taken into consideration.

Naturally, this analysis increases the respective weight of crops and gathering, as these are entirely local spin-offs. It reduces the relative importance of the others: fishing concessions therefore disappear, since the revenue they generate is entirely distributed outside the PA's area of influence. The total non-agricultural benefits (income and consumption) represent 57% of agricultural income.

However, in this total, not everything is necessarily attributable to the protected area, or even facilitated by it. The second stage of the process therefore consists in only considering the benefits that are dependent on the PA and those which are fostered by it (Shone & Caviglia-Harris, 2006). Included in this category are:

- Game viewing and hunting tourism.
- Gathering facilitated by the PA (wild honey, grasses for brooms, straw, wood, etc.).
- Fishing.

Table 2. Incomes per capita in Nazinga  
Source: internship of Moustapha Ciss and Ecowhat fieldwork

Average yearly income generated by the different activities in the vicinity of the Nazinga PA per inhabitant of the local area (€/year 2010)	
Gathering	78
Small-scale fishing	3.0
Fishing concessions (0)	-
Crops	215
Game viewing	4.2
Small game hunting	4.2
Large game hunting	0.2
Total	304

However, shea and néré are not included: since elephants are partial to these fruits, they tend to destroy the trees that bear them, which, according to locals, are less common and smaller in size near the PA.

Based on this, 72% of (non-agricultural) benefits are linked to, or fostered by, the presence of the protected area (protection of the quality of resources, availability of resources, possibility of engaging in the activity, etc.).

Consequently, **it can be estimated that the Nazinga protected area generates a global benefit (incomes for the country) corresponding to around 40% of the agricultural income of its locals (72% of 57%).**

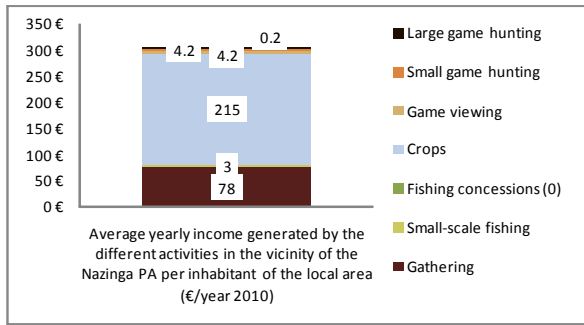


Figure 1. Proportions of the different spin-offs of the Nazinga PA in relation to crop income (per capita)

**b) per hectare of the local area**

The ratios per hectare, on the other hand, calculate the benefits according to the number of hectares in which each activity is carried out: the total crop area for agriculture, the area used for gathering, the area of influence on water quality for fishing (catchment area), and tourist areas for game viewing and hunting.

This calculation reveals the most “economically dense” activities or spin-offs, and, according to this criteria, agriculture represents by far the most important (this can also be said to be its comparative and consubstantial advantage in relation to livestock rearing and other extensive activities: high product density *per hectare*).

In fact, as seen below, crops represent 92% of income generated by activities in the vicinity of the PA, gathering 6%, and the different types of tourism (game viewing and hunting), 2%. The way in which these activities are carried out locally is thus particularly “extensive”. While this characteristic seems somewhat inevitable for hunting (which requires large reserve areas), this is not as true for game viewing. In other words, these analyses confirm the assessment made above, concerning the under-exploitation of tourism potential in Nazinga.

Table 3. Benefits per hectare in Nazinga

Average yearly income generated by the different activities in the vicinity of the Nazinga PA per hectare of the area where the activity is carried out (€/ha/year)	
Gathering	11
Small-scale fishing	0.30
Fishing concessions (0)	0.50
Crops	166
Game viewing	2
Small game hunting	0.40
Large game hunting	0.02
<b>Total</b>	<b>180</b>

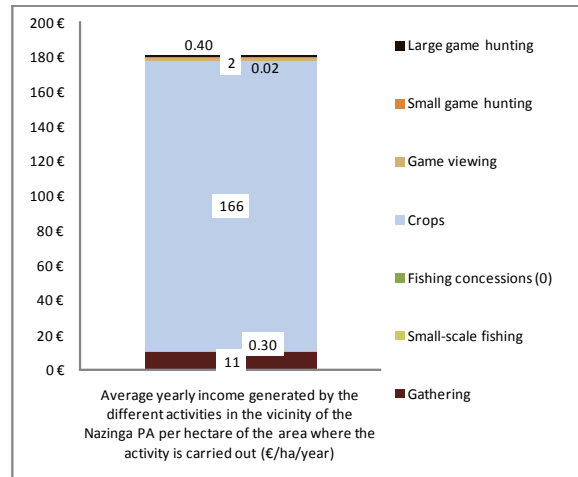


Figure 2. Proportions of the different benefits from the Nazinga PA in relation to crop income (per hectare)

**6. Comments on findings for Nazinga**

a) Gathering represents 80% of poverty line income...

Gathering represents a secondary activity that is far more important than would seem. It makes a very substantial contribution to income generated by classic farming activities. This is particularly so for shea nuts, which are a mainstream product in Burkina Faso and are not characteristic of the region or of the area around the PA. But the assessments made also show that honey, fuelwood and néré are significant spin-offs. Even the grasses gathered and sold to make brooms represent considerable spin-offs. It should also be stressed that wood, the primary source of energy, is relatively rare in Burkina, and that consequently the advantage of its availability is an important one. **The benefits from gathering represent merely fewer than 100 euros per person per year, or 50% of the average income in Burkina Faso and 80% of the poverty line income.**

b) ... and represent the dominant benefit

In total, therefore, the benefits associated with the area around the PA amount to adding just under half of gross agricultural income to the inhabitants' income. It is striking that these financial benefits are not generated by commercial economic activities (tourism and hunting), but rather by gathering. This suggests that the extra 47% added by proximity to the PA could easily be increased by developing – even slightly, though on a sustainable basis – the intensity of tourist activities, and also by organising them so that locals retain a larger share of the benefits (see Kpadonou and Tuner, 2010).

## 7. Comparison between the findings for Nazinga and the IUCN/ Ecowhat database

In the international literature, values measured are generally related to two levels, as has been done here for Nazinga: per *hectare* and per *household*. The table below summarises the values found in literature and compares them with those measured in Nazinga. It suggests that for total gathering, the values measured in Nazinga are similar to those found in the literature, standing at around **10 euros per hectare** per year.

However, the values differ considerably for the other entries found in both Nazinga and in literature: fuelwood (6 to 1), pharmacopoeia (1 to 14), fishing (1 to 30), tourism (1 to 3) and agriculture (1 to 5).

These differences are probably explained by the content of the categories in question: the nature and type of gathering, fishing, tourism and agriculture. The references in literature are generally given without details, which makes it impossible to make an accurate analysis of the differences. See particularly Peters et al. (op. cit.) and Padoch & De Jong, (1998) for a discussion of this variability.

Table 4. Mean values found in Nazinga and in literature. Likely ranges

Comparison of mean values per hectare for Nazinga and for IUCN/Ecowhat database in \$			
	Nazinga	IUCN/Ecowhat	Summary: likely ranges
Total gathering	13.10	8	10 \$ +/- 5
Of which: fuelwood	6.70	1	< 10 \$
	0.07	1	< 1 \$
Of which: Health, pharmacopoeia	0.9	28	>30\$>1
	2.80	9	3 à 10 \$
Fishing	18.70	100	15 à 100 \$
Total	42	147	

## 8. Comparison of the three sites in West Africa and the database, per hectare

When not only Nazinga is considered, but all three West African sites studied by IUCN-PAPACO as well, the values found "surround" those from the literature. Although the values seem to vary considerably due to the types of gathering carried out (and taken into account in the references), the range is nevertheless confirmed. The assessments conducted in the three West African sites, which paid particular attention to gathering, produce results that are somewhat higher than the average. The findings for the Pendjari study seem low, and suggest that the data collection process, which was quicker and less accurate than for the Nazinga PA, may have underestimated the

figures.

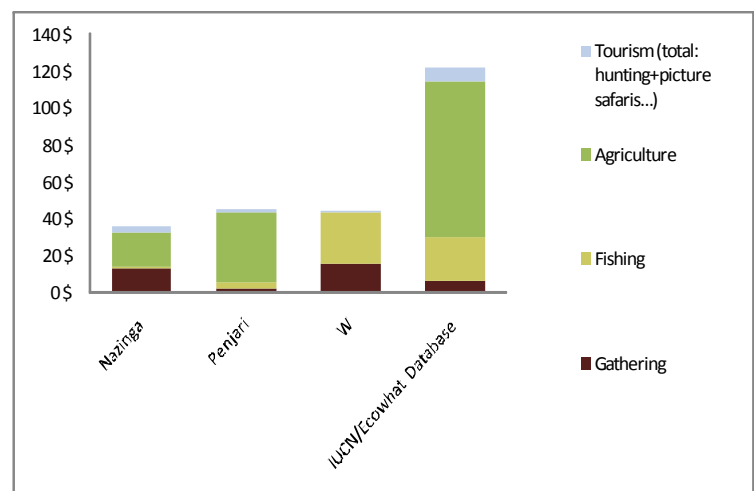
Table 5. Comparison of income from activities for the three West African sites and in literature (see after)

Comparison of yearly income generated by activities in the vicinity of the protected areas, per hectare (\$/ha/year)				
	Nazinga (BF)	Penjari (Bénin)	W (Niger)	IUCN/Ecowhat Database
Gathering	13.1	2.0	15.8	6.6
Fishing	0.9	3.2	27.8	23.5
Agriculture	18.7	38.5		84.0
Tourism (total: hunting+picture safaris...)	2.8	1.5	0.1	7.9
Totals	36	45	37	122

Where fishing is concerned (local and concessions), the assessments made in West Africa seem to differ greatly. Only those carried out for the W come close to the figure found in literature (for 4 African references: Kenya, Nigeria, Uganda and Cameroon).

The benefits for tourism seem particularly low in the three West African assessments, compared to those found in the literature (based on 9 African references: 2 in South Africa, Uganda and Cameroon, 1 in Tunisia, Niger and Madagascar). This may be due to the fact that the sectors studied are potentially attractive (in terms of wildlife and landscapes), but are out of the way of the tourist circuits and are under-equipped for tourism. Since little investment is made there, the benefits seem limited.

Figure 3. Comparison of income from activities for the three West African sites and in literature (\$/ha/year)



Altogether, the total benefits seem lower in the three West African sites than in the literature, mainly due to the difference for fishing and agriculture.

However, we can estimate overall ranges from this, which can reasonably be attributed to the different spin-offs and activities associated with the protected areas: **around ten dollars per hectare per year for**

**gathering and as much for tourism** (although the latter, as we will see further on, are low in the three West African PAs compared with other countries, according to the literature); and **one dollar for pharmacopoeia** (used for home consumption).

For agriculture, the subject is different, as the references collected here are not representative of an agronomic analysis, which could in fact be possible using available national statistics. They were collected and produced during studies in protected areas, as was the case for Nazinga. See the table for data in euro (since the values in literature are generally given in dollars).

Table 6. Mean values in Nazinga and in literature, converted into euros

Comparison of mean values per hectare for Nazinga and for IUCN/Ecowhat database in €			
	Nazinga	IUCN/Ecowhat	Summary: likely ranges
Total Gathering	11.00	6.63	10 € +/- 5
Of which: fuelwood	5.63	1.01	< 10 €
Health, pharmacopoeia	0.06	0.67	>1 €
Fishing	0.76	23.51	>25 €>0,5
Tourism (total)	2.35	7.89	2 à 10 €
(Agriculture)	15.70	83.97	15 à 100 €

## 9. Comparison of the three West African PAs and the IUCN/ Ecowhat database, *per household*

It is more difficult to make comparisons at this scale, as references are limited.

The agricultural benefits per household were not assessed for the W park, where this issue was not addressed (the survey took place before the two others and used a slightly different method).

The tourism benefits described in the literature are given either per person (see above) or per visitor day (spending per visitor day).

The comparison nevertheless makes it possible to suggest the most likely ranges:

- Around \$ 500 per household per year for total gathering.
- Around \$ 100 for benefits linked to fishing (in freshwater).
- Between \$ 1 000 and 1 500 for yearly agricultural income per household.
- Finally, considerable variability for tourism benefits, from just a few dollars to almost 200.

The values therefore vary greatly, as shown by the percentage represented by gathering, fishing and tourism in relation to agriculture:

- Nazinga: 41%
- Pendjari: 28%
- IUCN/Ecowhat database: 643%.

The last percentage is problematic, but is linked to the fact that only one reference has attempted to make the same comparison, and we were unable to make its method coherent with our own.

Table 7. Comparison of yearly income from activities in the vicinity of the protected areas according to literature, per household

Comparison of yearly income from activities in the vicinity of the protected areas, per household (\$/household/year)					
	Nazinga (BF)	Penjari (Bénin)	W (Niger)	Base de données IUCN/Ecowhat	
Gathering	606.10	68	655	435	5 references 1 Cameroon, 3 Uganda, 1Indonesia.
Fishing	23.9	99	416.4	28	4 references: Kenya, Uganda, Nigeria, Cameroon
Agriculture	1,670.54	1,285	?	72	1 reference, Cameroon
Total tourism	58.67	195	1.9	?	References are generally not produced per h.hold, but per ha. or per visitor (expenses or willingness to pay)

## 10. Conclusions

### a) Benefits from the protected areas and the conditions for their existence

The three case studies conducted and the several dozen references collected in the international literature converge on the whole. They indicate that **on average, a (continental) West African protected area enables a household living in its vicinity to add a certain amount of revenue or benefits to the gross income from its crops that represents – for the part that is strictly associated with the PA – around 40% of this gross income.**

Surprisingly, although these three PAs boast some spectacular characteristics and abundant wildlife, **it is not tourism that constitutes the primary source** of these benefits, but all gathering activities made possible and facilitated by the PA.

This first finding already calls for three comments:

1- It suggests that **tourism benefits in these PAs are far from reaching their full potential**. It is certainly not advisable to “push” this tourism potential to the limit, as this would then be detrimental to other activities or benefits (Arponen et al., 2010). But there is clearly considerable room for development, and **we can therefore almost certainly consider this 40% to be a minimum amount** that could easily be increased with some investment in ecotourism, since

supply is evidently not saturated in the region.

2- It raises questions about the economic potential of gathering and suggests that this activity could be better exploited, within a sustainable framework of rules, in order to increase the potential benefits fostered by the PAs, without any major changes to local socio-economic systems (see New Zealand DoC, 2006). This is an avenue that the Nazinga area is exploring, with several group initiatives. But it seems that the potential in this field, as in that of tourism, is not yet fully exploited.



3- More fundamentally, it highlights the role of PAs in the economy of the region. The economies that surround these PAs are generally not based on money, and are largely dependent on subsistence practices: non-mechanised food crops and gathering. It is therefore logical that the benefits of the PAs should be of the same nature. Moreover, this makes it more difficult to accurately attribute the benefits calculated to the PA itself, since the study lacked the means to compare findings with a control site and was based on cause and effect assertions derived from the interviews conducted. However, the result suggests that assessments made in this way measure – albeit in a very partial and indirect manner – a far more fundamental potential effect of the presence of the PAs. **By fostering the continuation of secondary practices and income in a rural context, they almost certainly enable the households concerned to remain in place and to avoid potential impoverishment associated with the rural exodus and ensuing employment.** In this respect, the findings are consistent with those of Pattanayak & Sills (2001), Wunder (2001) and more recently Caviglia-Harris and Sills for the Amazon (2005). PAs “settle” their local populations by providing a sort of insurance or “buffer” against different agricultural risks (see also Heal, 2005).

This effect is possibly debatable: on the one hand, it maintains non-monetary and subsistence activities, which make little contribution to GDP growth; on the other hand, it provides guarantees of security and choice for populations with traditional lifestyles, and helps to limit the rural exodus.

The fact remains that the result calculated in this way is a “gross” result. It lacks comparison with villages of the same kind that are not in the vicinity of a PA. This would make it possible to include in the analysis both the potential negative effects of a PA and the contributions or extras that could be available in

sectors without PAs (for example, due to the proximity of towns). Here, the negative effects of the PA were taken into account by assessing factors of over- and under-estimation, with the assumption that they more or less cancel each other out. Furthermore, **the significant coherence between our findings and the other references in the literature, calculated in different parts of the world, confirm these assumptions and especially their resulting message.**

Finally, as intended, the analyses make it possible to put forward certain ranges, which form potential grounds for arguments and justifications for PA projects of this kind:

- Calculated **per hectare**, gathering strictly associated with the PA, game viewing and fishing (subsistence and concessions) represent a spin-off **in the range of 10 euros** (10 to 20% of gross income generated by other activities not linked to the PA). But it should be remembered that the hectares concerned are not the same, since farming takes place in comparatively smaller areas than the protected areas.
- Thus, calculated in terms of the economy of the villages concerned, **the “non-agricultural” income (gathering, tourism, fishing) represents around a third of the total** product of the area: around 100 euros per person (compared to just over 200 for crops).
- Calculated per household in the area (with an average of 6 people), these contributions therefore represent **the subsistence level for two people.**

The results were produced in some of the poorest sectors in countries that are among the poorest in West Africa. They were therefore determined by this context, and above all, they were produced in a context of very limited development of tourism capacity.

They can therefore be considered as **a sort of minimum**, representing the contribution made by the proximity of a PA. They include factors of over-estimation by not accounting for problems associated with “human-wildlife conflicts”, as well as factors of under-estimation by not counting certain benefits that are not fostered by the PA, but permitted by its proximity, in the same way as agriculture (shea and néré).

This contribution is also based on sustainable use. In particular, it includes gathering of timber as well as non-timber forest products, which appears to be done

in a manner compatible with ecological balances in the sectors studied.

### b) A scale for *ex ante* estimation of the local economic benefits from a protected area in West Africa

The literature review and the questions put to the authors enabled us to collect some 46 references focusing on the benefits of PAs and proposing quantifications. These references are presented in detail in the full report and its appendices.

Globally consistent with the field results calculated here, their level of detail and geographical specificity is not enough for them to be used as a "model", which would make a systematic and robust association between a local geographical configuration and standard references that could be used as scales by extrapolating the units.

However, their consolidation and comparison makes it possible to propose scales and ranges for most of the types of benefits of PAs:

- **From 2 to 30 \$ per hectare per year for non-wood gathering.**
- **Up to 70 \$ per household per year for fuelwood**, with high variability, from several dollars to several dozen.
- **From 5 to 40 \$ per hectare per year for the incomes associated with freshwater fishing.**
- Not enough references per hectare for tourism, but **benefits of between 60 and 300 \$/visitor/day.**

### c) Limitations and suggestions for furthering knowledge

As previously stated, the results produced would be far more robust as arguments if they were compared with control sites.

Moreover, despite the relative abundance of references dealing with the subject, we have seen that in actual fact, only a small amount of data can be used to qualify a type of benefit *on average*. This suggests that other analyses of this type, based on comparable methods, could provide a means of obtaining more comprehensive and stable results. And we know how important these elements are, as the development of PAs will undoubtedly long need to prove its socio-economic utility to create the best conditions for the establishment of PA projects, their governance and their local management, and thereby meet the conditions for their extension as currently

provided for in national and international policies, as in the Nagoya agreement.

Finally, these results suggest that the fundamental effect of PAs on local villages could be the consolidation of rural lifestyles and subsistence activities that have limited dependence on money, but are potentially better sheltered from the impact of the rural exodus. More attention must be given to this effect, analysing it from the viewpoint of a deeper vision of development in West Africa.

In particular, all of the results suggest that the PAs are of considerable economic value especially **because of the coexistence, in the same area, of several types of benefits**. Most of the benefits assessed seem to enable the development of potential, particularly tourism and gathering. However, the path to be taken in order to fully exploit the benefits is probably not ensuring the maximum intensification of one of them. Making the area a complex given over to tourism and abandoning traditional activities, or on the contrary maximising crops without developing tourism, would probably produce less profit and fewer total benefits than a more modest, sustainable development of each of the activities. **Gaining a better understanding of this potential for the "sustainable" development of coexisting activities is a pathway for the management of and justification for developing protected areas.**

Full report on [www.papaco.org](http://www.papaco.org)



#### Reminder!

It is now possible to register to the **Master's degree on Protected Areas Management** launched by IUCN-Papaco and the University of Alexandria (Egypt). The course will start in **September 2011** (for 2 years).

Registration can be made on-line until the 24<sup>th</sup> February on: [www.usenghor-francophonie.org](http://www.usenghor-francophonie.org)

#### ► La Lettre des APAO ◀

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