

Immigration: A Potential Time Bomb under the Integration of Conservation and Development

Integrated Conservation and Development Projects (ICDPs) aim to stimulate conservation without the previous negative experiences for local people, but pay little attention to their long-term impact such as immigration. The rehabilitation of the Logone floodplain in North Cameroon, the core activity of the Waza-Logone ICDP, has led to a 34% increase of sedentary fishermen and a multiple number of temporary fishermen. Whereas livestock pressure tripled, kob antelopes, a key floodplain species, have not increased, reducing their competitiveness. The virtual disappearance of wildlife in nearby Kalamaloué National Park (NP), due to advanced human encroachment forms, is therefore a bleak perspective for Waza NP. Examples from the Central African Republic (CAR), Galapagos, Nigeria and Zimbabwe also showed that in open-access systems, improvement in living standards (development) may stimulate immigration, jeopardizing the stability necessary in protected areas (conservation). Most ICDPs lack demographic monitoring, masking its possible immigration risk. To counter the immigration risk in Waza, a policy was formulated based on local stakeholder categorization and subsequent privileges, resulting in the voluntarily displacement of a village out of Waza NP. It is further recommended that ICDPs should be involved in regional land-use planning and discourage development activities that stimulate immigration.

INTRODUCTION

Decades of conservation efforts have left a global network of protected areas, rich in wildlife, forming a true heritage for mankind (1). However, in many instances, the eviction of villagers and nomadic groups associated with the creation of these areas has left deep scars. Subsequent lack of participation in the profits of mass tourism or other park revenues has nourished an almost universal local hostility to protected areas (2, 3). In the mid-1980s this led to a change in conservation paradigm, whereby development was incorporated to counter the negative aspects of conservation for local people (4), in particular their loss of access to exploitable resources, generally called people-oriented conservation (5) or community conservation (6). Further, it was felt that the efficiency of conservation could be improved by linking conservation and development (7), hence the dominant project form of Integrated Conservation and Development Projects (ICDPs) referred to in this paper. In an idealized form ICDPs cover 3 subjects: *i*) protected area management; *ii*) management of buffer zones; and *iii*) local social and economic development (7). Emphasis has been placed, at least on paper, on stimulating the participation of local communities in the formulation and implementation of these projects.

The decade after the start of the first ICDPs, a variety of reports on their activities have appeared (3, 7, 8, 10, 12, 13). Initially, the discussion centered on the justification of people-oriented conservation (3, 8) or, alternatively, its reject (e.g. 9). Later reports discussed preliminary results of ICDPs and the need for

adjustments. Brandon (10), for example, identified questionable assumptions on which many ICDPs have been based which led to disappointing results, especially with regard to their conservation objectives. She argued that many ICDPs have been set up as aid projects where typical governmental responsibilities, such as law reinforcement, have been neglected. Lately, Adams and Hulme argued to move beyond rhetoric and proposed more diversified community conservation, tuned towards the specific situation (6).

The long-term role of ICDPs in the future of protected areas, most notably the danger of immigration encouraged by its own activities, has thus far received only scant attention. In a review of ICDP case studies Salafsky (11; p. 455) noted that "none of the case studies mentions developing strategies to deal with the influx of poor migrants that can be expected if the project does indeed succeed in raising standards of living relative to surrounding areas". Brandon and Wells (12) and to some extent Caldecott (13) also discussed the potential risk of people being attracted by the activities of an ICDP. First-hand experiences with the phenomenon have been reported, in narrative terms only, from the forests of West Africa (14) and the Central African Republic (15).

One can well imagine the following, highly simplified, immigration-risk scenario for open-access systems (16). A protected area is surrounded by a few poor communities, who depend on the (illegal) exploitation of the protected area's natural resources. However, this low-intensity exploitation has hardly any impact on the area's ecology. For a variety of reasons, an ICDP is started in the area, improving local living conditions, thereby attracting (poor) newcomers, who want to share in the increased resources. In the absence of barriers, immigration will continue until everybody has once more reached the same (low) level of development. The result is that the protected area is now surrounded by many, instead of a few, poor communities, who still have to make use of the same resources, thereby jeopardizing its ecology due to their increased numbers. Is this development or conservation or neither one?

This article provides case studies of an ICDP in the Waza-Logone area of Cameroon with which to examine the validity of this scenario for open-access and possibly other property systems as well. These experiences are compared with those from other ICDPs, and strategies to deal with immigration problems associated with such projects are illustrated with a recent example from Waza-Logone.

WAZA-LOGONE CASE STUDIES

The Waza-Logone Area

The Waza-Logone project area covers about 8000 km² in the Sahelo-Sudanian zone of Cameroon (Fig. 1). The area is bordered in the west by Nigeria and in the east and north by the Logone River, which forms the border with Chad. The region is characterized by floodplains, which are intensively used for fishing (17) and dry-season grazing (18). The area includes 2 national parks, Waza and Kalamaloué, containing a diverse population of large mammals: elephant (*Loxodonta africana*),

Table 1. Wildlife counts in Kalamaloué NP, 1979–1996¹.

Species	1979	1981	1984	1994	1996
Warthog	563	618	141	175	50
Red-fronted gazelle	38	132	0	410	195
Kob antelope	2733	1837	112	920	95
Waterbuck	481	1159	extinct	extinct	extinct
Bushbuck	68	73	9	60	present
Common duiker	88	0	0	5	10

¹Based on line transect counts; see (23).

giraffe (*Giraffa camelopardalis*), hippopotamus (*Hippopotamus amphibius*), 7 antelope species, 3 primate species, warthog (*Phacochoerus africanus*) and predators such as lion (*Panthera leo*), spotted and striped hyena (*Hyaena hyaena*, *Crocuta crocuta*). The Waza-Logone area is also considered as one of the principal waterfowl areas in West-Central Africa (19).

Since 1979, the natural hydrological regime of the Logone floodplain has been affected by the construction upstream of a dam near Lake Maga and an embankment along the Logone river, as part of the para-statal irrigated rice scheme (Fig. 1). These structures have reduced both the depth and extent of flooding in an area of 1500 km². Subsequently, productive perennial grasslands have been invaded by annual grasses, limiting dry-season regrowth and reducing the carrying capacity of the area for both livestock and wildlife (20). Fishing resources have declined dramatically as well (17). Since 1979, about 40% of the human population then settled on the floodplain has left the area, while a large part of the remaining population has shifted from fisheries and animal husbandry to agriculture (20). Lack of flood-

ing is perceived as the major problem in villages around Waza National Park (NP), followed by the denial of access to fishing and grazing grounds in the park, and intimidation by park authorities (21).

Impact of Human Encroachment on Kalamaloué National Park

In contrast to Waza NP, which is 170 000 ha, Kalamaloué NP is a small national park of 4500 ha situated within a densely inhabited area (Fig. 1). As will be argued below, developments that have taken place around Kalamaloué NP and subsequently had their impact on the park, might well take place around Waza NP if the ICDP, which was only started in 1992 and therefore has only had a limited impact as yet, was to become too successful. Kavanagh (22) concluded, based on his experiences in 1974 and 1975, that Kalamaloué NP had tremendous potential for tourism with its wide variety of mammals and birds. The 10 park guards, since 1974, and their reasonable working conditions should have been sufficient to maintain its condition (1). Nonetheless, 20 years later dramatic changes in wildlife numbers have taken place (23): waterbuck (*Kobus ellipsiprymnus*) became extinct, and the reduction of kob (*Kobus kob*) and warthog overshadow variation in numbers due to counting bias (Table 1).

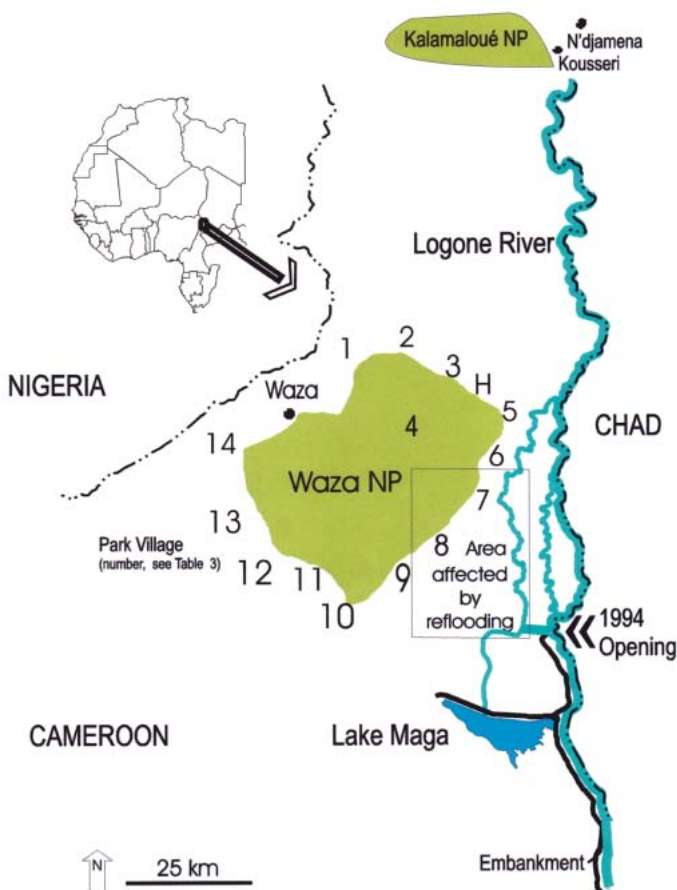
Recent studies have indicated an enormous pressure on the park from surrounding communities (24). Firewood extraction has been estimated at more than 10 tonnes (wet mass) a day, considered to be unsustainable as indicated by the declining cover of woody species. Each day an average of 5 herds of 60–120 cattle (25) and 10 small-ruminant herds from neighboring villages, complemented by several herds from further away, are found inside the park. Annually, approximately 300 fishermen make use of the fish resources of the park. Despite the official ban on exploiting park resources, many people have deliberately chosen to live on its borders. Of the 26 villages in or on the border of the park (within a distance of less than 1 km), 8 were created after its delimitation as a forest reserve in 1946 followed by another 6 after its designation as a national park in 1973. This substantial immigration was caused by the availability of fish as well as pastures and wood in the park, which are easy to market as a result of the proximity of the ever-growing markets of Kousseri and N'djamena.

The Waza-Logone ICDP's Reflooding's Impact on Waza National Park

The Waza-Logone project started in 1992 with the goals of planning and implementing interventions to restore the area's biological diversity, and to sustain the development of its inhabitants; a genuine ICDP. After consultation with local communities and (national park) authorities, a watercourse blocked by the embankment along the Logone river, was re-opened in May 1994, reflooding an area of 180 km² of desiccated floodplain.

Monitoring (26) showed that in 1994, the first year of reflooding, vegetation production was high and perennial grasses set seed abundantly, but no changes in vegetation composition were observed. In subsequent years an annual 7% increase in perennial grasses, most notably *Echinochloa pyramidalis* and

Figure 1. Map of the Waza-Logone area. (1–14, see Table 3; H: Halé, the moved village, from position 4).



Oryza longistaminata, has been observed, and these are expected to fully cover the area once again in 2003 (26). *Vetiveria nigritana*, dominant before the dam construction, has not shown any increase as yet. Waza NP harbors an important large-mammal population, with fluctuating numbers during the last 38 years of counts based on various methods (20, 27). Numbers of kob antelope have been reduced almost tenfold between 1977 and 1993, a variation that can not be explained by count bias (Fig. 2). The decline of this typical floodplain species (28) may be primarily attributed to the reduction in dry-season forage availability due to the Maga dam construction in 1979. The impact of poaching on antelope numbers was probably of secondary importance. With the rehabilitation of the floodplain, the kob population has initially increased, but numbers stabilized from 1995 onwards (Fig. 2).

In spite of 40 years of protection, with 20–30 reasonably well equipped park guards, almost all surrounding communities continued to make intensive use of Waza NP. Or, as they themselves put it: “we have always fished in the waterholes our parents dug; the park only came afterwards”. When the park is flooded (from

June to December), people are not hindered by the presence of game guards, who cannot easily access the flooded area. “It is with the grader opening the roads that the park boundaries return”.

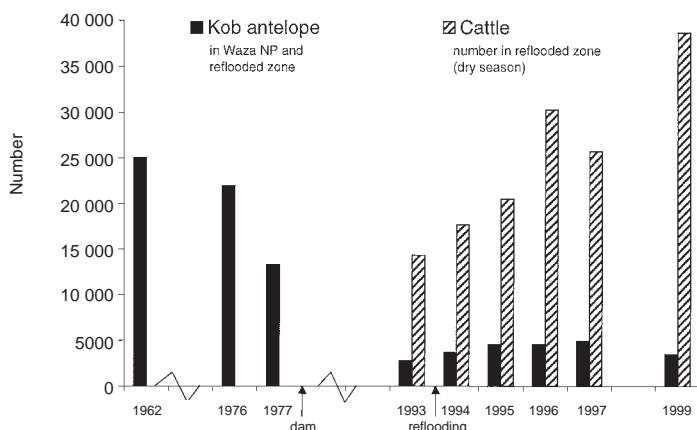
In 1994, a 25% increase was recorded in the numbers of sedentary fishermen fishing within and near Waza NP, increasing to 34% in 1995, the second year of reflooding (Table 2) (29). In 1994, the harvest was estimated at over 10 kg fish ha⁻¹ with a wet-season income per fisherman of USD 400, much more than a farmer can make. The number of people fishing in and near Waza NP has been estimated to have tripled with the arrival of seasonal fishermen from neighboring villages. Their highly variable presence and the inaccessibility of the floodplain during flooding prevented monitoring their numbers in any detail.

Livestock intrusion from nearby grazing lands is considered to be one of the most urgent problems by the park authorities (21). In the first 3 years after the reflooding, the number of pastoral camp groups in the area near Waza NP increased from 47 to 106. Livestock pressure in the dry season increased in the period 1993–1999 from 14 000 to 39 000 cattle (25) (Fig. 2). The cattle:kob ratio increased from 5 till 8, illustrating the marginalization of the antelope populations that, towards the end of the critical harsh dry season, compete with the abundant cattle for the same, scarce grasses (30).

In the first years after the reflooding, the sedentary population of the villages on the Waza NP edges was increasing at an annual overall rate of 5%, composed of 3% immigration and 2% natural growth, representing a doubling within a period of 14 years (31). Only one new village is planned to be established, at Doudou Ndiyam near Goulou (Table 3; Fig. 1). Five households who left in 1985 have written to the administrative authorities asking to be allowed to return to their natal site.

Waza NP complements the fishing and grazing grounds elsewhere in the plain, due to its position downstream in the floodplain (Fig. 1). Depressions outside the park dry up several weeks earlier than those inside and fishermen shift their fishing activities into the park when catches have fallen elsewhere. With the reflooding, waterholes deep in the interior of the park have become well stocked with fish and nutritious vegetation until the end of the dry season, and therefore attractive to fishermen and pastoralists. The reflooding has had major benefits for the park’s natural resources as well as for the surrounding human commu-

Figure 2. Number of Kob antelopes and cattle in Waza National Park and the reflooded area. Methodology Kob, see (20, 27); cattle, see (25). No cattle surveys have been conducted prior to 1994. Indicated years reflect the relevant flooding season (= actual survey year minus 1).



Antelopes (Topi, Kob and Roan) congregate around water holes in the dry season, allowing accurate population size assessments (27), April 1994. Photo: P. Scholte.



nities, at first sight a “win-win situation”. As suggested by the deteriorating cattle:antelope ratio, it seems unlikely that the increased benefits for the park can keep pace with the demands of the increasing human population and, without interventions to restrict access to park resources and immigration, the situation at Waza may ultimately resemble that at Kalamaloué NP.

OTHER IMMIGRATION EXAMPLES

The Campfire program in Zimbabwe is more a rural development program than an ICDP (32). Nevertheless, owing to its success it is internationally seen as a prime example of a community conservation project. In and around the various districts where it is active, land hunger is the major (push) factor for immigrant installation (33). Immigration in wildlife areas causes fragmentation of wildlife habitat and competes with Campfire revenues and projects (34). In Hurungwe district (West Mashonaland), the achievements of the Campfire project itself, visible in the form of revenue distribution, rural clinics and schools, also attract people from other, non-Campfire, villages in the district as well as from outside the district. This is considered “a very serious problem” by the Hurungwe district officials (Mr. Banda and Hurungwe district councillor, pers. comm. 1996) and Campfire officials alike (35). In a neighboring district (Omay), mechanisms have been developed to control immigration by an adapted form of land-use planning and its, till recently, (rigorous) application (Taylor, pers. comm.).

Lately, the impact of immigration on the forests of West and Central Africa has received particular attention (14,15). Low initial population densities, a lack of land tenure and sudden large-scale (conservation) interventions in an environment with few employment opportunities, are some of its principal reasons. Passionately, Oates (14) described how various prime wildlife areas have been destroyed through the bias of development projects and ICDPs alike. He concluded that in the West-African rain-forest context any mutual benefit between conservation and development is an illusion.

The Galapagos Islands are a prime example to show that conservation and development are intrinsically linked. Wildlife tourism, with an estimated annual value of USD 100 million, and fisheries, have made the islands the richest province of the country and triggered an influx of 12 000 people or three-quarters of the Galapagos’ present population (36, 37). Despite the restricted area open to human habitation, 3%, this influx threatens the islands’ long-term conservation, an issue that has received a fair amount of attention in the popular press (e.g. 38). For years, conservationists have pleaded for restrictions on immigration, arguing that any loss in biodiversity would have major consequences for the booming tourist industry as well (36).

Immigration has also been described as a major threat for protected areas by Sherbenin and Freudenberg (39), who analyzed various push and pull factors that lie at its origin. Surprisingly, they rejected the link between the activities of ICDPs, influencing several of these push and pull factors, and immigration based

on “incomplete evidence” (39 p. 51). Indeed almost no ICDP monitors demographic trends in its project area, making it particularly difficult to assess the impact on immigration. This is at odds with ICDPs’ development objectives and complements the concern of Kremen et al. (40), who earlier noted a comparable lack of wildlife monitoring in ICDPs.

DISCUSSION

Justification for ICDPs

The doling-out of development activities such as wells and roads is widely used to motivate people to refrain from exploiting protected area resources, although there is little experimental evidence for the success of this approach. It is also often seen as a means of compensating for lost resources (41) and destined for all people living at the edge of the protected area. It becomes somewhat theoretical to compensate already evicted people for resources lost in the past. Instead of conceptualizing solutions in terms of compensation, it seems more appropriate to approach the problem by “learning by doing”, with initial activities such as the Waza reflooding constituting a first step in a process of stimulating an atmosphere of trust and dialogue in which possible strategies to control the immigration risks can be negotiated.

But why should people in Waza receive such a “development compensation” if they still use park resources? The studies referred to above (21, 24, 29), showed that hundreds of people exploit fish, wood, and pastures from inside Kalamaloué NP and Waza NP on a very regular basis. Their habitation on the park boundary would no longer be possible if the parks were really closed to them. In a number of cases, the exclusion of local people has even privileged others, like the inhabitants of a remaining village in Waza NP who fish intensively in water holes on the territory of one of the evicted villages.

Risks of ICDPs

Compensation for lost resources to all people in and around protected areas may provide incentives leading to an intensification of exploitation of park resources, based on increased migration into the area around the park. Even if exploitation can be prevented in the short term with an improved park control system, the sharing of improved resources by a larger number of people around the park, to the extent that everybody is as poor as before, will only result in increased long-term risks to the park’s survival. The occupation of forest reserves in Nigeria by immigrants attracted by rural development opportunities (14), showed the necessity of establishing a link between conservation and development objectives (7). The underlying problems are even

Table 2. Changes in number of sedentary fishermen in Waza NP villages, 1993–1995¹ (indicated years reflect the relevant flooding season).

Villages	1993	1994	1995	% Increase	Location of origin ²
Tchédé	22	26	28	27	Lagdo
Zouang	21	21	21	0	—
Lougouma	14	26	30	114	Lagdo, Maga, Garlé
Mahé	15	19	21	40	Zina, Tila, Guidiba
Baram	16	18	18	13	Lagdo
Total	88	110	118	34	

¹ Methodology; see (29)

² Lagdo, situated 300 km to the south. Maga, situated 50 km to the south. Others situated nearby in floodplain.

Table 3. Changes in number of households in Waza NP villages, 1994–1996¹ (indicated years reflect the relevant flooding season).

	Number of households			Migration balance household yr ⁻¹	Number in Figure 1
	1996	1995	1994		
Amkodje	14	11		3	11
Andimi	68		70	-1	10
Badadaye	29		27	1	12
Baram	17		17	0	4
Diéguéré	23		23	0	9
Goulou	5 ²	3		1	2
Lougouma	22		20	1	6
Ndiguina	91	90		1	1
Niwadji	69		64	2.5	13
Mahé	22		19	1.5	5
Mbili	79	78		1	3
Tagawa 1,2	29	26		3	14
Tchédé	24		22	1	8
Zwang	24 ²		23	0	7
TOTAL	515	208	285	15 (3.0%)	

¹ Methodology, see (31).

² Includes one household “naturally” constituted (not included in migration calculations).

more far-reaching: how can an ICDP work in such frequently occurring open-access systems, where an increase in the standard of living attracts people and thereby increases pressure on the protected area?

It is proposed to emphasize the long-term objectives of the ICDP that must be realistic, even under changing conditions. Conservation risks should be explicitly distinguished, if possible, from the start of project implementation, and a system of adaptive management able to deal with them should be developed during the execution of short-term activities. In cases of collapse of the state, or more common its advancing erosion, dependency on governmental agencies has been shown to be far less successful compared to a system based on people with traditional ties to the area supported by international nongovernmental organizations (42). Experiences from the Waza-Logone area have shown the unpredictability of changes, such as the insecurity in the area from 1990 onwards and the presence of key persons brooking deals between authorities and local communities (25).

Sinclair and Arcese (43), Hart and Hart (42) and especially Oates (14) have previously questioned the efficiency of ICDPs. They argued that ICDPs fail to provide success *vis-à-vis* conservation and enhance dependency on funding agencies, risking overexploitation if the support system collapses. Without doubt the general complexity of ICDPs and conflicting interests will lead to these problems, which are well known in the development-project world (12). One can question whether it is realistic to expect ICDPs to function properly in terms of all their objectives, even though this is essential for their output (7).

A WAY FORWARD

Who is Local?

Not everybody found in or around a protected area can be considered "local". It is therefore surprising that little effort has been made to identify local user/stakeholder groups in and around protected areas, (see 5). In a publication on community wildlife management (3), local resource users were not further categorized, masking diversity in interests and, consequently, management potential. Around Waza NP, communities have been cat-

egorized based on *i*) territory/space; *ii*) activities undertaken; and *iii*) kinship, (Fig. 3). Other, predominantly nonlocal, stakeholders can be categorized as park authorities, (governmental) agencies, (inter) national visitors, donors, researchers, business people etc. (3).

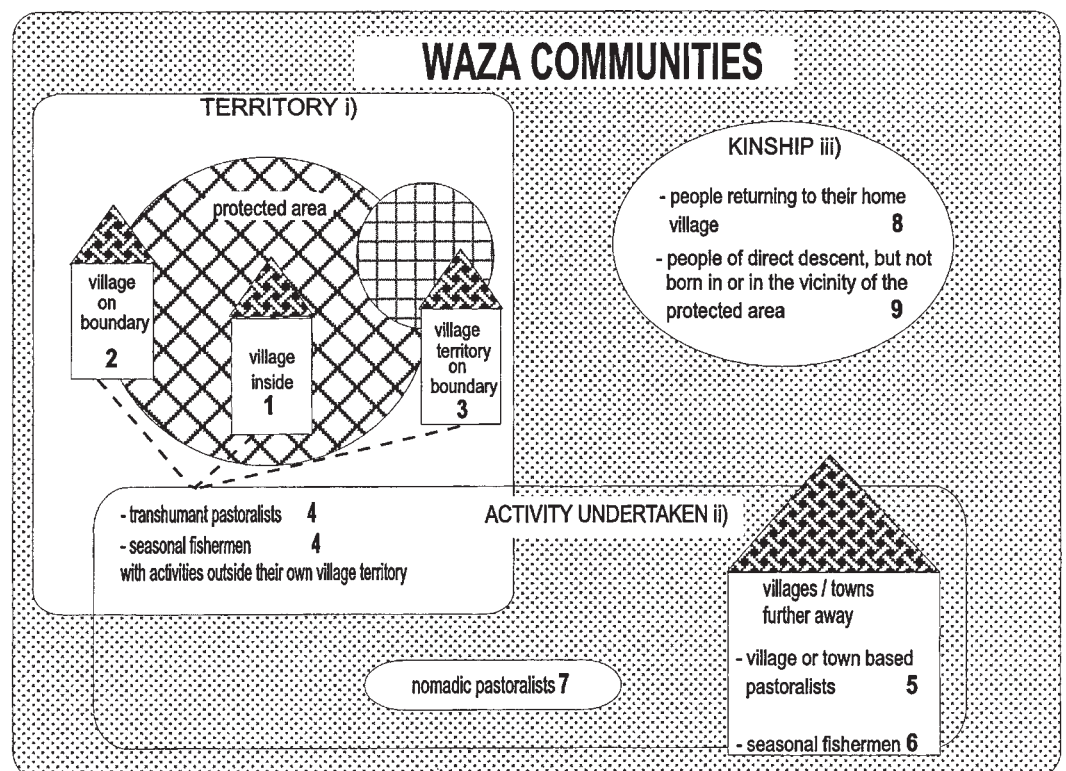
An appropriate categorization of stakeholders is a crucial start for immigration control. A solution formulated by Caldecott (13, p. 52) for the open-access system around the national parks in Cross River State, Nigeria: "an indigene was therefore anyone whose claim to be one was endorsed by an appropriate village council" remains too open and may still lead to an unmanageable situation. National park and/or ICDP authorities should also have a say in excluding some categories. "Advising villagers that registration of non-indigenes would be against their own interests because it would cause benefits to be diluted" (13 p. 52) will work only if the committees who decide on the criteria of who is local are small enough, without the danger of being dominated by leaders.

Barriers to Immigration: A (Remaining) Role for Buffer Zones?

Buffer zones have long been regarded as a tool to integrate protected areas in their regional setting (44). They are assumed to extend the habitat for wildlife and offer products for surrounding communities (45). They have also been proposed to halt further encroachment arising from the increasing demand for agricultural land by subsistence farmers (46). Implementation of the buffer zone concept is difficult in Waza-Logone and elsewhere, as its legal status, as a type of protected area, may result in the perception of an encroachment of the national park (47).

But even if such constraints are lifted, administrative regulations are by no means sufficient for influencing people's behavior. Traditional leaders play a major role in the decision-making process regarding the creation of new villages (33). In many areas, the authority of traditional leaders is eroding, making these leaders no longer the single deciding authority. Worse, this "power vacuum" is one of the main causes of the development of open-access situations, the single-most important condition for immigration (16). The traditional leader of Kousseri, who controls part of the area covering Kalamaloué NP, explained

Figure 3. Categorization of Waza communities. Categories based on *i*) territory; *ii*) activity undertaken; *iii*) kinship, see also text.



that he decides on the creation of new villages. Asked about the villages recently established, he was not aware of them: "Apparently my say in this is not always necessary". It is, further, in the interest of local leaders to increase population numbers in their territory, an economic incentive that cannot easily be reversed (Sultan of Logone-Birni, pers. comm. 1996).

Analyzing the human encroachment around Kalamaloué NP, one can conclude that parameters that are regularly the focus of improvement by ICDPs, such as accessibility, year-round water availability, availability of land for cultivation, grazing and wood collection and a nearby market, were all present. To avoid a similar encroachment near Waza NP, the access to these resources should be regulated, for example by strengthening the control of the park (1). Experiences from Kalamaloué NP, with its relatively high park guard-size ratio (1:500 ha), showed the limits of such an approach.

A more powerful tool would be a policy of active discouragement of development activities in the surroundings of protected areas. In a buffer zone adjacent to the protected area, no rural development activities should be practiced, or only such activities that have no appeal to human communities. In the transition or support zones (8), sustained rural development as part of a general strategy of regional development may be promoted, in a manner that limits the risks of human attraction. These support zones should provide alternatives to those communities that exploit the buffer zones and protected areas and will not receive development assistance in this framework. General guidelines are difficult to provide and depend also on pragmatic choices that often must be made. However, the utmost caution should be adopted *vis-à-vis* road construction (48) and increasing pastoral and domestic water availability. This contradicts present ICDP practices and buffer-zone development as described by Sayer (41), whereby various extractive uses originally proposed for the support zones only, are promoted right in the buffer zones.

Some Preliminary Results of a New Immigration Policy in Waza-Logone

In September 1997, a management plan for Waza NP and its periphery zone was approved by the government of Cameroon to improve relations between park authorities and its neighbors (49). Another objective was to prepare the park for the immigration of people to its borders with the floodplain rehabilitation efforts by the Waza-Logone Project. In this management plan, a committee was created, with representatives of selected communities and park authorities (both with voting rights) and administrative and traditional authorities (without voting rights). The Waza management committee, formalized by a ministerial decision, has representatives of all villages either situated on the park boundary, 2, or with their territories bordering it, 3 (Fig. 3). Transhumant as well as nomadic pastoralists 5, 7, are represented as long as they exploit at present the periphery zone of Waza NP. Seasonal fishermen, 6, were excluded. Baram, the only village inside the park boundary, 1, was also excluded to participate in the committee with the idea that this could ultimately persuade them to settle outside the park boundaries, in accordance with the official conservation policy. In 1997 and 1998, village water pumps, small-scale irrigated rice cultivation and local tourist camps, were promoted by the Waza-Logone Project in the park villages, 2, 3, but excluded Baram, 1. People returning to their home or parents' village, 8 and 9, have been considered for the time being as belonging to one of the categories 1-7.

Characteristically, all Waza villages originate from well before the establishment of the national park (21). In other situations it might be useful to distinguish those villages and inhabitants present prior to the establishment of the protected area from those who arrived more recently with, obviously, less

rights. The list of distinguished activities inside the park boundary may be extended to include other natural resources than grazing lands and fishing waters as well as ceremonial or religious attractions, as is the case of Niokolo Koba NP in Senegal (pers. comm. students Ecole de Faune).

Early 1998, one of the families in Baram persuaded the other 14 families to move out of the village (and out of the park). A letter was sent to various authorities and to the Waza-Logone Project asking for assistance. In a subsequent correspondence, the village was promised that, once moved beyond the park boundary, they would benefit from the same advantages as the villages outside the park. In October 1998, the initiator settled with his family in Halé on the edge of the park (Fig. 1) followed by 8 Baram families between March and June 1999. Whereas in 1996 and 1997 the initiator received fines of about USD 150 for fishing inside the park, in 1998 his relationship with the park warden improved considerably. In June 1999, the Waza-Logone Project installed a highly appreciated water pump in the new village. Whereas decades of oppression towards Baram by virtually all park wardens did not change their continued presence, the new more balanced policy of "the carrot and stick" has yielded a tangible result. As the initiator of the move told me (June 1999), "as long as they pressed us to leave we were determined to stay, but as soon as there was a perspective of a more prosperous stay outside the park and people were no longer daily harassed, we changed our opinion". This experience should guide the further development of the policy with regard to the newcomers in a regional context.

CONCLUSIONS AND RECOMMENDATIONS

The Waza-Logone area is unusual in having experienced a degradation process with subsequent emigration and having (partly) been successfully rehabilitated, provoking a population build-up on the park's borders. The risk of ICDPs becoming poles of attraction for people has also been noticed in the Central African Republic (15), Nigeria (14) and Zimbabwe (35). These areas have in common that, for a variety of reasons, access is not well regulated and surrounding areas exercise a high (emigration) pressure. In other open-access areas it is expected that the lack of real impact of ICDPs, often running for a limited period only, has masked the threat of immigration. Anyhow without a proper demographic monitoring system only massive immigration can be detected. Such demographic information is prerequisite to further analyze the risk of ICDPs, in other than open-access property systems ADD possibly as well.

These negative experiences do not detract from the necessity of integrating protected areas in their regional setting, for which the ICDP concept, if more realistically designed and executed, remains the best alternative. Taking into account the following suggestions can already make some major improvements:

- More emphasis should be put on conservation objectives as experience shows that they are often marginalized in daily ICDP routine (10). Improved park control can reduce some of the impacts of immigration.
- ICDPs will have to devote more effort to targeting local resource users. Selected groups can play a key role in the management of the areas surrounding the protected areas and may form a social fence for further influxes. Special privileges will have to be given to these people and in some cases exclusive land rights (47), without risking a loss of control over the protected area. This could reduce the "openness" of the area.
- To influence the development of activities around protected areas, ICDPs should devote more attention to regional planning, an activity demanding the presence of project personnel in the lobbying worlds in district, provincial and national capitals. This will have to be accompanied by further commitments of the various authorities involved, most importantly

an appropriate legal context and its subsequent implementation.

- Generally, smaller budgets spread over longer periods will allow ICDPs to concentrate on their role as facilitator in conservation-development planning instead of becoming a financing party with all its “spending obligations” that often are

easier funneled into development than conservation.

If these recommendations result in an ICDP becoming so complex that its conservation and development objectives are not realistic, while immigration remains a threat for the protected area, its continuation is no longer justified. If continuing, the ICDP may otherwise appear to be a Trojan Horse.

References and Notes

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24. Natural resource exploitation in Kalamaloué NP (based on Saleh, A. 1994. *La Pêche dans le Parc National de Kalamaloué: Une Activité à Stimuler, à Tolerer, ou à Interdire? Rapport de stage optionnel*. Université de Dschang, Cameroon. (In French)): A general survey was carried out by a forestry student, originally from the area, in each of the 26 villages bordering Kalamaloué NP, obtaining information on village history and demography. This student assessed the number of fishermen within the park during a three-month study. Firewood use extraction from the park was estimated in 1996 during three sessions each of 4 days on 15 main transit points around the park in different seasons. Information on the presence of livestock in the park was obtained during these studies.
25. Grazing pressure of nomadic and transhumance pastoral population in the Waza area (based on (16) and Scholte and Kari submitted to *Human Ecol.*): Nomadic and transhumance pastoral groups were visited from 1993 to 1999 at the end of the dry season on their return to the rainy season pastures. For each group, information was obtained on the period spent during the preceding months in each of the dry season stations and the number of herds in their possession. Herd numbers were multiplied by the number of weeks spent in the reflooded part of the floodplain, i.e. grazing pressure, expressed as cattle in the reflooded zone, averaged out over the six months dry season.
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50. The Waza-Logone project, under the auspices of which the 1993–1997 campaigns have been undertaken, is carried out by the Government of Cameroon (MINEF) and the World Conservation Union (IUCN), in cooperation with the Centre of Environmental Science of Leiden University (CML), the Netherlands Development Organisation (SNV) and WWF-Cameroon, with the financial support of the Dutch Ministry of Foreign Affairs (DGIS) and WWF-Netherlands. The views expressed in this paper remain, however, the sole responsibility of the author. I am grateful to S. Adam, S. Kari and the park village team who assisted in the data collection. This paper has benefited from the vivid discussions on an earlier version that was circulated in 1996 and 1997 amongst the Waza-Logone project and its partners, leading to the newly developed policy. I would like to thank R. Braund (IUCN), W. de Groot (CML) and Stephany Kersten who provided comments on subsequent versions.
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