ECOTOURISM IN THE PALMYRA DESERT, SYRIA

A FEASIBILITY STUDY

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GLOSSARY

DCNEC: Desert Culture and Nature Education Center, built at the entrance of *al talila* reserve (Palmyra) by the PP (see below)

PA: Protected Area

MAAR: Ministry of Agriculture and Agrarian Reform of Syria

PP: Palmyra Project, the FAO/Italian Cooperation (DGCS) project in operation in Palmyra during period 1996-2004

1. EXECUTIVE SUMMARY

Tourism is currently the world's largest industry and it has an increasing impact on protected areas. Our understanding of these mechanisms, their ecological impacts and our capacity to manage tourism in protected areas lags behind the growth of tourism to protected areas. In many protected areas, tourism is a major activity that occurs without much forethought or preparation. To ensure that the benefits of tourism outweigh the costs, careful planning and management of tourism impacts are needed.

Mass market-driven nature tourism is known to have a clear negative impact on local cultural and natural heritage. The starting point is therefore to distinguish between this kind of uncontrolled tourism and ecotourism which is by definition an ethical form of travelling, responsible and small scale. A dangerous confusion between these two types of tourism is widespread and anything nowadays tend to be labelled and sold as "ecotourism".

Due to an increasing demand for ecological accountability and travel ethics, the international tour operators and the ecotourism local initiatives have the interest in being certified by independent bodies such as international conservation NGOs or by authoritative private accreditation associations. Achieving a unified international certification system together with identifying suitable and efficient mechanisms to create a viable business while controlling it, is the challenge of any ecotourism scheme. Conservation NGOs, in cooperation with ecologically conscious visitors, have the potential to ensure that any specific ecotourism initiative remains under control socially, culturally and environmentally.

The present feasibility study is intended to provide independent and objective information to the relevant stakeholders, useful to decide whether an ecotourism scheme would be an economically, socio-culturally and environmentally viable hypothesis of development relatively to the Palmyra desert. An option for developing an ecotourism enterprise should involve all main stakeholders in discussing, negotiating and planning the idea through a series of participatory workshops, ensuring that the idea is not actually imposed on the local community. An ecotourism business option is identified and discussed relatively to the Palmyra desert: thanks to the detailed reconnaissance work started as early as 1996, this area is regarded as holding sufficient attractions in terms of archeological, cultural, landscape and natural heritage to attract a fair amount of cost-conscious European visitors with a desire to enjoy the desert nature and culture, while contributing to its conservation.

The market for ethical and responsible tourism is certainly growing in western Europe. Birdwatching is surely a promising ecotourism product for the area, as evidenced by the increasing numbers of birdwatchers flocked to Palmyra after the discovery of a relict colony of Northern Bald Ibis in Palmyra. The key point that makes Palmyra desert highly competitive in the market is the presence of a world renown heritage site, giving the opportunity to combine cultural and archeological with landscape and natural history attractions. Conservation NGOs are identified as the responsibles to certify the proposed scheme as real ecotourism and to promote and market the product to the specialized tour operators.

In particular, an ecotourism business is estimated to have the potential to economically drain or eradicate the whole poaching activity presently carried out in Palmyra in the course of a relatively short time scale - one of the most biodiversity destructive force operating today within the Syrian desert (*al badia*). It could also help the Bedouin mobile *amur* pastoralists living within the Ibis Protected Area to shift their traditional herding activities toward sustainability. The involvement of the mobile herders in the ecotourism scheme could be pursued best in the framework of a broad conservation and sustainable development strategy: small-scale and responsible desert tourism already proven to be compatible with desert nomadic culture and can be integrated in their traditional multi-resource economy.

A key pre-condition for developing any ecotourism idea in Syria is the need for a national legal framework regulating the management of protected areas and of ecotourism activities: the awareness of Government relatively to this specific problem should be raised. In particular the need to regulate the outsourcing of services inside and around protected areas is crucial for allowing the local community to benefit from ecotourism. The success of such an operation in Palmyra will largely depend on the coordinated interplay between Ministry of Tourism and Environment, MAAR Protected areas of Palmyra, national and international NGOs (Syrian Society for the Conservation of Wildlife and BirdLife International), national and international tour operators, the local community and, least but not last, the visitors themselves. The respective roles, benefits sharing and an appropriate measure of success should be carefully discussed and agreed well in advance, during the planning stage.

2. BACKGROUND

2.1 Ecotourism, the ethical travel

2.1.1 What is ecotourism?

Tourism is currently regarded as the world's largest industry. Ecotourism, a relatively new and different form of nature and adventure travel, pursues the preservation of local natural and cultural heritage through improving the welfare of local community. Ecotourism holds an ethical dimension which make it different from the other types of tourism. It accounts for 2-4 % of the entire tourism sector - but it is the fastest-growing segment of the industry according to the World Tourism Organization, with an estimated potential growth 20% per year. The new travel ethic on which ecotourism is rooted derives from an increasing global appreciation of the intrinsic value of un-spoilt nature and realization that the planet's biodiversity is being lost at unprecedented rates.

Since the 1992 Earth Summit in Rio ecotourism has become a quite fashionable term and concept increasingly proposed by bilateral donors and cooperation agencies as a means for promoting nature conservation in developing countries while improving the welfare of local people. It is an approach also

favoured by international lending agencies such as the World Bank and the International Monetary Fund (IMF).

However, there are a number of myths surrounding ecotourism. Experience world-wide during the past decade has shown that ecotourism is a double-edged weapon (Goodwin 1996). The idea in principle is seductive: ecotourism is intended to bring money to local people as a form of compensation for the restrictions imposed by conservation strategies and policies (e.g. establishing a protected area on traditionally owned or used land). But experience has shown that ecotourism creates a mixture of positive and negative impacts on host societies and on local natural heritage. One of the challenges facing ecotourism is how to develop it without diminishing or destroying, ironically, the natural attractions that drew visitors in first place. It is becoming evident that increased tourism to sensitive natural areas in the absence of appropriate planning and management can become a threat to the integrity of both ecosystems and local cultures, as stated by The Nature Conservancy.

While a definition of ecotourism remains elusive (Fennel 1999), there is broad consensus on the types of impacts that environmentally sensitive tourism should have: in general, it should provide local economic benefits, conserve the environment, allow local participation in planning and management and be developed in a socially and culturally sensitive manner (Duffy 2002). In these regards the best approximation of a definition for ecotourism seems the one produced by the IUCN (Ceballos-Lascuráin 1996), also endorsed by the Nature Conservancy: "environmentally responsible travel to natural areas, in order to enjoy and appreciate nature (and accompanying cultural features, both past and present) that promote conservation, have a low visitor impact and provide for beneficially active socio-economic involvement of local peoples".

In other words, ecotourism should not be interpreted as a conventional business driven by the logic of maximizing short-term profits, as long-term environmental interests are at stake (Fennel 1999). Conservation and business must be carefully blended and balanced, they are both needed in an analogous form than a sort of "arranged marriage" - not one necessarily based on love. Ecotourism can maintain its ethical dimension only if it is carefully controlled and kept small-scale – in other words only if it is not market-driven.

A distinction therefore is needed between mainstream, mass and market-driven nature tourism from ecotourism which by definition must be small-scale, responsible and a controlled business: it can be characterised by its emphasis on conservation, education, traveller responsibility and active community participation." More in detail, a wide and growing consensus indicates that a "real" ecotourism product should posses the following characteristics:

- conscientious, low-impact visitor behaviour
- restricted number of participants in the tour
- sensitivity towards, and appreciation of, local culture and biodiversity
- support for local conservation efforts

- sustainable benefits to local communities (i.e. most of the money spent clearly going to the local community, at least: accommodation & dining, interpretation, and local transportation)
- local participation in decision-making (e.g. protected area not established through a land use rights expropriation at expenses of traditional users)
- local people themselves are employed in the operation business / they own the business
- ecotourism scheme for the local community is a complementary activity to their traditional practises
- educational components for both the traveler and local communities
- traditional architecture and design *versus* huge and landscape-disrupting infrastructures
- sound sewage and waste management in place / energy and water saving
- emphasis on international-interregional-intercultural understanding and respect (close contact and genuine experience with the local community).

In fact, according to The Nature Conservancy "most tourism in natural areas today is not ecotourism and is not therefore, sustainable". Bearing above mentioned criteria in mind, it becomes debatable whether famous and well advertised "ecotourism packages" could be really regarded as real ecotourism.

The *Serengeti* National Park is one of the most famous and popular tourist destination in Africa. Let alone the fact that it was established long time ago by eradicating the local community (the *Masai* pastoalists, sweeping away their traditional livelihood and culture), today the extremely costly experience of visiting this park is more similar to visiting a crowded zoo or a theme park rather than a real wilderness: visitors cue packed in noisy cars waiting their turn to see semi-domestic lions from few meters away. For example, on a recent trip to eastern Africa, the author decided to skip the visit to this famous park - targeting less famous out-of-the-beaten-track protected areas. It is the paradox of the ecotourism damaging and finally destroying the attractions that originally had triggered it.

Another interesting case study is that about the development of desert tourism in *wadi rum* (Jordan). Due to the spectacular desert scenery, *wadi rum* had attracted foreigners since centuries ago, who had been always escorted by local Bedouin tribes. In the past decades, the local Bedouin organized themselves, under the pressure of a growing demand, to offer a good quality desert tour product. According to Chatelard (2005) desert tourism guiding is a perfect complementary activity for a nomadic pastoralist, completely compatible to their tradition of multi-resource economy and mobile culture. Until a World Bank project started in 1996, this desert tourism activity was benefiting a good number of nomadic families and tribes in the *wadi rum* area, attracting mainly foreign desert lovers who would be willing to stay from few to several days in the desert. The new project catalyzed instead a transformation toward mass tourism, targeting the 1-day tourists (or better "consumers").

The author have met the Bedouin pastoralists of *wadi rum* in 2001, turned full-time eco-guides, through the complete abandonment of their traditional lifestyle and livelihoods: they seemed kind of comedians daily "performing" the play of the "Bedouin" on a fake folkloric stage, just for the quick enjoyment of the leisure

mass tourism. While the once extraordinary and mystical scenery that made this desert setting famous seems highly diminished if not ruined by the multitude of four wheelers noisily cruising in all the directions – heavily disturbing the remaining fauna and triggering the soil erosion. As a major global economic force, tourism is caught in the mainstream of a complex civilization that tends to emphasize material ends over other more virtuous ends. As part of the tourism industry, ecotourism will have to struggle to identify itself as part of either the conventional front or the alternative ethical front (Fennel 1999).

2.1.2 Constraints of ecotourism development

A completely sustainable ecotourism is likely to be an ideal rather than a reality (Cater 1995). The positive aspect is that it is already several decades that this conservation and development practice was started, therefore there is plenty of literature and available lessons learned (Goodwin 1996). Most of them concluding that developing ecotourism in such a way to benefit at the same time local people and biodiversity is a complex and extremely difficult exercise: in the words of Farquharson (1992), ecotourism is a "dream that has been severly diluted over the years". Actually, most ecotourism projects have failed in pursuing their initial goal – despite few are ready to admit this. The key common constraints experienced by ecotourism development projects worldwide are the following:

- *Runaway ecotourism losing sight of its ethical dimension.* It is more than clear that the size of the flow of foreign visitors to a destination is a critical variable that can negatively affect both the local cultural and the natural heritage. In order to be successful, an ecotourism scheme should be able to carefully control such flow. But this is extremely difficult, especially because the prospect of making business (especially with foreign exchange) can make people easily forgetting the conservation instances of the beginning. In fact, ecotourism is far too attractive these days to be ignored by an industry bent on profit, while the national tourism policies tend to be geared towards the generation of economic growth. Tourism development is closely bound up with the private sector at the local, national and global level, and urban elites in developing countries are particularly attracted by this sector (Duffy 2002). Most study cases show that if and when a suitable "market" emerges, without regulations and a strict control ecotourism soon become a runaway organized business allied to the global tourism industry.

- *The quality of the visitor experience.* The amount of visitors at a given time will also affect the overall quality of the visiting experience itself: a crowded wilderness loses most of its fascination and attractiveness. In fact most of the enjoyment comes from contemplation of quiet, un-spoilt and wild nature – the presence of cars, noise and herds of other tourists subtract or destroy most of this enjoyment. A careful compromise should be achieved between creating sufficient revenues (in order to keep the business viable) and the need for visitors to gain a rewarding and enriching experience. Consistently, a market study on ecotourism commissioned by the Australian Office of National Tourism showed that one of the main thing ecotourists are seeking in a nature holiday, beside the attractions themselves, is to stay away from crowds (Commonwealth of Australia 1997).

In fact, in response to this demand, it is becoming increasingly common for naturalistic tour operators (e.g. Naturetrek, www.naturetrek.co.uk) to emphasize visit offers to little known sites and protected areas.

- *Welfare of the local community.* Ensuring that a fair amount of benefits brought by visitors goes effectively in the hands of the local community is the most challenging objective to be achieved. Urban elites and investors are usually much quicker and capable to take the lead over the ecotourism operations, as soon as the business potential becomes clear.

- *Equity in distribution of revenues.* Even in the uncommon instances when the local community manages to take and maintain the lead in ecotourism development, it is still challenging to ensure that benefits are equally and fairly shared within the target beneficiaries, without creating dangerous resentments and destructive conflicts.

Moreover, two are the common misleading and dangerous myths associated with ecotourism and the generation of revenues in the benefit of the local community: that it can alone achieve any conservation goal on its own and that it could replace the traditional local economic practices.

It is in fact illusionary believing that ecotourism on its own can achieve any conservation goal in first place because it is proved that it can bring revenues only to a small percentage of the local community. It can rarely compensate on its own for the restrictions to local use of natural resources originated from conservation strategies. For instance, the *Ruaha* National Park, a well established and staffed protected area of Tanzania (the second largest park of the country, visited by an average of 7500 visitors *per* year), currently provides employment to about 200 persons (rangers, guards, providers of lodging and guiding services *etc.*) *versus*: the thousands of mobile herders from the *He-he* tribe that traditionally used its pastures before the area was designated as a protected one in 1953 (let alone the fact that few of them, if not none, are currently employed in the park). Ecotourism must be therefore integrated in a broader strategy of biodiversity conservation and sustainable development aimed at supporting the shifting of traditional practices toward sustainability, at improving education and awareness and promoting family planning.

It is also erroneous believing that ecotourism should replace the traditional livelihood. Ecotourism should be regarded as a complementary income, never an alternative to traditional livelihoods. The main reason for planning so, is that ecotourism is completely dependent on international demand, markets and policies - all variables totally out of control of a remotely located rural community. For instance, after an initial success of an ecotourism scheme, visitors could suddenly stop coming from one year to another, without any notice of advance, just due to any arisen political regional instability, to increasing competition from a different alternative destination, to climate fluctuation and even to fluctuation in currency exchange rates. Moreover, disrupting the traditional practices by ecotourism would mean sweeping away the local cultural heritage and traditions – which would be against the very definition and basic objectives of ecotourism. Nomadic Bedouin

of *wadi rum* (Jordan) have been engaged in guiding foreigners in desert tours since long time ago, and managed to integrate and blend well this activity with nomadic pastoralism (Chatelard 2005). In fact, their traditional multi-resource approach is a strategy to minimize risks: for instance, when the tourism to Jordan suddenly dropped 70-80% in 2001 following the September 11's events, those Bedouins who had not completetely abandoned their traditional activities, simply re-focused on pastoralism and just froze the provisions of guiding services (Chatelard 2005).

A scarce awareness of authorities relatively to what ecotourism really is and what should achieve is common. As it is common that decision makers undervalue the benefit to local nature and economy brought by a small-scale tourism initiative *versus* pharaonic development plans that will benefit mainly urban investors and elites. In fact lessons learned around the world indicate that local nature and economy can benefit relatively more from a well designed small-scale scheme than from huge development plans. A legal framework regulating the whole sector nationally, in combination with conservation of natural assets and protected areas management, is obviously a precondition to any attempt of proper ecotourism development.

2.1.3 Controlling a viable ecotourism business

In ecotourism, indeed in any sustainable attempt of land and resource use, people must learn to recognize when enough is enough (Fennel 1997): the key challenge for any ecotourism scheme is to keep the business viable and controlled at the same time. Independent control mechanisms should be the responsibility of international conservation NGOs, authoritative international accreditation associations and the visitors themselves (by means of their visit feedbacks). Due to the changing lifestyles, economic conditions and demographic structure of travelers, the market is shifting from manipulated, uncritical "old-style tourists" to mature, critical and emancipated "new tourists", who are usually well educated, ecologically and cost conscious travelers (Fennel 1999). Because of to the increasing demand for ecological accountability and travel ethics (Addley 2006 in Annex 1), the tour operators and the ecotourism local initiatives/products will increasingly seek accreditation and certification from the above mentioned independent subjects. This sort of virtuous circle and coordination should ensure that an ecotourism activity remains under control and does not lose sight of its ethical dimension.

The true ecotourist feels the responsibility of his/her choices as a customer triggering a complicated mechanism of global economy – heavily affecting the life of people and non human creatures on the other side of the world. Therefore travelling is increasingly becoming a thoughtful and responsible act, entailing a thorough "investigation" and planning work aimed at detecting the most rewarding ecotourism offer, in terms of aesthetics, learning and ethics (see Addley 2006 in Annex 1). The purchasing becomes a sort of responsibility act and the traveller feels proud of acting as a sort of conservation agent: in fact, people feel empowered by demanding ecological accountability of tour operators, and that the ecotourist services offered by them concretely support the local cultural and natural heritage, through benefiting the local community.

And the demand triggers and shapes the offer, as usual: according to a consumer research firm, by 2010 the outgoing "ethical" holiday market from the UK will have swollen to 2.5m trips a year (Addley 2006 in Annex 1). This shows that we can expect that tourists will increasingly demand accountability of ecotourism products, while tour operators will have to demonstrate an adherence to an appropriate vision and mission (Fennel 1999). For instance, the most advanced ecotourism operators request a feedback of the visitor after the trip's completion about its perceived environmental, cultural and economic impact at the local level. But a responsible choice is not easy these days as anything seems (auto-referentially) labeled as ecotourism, including mass and irresponsible nature tourism projects. In these regards ecotourism has gained a poor image in the past years, meaning very different things to different people. An independent certification system is nowadays the single most important action needed to give ecotourism a new credibility and leverage (Fennel 1999), making choices easier for responsible eco-travellers.

A kind of certification and standardization is already offered by the private sector itself in the UK, where a company (ResponsibleTravel.com) claims to be "committed to changing the tourism industry": its scope is in fact to screen and select tour operators and ecotourism products world-wide, according to a set of ethical standards, in the benefit of the responsible traveller. ResponsibleTravel.com currently offer (or certifies) 200 tour operators and claims to be already "one of the fastest growing travel agents in the UK". The ones proposed by Responsible travel.com are "more authentic holidays offering experiences that - contrary to the sometimes artificial confinements of mass tourism - respectfully explore the natural environment and local culture of a destination.

International conservation NGOs have already started taking the lead in certifying and controlling the ecotourism business: for instance Conservation International (www.ecotour.org/xp/ecotour/), The Nature Conservancy (www.nature.org/aboutus/travel/ecotourism/), Sustainable Travel International (www.sustainabletravelinternational.org) and Rainforest Alliance (www.rainforest-alliance.org) seem among the most active in the field. The Sustainable Tourism Certification Network of the Americas is a direct product of this new commitment and action of NGOs.

2.2 Conservation and socio-economic context of Palmyra desert (by Dawn Chatty, *in prepar.*)

The opening years of the 21st century has seen a major biodiversity conservation goal achieved - the setting aside of large areas of the earth's surface to protect its biodiversity. Some 11.7% of the earth's land surface is in some kind of protected area, although in many of these indigenous and traditional peoples are also found (UNEP-WCMC, 2003). In the drive to establish PAs and parklands for the protection of habitat and to prevent species loss, many traditional and indigenous peoples suffered limitations on resource use, land expropriation and even expulsion at the hands of national and international agencies. While these practices have been largely disowned in the pronouncements of

conservation agencies [1], progress in land restitution is sometimes sluggish or non-existent, particularly where the indigenous peoples concerned are widely dispersed, mobile and not physically present at all times of the year.

Mobile indigenous peoples [2] have sustainably managed the land they live on for millennia. However, in many parts of the world and for a variety of reasons, some mobile peoples have been left destitute and culturally impoverished as their traditional lands have become degraded, due to reasons beyond their control and will - or otherwise made inaccessible to them. In recent years an increasing number of mobile indigenous people of the Middle East (Bedouin) have suffered from top-down implementation of national and international conservation projects. Protected areas and conservation schemes have been established and carried out within the desertic steppeland of the region (*al badia*) usually through pushing them away from their traditional grazing pastures.

In the local context, a 'Bedouin' is a regional specialist in livestock breeding whose closest social and political ties are with his/her pastoral kinsmen. Change and adaptation are key aspects of Bedouin livelihood strategies. In the current global economy, many Bedouin have sought out multi-resource strategies, seeking wage labour in related activities such as transport and commerce, entering into the unskilled daily wage labour market in construction and agriculture. Others have settled and become less mobile. The primary economic activity of the Bedouin and the culturally significant marker for self identification is animal husbandry of sheep, goat and camel. At its core is migration determined by the seasonal variability of pasture and water. Because water and grass can be in short supply in a particular area at the same time that it is abundant elsewhere, survival of herds and herders makes movement from deficit to surplus areas both logical and necessary. Each Bedouin group seeks to manage a land area that contains sufficient resources to sustain communal life. It seeks to establish a definite zone of control with well-understood, though often variable, limits and certain rights of use denied to other Bedouin groups.

Due to a complex combination of reasons (see Problem Tree - Annex 2), the Syrian *al badia* has been experiencing an unprecedented ecological crisis during the past generation, reflected in a recent drop in pasture productivity, heavily affecting the sustainability of livelihoods of the Bedouin mobile pastoralists, the ecological functionality of the associated fascinating wide environment and the survival of its biodiversity. During this period, the Bedouin traditional practices of livestock raising and firewood collection have turned unsustainable for reasons independent from their will and choices, and an increasing portion of Bedouins have become impoverished. Most contemporary difficulties between the state and Bedouin society focus on two related areas of concern: degradation of the arid steppe land and global interests in preserving its biodiversity. Since the middle of the twentieth century, the modern Syrian state has pacified the Bedouin,

[1] See for example the document of GEF-UNDP (2002), the Durban Accord adopted at the World Parks Congress in 2003 and the resolution on mobile people approved by the IUCN World Conservation Congress in 2004 (Bangkok).

[2] The term mobile peoples (e.g. nomadic pastoralists, hunter-gatherers) covers indigenous and traditional peoples whose livelihoods depend on extensive common property use of natural resources, and who use mobility as a management strategy and as an element of cultural identity.

and their traditional semi-arid steppe land has been declared state-land (Rae *et al.* 2002). For decades, Government has encouraged the Bedouins to move off of *al badia* and settle. In the past decades, Bedouin have been pressured to give up a way of life which is regarded as backward, primitive and out of step with modern, settled society (Chatty, 1996) - neglecting the value of their cultural heritage and of their valuable traditional knowledge.

Right of use of nomadic tribes over Syrian *al badia* rangelands (*hema* system or *madarib*) was very well known and respected until the late 1950s – during the same period vehicles and feed from outside *al badia* were introduced for the first time in the life of the Bedouins. The *hema* or *madarib,* the traditional grazing system, was completely banned in the 1960s, to be replaced by an open access system. Supposedly agricultural land of the steppe was sold to nomads, during the same period, with the aim of settling them down. By 1970 the government realized the deterioration of the steppe, and thus passed the Act No. 140 stopping the sale of steppe land and introducing a cooperative system, adopting the logic of the tribal right of use. By 1974 the General Peasant Union (GPU) was established and became a powerful institution competent for decision making on rangeland management. GPU *de facto* froze implementation of Act 140/1970, supporting again the unsustainable open access system up to present.

In October 1992 the representative for Syria at the meeting of the Commission for National Parks and Protected Areas (CNPPA) of the World Conservation Union (IUCN) in Sicily, Italy, indicated the interest of the Government of Syria in establishing protected areas. Expertise for planning the development of *al talila* Protected Area (PA) and for protection of wildlife populations was requested. *al talila* PA was established by Syrian Government Decree in July 1991. From that time until February 1996 it was managed by the Directorate of Steppe, Rangeland and Sheep, Ministry of Agriculture and Agrarian Reform (MAAR). In February 1996 the PA became the joint responsibility of UN-FAO and the Directorate of Steppe, Rangeland and Sheep, in terms of an international cooperation project funded by the Italian Government (see Prf. 2.3).

al talila was the first PA in Syria created specifically for the purpose of biodiversity conservation, and, as such, its development was a pioneering effort which to a considerable extent was occurring in a legal and institutional vacuum. The PA lies to the east and slightly to the south of the town of Palmyra about 20 Km.

The main entrance of *al talila* is on its northern edge and is about 30 Km by asphalted road from Palmyra. The PA covers about 220 Km², with a surrounding buffer zone of 1300 Km². The area has been traditionally used by Bedouin nomad pastoralists as a grazing ground for camels in a long time (see Prf. 2.6.5).

2.3 Palmyra Project (1996-2004)

The aim of Italy (DGCS)-funded and UN-FAO-implemented project GCP/SYR/009/ITA (hereafter referred simply as "Palmyra project": PP), started in 1996 in assistance to Directorate of Steppe, Rangeland and Sheep of the Ministry of Agriculture and Agrarian Reform (MAAR), was the prompting of biodiversity conservation within the country, through the development of *al talila* PA and the rehabilitation of the rangelands surrounding it. Among several key achievements, PP, through the in-service training of national staff, conservation education programmes and the involvement of the local community has prompted an important process of awareness raising about the ecological crisis of *al badia* (Serra *et al.*, 2003).
In synthesis, the main achievements of PP, a pioneering initiative in Syria, could be listed as follows:

- an amount of high quality detailed data on local socio-economics, culture and traditions, ecology, fauna and flora occurrence *etc.* were duly collected and documented (Talal Razzouk, *in prepr,*; Serra 2003a; Serra 2003b, Serra *et al.* 2005; Serra 2005, Sindaco and Serra 2005; Murdoch and Serra 2006; Serra, *in prepar. etc.*);

- a sustainable camel grazing plan relatively to *al talila* PA, first of this kind in the country, was discussed and agreed, using a a participatory approach, by MAAR and some tribes of mobile pastoralists (i.e., herders from *sba'a* tribe, see Prf. 2.6.5), whom PP had recognized the undisputed traditional right of use of *al talila* pastures (Mirreh *et al.* 2001); this agreement was signed by both counterparts in 1998 and was fully and satisfactorily operational at the time of PP's termination in 2004;

- as a result of a series of Participatory Rural Appraisal (PRA) workshops organized by PP, and of lengthy negotiations, a pioneering land tenure regulation was issued by MAAR in early 2004, granting a controlled and exclusive right of use of those pastures included within the buffer zone of *al talila* PA, to their traditional mobile users (i.e., sheep herders belonging to the three different local cooperatives) (Rae 2000, 2002);

- creation of a Desert Culture and Nature Education Center (DCNEC), at the entrance of *al talila* PA, a regional milestone resource for conservation education, inaugurated by Syrian First Lady H.E. Mrs Asmaa Assad in December 2003; the reserve was fully equipped and provided with needed infrastructures

- in 1996 FAO Wildlife Expert Dr Williamson leaded and coordinated a reintroduction plan in *al talila* PA, pioneering for the country, involving 30 Sand gazelles *Gazella subgutturosa marica* and 8 Arabian oryx *Oryx leucoryx*. Former antelope species was common until 30-40 years ago within Palmyrean *al badia* while today it is almost disappeared from all the country, while the latter antelope likely disappeared from the country > 100 years ago.

- preparation of a scientifically-based management plan (2004-2006) for *al talila* PA (Serra and Williamson 2003), through discussion, negotiation and agreement with all stakeholders;

- setting up of a passionate, motivated and trained wildlife team from local community (MAAR staff, Bedouin pastoralists and Palmyra hunters, see Prf. 2.5);

- due to the unexpected spectacular discovery of a relict colony of the extremely rare N. Bald Ibis *Geronticus eremita*, the international attention of media and donors had been attracted on the Palmyra desert and its natural and cultural heritage, see Prf. 2.4;

- the NBI colony was protected with good success during three successive breeding seasons (2002-2004) fully involving the local community of nomads and hunters;

- following the example of *al talila* PA and due to the surveying work and recommendations made by PP, other 3 protected areas were established (see map below):
  abu rigimin PA was established by MAAR in 2002 within the mountain range north of Palmyra on traditional pastures of *amur* tribe, causing significant socio-economic sufferance to them, and an escalating conflict;
  sabkhat al moh was granted protection by MAAR in 2004 after PP recommendations (Serra 2002a): it is a very pristine seasonal salt lake to the south of Palmyra already listed as an IBA (Evans 1994);
  Ibis Protected Area (Ibis PA) was officially established by MAAR in 2004 within the mountainous area of *abu rigimin*, following the discovery in 2002 of the NBI colony. Ibis PA is traditionally inhabited by the *amur* tribe.

At the time of the termination of the project, in June 2004, most of the above described achievements were not self sustainable, nor consolidated nor institutionalized yet. Since the project termination in May 2004, the following setbacks have taken place (Serra and Chatty, *in prepar.*):

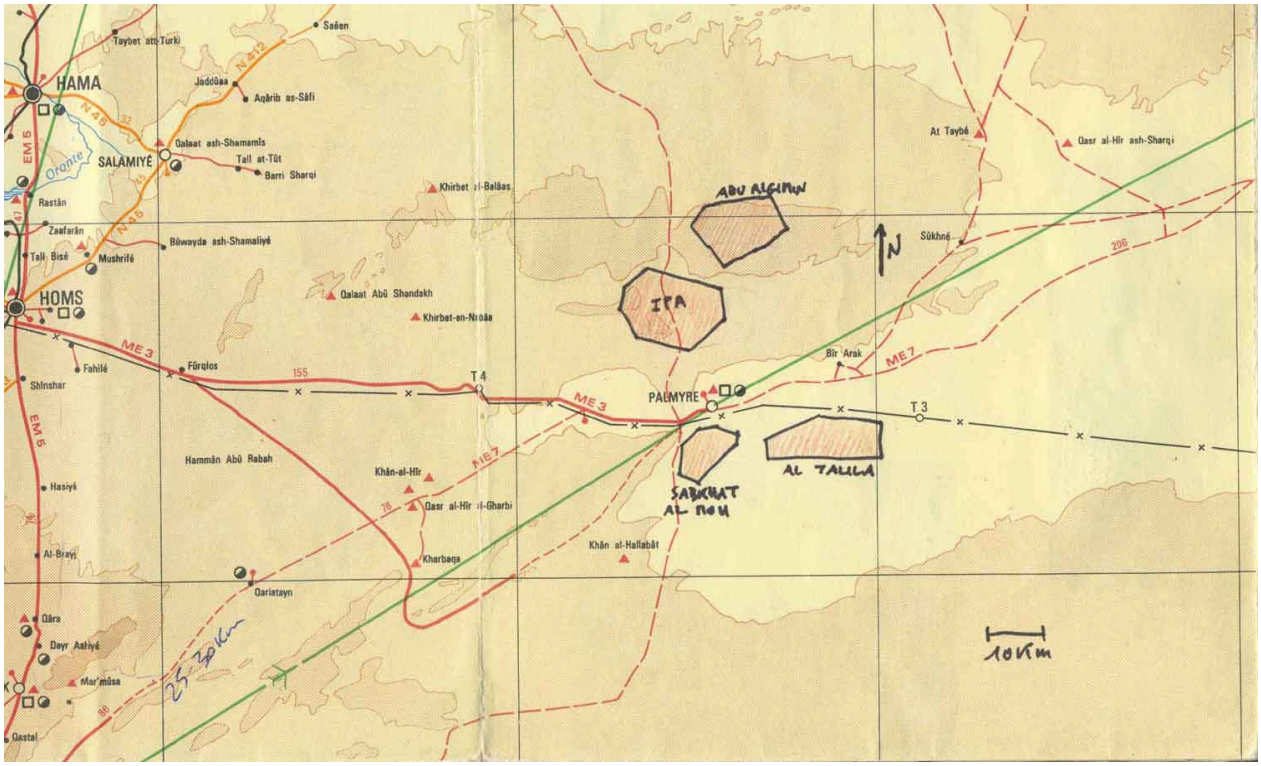
- aforementioned pioneeristic grazing plan agreement with the *sba'a* Bedouin camel pastoralists was canceled in September 2005;

- aforementioned regulation issued by MAAR over controlled use of *al talila* PA's buffer zone by Bedouin sheep herders, has not been implemented on the ground yet (apparently it was frozen);

- without any international assistance in place the relict Northern Bald Ibis colony completely failed the breeding effort in 2005;

- the new DCNEC, several years after the official inauguration by the Syrian First Lady, appears to not be open to the public yet;

- only 2 years after PP termination, about 90% of the staff trained by the project had either left *al talila* PA or was not allowed performing duties related to their training; not surprisngly, the management plan prepared by PP (Serra and Williamson 2003) appears not be implemented.



The location of the 4 protected areas established within the Palmyra desert during period 1991-2004.

Overall PP has shown a typical top-down project management, with the participation and involvement of local community remained only on paper - which possibly contributed to an unsustainability of the project achievements.

2.4 N. Bald Ibis conservation work

N. Bald Ibis (NBI), one of the rarest bird globally, listed as "Critically Endangered" by the IUCN's Red List, until 2002 it was known as surviving in the wild only in a few scattered colonies in Morocco - for a total of 92

breeding pairs. That same year a relict colony of 7 individuals of this bird species - belonging to a sub-population separated from the western one centuries ago - was unexpectedly discovered in Syria, by the PP (Serra 2003b, Serra *et al.* 2003a), from where it was believed it had become extinct more than 70 years before. The news attracted the attention of international media and of the conservation community: NBI suddenly "reappeared" in the Middle East where it had been declared extinct in 1989. If the NBI as a species had been already listed as Critically Endangered before the discovery, the handful of ibises breeding in the middle of the Syrian desert could be well defined as "Hyper-critically Endangered": certainly, they have suddenly became the rarest and most threatened vertebrate of the Middle East. The discovery was especially significant from a conservation point of view, as it revived the hopes to save this iconic species in its native habitats of the Middle East.

The relict NBI colony was found over a large extension of a mountainous area, through decoding the traditional naturalistic knowledge of the Bedouin indigenous pastoralists (Serra *et al.* 2003a): data collected showed that this bird was most likely a common sight of *al badia* landscapes until only 20 years ago. In facts these fascinating birds have always co-existed with the herds of the Bedouin nomads since time immemorial: these people, not only use a specific name for the bird in their idiom ("*nug*") - only elder pastoralists still recall it - but they still use this name to identify several desert sites. The successful decoding of the traditional knowledge of the Bedouin triggered an interesting international debate about the need to include this knowledge in the scientific naturalistic surveying and research (Blair 2005). The bird has always had a symbolic value attached in the whole region: it was in facts known by ancient Egyptians as shown by its unmistakable graphic representation in 4500-year-old hieroglyphs and even cited in the Old Testament as the legendary messenger of fertility released by Noah from the ark. Its migration used to be known by Turkish Muslims for guiding the pilgrims bound to the holy Mekkha (in Saudi Arabia). Interestingly, an elder Bedouin of *al badia* reported to PP that - similarly to old pharaohs - they used to held the NBI as a symbol of wisdom.

NBI can be regarded as a keystone species of the Syrian *al badia* not only culturally but also ecologically. In the past this bird species certainly used to play an important ecological role within the Syrian steppe land: being an insectivore, it was probably key in controlling the insect populations, and in so doing maintaining the ecological health and productivity of the pastures on which the nomads rely on for their livelihoods -

interestingly, MAAR recognized the beneficial role of the ibises for agriculture in a decree of the 1970s. A protection program against hunting and disturbance was implemented successfully by PP during period 2002-2004. The primary threat to the survival of this invaluable colony was that adults were still decreasing steadily (from 7 in 2002 to 4 returned in early 2004) while fledged young, usually migrating together with adults to their unknown wintering grounds, seemed to not reappear the following years at the Syrian breeding grounds.

The NBI protection program involved the traditional indigenous people (i.e. Bedouins pastoralists from *amur* tribe and Palmyra hunters) (Bowden *et al.* 2002, Serra *et al.* 2003b), receiving international acknowledgements at the 2004 Bangkok IUCN World Conservation Congress. The awareness on the importance to protect these birds was raised nationally during those years. A 400-Km² Ibis PA was established by MAAR in spring 2004 and a photo-exhibition, organized by MAAR and BirdLife International, was held in the old city of Damascus on this issue (February 2006). Differently from the Moroccan ibises, which are living in resident colonies, the Syrian ibis survivors are migratory: a behavior that makes them genetically unique globally, but also very vulnerable from a conservation point of view. The successful protection program established at the breeding grounds by the Syrian Ministry of Agriculture, soon after the discovery, appeared to be not sufficient: the fact is that the creature should be protected also in the rest of its unknown range. The only way to discover the rest of the distribution range of this species was to trap and tag with a satellite transmitter one or more birds.

Following a determined advocacy campaign in Syria during the winter 2005-06, which even prompted the direct interest and support from the H.E. Syrian First Lady, a field mission was implemented in 2006 which succeeded in trapping and tagging three adult ibises: the migratory route and the wintering site of the NBI colony was therefore unveiled (Serra *et al.* 2007). With the inauguration by the Syrian First Lady of a photo-exhibition in Damascus focusing on the biodiversity of *al badia*, in October 2006, the NBI advocacy campaign reached the top in Syria, and the issue became a national one.

2.5 First steps in developing ecotourism in Syria

The contribution of the local wildlife team in the NBI discovery was key (Serra 2003b): Ahmed Kanani and Ghazy al Qaim (2 MAAR staff), Mahmdud Scheisch Abdallah and Adeeb al Assaed (2 Palmyra hunters) and 4 members of local Bedouin Cooperatives (Ahmed Abdallah, Talal Feyad, and others). This team became heavily involved in the successful protection program of the NBI colony during three subsequent breeding seasons (2002-04) – the program focused on halting foreign poachers, raising the awareness of the nomad Bedouins, and collecting basic ecological data on the birds. They were in-service trained by the author for 3 year in fauna field identification and eco-guiding (English included) and received certificates as eco-guides from UN-FAO. The wildlife team participated in the whole fauna surveying programme (2002-03) aimed at preparing a comprehensive database and high-quality photographic archive of the Palmyrean desert (Serra *et al.* 2003a).

The team became highly self-motivated, ecologically committed, skilled in bird field identification and fluent in English. During years 2002-05 they have experienced in the field what guiding foreign visitors means, as they were put in contact by the author with several European birdwatchers and ecotourists. In February-March 2004, 4 members of the wildlife team participated in a major ornithological expedition in Syria promoted and supported by the Ornithological Society for the Middle East (OSME), Wetlands International and BirdLife International (birdwatchers of 6 different nationalities were involved, Murdoch *et al.* 2004) - they received certificates from OSME acknowledging their participation in the expedition and their successful learning. During this expedition they got to know the most faunally interesting areas in Syria – so their wildlife knowledge and experience extended throughout the whole country.

European participants of the expedition then committed to promote birdwatching in Syria through publishing articles in specialized magazines [e.g., Birding World (Murdoch 2003) and Dutch Birding (Hofland and Saveyn, 2005)], and through setting up a web site (please see http://www.andrewsi.freeserve.co.uk/birding-in-syria.htm). The most tangible and outstanding result of the involvement of these locals in the project's conservation activities was the raising of their ecological awareness (Serra *et al.* 2003b). One of them, only three years before well renowned in the village for his hunting skills and passion, wholeheartedly engaged in halting hunting not only locally but also nationally. Their awareness also grew in a broader sense: they became aware that they are kind of 'conservation pioneers' and key human resources nationally. More importantly, a sense of a mission finally dawned inside them: they are aware that the country's natural heritage needs their engagement and commitment to survive.

This work experience with local community was defined "an example of good practice in conservation" by the World Alliance of Mobile Indigenous Peoples (WAMIP) (see: http://www.danadeclaration.org/text%20website/announcements.html). The discovery of the NBI in Palmyra and all the articles and publications that followed fueled and maintained a high interest of European birdwatchers for Syria, especially in the northern Europe. A presentation by OSME about NBI conservation work and birdwatching in Syria at Rutland's Water Bird Fair took place in summer 2006 (Murdoch, *pers. comm.*). A flow of ecotourists and birdwatchers increased steadily from the year of the discovery.

A first tour organized by a UK birding company (Birdwatching Breaks) took place in Feb 2006, using as a co-leader the Palmyra hunter Adeeb al Assaed. Another UK naturalistic tour operator (Naturetrek) is also interested in developing a tour in Syria, as it asked the help of the author. Until now the main constraint has been the tense international political situation: in fact, during the whole mentioned period (2000-06) the second *intifada*, September 11, the war in Iraq and the war in Lebanon have taken place. In 2003 PP hired a specialized consultant to prepare an ecotourism strategy for *al talila* PA (Anderson 2003). His main conclusions were that a number of pre-conditions had to be satisfied in order for ecotourism to be developed in a responsible fashion in the area. The emphasis was placed especially on the need to establish a legal framework regulating protected areas and ecotourism in Syria. The need to outsourcing services to the local community was indicated by Anderson (2003) as a key step to enable the community to gain revenues from ecotourism.

2.6 Full site diagnostic

2.6.1 Landscape and ecosystems

al talila PA is located on the south-eastern vicinity of the millenary oasis and caravan crossroad of *tadmor,* also known as Palmyra, in the middle of the Syrian semi-arid steppe. *tadmor* and *al talila* are located in a quite scenic setting at the border between a craggy and barren mountain range and plateau to the north, and the endless desertic plains to the south. The latter is the northern edge of the Arabian plateau extending into Jordan, Saudi Arabia and Iraq, also known as *al hamad* desert. This landscape is characterized by a rocky barren emptiness, a lunar landscape with a huge horizon bordering it and the sheep and camel herds and flat tents of Bedouin nomadic pastoralists all scattered around. Four are the ecosystems recognizable within the Palmyra desert.

Flat and undulating scrubland. In all directions except for the north, the Palmyra surroundings, including *al talila* PA, are represented by this ecosystem, ranging 250-500 m a.s.l., and appearing as floodplains and rocky pavements, drainages (*wadis*), sand hummocks and dunes and undulating terrain and low hills. The vegetation cover is made up of dwarf perennial shrubs seasonally intermixed with annual plants; *Tamarix* spp. dominates along *wadi*s. Substantial populations of hare and rodents (1 species of jird and 2 species of jerboas) occur in this ecosystem, supporting a guild of 5 mid-sized and 3 large-sized carnivore species, and at least 6 snake species in addition to the conspicuous Monitor Lizard *Varanus griseus*. The steppe scrubland is also important for three family of Passeriformes birds (larks, shrikes and wheatears) typical of open habitats, and for several species of migrating birds of prey (harriers, buzzards, eagles, vultures and falcons); 80-100 common cranes *Grus grus* spend the winter in *al talila* PA and adjacent salt-lake every year. *al talila* PA is probably the most pristine portion of this ecosystem of the entire *al badia*. *al talila* PA topographically stands out from the surrounding landscape, as it sits on an ancient eroded ridge, which is clearly distinguishable from the distance. Because it supports rangelands particularly suitable for camels, it has been known by Bedouin nomads from immemorial times.

Slow-rolling mountains, plateau and cliffs. The mountain range to the north of *tadmor* is known as *abu rigimin* and is made up of sedimentary rocks (limestone, marl, calcareous sandstones) forming outcrops and plateau, with plenty of gravels and loam along valleys. It is part of the so-called *tadmor* mountain range, crossing the northern half of *al badia*, with orientation from south-west to north-east (approximately running from Damascus to *deir-ez-zoir*). *abu rigimin* mountains range from 500 to 1300 a.s.l., and are characterized by slow rolling peaks alternated to sheer limestone cliffs, and by a complex system of *wadis* (the larger one is called *wadi al abiad*). Vegetation is represented by sparse dwarf perennial shrubs and scattered trees *Pistacia atlantica*, intermixed with annual plants depending on altitudes. One of the largest sheer limestone cliff is visible about 15 km north from *al talila* PA, locally known as *douara*, at the base of which a spring occurs giving drinkable water for the whole Palmyrean population.

A Palaeolithic fabric of flints was discovered in the 1990s in a cave close to *douara* cliff, also visible from the distance while on the road to or from *al talila*. *The* rocky cliffs are the breeding habitat for several large sized raptors like the Eagle Owl *Bubo bubo ascalaphus*, Golden Eagle *Aquila chrysaetos*, Griffon Vulture *Gyps fulvus*, Egyptian Vulture *Neophron percnopterus*, and swifts *Apodidae.* In the past it was also the breeding habitat for large falcons *Falco* spp. whose populations were completely destroyed by falcon hunters. Only Kestrel (*Falco tinnunculus*) and scattered Lesser Kestrel *Falco naumanni* still nest in this habitat. Greater Sand Plover *Charadrius leschenaultii* breeds along the slopes of mountains. This environment was once the breeding habitat of the NBI, whose large colonies nesting on sheer cliffs were common until 20-30 years ago (Serra *et al.* 2003a). This habitat also provide the only safe diurnal refuge from man persecution for the Striped hyena *Hyaena hyaena* and the wolf *Canis lupus*.

Seasonal wetlands. These are alluvial depressions of variable shape and size, filled with water according to rainfall. They can be shallow salt-lake (*sabkhat*), shallow freshwater lake (*khabbra*), pond (*barka*) or dammed (*sed*) artificial freshwater reservoir This eco-system support many waterbirds, mostly wintering species (e.g., cranes, flamingos, ducks, dunlins and avocets) and passage migrant (storks, stints, sandpipers, plovers and lapwings), for a total of about 80 species detected. Migrant waterbirds, mostly passing during spring, use these wetlands as *en-route* stop-overs to feed and rest. Kentish Plover *Charadrius alexandrinus* is the only bird constantly breeding yearly on the shores of *sabkhat*. Frog *Pelobates syriacus* occurrs within the shores of artificial reservoirs. *sabkha al moh* is a seasonal salt lake included in the IBA list for Middle East (Evans 1994) and a Ramsar site, located south of the oasis of Palmyra which was given official protection status in 2004.

Oases. These man-made ecosystems are scattered all around *al badia* and are made up of palm trees, olive trees, pomegranate trees, bushes, agricultural fields cultivated by means of pumped ground water. The specific location of the oasis of *tadmor* and the hydrologically linked seasonal salt lake *sabkhat al moh* (within the southern vicinity of the village) is evidently related to the presence of the adjacent mountain range with their higher annual average rainfall. The oasis and *sabkhat* are at the lowest point of *al badia*, draining water from everywhere around, even from the distance – e.g., the fossil water coming from the anti-Lebanon mountain range. Oases are very important refuge for diurnal migrating birds, like several

raptors *Accipitridae* and the Bee-eater *Merops apiaster*, as trees are used to overnight safely from predators. As this ecosystem is very rich in invertebrates, especially during spring, it is important for all kind of insectivore passeriformes: it is the wintering habitat for Chiffchaff *Phylloscopus collybita,* Chaffinch *Fringilla coelebs,* Whinchat *Saxicola rubetra* and Stonechat *S. torquata,* and the breeding habitat for Eastern Olivaceous Warbler *Acrocephalus elaeicus* and Menetries's Warbler *Sylvia mystacea*. A frog species (*Pelobates syriacus*) occurs in the oasis, which is also the diurnal refuge of the Asiatic Jackal *Canis aureus*.

2.6.2 Climate

The Palmyra desert is affected by extremes of climate. In winter temperatures often fall below freezing at night, strong winds blow and most of the annual rainfall of around 120 mm, in average, is received. Inter-annual variability of rainfall is common, as also extended periods of drought (cycles of 5-7 years). The mountains around Palmyra are sometimes covered with snow and very occasionally light snow may fall everywhere. The summers are dry and very hot, with temperatures during the day often exceeding 40 ^{o}C, and sometimes approaching 50 ^{o} C. Wind is common at night and in the early morning cool breezes may give relief from the heat. Rainfall in the steppe is more often dense and localized. Short storm of rainfall of more than 20 mm somewhere in *al badia* could result streaming the floodplains, while other areas remain dry. This is due to the lack of vegetation. Conditions for plant growth are adversely affected by the combination of short days and low temperatures when effective rainfall is occurring, and high temperatures and no effective rainfall at other times.

2.6.3 Flora (H. Khaddour[3], in prepar.)

Four plants are dominant in the project area: *Anabasis syriaca, Artemisia herba alba, Haloxylon salicornicum, and Achillea fragrantissima.* In addition to its nutritional value as feed for wild and domestic animals, the vegetation of the PA has another importance value: several species are used in the traditional medicine by the indigenous people (e.g., *Achillea* spp.*, Artemisia herba alba, Chenopodium* spp.*, Arnebia* spp.*, Ziziphora tenuior*) (Sincich 2002). Because of its significant habitat variation, *al talila* holds the highest diversity of perennial plants in the PP area, with dwarf scrubs being dominant. Passing from the outside to the inside of the PA, it is quite remarkable to notice the difference in the vegetation coverage, a concrete result of several years of sound management (the pastures of *al talila* are protected since early 1990s). The vegetation cover is graduated from short annual grass to perennial scrubs. The diversity of annual flora (grasses, legumes and forbs) is also significant, an important seasonal feed supply for both wild and domestic herbivores. As a result of a 5-year protection regime, the plant cover in *al talila* is significantly richer than in the surrounding unprotected rangelands.

Three macro-habitats are relevant for describing the flora of *al talila*: undulating plains, sand dunes and drainages or *wadis.* Undulating plains stand as the major topographic component of *al talila* PA. The dominant perennial plants found in this habitat are: *Haloxylon salicornicum, Achillea fragrantissima, Achillea*

[3] Range expert from local MAAR of Palmyra, trained in the framework of PP.

conferta, Artemisia herba alba. Rarer species are *Haloxylon articulatum, Zilla spinosa, Astragalus spinosa, Sedlitizia rosmarinus* and *Noaea micronatha.* Species like *Poa sinaica, Plantago albicans, Chinolea arabica, Artemisia herba alba* are positive ecological indicators. A surprisingly high variety of annual plants makes a lively coloured carpet during the springtime. Three major groups of annuals can be found:

- Grasses, such as *Aegylops* spp*., Bromus* spp*., Cutandia* spp*., Eremopyrum* spp*., Hordeum glaucum, Phalaris minor, Lophochloa* spp*.;*
- Forbs, such as *Aizoon hispanicum, Anchusa* spp*., Echium* spp*., Arnebia* spp*., Heliotropium* spp*., Herniaria hirsute, Lappula* spp*., Gypsophila* spp*., Paronychia arabica, Silene* spp*., Spergula fallax, Spergularia* spp*., Bassia* spp*., Salsola* spp*., Helianthemum* spp*., Anthemis* spp*., Filago* spp*., Gymnarrhna micrantha, Launaea* spp*., Koelpinia* spp*., Senecio* spp*., Convolvulus* spp*., Alyssum* spp*., Brassica* spp*., Diplotaxis* spp*., Torularia* spp*., Erodium* spp*., Salvia* spp*., Plantago* spp*. and Erucaria* spp*.*
- Legumes, such as *Astragalus* spp., *Medicago* spp., *Trigonella* spp.

Sand dunes occurr in the western side of PA. Typical perennial plants occurring in this habitat are *Calligonum comosum, Tamarix tedragena, Stipagrosa grosaplomosa* (important feed grass) and *Astragalus* spp*.*. Typical annual plants are: *Cutandia* spp*., Arnibia* spp*., Plantago* spp*., Senecio* spp*., Antemis* spp*., Aizoon* spp*., Erodium* spp*. and Silne* spp*.* Water drainages represent less than 5 % of total area of the PA, but it is the richest habitat in terms of plant density. Due to range degradation, *wadi* habitats are invaded by unpalatable shrubs as *Anabasis syriaca* and *Peganum harmala*.

The last flora inventory for *al talila* PA, carried out in 2003, shows that 90 plant species occurr inside the PA, and that they are distributed in 24 plant families. *Compositae, Gramineae* and *Cruciferae* are the dominant families, representing about 45 % of the total number of plants in the PA. *Boraginaceae, Chenopodiaceae* and *Papilionaceae* constitutes 30 % over the total plants. After 12 years of protection from sheep grazing, the total amount of biomass and the density of most plants have considerably increased within the PA. Data from autumn 1996 and 2000 showed an estimate of 688.2 and 734.2 kg/ha of ground biomass of perennials (mainly *Haloxylon salicornicum*), respectively. A range monitoring programme has been yearly implemented by project range team since 1997. Between 1997 and 2002, the relative coverage of annual plants was on average 46.8 % inside and 29.6 % outside the experimental exclosures, while coverage of perennials was 6.6 % inside and 3.12 % outside exclosures.

Since 1996 preparation of a reference *herbarium* was started with the purpose of documenting plants occurring in the project area and in the Palmyrean *al badia*. Up to present 249 plant species (43 families) were prepared and included in the project herbarium. At the beginning of 2002, a small botanical garden was established in front of the recently established DCNEC of the PA, with the aim of raising public environmental awareness, facilitating interpretation about *al badia* plants, and becoming a precious genetic and documentation resource. The Ibis PA habitat is made up of stony and sparsely vegetated steppe. A large drainage (*wadi abiad*) dominated the area, composed of a complex systems of micro- and macro-*wadi*s

separated by low flat and slow-rolling micro-ridges. The soil, almost lacking organic matter (< 1 %), is composed by a mix of loam, gypsiferous and calcareous rock widely covered by gravel and stones. Sparse perennial dwarf shrubs, not exceeding 20-25 cm in height, are the only vegetation occurring, dominated by *Salsola vermiculata.* The dwarf scrub *Salsola volkensi* dominates the annual vegetation component. Annual grasses scantly occur along larger *wadi* beds whose dominant vegetation is *Tamarix* spp. The upper portion of these flat and slow-rolling micro-ridges (at an average altitude of 700-800 m a.s.l.) is the key feeding habitat of NBI (Serra *in prepar.*).

2.6.4 Fauna

General overview

Far less work has been done on fauna than on flora in Syria. The scarcity of local faunal expertise and reference material created some difficulties, especially with identification of Invertebrates. The Palmyrean *al badia* supports an interesting wildlife community belonging to the so-called Turo-Iranian zoogeographic region, Africa and Western Palearctic. A total of 306 species of vertebrates, and 31 taxa of invertebrates were detected and identified during a 3-year intensive surveying. Some relevant facts about the different taxa recognized are reported below.

Invertebrates

Among invertebrates the most numerous are the insects with at least 22 families detected and identified. At least 6 families of Aracnids were also detected and identified, 2 species of molluscs and 2 species of crustaceans. Several invertebrates occur only seasonally. Most of the insects found are represented by the *Tenebrionidae* family (at least 9 *genera* identified), which are ground beetles (Coleoptera) well adapted to arid ecosystems. Tipically black and non-flying, they feed on vegetal debris. In October 2000 a beetle species (*Aphodidae*) never described before was found within *al talila* PA, and it was given the name of *Aphodaulacus talilensis*. Aracnids are well represented with several species of scorpions, solifugids and spiders. The most common scorpion is *Androctonus crassicauda* (*Buthidae*), while the most common spider belongs to the family *Licosidae* (wolf spiders). The molluscs found are small snails able to undergo a status of dormancy during the long dry seasons, when their shell is well sealed to the rocky surfaces or stones. They become active again during the short winters, when the rain starts to fall.

Amphibians and Reptiles

Only one species of amphibian was found, the toad *Pelobates syriacus* typically associated to oases and wells: surprisingly, it can be found also within very tiny and isolated oases in the middle of the desert. Twenty-three species of reptiles were detected and identified, most of them occurring only during the warmer seasons (Sindaco and Serra 2005). One species of turtle was detected and identified, 1 chamaeleon, 2 species of geckos, 2 species of *Agamidae*, 2 *Lacertidae*, 1 *Varanidae*, 2 *Scindidae*, 9 *Colubridae* snakes, 1 *Boidae*, 1 *Viperidae* and 1 *Elapidae*. The Monitor's Lizard, a rare and declining reptile of *al badia*, can reach the length of 160 cm. One species of chamaeleon (*Chamaeleon chamaeleon*) also occurs within the still surviving tree stands of *Pistacha atlantica* within the *Abu Rigimin* mountain range. This species must have

been once common when the *Pistacha* woodland was abundant. Nowadays the chameleon is extremely rare in *al badia*, like also the turtle (*Testudo hermanni / graeca*), collected by people for being sold at shops as a garden pet.

Colubridae are the most common snakes occurring within the Palmyrean *al badia* (9 out of a total of 12 snake species detected), quite swift and usually sandy coloured. All of them are not dangerous for adult people. The most common ones within *al talila* PA are the Camel Snake *Sphalerosophis diadema* and *Psammophis schokari*. Another interesting colubrid, quite common within *al talila*, is the so-called False Cobra (*Malpolon moilensis*), which, when threatened, enlarges a neck hood in the same fashion of cobras. The Cat Snake *Telescopus hoddari* is a beautifully coloured lizard-feeding colubrid, with vertical pupils like a cat (while all the other colubrids have rounded pupils). There are only two species of snakes potentially dangerous and fatal for humans: the Horned Viper *Pseudoceratstes persicus fieldi* and the Desert Blacksnake or Black Cobra *Walterinnesia aegyptia* never recorded for Syria before (Sindaco and Serra *in print*). Although highly poisonous, due to their habits they rarely attack humans.

Birds

In three years of surveying (2000-03) a total of 260 species of birds were detected, about 85 % of the total number of vertebrate species detected (Serra *et al.* 2005) About 60 % of them were passage migrant birds, 25 % semi-resident (wintering or migrant breeder), 8 % resident and 7 % vagrant or accidental. The Middle East is on one of the major migratory bird flyways. *tadmor* with its oasis is likely to represent a kind of bottleneck for birds engaged in crossing the desert. This is a secondary less known flyway, compared to the one passing close to the coastal Middle East (Lebanon, Palestine, Egypt). *tadmor* oasis is a relatively tiny one, surrounded by hundreds of km of desert in all the directions. In the oasis birds can find water, shadow and trees, on which they can rest during the night safely from terrestrial predators.

In other words, Palmyra plays for migrating birds the same role played by this legendary town during the period of the silk road: the caravans shipping goods and spices from the far east to the Mediterranean where forced to stop in *tadmor* to rest in a safe place with plenty of water. Only the axis of movement is different: the silk road was on a East-West axis, while birds move on a North-South axis. There is little time of the year when there is no passage migrant birds around within Palmyrean *al badia* (the minimum peak of the flow is reached in June). The migratory passage of raptors is especially considerable: buzzards (5 species), harriers (4 species), Black Kite, Levant Sparrowhawk, eagles (5 species). The passage of falcons (lanners, peregrines, sakers) used to be relevant in the past. At present numbers have decreased dramatically because of uncontrolled harvesting driven by falconry demand. Also the migratory passage and the wintering of waterbirds is very relevant.

Among wintering birds the Critically Endangered Sociable Plover (*Vanellus gregarious*) (Murdoch and Serra 2005) and the Common Crane is of special interest. A small population of cranes of a hundred or so individuals use to winter within *al talila* PA (from November to March) and a seasonal wetland adjacent to it

(*sabkha al moh*). During years of good rainfall, seasonal salt lake *Sabkha Al Moh* is also important for the wintering of Greater Flamingo *Phoenicopter ruber*, an iconic colourful waterbird with significantly restricted distribution range. Among the migrant breeders (or "summer visitors"), the Critically Endangered NBI is surely the most compelling bird species. This is one of the rarest and most endangered bird globally and the most threatened animal of the Middle East.

Mammals

A total of 23 species of mammals were detected and identified, some of them occurring only seasonally. Three are the new records for Syria: Sand cat *Felis margarita*, Ruppell's fox *Vulpes rueppellii* and Euphrates jerboa *Allactaga euphratica* (Serra *in prepar.*). Terrestrial large-sized carnivores have been intensively persecuted either during historical times and recent past, as they are still today. Presently there are only 3 species of large-sized mammals still occurring but heavily persecuted: hyena, wolf and jackal. Few scattered sand gazelles (5-15) are reported to still survive within a rough mountain area, but, being unprotected, their future is uncertain. Among the mid-sized species there are two fox species (Red fox *Vulpes vulpes* and Ruppell's fox), two species of cats (Wild cat *Felis silvestris lybica* and Sand cat), one mustelid *Vormela Peregusna*, the genet and porcupine. Small-sized mammals are presently very important for the functioning of the ecosystems because they are the only source of food left for all the carnivores. The more abundant, according to rainfall, are: two species of jerboa, a jird species and the Cape hare.

Extinct and threatened fauna

The wildlife species occurring at present in *al badia* are only a part of what was once a very rich fauna community. The PP wildlife team has prepared a list of extinct fauna species and a red list of species threatened with extinction (IUCN 2006), still occurring in Palmyrean *al badia* (Serra *et al.* 2003a). The main results are summarized below:

- an estimated total of 16 species became extinct from the Syrian *al badia* during recent and historical times – 14 of them are still occurring within other countries;

- 14 species listed by IUCN as globally threatened with extinction are still occurring in low numbers within Syrian *al badia* - 2 of them, *Geronticus eremita* and *Vanellus gregarius* are listed as Critically Endangered;

- 24 species listed by IUCN as globally threatened with extinction are reported to have occurred at least during the recent past within Syrian *al badia*, but the data collected up to present are deficient.

These figures show the conservation relevance of Syrian *al badia* at an international level.

2.6.5 Socio-economics, history, culture and traditions (T. Razzouk 4, in prepar.)

The area of *al talila* is historically an important one for nomadic Bedouins raising camels. It is very close to the archeologically renown town of Palmyra where Bedouins can trade their livestock and relative products and where they can find all kind of supplies they need. *al talila* vegetation is dominated by a dwarf scrub known as "*al remth*" (*Haloxylon salicornicum*) which is a favourite feed by camels. *al remth* is not an important feed for sheep, and in fact sheep raisers consider this scrub as a problem that causes illness for sheep. *al talila* is traditionally regarded by Bedouins as an ideal place for the wintering, due to the availability of firewood, as well as for spending summer time due to availability of several water sources. Several Roman wells occur inside the 22,000 ha of the PA, while others occur within the buffer zone. *al talila* is also known by locals (either nomadic Bedouins and Palmyrean dwellers) as an important place for truffle collection, a significant income generating resource appearing in spring only in the years of good winter rainfall. *al talila* was also known for being a preferred habitat by gazelles, because of occurrence of a pasture known as *eddesi*, and also because it is a good shelter to hide from hunters. Because of the quality of resource available, *al talila* has always been a strategic place of *al badia*, in the past stage of conflicts among different tribes of Bedouins.

At an early period of French mandate, *rowala* tribe "conquested" *al talila* from *sba'a* tribe, pushing them to *kdaim,* 100 km north of Palmyra. *rowala* originated from a very large tribe known as *aniza*, that in turn originated from the grandfather *wa'eil* (i.e., all the descendents are known as *abu wa'eil*). *rowala,* and few elements of *beni khaled* tribe, remained the traditional users of *al talila* untill the mid 1970s. At that time

[4] Socio-economics expert from University of Aleppo, trained in the framework of PP.

rowala moved to Saudi Arabia. *al talila* was then re-occupied by *sba'a* tribe, which is still using the place at present days. Bedouins used to stay in *al talila* for about six to seven months a year (November to May), then they used to leave to higher places. During summer time *al talila* becomes hot, dusty and supposedly dangerous because of scorpions and snakes occurrence. Bedouin tribes economy largely depended on camel raising - the average herd size *per* family did not exceed 150 heads of camels. The main diet of these people consisted of dates, camel milk and bread. During spring they used to add to their diet truffle, mushroom and different type of annual plants such as *Malva* spp. and *zub hlail*.

Most Bedouin families who used to live in *al talila*, like other Bedouin families within *al badia*, were extended families with average size of 12-13 individuals. The average size of the nuclear family was 3-4 individuals. Bedouins used to gather at one place within *al talila*, and when they moved, they did so all together, i. e., whole tribes of about 200 tents. Tents were made of goat hair as at present. *kharboush* is a tent with only one pole in the middle, holding the whole structure, and it is usually used by poor individuals and widows. Larger tents can have up to a max of nine central poles, and are inhabited by rich Bedouins and *sheikhs*. Tents interior used to be parted by sacks and mattress into three divisions: *rab'a* used by men to receive hosts, a bed room, and *mahram* used mainly by women for cooking, having bath, cleaning, *etc*. The main cleaning materials used were soil and *jelo* [(prepared by burning a shrub known as *shnan* (*Anabasis syriaca*)]. Nowadays Bedouins use *zerb,* a kind of coloured curtain or separe', to part the tent interior.

Bedouins occurring within *al talila*, like everywhere else within *al badia*, are very hospitable. Traditionally they used to receive anybody approaching their tents, without asking information about the itinerary and the purpose of the travel, but quickly providing him with water, bitter Arabic coffee and food. The traditional custom is to ask the host information about the itinerary and the purpose of the travel only after three days. This was a point of honour. The most hospitable man is "the one who never put the fire off". Serving bitter Arabic coffee was and still is considered a real indicator of hospitability, a prestigious drink traditionally offered by *sheikh* and influent people. Several poets mentioned bitter coffee in their poems. Bedouins poets often mentioned *al talila* in their poems. Traditional Bedouin dress used to be very simple. Men wear a long dress known as "*jillabieh*", with a short dress as underwear called "*gasier*", and a scuff on the head (*asmah*) tied with a rope made of camel hair. Women usually wear long dresses as well, combined with a long underwear, and a scuff on the head called *"hibrieh".* Bedouins used to treat illness by medicinal plants and also by burning in the *kai* way (Sincich 2002). They also treated their livestock in the same way. Women make-up was milk itself, *ghee* and *kuhel*, while their perfumes was made from some herbs such as *mahlab* and *kurunful*".

Due to the camel grazing plan agreed in the framework of PP in 1998, *al talila* has been used until 2005 from six to seven months *per* year, from November to May, by 29 Bedouin families who raise about 1500 camels (i.e., ca. 20% of the total number of camels in Syria). The number of camel heads owned by each household ranges from 30 to 350 (average = 50-60 heads). Most of them belong to the *sba'a* tribe. The majority of camel raisers are nomadic (73 %), the rest are semi-settled (17 %) or settled (10 %) - in the

latter cases, the camel owner can live either in Palmyra or in *baggali*, 60 km to the north of Palmyra, hiring somebody to look after his herd. Only 10 % of camel families were ranked as poor, while 52 % are ranked as rich - the rest is in between. Camel herders raise camels mainly for meat production. Camel hair and milk in particular are rarely utilized, as they believe that selling milk and / or processing it is against their tradition and contradict with religion. Camel milk is used by elderly people, while nowadays young generations prefer sheep milk if available. They sometimes use camel hair to make parts or repair their tents.

Three villages where settled Bedouin live, are found around *al talila* PA: *arak*, *munbateh* and *abbasieh* – which are also 3 Bedouin Cooperatives. *arak* village is located about 30 km north-west of *al talila*. It is an historical village located beside an oasis very well known for the quality of its water. It is the largest settlement found in the buffer zone of PA. The date of its foundation being unknown, *arak* is known for having been destroyed several times during its history. It has several springs that flow through fine Roman-made canals. The total area belonging to *arak* cooperative is 38,000 ha, most of which is state owned – only a very small area around the village is owned by the inhabitants. The total number of families living in *arak* is 55, while the total number of families belonging to the cooperative is 149, divided in settled, semi-settled and nomadic. Some people from *arak* Cooperative make their living from sheep raising and cultivation of orchards of the oasis, while some trade in second-hand vehicles, some are vehicle mechanics and some are truck drivers.

arak families ranked as poor are 11% over the total, while 25% are ranked as rich - the rest are ranked in between. *arak* cooperative is composed of three tribes in addition to the settled one in the village, which is 44 % over the total. *Hadidien* tribe is 42 % of Arak cooperative. *Munbateh* village is located about 25 km east of *al talila*. It was founded approximately during the mid 20th century beside the so-called "T-3" oil pump station – this is one of the pumps of the oil pipeline coming from Iraq. Beside the village there is a small oasis. The total area belonging to the *munbateh* cooperative is 58,000 ha, most of which is state owned. The total number of families living in the village is 40, most of which are not cooperative members but just employees by the company managing T-3 pump station.

The total number of households belonging to the *munbateh* cooperative is 214, divided in settled semi-settled and nomadic, and mainly living on sheep raising. Only 2 % of the households belonging to the cooperative are settled, while 36 % and 62 % are semi-settled and nomadic respectively. About 6 % of the families are ranked as poor, while 22 % as rich - the rest are ranked in between. *abbassyia* village is situated about 5 km south of *al talila*. The date of foundation is unknown. Its inhabitants left the village for moving to Palmyra during the 1970s. The village is presently a ruin. The total area belonging to the *abbasyia* cooperative is 15,000 ha, most of which is state owned. The total number of families belonging to the cooperative is 41, all of them from the *bani khalid* tribe. About 24 % of the families are settled, while 64 % and 12 % are semi-settled and nomadic, respectively. The percentage of families ranked as poor is 14 % over the total, while 32 % are ranked as rich - the rest were ranked in between.

The indigenous inhabitants of Ibis IPA are the pastoralists from the *amur* tribe, making a living out of raising sheep through a traditional mobile lifestyle. Despite their livelihood had been entirely based on the sustainable and wise use of Ibis PA pastures during immemorial time, the current *al badia* ecological degradation is greatly impoverishing them. Therefore a great proportion of *amur* have abandoned their mobile lifestyle and have settled in the outskirt of Palmyra. *amur* were not studied in any detail by PP, the same way used for the other tribes occurring within *al talila* PA and its buffer zone. The author and the wildlife team has dealt with them since the NBI discovery in 2002, seeking their cooperation and hiring them as guards. Because the highlands and plateau are more productive than the flatland these people are short-range nomadic. They appear to be quite poor. Their traditional pastures are also used by another tribe known as *beni haez*.

2.6.6 Threats

The desert ecosystem around Palmyra and the desert culture are at the brink of extinction. In facts, *al badia* means (arid) steppe in Arabic: but *al badia* is increasingly looking like a real rocky desert. The typical topography of *al badia* - mainly flat or undulating plains intersected by slow rolling highlands - allows easy access of people almost everywhere. For this reason *al badia* looks exploited almost entirely on its total surface area for 12 month a year. The biodiversity of *al badia* has experienced an unprecedented process of destruction during the past 20 years. While at least 7 large-sized game species have already vanished during this recent period (among these the Arabian Oryx, different species of gazelles, Leopard, Cheetah, Ostrich *etc.*), at least other 13 species, once common within *al badia*, are presently on the verge of local, regional and global extinction. An emblematic and symbolic case is that of the iconic NBI, not so long time ago still a common awe-inspiring sight of *al badia* landscape*.* The economy of the people living within *al badia* is strictly related to natural resources, primarily rangelands, the underground water and to a lesser extent also wildlife - mainly the capture and trading of falcons during the autumn passage and the guiding of foreign poachers. The causes of threat for Palmyrean wildlife are basically of two types, indirect and direct ones (Serra 2002b).

Indirect Causes. The degradation and destruction of habitats and ecosystems seem a crucial cause of wildlife loss. This cause of destruction is often poorly known or neglected by public and decision-makers. The habitats and ecosystems mean for wildlife resources critical for their survival and their reproduction such as food, sites for breeding (e.g., nests and dens) and refuges from man constant disturbance. This is true for Syria as it is true globally. The ecosystems and habitats of *al badia* show evident signs of degradation. The unregulated activities which are currently regarded as responsible for the degradation and destruction of the ecosystems / habitats of *al badia* are basically the following:

- the livestock grazing
- the collection of firewood, mainly an habit of Bedouins (i.e., uprooting of shrubs and cutting of *Pistacha atlantica* trees);
- the extraction of the underground water mainly for the irrigation of the orchards of oases, for civil and livestock use as drinking water and for salt extraction from *sabkhat*.

The conversion of rangelands into croplands has been a major problem of the recent past, but a ban enforced since 1995 seem to have halted this cause of threat quite effectively (nonetheless the negative effects of such practice are still well visible everywhere). The pressure on the *al badia* resources has enormously increased during the past 40-50 years due to a high rate of population growth. The Syrian population was 3.4 million in 1950, while it reached 17.8 million by the year 2000, i.e., the population has increased more than 5 times within 50 years (Mirreh *et al.*, 2001). There is a direct link between the population size of a country and the demands for meat and thus the pressure on the rangelands. For instance, during the same period, also the total number of sheep raised within *al badia* increased 5 folds (from 3.0 million in 1950 to 15.4 million in 1998) (Mirreh *et al.*, 2001).

In synthesis, the ecosystems of *al badia* are threatened of collapsing, even in the short term, from an ecological point of view, and of becoming unproductive. During the past decade, the pastoralists have been increasingly forced to buy the feed for their sheep from outside of *al badia*, as the pastures have become to be unproductive for several months a year. The mountains and the scrubby plains are over-grazed and dramatically impoverished in shrubs and trees coverage, while the very existence of the oases and the natural wetlands is threatened due to over-exploitation of water.

Direct Causes. We documented the hunting practice within Palmyrean *al badia* to be either unselective (i.e., all kind of species are shot down regardless of their edible / commercial value) and unsustainable (i.e., the quantity of individuals shot down *per* species is unlimited). Hunting is operated either by national and foreign hunters accompanied by locals. Because hunting is banned in Syria since at least 10 years ago, through a *moratorium*, the hunting in question should be actually called poaching. The experience of the author is that this ban is not sufficiently enforced. The use of poisoned carcasses is a very common practice of controlling wolves by Bedouin herders within *al badia*. This practice is very harmful for the survival of wildlife populations because it is completely unselective: it does not only kill wolves but all kind of carnivores (*e.g.*, foxes, wild cats, vultures, eagles, ravens *etc.*). It is also harmful for the ecosystems and thus for the people: the poison enters the food chain of the ecosystems and can reach, through the livestock grazing, the people themselves.

The last individual of a once large colony of N. Bald Ibis, counting hundreds of pairs until the 1960s, located not far from Palmyra: it was shot in 2001 by illegal local hunters.

Annex 2 shows an attempt of problem tree by the author indicating the complex and intricate connections between causes of different order, direct and indirect. Ultimately, uncontrolled hunting, grazing and firewood collection are the 3 key activities which are destroying the *al badia* ecosystems and its creatures at an alarming rate. The people involved in these activities are the Palmyrean villagers (guides for foreign poachers, "poachers" hereinafter) and the Bedouin mobile pastoralists. The former are hunters from Palmyra who accept to guide hunters from the gulf and also from Lebanon in the desert around Palmyra. For instance, one adult NBI was shot down by a party of Lebanese poachers in July 2003, despite the internationally assisted protection program in place.

An ecotourism scheme developed in the wrong way (i.e. causing a runaway mass ecotourism) could deliver the final blow to the natural and cultural heritage of Palmyra desert. A mass and business-driven nature tourism would have the following negative impacts at local level:

- attractiveness and fascination of the site is degraded and / or lost
- resentment of local community against conservation and protected areas (especially in the case they perceive that benefits leak outside the local level)
- increasing erosion of the heritage of local culture and tradition; decreased self-esteem and cultural identity
- soil erosion provoked by intense 4x4 vehicle traffic
- increased noise, pollution and littering
- degradation of the calm and quiet atmosphere
- disturbance to surviving threatened fauna, which can provoke as a side effect an increased vulnerability to uncontrolled hunting
- degradation or destruction of landscape through uncontrolled infrastructure development.

3. METHOD AND GOAL

The author of present study, by being at same time heavily involved with starting conservation and ecotourism in the Palmyra desert for about 6 years (2000-06), himself a responsible ecotourist to nature destinations all over the world for at least 10 years, and at times serving as a tour leader of a highly credited naturalistic tour operator (Naturetrek [5]), feels to be in a suitable position to undertake a balanced feasibility analysis of a potential ecotourism scheme in the Palmyra desert. During period 2000-03 the author has

[5] As reported by ResponsibleTravel.com, "Naturetrek operates Britain's largest selection of professionally organised natural history holidays" (www.naturetrek.co.uk).

intensely trained a team of locals as rangers and eco-guides, and subsequently helped them in the attempt to establish an eco-guiding cooperative, linked with national NGOs, tour operators and authorities. In fact this preliminary attempt failed probably due to the scarce resources available and external support, and surely it became an enlightening experience demonstrating the organizational difficulties existing at the root levels.

At the same time, during period 1993-2006 the author has explored as a "nosy" anonymous ecotourist a number of protected areas around the world (Middle East, Africa, Southeast Asia, Northern and Southern America, Europe), enquiring about conservation and ecotourism strategies adopted and the effects on the local community and biodiversity. Information used for this feasibility analysis were drawn during the 4-year staying in Palmyra by talking at length with all the potential stakeholders of an ecotourism scheme, both from the local community (potential target beneficiaries) and from the institutions (e.g. officials from the Ministry of Tourism in Palmyra and in Damascus). Responsibles of tour operators companies from Palmyra and Damascus were also questioned at length. A sample of at least 43 independent visitors to Palmyra were questioned by the author relatively to their potential interest in an ecotourism offer during the course of 3 years. The key question was whether it was realistic or not to convince a portion of the heritage travelers to spend more time for exploring the surrounding beauty of Palmyra desert.

The author has also acted as *trade union* between not less than 20-30 parties of eco-tourists and the Palmyrean eco-guides between 2000 and 2006: in most of these instances ideas were exchanged and a feedback was requested about their visit - systematically recording the numbers of visitors and their reaction. Revenue forecasts and cost and expenditure figures presented in this study are estimations speculated by the authors based on information collected locally in Palmyra: the authors tried to be as much conservative as possible. The vast literature on ecotourism was consulted trying to maintain a balanced pick of different opinions and ideas. The two authorities in the field of desert socio-anthropology and socio-economics of the Middle East, Dawn Chatty and Geraldine Chatelard, were consulted widely [6].

The GOAL of the present study is to provide the stakeholders an in-depth insight and analysis about the potentials and risks associated with an attempt of developing an ecotourism scheme in the Palmyra desert, taking into account the economic and conservation viability and sustainability of the idea.

4. LEGAL FRAMEWORK

A management plan for *al talila* PA relatively to the period 2004-06 was prepared in 2004 (Serra and Williamson 2003), using a participatory approach, and delivered by the UN-FAO to the MAAR *al talila* PA management. This management plan, to the current author's knowledge, has never been implemented -

[6] Dawn Chatty is a social anthropology researcher at University of Oxford, Geraldine Chatelard is a social anthropology researcher at Institut Francais du Proche-Orient (IFPO) in Amman.

starting from the hiring of proper and qualified staff. Therefore, despite the considerable investment of PP, *al talila* PA has failed short to become the first operational protected area of Syria – and have become one of the many "protected area on paper". On the other hand, the key information for preparing a management plan of the Ibis PA or an ecotourism management plan for the whole Palmyra desert is also available, as it has been collected during PP operation and beyond it (2004-06) - during the author's involvement in the BirdLife NBI conservation programme.

The key constraint is that any management plan must be backed from and put into a legal framework regulating the sector of protected areas and ecotourism. This legal framework is a grave vacuum for Syria that has already been pointed out as early as 2003 by Anderson (2003) and Cirelli and Monif (2003) – and subsequently also by Serra (2006). Recently, another possible major emerging conservation project in Syria, *sabkhat al jabbul*, has expressed the need for a legal framework as the condition *sine qua non* to proceed (Turkelboom, *pers. comm.*). This legal vacuum appears to be the critical constraint preventing the implementation of efficient and sustainable conservation strategies and plans in Syria nowadays. It is certainly a common situation in other countries (Fennel 1999). Ecotourism policy should be ideally flexible enough in order to ensure the quality of the visit and the viability of the business (Chatelard 2005), and at same time should address the key conservation concerns.

It is clearly a precondition to any idea of planning an ecotourism scheme in the Palmyra desert. Such legal framework would be the real starting point: in facts PP had hired a consultant with the goal of assisting Govt. in preparing a preliminary draft of the legal framework (Cirelli and Monif 2003). Most important issues that should be addressed and regulated by the legal framework are the following:

- clarifying competences and roles of different institutions in the field of conservation and protected areas
- indicating the key staff needed in a protected area and specifying the criteria for selection (based on qualifications and training)
- basic equipment needed in a protected area
- management plan and financial sustainability of a protected area
- land tenure issues of protected areas and their buffer zones / controlled grazing plans
- priority status for traditional users of land protected relatively to staff employment
- outsourcing of ecotourism services to traditional users of land protected.

The land tenure issue is particularly important for *al badia* as it is strictly linked to any possible hope to sustainable exploitation of its pastures. As long as *al badia* pastures are exploited on a free access system basis there is little hope to halt the increasingly quick ecological degradation: the free access system in fact encourage each pastoralist's family to exploit as much as possible any pasture until depletion - and then rapidly moving to another one. Before the advent of the open access system era (during the 1960s), each Bedouin tribe would control certain pastures, therefore holding responsibility for it (the so-called *hema* system) – adopting the long-term view approach or keeping in mind the next generations.

PP has shown that MAAR is aware of this root problem and that it is ready to reform this land regulation at least within protected areas – preparing the ground for negotiating sustainable grazing plans with mobile pastoralists – the same way it happened with the *sba'a* tribe in *al talila* PA. Without clarifying the land tenure, it is in fact impossible starting any discussion with the pastoralists about sustainable grazing plans (Celine Dutilly-Diane *et al.* 2007). Ecotourism and protected areas will be accepted more readily by indigenous local community if the legal status of the land in question is first settled to their satisfaction.

Another key issues that the framework should regulate is the outsourcing of services from the MAAR Protected Areas to the local community (private sector). This is the most viable and safe path through which real and tangible revenues for the local community can be generated. Services like interpretation, local transport, accommodation and food provision inside and around the protected areas should be outsourced to the local community.

5. FEASIBILITY ANALYSIS

5.1 Preliminary questions

5.1.1 Is there scope for ecotourism in the Palmyra desert?

A key question of an ecotourism feasibility study would be: "how will an ecotourism business reduce the above described current threats to the desert natural and cultural heritage?". First of all, by being small-scale and responsible to avoid adding new threats to the already worrying scenario. Secondly, by targeting the people who have currently the greatest impact on Palmyra desert ecosystems. These seem to be the local poachers (directly killing wildlife) and the Bedouin mobile pastoralists (indirectly, destroying the natural habitats). According to the author's experience and evaluation, small-scale eco-tourism has the economic potential to divert almost the whole poaching activity from Palmyra (1). As part of a program combining conservation and sustainable development, ecotourism has also the potential to assist the nomadic pastoralists in shifting their traditional practises toward sustainability (2).

1. Experience world-wide shows that for hunters the switching from nature exploitation and destruction to nature conservation can be almost a kind of "natural" evolutionary process. Birdwatching and naturalistic guiding are actually fuelled by the same sort of inner motivation that hunters already have, and require a similar type of knowledge and capacity, like being able to search and detect wild animals. Hunters and poachers need only to be shown a different way to enjoy and relate to nature – and most of times they love nature the same as nature lovers do – they need only to be educated on how to express it in a less destructive way.

A frequent exposition and confrontation of local hunters and poachers with foreign nature lovers might become an "awakening" experience for the locals in most of the instances. Therefore becoming involved in

ecotourism (e.g. by running an hotel/lodge or becoming an ecoguide) would be a natural and almost logic evolution for a Palmyra hunter and poacher. Becoming an active member of a conservation project will also contribute to raise his ethical profile and will make him feeling part of an important movement – all this might convince him/them to abandon their past illegal activity. For instance, during 2000-03, while serving PP, the author has organized several meetings with hunters of Palmyra to raise their conservation awareness: these meetings turned out to be very popular with high participation rates. It would be also worth raising the awareness of these people regarding the unsustainability of their current activity: the revenues they are annually making at present are destined to decrease steadily in the next 10-15 years due to on-going ecological degradation and resource exploitation beyond regeneration levels. Switching to sustainability is therefore the long-term interest of the poachers themselves.

Since the NBI discovery in 2002, the two trained local guides Ahmed Khaled Abdallah and Adeeb Assaed have guided, with good success, not less than 50-60 independent visitors interested in birds or nature & culture. These two persons are most likely the first Syrian certified eco-guides, already in the position of making a living out of ecotourism. This small-scale business was established with a minimal promotional effort: just the personal engagement of the author and the spreading of the voice from visitor to visitor. Mr Assaed, before his involvement in the conservation project was a dedicated and distinguished (and most destructive) hunter of Palmyra. Today, he is very much focused on the ecoguiding work – and he likes to define himself as a "passionate conservationist".

How much is worth the poaching business in the Palmyra desert? From a survey conducted in Palmyra between 2004 and 2006, an estimated 20 people work as guides for foreign poachers (mainly from the gulf, but also from Lebanon). They earn on average 5-800 $ for accompanying a party of poachers within the Palmyra desert on an average of 4-5 days. The average number of parties of poachers visiting Palmyra desert is estimated in 30-60 *per* year, depending on the rainfall. The size of the business is therefore of ca. 45,000 per year (this is estimated to be a conservative figure, it might be more likely less than more), making a salary of about 187 $ / mo - which is 33% more than the average income in Palmyra (= about 140 $/mo).

From the author's projections of ecotourism development and revenue calculations, a small-scale scheme has good chances to overcome the economic value of the current illegal guiding of foreign poachers within Palmyra desert, over a period of 5-15 years, depending on the degree of financial assistance that the conservation NGOs and development agencies will be able to fund raise and make available (see calculations and financial analysis in Prf. 5.8 and 5.9).

2. On the other hand, the ecotourism scheme could help the Bedouin pastoralists decreasing the pressure on natural habitats by assisting them with sustainable development: namely by assisting them in solving the land tenure issues, in prompting pastures rehabilitation, in tackling the energy use issue, in education and family planning, delivering of health services, improving efficiency of marketing diary product, in finding

complementary alternative incomes - among these also ecotourism. *amur* tribe occurring within the Ibis PA are not wealthy people in general terms, and have always shown an interest in discussing and planning new forms of income - many of them are already settled in Palmyra or short-ranging through the year, as a consequence of their bad financial condition. Mobile pastoralists should be given the chance to choose what degree of involvement they would like to take in the ecotourism business. Guiding ecotourists is an activity totally compatible with the culture and traditions of these people as explained by Chatelard (2005). Ecoguiding could actually support and complement the pastoralist traditional livelihood.

So small-scale ecotourism alone, if well managed, organized and implemented, could certainly determine a drop or even disappearance of poaching activity in Palmyra. On the other hand, ecotourism alone cannot help to solve the problem of the current unsustainability of nomadic pastoralism. But it could greatly help toward this end, when included in a broad community-based conservation program, combining preservation and sustainable development. It is therefore key for the ecotourism development scheme to control carefully the expectations of the Bedouin mobile pastoralists: the ecotourism should not and will not replace their traditional practices - unless it is their own choice. The flow of ecotourists is expected to produce an important cultural change in the local community (not all cultural changes are necessarily negative!), and a new awareness will arise (which started already with PP): that nature is not only a commodity to be exploited for short-term profits, but it has also long-term recreational, inspirational and spiritual potentials. People travelling from far away to experience the natural heritage of Palmyra desert will be a moving evidence and stimulation for the locals, especially young generations. This has partly already happened during the course of the PP implementation – also as a personal experience of the author (Serra *et al.* 2003b).

Except the few individuals trained by the author in the framework of PP, at the moment few people in Palmyra would take the option of ecotourism into serious account - and bet on it. Government and developers tend to overlook the value for the local community originating from small-scale desert tourism by independent travelers (Chatelard 2005). The agreed target beneficiaries of a ecotourism scheme should be made aware of the expected benefits they could be gaining by joining the scheme:

- continued and or exclusive, although regulated, access to natural resources of the protected area for subsistence purposes (assistance in resolving the land tenure issue)
- provision of technical and professional training opportunities relating to positions in tourism (e.g. interpretation and guiding) and in conservation agencies (rangers *etc.*)
- priority status in hiring programs undertaken by tourism interests and conservation agencies
- priority status in the licensing of small/scale businesses to be operated in the protected area (especially relatively to accommodation & traditional food, local transportation and interpretation)
- compilation of traditional knowledge and heritage values of the indigenous local community for use of the community itself in strengthening its social traditions, and by the conservation agencies in managing the protected area and in giving its visitors a heightened appreciation of the traditional society.

5.1.2 Can it be economically, socio-culturally and environmentally viable?

Ecotourism can be accommodated by the local community much more readily than mass tourism: control of tourists flow (i.e. numbers and use patterns) will be in the local community best interests socially and ecologically. Small-scale is a suitable form of ecotourism for Palmyra desert also due to the fact that the site does not have the spectacular wildlife and landscape assets of African or Jordan protected areas - that could trigger the interest of masses of tourists and therefore attract big investors. All these qualities make the Palmyra desert more suitable for well informed, passionate and cost-conscious visitors.

Negative impacts of uncontrolled mass business-driven nature tourism - not properly planned nor managed - are well documented in the specific literature, e.g. disruption of local culture and traditions, a blow to the self-identity of the local community and to local biodiversity (Fennell 1999). The means through which the ecotourism scheme in Palmyra desert could avoid these threats is through a participatory planning process in which the local community takes an active part, in so doing ensuring that the idea is not imposed on them. The planning process should envisage the following points:

- the stakeholders are thoroughly informed about the risks associated with business-driven mass nature tourism
- a discussion on whether the ecotourism idea is an economically, environmentally and culturally viable idea in the specific context of the Palmyra desert
- informed and aware stakeholders discuss and agree a vision, a goal and a measure of success: consensus reached that ecotourism development must not be market-driven, and that an independent monitoring program will be needed to avoid this scenario
- informed and aware stakeholders discuss and agree Limits of Acceptable Changes (*sensu* Anderson 2003) relatively to development of ecotourism in the Palmyra desert and a specific and independent monitoring program
- a clear and fair revenue distribution system is agreed among the target beneficiaries
- local community and BLI/SSCW discuss and agree patterns in which visitors and locals can meet in circumstances of mutual respect (discussing and agreeing a Visitor Code of Conduct).

There appear to be growing support for the idea that ecotourism must be given a direction and be regulated by independent bodies and subjects (Fennel 1999). It is recommended that the control over the ecotourism development in Palmyra will be mainly exercised at an NGO level - through a collaboration and coordination between BLI and SSCW, for instance. A monitoring program regularly assessing whether the ecotourism scheme is developing according to the agreed Limits of Acceptable Changes will be designed and agreed: the program will be run during the first 10-15 years after the ecotourism scheme's inception. It will assess whether the local and national stakeholders are committed and capable at keeping the eco-tourism small scale and responsible. After 10-15 years, as judged feasible, the responsibility of the monitoring program could shift in the hands of SSCW. Some key fauna parameters, that could be used in the monitoring

program, had been already listed by the author (Annex 3) - other key parameters will have to be identified and agreed by the stakeholders, especially those related to the local culture and society.

The NGOs ideally should serve as a *trade-union* between a high quality and ethical ecotourism product on one hand and the specialized international market on the other hand (independent visitors and naturalistic tour operators). BLI/SSCW could have the responsibility for identifying and targeting with promotion the most responsible and qualified tour operators available on the international market, especially those:

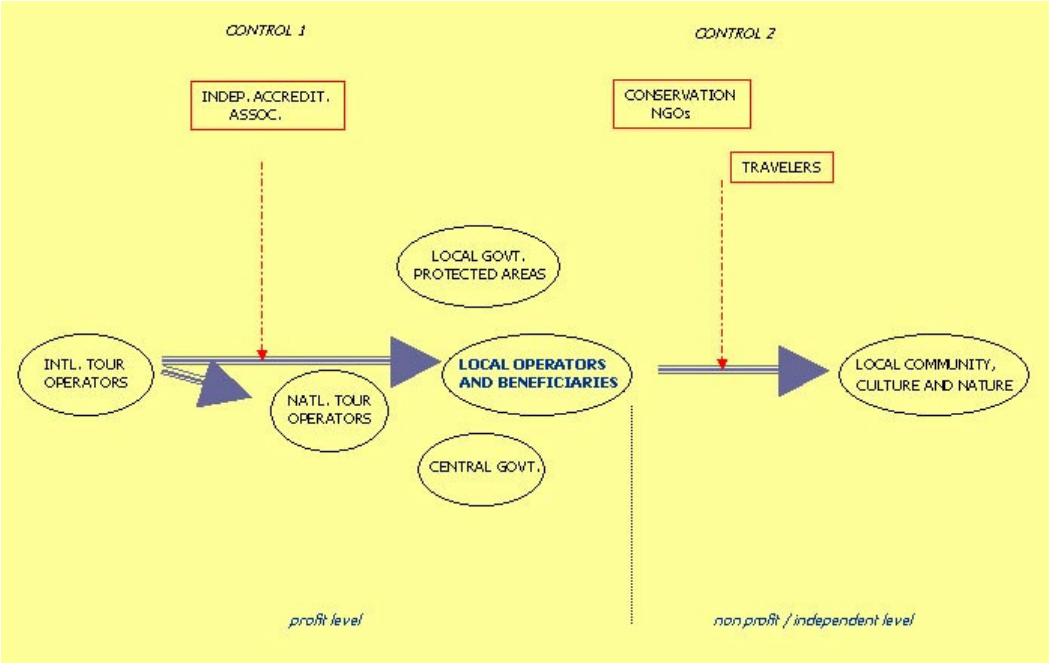
- having developed clear statements and their own policy on responsible ecotourism
- being already credited and certified by the feedback of visitors and by the existing international accreditation associations (e.g. ResponsibleTravel.com)
- regularly making donations in the benefit of local biodiversity conservation.

The coordination and information sharing with other conservation NGOs committed in the ecotourism will enhance the efficiency of this virtuous circle. It is in fact the conservation NGOs' own interest to support and publicly credit ecotourism schemes and tour operators that contribute to conservation in a tangible way. For instance Conservation International and The Nature Conservancy have chosen to play a key and direct role in the development of ecotourism. Namely, Conservation International has developed an Ecotravel Center designed to provide independent information on responsible ecotourism destinations and tour operators an other information (www.ecotour.org/xp/ecotour).

The ecotourism scheme of Palmyra desert will be advertised and accredited by BLI/SSCW as a responsible, small scale and conservation-oriented (especially in the benefit of the bald ibis colony), only as long as the Limits of Acceptable Changes are duly respected by all stakeholders. The goals of such a scheme will be clearly explained during the promotion process. BLI and SSCW will implement a monitoring program of the ecotourism business and compare results with the Limits of Acceptable Changes *a priori* agreed at the beginning by all stakeholders. If the monitoring program finds that the ecotourism program is not working fine, the responsible tour operators will receive a negative feed back from the conservation NGO and from the visitors themselves. The same will happen for those tour operators not fully complying with the principles of ecotourism. For instance, Conservation International and ResponsibleTravel.com have launched an initiative to provide free marketing and promotion for community based tourism schemes in order to promote them to consumers and tour operators across the globe (http://www.mailshotmagic.com/Mail/Mail.asp?MailID=449).

In order to maintain the ecotourism small scale and responsible, the number of visitors per year should not exceed a number agreed in advance by all stakeholders. The author suggests 500-1000 as the maximum number of visitors that the Palmyra desert can absorb *per* year without risks of degradation and disruption (i.e. a sort of carrying capacity). The author does not fully share the view of Anderson (2003) that the ecotourism scheme could be controlled by targeting mainly or only visitors at the upper end of the market (i.e. wealthy visitors), following the principle of the "low density – high value". It is a bit vague form of

control, and no clear mechanisms are specified – let alone the fact that it would be a bit "elitist" as a form of control. As explained above, the control on the ecotourism pressure should be exercised from a non profit and independent level (NGOs, authoritative accreditation firms and travelers themselves) through a virtuous circle involving all the key stakeholders, in first place the tour operators and the local community (as shown in the sketch below).



Sketch showing possible independent mechanisms designed to control the development of an ecotourism scheme in the Palmyra desert.

Other critical issues strictly linked to the viability of the ecotourism scheme is the selection of the right beneficiaries and a fair and agreed revenue sharing system. It is in fact not sufficient to declare and aim at benefiting the local community (or a segment of it). It is crucial to manage to select the target beneficiaries (e.g. the poachers) otherwise the scheme will not produce any decrease of the negative impact of local community on natural resources. The careful selection of the most destructive poachers of Palmyra as the target beneficiaries will be key - as also their acceptance of quitting with their illegal activity as a condition upon entering the ecotourism scheme. "Intelligence information" will be cautiously collected in order to detect the real poachers within the Palmyra community. The poachers involved in the ecotourism scheme will also have to commit in raising the awareness among the young community of Palmyra about the need to quit with this illegal and destructive practice. Once the target beneficiaries are selected, it is also crucial to assist them in identify and agree the most suitable organizational formula to operate the business and to share the revenue (see Prf. 5.2.6).

This is a very delicate step, crucial in determining the level of satisfaction of the people involved in the scheme and therefore the sustainability of the scheme in the long run (especially in terms of decreasing the negative impact of local community on natural resources). The author in the past directly experienced the

hardship of facilitating an agreement between the trained locals in Palmyra on establishing an ecoguiding cooperative. The ecotourism development project must adopt a clear and fair method to select the target beneficiaries. The local community must be consulted on defining the selection criteria and a participatory planning process must be set up. Once a vision and objectives will be agreed, also the criteria for selecting and benefiting the local community will be agreed. Of course this will be a complicated and difficult process, that should be run by an independent committee (including NGOs). Small-scale ecotourism will necessarily benefit only a small portion of the local community - exactly the same as happened in other parts of the world. This proportion can and is expected to increase through the years. But it must be clear that ecotourism will always remain a complement, and not an alternative, to traditional local economy (Fennel 1999): this is especially valid relatively to Bedouin mobile pastoralists. Due to the small number, there are good chances that small-scale ecotourism can absorb almost all, if not all, current poachers of Palmyra.

5.1.3 Who are the stakeholders?

The most obvious stakeholders of an ecotourism scheme in the Palmyra area would be the following:

- the National Government: the Ministry of Agriculture and Agrarian Reform (MAAR), the Ministries of Environment and Tourism
- local Government: local MAAR managing the protected areas of the Palmyra desert
- NGO sector: the Syrian Society for the Conservation of Wildlife (SSCW) and international conservation NGOs, such as BirdLife International and the RSPB
- the Tourism Industry (private sector): the tour operators operating locally nationally and internationally - especially those specialized in wildlife and nature based tourism.

5.1.4 What is the role of the Syrian Society for the Conservation of Wildlife (SSWC)?

Apart from the key role of assisting BLI in the monitoring of the ecotourism development, SSCW could well serve as (independent) facilitator between players in the ecotourism scheme:

- providing assistance to Govt. developing the legal framework on protected areas and ecotourism
- help the selected members of the ecotourism cooperative reaching an agreement over the internal organization and regulation
- certification of the ecotourism scheme
- *trade union* between the local cooperative and the tour operators in Damascus and abroad
- help the ecotourism scheme with financing, marketing and promotion.

5.1.5 Who are the potential clients?

The marketing of tourism products is strongly based on a firm understanding of the fact that the overall travel market is partitioned into selected market segments. Ecotourism in Palmyra desert should target a specific segment of visitors: it is important to attract or market to the right clientele. Based on this extensive

experience and above all considering the specific attractions of Palmyra, the author estimates that the types and profiles of visitors most likely interested in visiting Palmyra desert are the following:

- **birdwatchers** (independent or on a tour): mainly focused on birds, they might take a look also at other naturalistic issues (e.g., other animals, visiting *al talila etc.*) and, possibly also at cultural and archeological issues. For this kind of visitors the sight of the NBIs and other rare Western Paleartic or non Paleartic birds would be the main pleasure of the visit (see Annex 4)
- **desert lovers** (independent or on a tour): in addition to desert landscape and natural history, they are more likely interested in cultural, historical and archeological issues than birdwatchers.
- **heritage travelers** (independent or on a tour): focus on major cultural and archeological heritage sites of the world (in first place those listed by UNESCO)
- **expatriates** working in Syria: there are thousand of foreigners working and living in Syria who are often longing for an interesting and original week-end off; these visitors can be either desert or heritage lovers – sometimes birdwatchers.

Except for the expatriates, above mentioned target visitors will likely spend at least 2-3 days in Palmyra *versus* the quick visit (1-2 days) of the mass tourism segment of the market.

5.1.6 Who are the potential competitors?

The potential competing destinations in the region relatively to natural, historical and cultural heritage could be the following:

- Petra, *wadi rum* and Dana PAs (Jordan)
- Cappadocia (Turkey)
- Yemen
- Gulf states (Oman, Kuwait, UAE)

Potential competing destinations outside the region:

- Morocco
- Lybia
- Tunisia
- Algeria
- Mali
- Egypt

5.1.7 What are the competitive advantages?

1. Palmyra is a unique world-class heritage destination of the Middle East - listed by UNESCO as World Heritage site since 1980. Moreover, there are other less known interesting and fascinating archeological sites within the Syrian desert (*Dura Europos*, *Mari*, *Kasr al Kher al Sharqi*, *Resafe etc.*). Palmyra offers the unique opportunity for combining well-established heritage tourism with ecotourism.

2. Adjacent to the archeological site, the visitor will have the opportunity to visit a project aimed at saving one of the rarest bird on earth (NBI), surely the most threatened bird of the Western Palearctic region. The interest is high, not only from the birdwatching tour operators: for instance since 2006 also Naturetrek offers a 5-day Bald Ibis Break in Morocco.

3. A potential add-on advantage of Palmyra ecotourism scheme over other competing destinations could be a certification/accreditation directly from BLI of its high quality in terms of:

- genuine cultural and folkloric experience (desert hospitality *etc.*) *versus* for instance the fake Bedouins of *wadi rum*
- a true responsible ecotourism experience: the visitor will perceive and be reassured of really helping the local community and the conservation efforts to save the last NBIs
- slow-paced and relaxed holiday (small groups / no crowds) and intimate interaction with local people and nature.

4. The visit of Palmyra can be easily combined, through an overland drive, with a visit to its twin world renown archeological site in the Middle East: Petra, in Jordan (about 3 hours drive from Damascus). Also *wadi rum*, with its extraordinary rocky desert landscapes, could be included in the tour. There are a number of other Middle Eastern sites interesting from an historical, scenic and naturalistic point of view, located at a reasonable distance, that could be combined with a visit to Palmyra. Moreover, Palmyra desert could be also combined with another naturalistic site of international importance (especially for birdwatching), *sabkhat al jabbul,* which is most likely the most important surviving wetland in the Middle East (Serra *et al.* 2006).

5.1.8 What is the originality of the idea?

Taking the lead in sustainable development and community-based conservation in Syria. Most conservation projects carried out in the Middle East so far, including the aforementioned PP, despite usually adopting on paper redundant jargon addressing the need for a participatory approach and for involving/benefiting the local community *etc.*, were typically carried out through a top-down approach, carefully avoiding a real involvement of local communities in the decision making processes. "Conservation without a human face" in the words of Chatty (2002), in most cases without bringing tangible benefits to local communities (Chatty 2002), or, at the best, bringing solely financial benefits incompatible with their culture and lifestyle (Chatelard 2003). There is here an opportunity to take the lead on this key development challenge in the Middle East. The project will aim at identifying and activating new mechanisms and processes of decision making at local level, and at creating a successful methodology that could be applied elsewhere in *al badia*. For the first time in Syria sustainable development and nature conservation will be combined successfully and fruitfully, creating an important precedent to be replicated in other areas of *al badia* and the region.

Idea of a National Desert Sanctuary for Archeological, Cultural and Natural Heritage. Based on the remarkable surveying and documentation work done in the past 8 years by PP about the culture and natural

desert heritage of Palmyra area (Serra 2003a), the present initiative proposes to start discussing and planning the ambitious idea of establishing a "National Desert Sanctuary for Archeology, Cultural and Natural Heritage" in Palmyra, combining the offer of different dimensions of interest (e.g., archeology, history, desert culture, natural landscapes and biodiversity, *etc.*), first of this kind in the Middle East.

High profile conservation operation. The globally threatened NBI is of the highest conservation and symbolic profile. It is undoubtedly the most threatened known vertebrate fauna species in Syria and in the whole Middle East at the moment – indeed one of the rarest and most threatened bird globally. It is a unique piece of Earth's natural heritage, with symbolic and cultural values attached in the Middle East. As shown by the saga of the extinction and subsequent reintroduction of the Arabian Oryx in the Middle East, common conservation practice world-wide shows that it is much simpler (financially, technically *etc.*) to prevent the extinction of a species from the wild as long as it is still feasible, than setting up and implementing complex and highly risky and expensive captive breeding and reintroduction schemes, after the species has disappeared from the wild.

A genuine cooperation spirit and philosophy. Syria seems at present engaged in a challenging process of opening to external market influences. This project proposal promotes values different from monetary, financial and consumerist ones, that, due to the global economy, are permeating the whole world at present. Conversely, present proposal highlight values such the need to ensure survival of threatened unique cultures and traditions, threatened beauty and biodiversity, threatened potentials and legacies of the future generations (not only economic, but also educational, spiritual, inspirational, health, recreational *etc.*) (Naess 1989). It is indeed the author's opinion that it is through a genuine cooperation in sustainable development (through efforts such as the preservation of the cultural and natural heritage of a country, or such as the empowerment of local communities relatively to the management of their natural resources), rather than economic colonization and aggressive foreign policy, that peace and an internationally equitable growth of the people's quality of life can be promoted. For instance, supporting the efforts of preserving the internationally known NBI colony of Palmyra, properly advertised on media, holds a great potential to show the world the sensitiveness and attention of the Syrian Govt. relatively to preserving its great natural heritage, in this specific case certainly an invaluable piece of the global natural heritage as well - in full accordance with the Convention on Biodiversity of which Syria is a contracting party since the early 1990s.

5.2 Information gathering

5.2.1 Tourism industry context in Syria

The author has met Mr Mohammed Saleh from Tourism Promotion Office of Palmyra and Mr Ali Mohammed head of the Tourist Local Office of Palmyra in June 2006. According to Mr Saleh the years 1994-95 have been the golden ones for the tourism in Syria. After that, *intifada* n. 2 started, followed by September 11, the war in Iraq and the war in Lebanon: all this regional instability has caused a marked decline of visitors to Palmyra (60%: from 77,755 visitors/year in 1997 to 30,982 in 2001). Regional politics is clearly the big limit to tourism industry in Syria (as in other neighboring countries like Lebanon and Jordan).

Still a moderate and well-motivated amount of visitors are coming to Palmyra - the high season being between March-April to September. In the past years the Ministry of Tourism has been engaged in defining and "preparing" the tourism product for every part of Syria. According to Mr Saleh, it will take another 2 years to finalize this work. And then, in the next years, all this planning exercise should be put into practice. The promotion of tourism should be carried out, according to Mr Saleh, in first place by the private tour operators based in Damascus. On the other hand also the Tourism Ministry will play a role by:

- regularly participating to tourism fairs abroad to make the tourism product of Syria known
- preparing a short advertising footage to be broadcasted on European TV channels
- organizing yearly a tourism festival in Palmyra
- regularly taking important and distinguished guests to Palmyra.

A well and nicely organized website of Ministry of Tourism has been recently prepared (www.syriatourism.org).

The author has also met Mr Faisal Najali, director of Tourism at the Tourism Ministry in Damascus in July 2006. According to Mr Najali the tourism overall is growing in Syria, despite the adverse regional instability. Despite the European visitors are decreasing (they represent 8.9% of the total), the visitors from the region (90%) are on the increase. There is a commitment on part of the Ministry to promote tourism from Europe in the next years, through organizing workshops with tour operators, fairs *etc.* Also meeting with foreign journalists aimed at changing the image problem of Syria is regarded as a viable (and affordable) strategy.
Mr Najali showed to be well knowledgeable about what ecotourism is. He said that there is pressure from European tour operators to develop the *tourism thematique*. But he admitted that Syria is not ready for it yet, consistently with the conclusions of Anderson (2003). According to Mr Najali there is a dire need to study the situation and develop a suitable product.

The Ministry is very keen in developing a tourism product for Palmyra of higher quality than the past. There is an on-going Tourism Palmyra Project aimed at promoting the heritage tourism in the desert. The product will be ready in about 2 years. The goal is to convince the tourist to spend more time in Palmyra, to take the time to see, in addition of the famous ruins, also the desert landscape, the protected areas, thermal baths, and to see the bald ibises (!). It remains key to prepare a suitable product. Mr Najil showed to be well knowledgeable about the challenges and risks associated with the ecotourism development, relatively to the natural and cultural heritage. He said the Ministry will seek to study and gain as much information as possible on the issue. He is also aware of the importance of involving and benefiting the local community. Reportedly, they have recently organized meetings and workshops involving Palmyra local authorities and representatives of the local community. Admittedly, this is all new for Syria. Mr Najil said that they need to gain experience on this specific issue. He believes that, in order to properly organize and plan ecotourism, a collaboration is needed between the NGOs and the Ministries of Tourism, Agriculture and Environment.

The author have met Mr Osama Annuri in July 2006, manager of Transasia (a private tourism operator based in Damascus) and incidentally also the secretary of the Syrian Society for the Conservation of Wildlife (SSCW), first conservation NGO in Syria, established in 2005. Ecotourism is known in Syria since several years ago, said Mr Annuri, but it has not been developed yet on the ground. Importantly, he recognized the dire need to have an *ad hoc* national legal framework in place, to clearly regulate the management of protected areas and the development of ecotourism. According to him the only ecotourism project at the moment in Syria is the one that should start soon in *sabkhat al jabbul* (run by SSCW in cooperation with Wild Jordan and funded by the Swiss cooperation).

The project was at the time still waiting for last clearances from Govt. Reportedly, some key stakeholders are oriented and pushing for a mass nature tourism approach in *sabkhat al jabbul*, through building heavy infrastructure (a resort-like!) on one of the islands in the middle of the lake, last haven and nesting site for the water birds. This old-style approach of some officials and investors is consistent with information gathered from both Anderson (2003) and the author of present study. From explanations given by Mr Annuri, it seems that the local community will be mildly involved in the *jabbul* project, as there was no indication of their involvement in discussing and planning the ecotourism project before the implementation stage. In fact, the recently established Steering Committee for *sabkhat al jabbul* does not include any representative of the local community (F. Turkelboom, ICARDA, *pers comm.*). Mr Annuri admitted that this is as a flaw of the project concept and design.

Interestingly, at the time of the author's visit, SSCW was organizing a training for eco-guiding in Jordan, with the aim of certifying the successful trainees. Regarding Palmyra, Mr Annuri recognizes that there is still a need to develop an ecotourism product, and maintains that Transasia would be keen to cooperate with the local community.

5.2.2 Capacity of target beneficiaries

A key advantage is that there is no need to start tourism services from zero in Palmyra. There is already a customer service in place since at least 15 years ago - although not an excellent one. But certainly it could be improved. English language is already quite well spoken within tourist facilities and attractions in Palmyra – together with French and Italian (in a lesser amount German and Spanish). There is already a heritage guiding service in Palmyra relatively to the ruins, and also few persons specialized in desert tourism. Several local people have already been exposed to foreigners and acquainted to them. Selected target beneficiaries in the ecotourism scheme will be made aware of the specific characteristics of ecotourism and its key differences from mainstream tourism or mass nature tourism, and will have to commit to agreed limitations on the size of the business (e.g. number of visitors per year *etc.*). The beneficiaries will be trained in customer care, guiding, accounting and English for about 6 months.

In the case of Palmyra poachers, participation to the ecotourism scheme will be approved on the condition that they will abandon their illegal activity, i.e. participants in the scheme will replace poaching with

ecotourism. Some selected beneficiaries of Palmyra might be able to invest their own money for starting the business, but the majority will not be able. A micro-credit scheme should be made available to the selected beneficiaries in order to be able to start a local business. This arrangement should be provided either by BLI/SSCW or as part of a sustainable development project.

5.2.3 Target market

There are basically two types of visitors that can be interested in the Palmyra desert: those with a built-in predisposition towards nature and nature travel (who are willing to travel driven only by this motivation) and "made" ecotourists – those who are visiting the Palmyra ruins (heritage travelers), and who could be convinced to spend additional time to enjoy the additional add-on reasons of interest of Palmyra and its surroundings. The age and financial condition will not be critical parameters for identifying the typical visitor. In general terms, the target visitors of an ecotourism scheme will be: medium/high education level and well informed, ecologically sensitive and cost-conscious, passionate. They will tend to be more "travelers" than tourists – the difference being mainly the curiosity and will-to-learn drive. They will spend typically 2-4 days in Palmyra.

The market that should be targeted is mainly the western European one, both the visitors traveling independently and those purchasing organized tours. All these visitors should be keen in supporting conservation and responsible ecotourism. The target types are basically birdwatchers, desert lovers, heritage travelers and expatriates (based in Syria). These types of travelers are still certainly a minority of the potential tourism market (perhaps 15-30%), but their proportion is expected to increase in the future (Addley 2006 in Annex 1) and anyway at the moment they seem the most suitable for being targeted by an ecotourism proposal. The fact that they are a minority should protect the site from the risks of ending up with a mass tourism runaway development.

5.2.4 Facing competition

The strength of the competing destinations described in Prf. 5.1.6, outside and within the region, is relative. For those sites outside the region, the strength is that they might be perceived as safer destinations than Syria - although terrorist attacks have hit in recent and past years almost all the countries above listed. Syria is actually one of the safest countries in the world for traveling, but this is not sufficiently known (Anderson 2003). For instance, a top insurance company charted the world's most dangerous places to do business (BBC World news, April 2005, http://news.bbc.co.uk/2/hi/uk_news/magazine/4464293.stm): Syria ranked one of the safest country in the region (safer than all its neighbouring countries) – being granted the same level of risk as western Europe and US.

The stiffest competing destination is actually Petra with nearby *wadi rum* in Jordan – which is like Palmyra also a heritage site (but not with desert setting). They entered in the tourism market long time ago, benefiting from the pro-west foreign policy of the country. Taking into account the target visitors described

in Prf. 5.1.5 and 5.2.3, the weakness of these destinations appear to be the fact that they have already turned in mass tourism destination - and therefore their fascination has decreased a lot in the past years. Palmyra desert's points of strength - the ruins, the NBIs and the fascination of an un-spoilt environment and culture -, when well packaged and promoted, can make this as a unique destination. Jordan has greatly suffered, possibly more than Syria, from the recent war in Iraq and the associated spilling of islamist terrorism all over the world. Anyway, Palmyra can be easily "packaged" (and it is already being "packaged") in tours including the visit of Petra and *wadi rum*.

Yemen is surely the stiffest competing destination present on the market. Yemen's fascination is based on its remoteness and the perception that it is still untouched by mass tourism, at least not yet. It does hold extraordinary architectural, cultural and natural assets. It probably lacks the archeological wonders of Jordan and Syria. In fact the attractiveness of these two countries is probably based on the presence of stunning and well-preserved remains of the classic period (Hellenistic art) – in the exotic setting of the desert. These remains of the Greek-Roman civilization attract western Europeans as they feel it is the root of their own culture and civilization. On the other hand, Yemen is still regarded by many as quite unsafe as a tourist destination.

5.2.5 Options for promotion

Syria unfortunately suffers of an image problem within the western countries community, especially fueled by the Bush administration. The western mass media, far too often biased toward the US administration point of view, often depict Syria as an unsafe country, haven for terrorists. This undeserved image problem combined with recent wars arisen in the region (Iraq, Palestine, Lebanon) does not make the perception of Syria by western tourists as one of the safest destination at present. This reputation, beyond any political judgment, is not deserved by the Syrian population, who is undoubtedly very hospitable and keen to meet foreigners: hospitality is by no means a key feature of the desert and Syrian culture, a very pleasant and unforgettable experience for newcomers in the country.

A development strategy based on fully integrating ecotourism requires the state, private sector and NGOs to formulate and project a particular national image abroad – possibly through the specialized services of communication professionals, as suggested by Anderson (2003). Feelings of safety and security are vital factors in the decision-making processes of potential visitors. Also a genuine participation of local community in the ecotourism schemes is crucial, accompanied by a recognition of the importance of their cultural identity and land claims. Govt. and conservation NGOs (mainly BLI and SSCW) should play a leading role in promoting the ecotourism scheme of Palmyra with the specialized tour operators and with the birdwatching associations and magazines abroad. In particular, the key target of a promotion campaign would be:

- foreign journalists and specialized responsible ecotourism operators (invited to national fairs, workshops organized by national tour operators and Ministry of Tourism)
- participation to specialized tourism fairs in Europe

- BLI and SSCW credit the ecotourism scheme with European specialized responsible ecotourism operators, accreditation firms such as ResponsibleTravel.com [7], birdwatchers associations and magazines, guide-books designed for independent travelers (Lonely Planet, Le Routard, Rough Guides *etc.*)
- selected local beneficiaries will be also proactive through the use of internet in promoting their services.

A nicely designed and clearly informative brochure and web site should be also prepared for the purpose. Feedback of independent tourists is also expected to contribute in spreading the voice about this new ecotourism opportunity: their recording and filing is key. For instance, Conservation International and Responsibletrevel.com together are seeking to connect community-based tourism projects around the world with appropriate tour operators.

5.2.6 Administration and organization

The clear and direct beneficiaries of this ecotourism scheme should be the Palmyra poachers and the Bedouin pastoralists from *amur* tribe (traditional users of Ibis PA's pastures). Selecting the beneficiaries will be a difficult task that should be taken care by the international NGO, according to *a priori* agreed criteria. The more dedicated poachers of Palmyra should be identified before the community is aware of the ecotourism scheme and its goal - possibly through the cooperation of the local police or even the local Intelligence Service. A key management issue is, once selected, to suitably organize the beneficiaries involved in the provision of the accommodation & food services on one hand, and the interpretation & local transport service on the other hand (both services accounting for an estimated 81-82 % of the business at local level). A suitable, fair and efficient formula should be discussed and agreed well in advance, aimed at fairly distributing the revenues among as many families as possible, from the selected and agreed target people.

A locally-owned cooperative seems the more suitable organizational arrangement for a small-scale business: it is democratically controlled by all the participating members who share responsibilities and benefits.
Establishing 1 cooperative or 2 different cooperatives for each service (transportation & interpretation and accommodation & food) could serve the purpose. It will need a remarkable amount of discussion and negotiation between the members of the target beneficiaries, ideally mediated by BLI. The final agreement between members, inclusive of the rules, should be legally registered by a local attorney. The final goal should be to share as much and as fair as possible the revenues coming from these two services among the selected beneficiaries. A trustable and authoritative administrator and a treasurer should be elected, ensuring transparency and fairness (efficient mechanisms should be identified, discussed and agreed beforehand). Decisions will be taken collectively in meetings chaired by the administrator.

[7] 200 are the tour operators whose holidays RT.com currently certifies and markets (http://www.mailshotmagic.com/Mail/Mail.asp?MailID=449).

A partnership between local beneficiaries and the tour operators in Damascus will be needed. The local community is too distant from the markets and do not have sufficient entrepreneur capacity. Also, the intrinsic risks associated to starting any small business (estimated at 80% by Kleinn 2002), requires a capacity of quick adaptation in response to unexpected and new events. A clear agreement between the local cooperatives and the tour operators will be needed. The partnership structure should be thoroughly discussed and negotiated between the stakeholders, through the facilitation of the NGOs. The tour operator, who provides the connection to the marketplace and who can ensure a certain degree of adaptability, should gain a certain percentage over the revenue, which must be negotiated and agreed beforehand.

The one or two local cooperatives should also discuss and agree a partnership / memorandum of understanding with the local MAAR protected areas. The ecotourism scheme should be supported and started-up during the first 3-4 years by the conservation NGOs with the aim of:

- selecting the target beneficiaries
- facilitating the setting up of a local cooperative and its internal organization
- facilitating setting up of partnership with local MAAR and with tour operators
- training and capacity building (including English)
- facilitating the initial investments (accommodation, 4x4 vehicles, promotion *etc.*), possibly through a micro-credit scheme.

5.3 Definition of goals

A goal and a vision for a potential ecotourism scheme in the Palmyra desert should be thoroughly discussed, negotiated and agreed by the relevant stakeholders: it should contain reference to economical, cultural and environmental viability. Stakeholders must deeply understand the philosophy behind ecotourism: they especially have to realize that if ecotourism is to become successful by conventional industry standards, it will have undermined exactly what it set out to accomplish in the first place. Agreeing on a measure of success is also important at this stage. Only motivated tour operators will happily accept size restrictions to the business. All stakeholders will have to realize the strict link connecting the ecotourism, conservation management and business development.

5.4 Resource Inventory

5.4.1 Attractions

A number of features of the Palmyra desert appears of great interest at a national, regional and international level. The following are invaluable natural, cultural, aesthetical and recreational resources, still available locally, to be properly protected and managed for the benefit of present and future generations.

- *Archaeology and heritage*: the occurrence of Palmyra world renown ruins gives it considerable potential as an amenity for both local and international tourists.

o *Culture and tradition*: *al badia* territory is primarily used by Bedouin pastoralists, nomads and semi-nomads, still retaining their genuine fascinating culture and traditions.

o *Scenic and aesthetics*: the wide horizons of the steppe plains (e.g. *hamad* desert) scattered with the tents of nomads, the compelling silence and quiet, the large herds of camels, the sheer limestone white cliffs and the seasonal wetlands (e.g. *sabkhat al moh* with wintering flamingos and cranes), not to mention the Palmyra ruins and the surrounding huge millenary oasis, give this territory its own charm and mystics.

o *Biodiversity*: *al talila* PA is one of the few corners left in *al badia* still holding an healthy native vegetation coverage, the only site where locally extinct large-sized fauna such as *reem* gazelles and Oryx can still be seen, a site where rare and declining fauna such as large-sized mammals and reptiles find refuge; Palmyrean *al badia* still holds globally threatened fauna species - two of which (*Geronticus eremite* and *Vanellus gregarius*) are Critically Endangered – and it lies on an internationally important migratory flyway of birds. Most of its attractiveness for European birdwatchers is the fact that it lies at the very south-eastern border of the so-called Western Palearctic region. European can therefore admire in Syria some little known and otherwise almost unreachable species, such as Iraq Babbler *Turdoides altirostris*, White-cheeked Bulbul *Pycnonotus leucogenys,* Chinese Shrike *Lanius (isabellinus) arenarius* and the last remnant of the eastern sub-population of Northern Bald Ibis *Geronticus eremite,* the most threatened bird of the Western Palearctic. See Annex 4 for a Syrian "birdwatching menu".

o *Education*: the Desert Culture and Nature Education Center (DNEC) is a an opportunity to learn about *al badia* nature and culture, and to raise the awareness about their threats. It is a unique and pioneering effort made toward conservation education and awareness raising both at a national and at a regional scale.

o *Recreational and sport*: unique opportunities for picnicking, thermal bathing, hiking, mountain biking, horse and camel riding, relaxing in the dry open air *etc*.

5.4.2 Potential activities

- in addition to a guided tour of the ruins, a simple walk in the ruins (recommended during full moon, at sunset or at sunrise)
- a walk in the oasis (either by camel or by mountain bike)
- visiting the *al talila* PA in the vicinity of Palmyra, by 4x4 vehicles or riding a camel or mountain bike or by hiking
- visiting the DNEC
- birdwatching in the different ecosystems
- visiting the breeding NBI colony

- visiting the salt lake *sabkha al moh* (by hiking, by camel, by mountain biking)
- visiting the Griffon Vulture colony
- spending some time (even overnighting) in a true Bedouin tent, interacting with this people and learning about their culture.

5.4.3 Infrastructures, accommodation options and food services

The two cornerstones to effective marketing in ecotourism are the attraction for tourists on one hand, and the tourism infrastructure to support the industry on the other hand. Palmyra has plenty of accommodation and restaurants, clean water, transportation. However, accommodation of a medium standard are not easy to find in Palmyra – while there are plenty of budget and several luxury accommodations. It is recommended that the ecotourism scheme will purchase one of these hotels (many are closed or in crisis), already with a environment friendly architectural design, or build a new one with more attractive traditional design, to make it an accommodation of a medium/high standard quality. This new accommodation should be very different from the many already in place in Palmyra, in being smaller scale, locally-owned and run, and with a more specialist form of accommodation – keeping with local culture and heritage. Because the accommodation should be constructed in accordance with traditional desert designs and using local materials, an idea could be to set up a tented camp inside the oasis or just outside the town in the desert. The tents should be well equipped and of high standard – a model could be the camp site of *dana* PA in Jordan. For those visitors who would not be keen to stay in a tent, so-called "beehive" accommodations should be built (provided with bathroom *etc.*), from the traditional desert architecture. These accommodations could turn out to be similar to those excavated in turf on offer to tourists in Cappadocia (Turkey). The food will be strictly traditional one, prepared at high standards (training will be needed). Involvement of women in the provision of traditional food will be encouraged: one of the main reason that Palmyra is reported in most tourist guides as holding some of the worst restaurants of the country is that only men cook in restaurants.

al talila PA is quite well equipped with infrastructures, although, as noted by Anderson (2003) a remake and some basic adjustments would be needed. Ibis PA does need on the other hand some basic infrastructures, like border marks, signs, an entrance *etc.* An observation tower is needed in *sabkhat al moh*, designed in such a way in order not to disrupt the landscape: this task should be commissioned to a professional environment architect. A plus is that Palmyra is already conveniently connected to the capital, through a good-quality road (it is a 2.5-3 hour drive). Moreover, it is quite easy and convenient flying to Damascus from any major European city. The solid waste management is a major long-standing problem in Palmyra desert: the black plastic bags blown by the wind from Palmyra to everywhere all around the desert is clearly a situation not compatible with the objective of developing ecotourism - and also mainstream tourism. One of the objective of the conservation and sustainable development project should be to start tackling this grave problem.

5.4.4 Interpretive services and local transportation

Good and motivated ecoguides are at the very heart of the ecotourism business (Drumm *et al.* 2004).
At the moment there are few standard archeology guides in Palmyra. Since few years ago there are also two specialized and well trained ecoguides in Palmyra. A training program for ecoguiding should be established for the selected beneficiaries. Ecoguides should also provide local transportation for the visitors: therefore they should also be good drivers (training is needed) while the cooperative should have 2-3 4x4 vehicles.

5.5 Market Analysis

Northern European countries, especially England and Netherlands, have many tour operators specialized in birdwatching and nature holidays. Birdwatching Breaks (an English birdwatching tour operator) has organized the first birdwatching holiday in Syria in 2006, advised by the author and employing as co-leader one of the trained ecoguide of PP (Adeeb al Assaed). The same year, Naturetrek asked the author to design a nature holiday in Syria. Southern European countries like France, Italy and Spain have tour operators more keen on a mix of culture and nature holiday (*tourisme thematique*). The interest and the market is clearly there, and it is growing quickly (Addley 2006 in Annex 1). Locally the ecotourists are expected to spend mainly for the following services:

- accommodation & food
- interpretation and local transport
- lunch/snack/tea ceremony/craft
- entrance fee of the protected areas.

American and Australian tourists are not a suitable target these times, not only because of the distance, but also because of the on-going war on terror and the world-wide unpopularity of the Bush administration. It is hoped that this scenario may change for the better in the future, opening new scenarios and opportunities.
There are no ecotourism operators neither locally nor nationally in Syria at the moment. On the other hand both in Palmyra and in the capital there are tour operators expressing their interest in partnering with local community on an ecotourism project.

5.6 Competitive analysis

Palmyra does not have the spectacular wildlife assets of the African national parks or the spectacular landscape of *wadi rum* desert in Jordan: it has nonetheless a fascinating and inspiring desert landscape, with unique archeological remains and a still alive interesting desert culture. The specific geographic location of Syria between Europe, Asia and Africa, has always made this land a crossroad for people and cultures (and also, remarkably, of wildlife!). The last colony of NBI is surely unique in the world.

Palmyra desert holds the potential to beat the competition by:

1. taking the opportunity of convincing the already many people attracted by Palmyra ruins and by the fascination for Syria historical heritage and still genuine culture and traditions, to spend more time for discovering also the natural assets. In other words, it would be sufficient to aim at expanding and capturing the interest of the many European heritage travelers already attracted by Syria and Palmyra.

2. promoting the uniqueness of the NBI conservation programme involving the native Bedouin community and the chance for the visitor to directly contribute to their survival – thanks to the certification of BirdLife International and SSCW. Morocco Govt. has established a large National Park (*souss massa*) specifically designed to protect a couple of NBI colonies in the early 1990s (belonging to the western ibis race), in the province of *agadir*: nowadays this park is visited by thousands of tourists every year, greatly benefiting the local community [8].

3. Combining Palmyra desert's visit to other natural, historical and archeological, attractions of Syria (*mari*, *dura europos*, *resafe*, *sabkhat al jabbul*, Aleppo, Damascus *etc.*) and of Jordan.

If the promotion manages to properly address and highlights these 3 points properly, Palmyra desert could be really regarded as being without competitors.

5.7 Business description and operation

Tourism is primarily a service industry, where services are intangible. Two are the main services that selected beneficiaries will offer locally to visitors:

- traditional accommodation and food (based in Palmyra or its surroundings)
- interpretation and local transport.

These two operations will be organized in one or two locally-owned cooperatives run by well trained locals (ex-poachers and *amur* Bedouins). The cooperative/s will establish a partnership with the local protected areas and with national and international tour operators. BirdLife International and SSCW will grant the whole operation a green certification which will raise the ethical profile of the business. The minimal initial investment needed, perhaps through a micro-credit scheme, should help the target beneficiaries covering the expenses for the specialized training (naturalistic interpretation, English *etc.*), the purchase or modification of suitable building to become a medium/high standard accommodation, the purchase of 2-3 4x4 vehicles, ID books and binoculars.

A typical 3-day holiday tour involving for instance a couple of independent visitors (nature and culture lovers for instance) could be the following. They have contacted the ecotourism cooperative well in advance through email and agreed and negotiated a specific tour and a price. They would either arrive on their own

[8] Morocco Govt. halted in 2003 a plan, proposed by ClubMed, to build a massive tourism resort on coastal habitats key for the survival of the Bald Ibises, following the recommendations and the deep concern raised by conservation organizations internationally.

to Palmyra by use of public transportation or by taxi or they would have requested the cooperative to send a car to pick them up in Damascus or Aleppo. They are assigned one room in the hotel/lodge and one of the ecoguides and a vehicle. They leave Palmyra with the ecoguide (who has meanwhile already equipped the vehicle with sufficient fuel and food for 3-5 people for 2 days). They start with *al talila* PA, where they have a 3-hour hike across the open steppe early in the morning, and then visit the antelope enclosure and the DCNEC.

By noon they leave to visit the breeding NBIs in the mountains north of Palmyra: they have lunch *en-route* in a tent of *amur* Bedouin. The ecoguide have meanwhile explained the visitors the Code of Conduct they should strictly adhere when they are encountering and dealing with Bedouins (no photos *etc.*). Around 3 o'clock the party leave for a cruise deep in the *hamad* desert where they will reach another tent of Bedouin: they will have dinner while learning interesting aspects of the nomad culture. They overnight in the tent and the next morning they have breakfast with the nomads. The morning is spent wandering in the desert in search of steppe birds. In the afternoon the party will head back to Palmyra, ending the day at sunset at *sabkhat al moh*. A delicious traditional dinner will be waiting for them at the hotel in Palmyra, while the ecoguide will summarize the highlights of nature and culture heritage experienced in the previous 2 days. Next morning, at an early timing, after breakfast, a walk in the oasis (or camel ride) learning about the ancient traditions of growing the orchards and the irrigation channel system. Interesting songbirds will be spotted among the palm groves. In the afternoon the visitors will have time to explore the Hellenistic ruins of Palmyra.

5.8 Sales forecast

Since the NBI discovery in 2002, the two trained local guides Mr Ahmed Khaled Abdallah and Mr Adeeb al Assaed from Palmyra have guided not less than 50-60 independent visitors interested in birds or nature & culture: 3 in 2002, 5 in 2003, 10 in 2004, 15-20 in 2005: 25-30 in 2006. This small-scale business was established with a minimal promotional effort: just the personal engagement of the author and the spreading of the voice from visitors to visitors. If and once promoted suitably, a small-scale ecotourism scheme could realistically develop and increase with the pattern shown in the table below (this is an estimate of the author).

Type of visitor		*N. of visitors/year*		
		5 years after inception	*10 years after inception*	*15 years after inception*
Birdwatchers	Independent	10 groups (2 person ea.)	20 groups (2 ea.)	30 groups (2 ea.)
	Tour	2 (10 persons ea.)	3 (10 persons ea.)	4 (10 persons ea.)
Desert lovers	Independent	10 groups (2 ea.)	15 groups (2 ea.)	20 groups (2 ea.)
	Tour	2 (10 persons ea.)	3 (10 persons ea.)	4 (10 persons ea.)
Heritage travelers	Independent	10 groups (2 ea.)	15 groups (2 ea.)	20 groups (2 ea.)
	Tour	2 (10 persons ea.)	3 (10 persons ea.)	4 (10 persons ea.)
Expatriates	Independent	10 groups (2 ea.)	20 groups (2 ea.)	25 groups (2 ea.)
TOTAL		140	230 (+ 64%)	310 (+ 35%)

Independent travelers would typically spend 3 days in Palmyra spending locally an estimated total of about 260 $ per person. Expatriates will spend less time, as they usually visit Palmyra during week-ends (Friday and Saturday), and will spend on average a total of 165 $ per person. Organized tours will spend 3 days in Palmyra on average, spending about 1650 $ per group – assuming small groups, e.g. 10 people. (These figures are actually conservative as visitors might be willing to spend more days than assumed above.)

Type of tourists	*Accommodation & food* (*$*)	*Interpretation and local transport* (*$*)	*Lunch/snack/tea ceremony/craft* (*$*)	*Tickets protected area* (*$*)	*Total /person* (*$*)
Independent on budget	50x2 nights =100	50x2 dd=100	10x2=20	20x2=40	260
Independent upper market	70 (1 night)	60	15	20	165
Organized Tour	60x2 nights x10 pa=1200	200 (excluding transport and food)	10x5=50	20x10=200	1650

The revenue estimate of a small-scale ecotourism scheme in Palmyra desert over the course of 15 years could be as follows:

Service/Expense	*Type of visitor*	*5 years after inception* (*$*)	*10 years after inception* (*$*)	*15 years after inception* (*$*)
Accommodation & food	Independent on budget	50/night x 2 nights x 50 persons=5000	*assuming a 64% and 35% increase after 10 and 15 years, respectively*	
	Independent upper market + organized tours	70/night x 2 nights x 10 persons=1400 70/night x 1 night x 20 persons=1400 60/night x 2 night x 10 persons x 6 groups=7200		
	SUBTOT	**15,000**	**24,600**	**33,210**
Interpretation and local transportation	Independent on budget	50/day/pa x 2 dd x 2 persons x 40 groups =8000	*assuming a 64% and 35% increase after 10 and 15 years, respectively*	
	Independent upper market + organized tours	60/day/pa x 2 persons x 10 groups=1200 100/day/group x 2 dd x 6 groups=1200		
	SUBTOT	**10,400**	**17,056**	**23,025**
Lunch, snacks, tea ceremony, crafts	Independent on budget	10 x 50 persons=500	*assuming a 64% and 35% increase after 10 and 15 years, respectively*	
	Independent upper market + organized tours	15 x 30 persons=450 10 x 5 persons x 6 groups=300		
	SUBTOT	**1250**	**2050**	**2767**
Ticket to protected areas		20 x 140=2800	*assuming a 64% and 35% increase after 10 and 15 years, respectively*	
	SUBTOT	**2800**	**4592**	**6200**
	TOTAL	**29,450**	**48,298**	**65,202**

A part of the revenue from ecotourism will go to financing conservation (about 10%): over the long term, the future of protected areas depends on their ability to be financially self-sustaining.

5.9 Financial analysis

In the previous section a possible revenue estimate was calculated. In order to understand what the net income will be, it is key to also estimate costs.

Initial investments – fixed costs

- training and capacity building (interpretation, driving, customer service *etc.*): 20,000 $ (probably covered by NGOs)
- promotion during the first 5 years: 1000 $/year per 5 years = 5000$ (probably covered by NGOs)
- building or purchasing a building in order to make it an hotel/lodge of medium/high quality standard: 20-30,000 $
- purchasing 3 2nd-hand 4x4 vehicles: 10,000 $ x 3 = 30,000 $

Subtotal: 60,000$

On-going operational costs - fixed

- vehicles maintenance: 150 $ / year per vehicle
- replacement vehicles after 10-15 years: 1000 $ / year
- replacements stuff/equipment of hotel/lodge and restaurant + maintenance: 700$ / year

Subtotal: 1850 $ / year

On-going operational costs - variable

- Vehicle fuel
- Food
- Cleaning rooms
- Utilities

Subtotal: an estimated 25% of the total revenue (about 38% relatively to interpretation & local transport and 13% relatively to accommodation).

	5 years after inception (*$*)	*10 years after inception* (*$*)	*15 years after inception* (*$*)
Estimated revenue	29,450	48,298	65,202
Initial investment	60,000/5=12,000	60,000/10=6000	60,000/15=4000
Operational costs – fixed	1850	1850	1850
Operational costs – variable	7362	12,100	16,300
ESTIMATED NET INCOME	**8238**	**28,348**	**43,052**

Assuming and taking into account that the conservation NGOs will fund raise to cover at least the expenses of the training and promotion (an estimated total of $ 25,000) and will help in providing a micro-credit funding scheme with zero interest rates for purchasing/build/renovate the accommodation and purchase 3 vehicles we could conclude that, after 15 years from inception, the ecotourism business in the Palmyra desert will be already generating 43,052 $/year as a net income – without considering the property values for the accommodation estate (at least 20,000$) and for the 3 4x4 2nd- hand vehicles (at least 15,000 $ in total). Of course, if the conservation NGOs or any development agency will be able to fund raise part of the initial investment costs, the value of the ecotourism business will reach that of poaching more quickly (e.g. in 5-10 years).

The current estimated value of poaching (a quite conservative 45,000 $/year) should be therefore compared with the estimated value of the ecotourism business 15 years after inception, but bearing in mind the following facts:

- poaching is an illegal activity that could be effectively enforced by Govt. once for all at any time
- poaching is a completely unsustainable activity in the medium and long term (assuming, like we are doing, that its value as a business will remain constant through the next 5-10 years is very optimistic)
- people selected for the ecotourism scheme will acquire training and capacity (including English learning)
- ecotourism will be a legal activity fully promoted, supported and facilitated by Govt. and NGOs
- ecotourism is an ethically and spiritually rewarding, enriching and mind-opening activity.

Based on a survey on current local salaries and cost of life (an average salary of 140$/month), the author estimates that the ecotourism could benefit the following amount of local families.

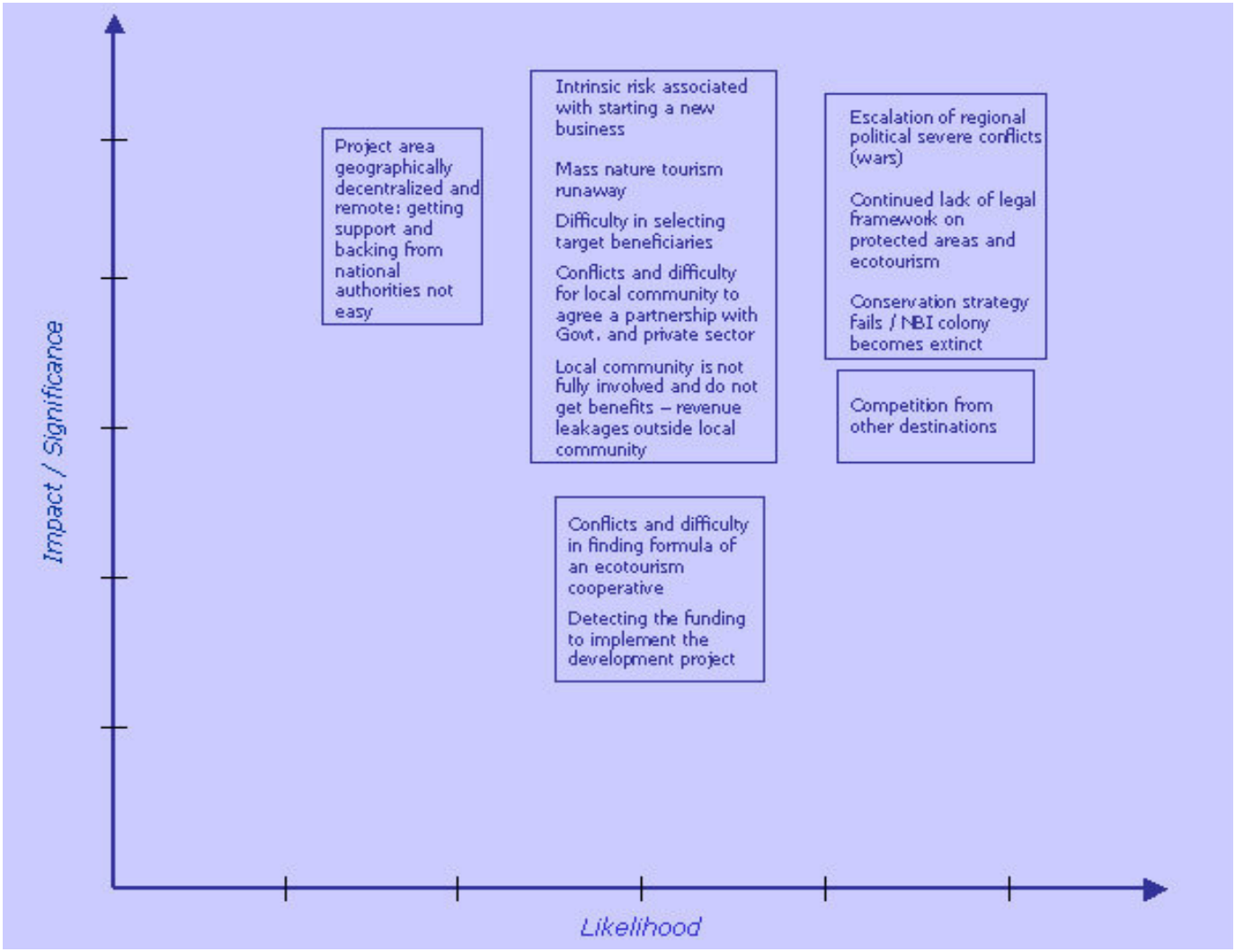
Target beneficiaries	*5 years after inception*	*10 years after inception*	*15 years after inception*
Poachers & *amur* Bedouins	10 families	26 families	36 families
amur mobile Bedouins	2 families part time	3 families part time	4 families part time
MAAR Protected Areas	2 families of rangers	4 families of rangers	5 families of rangers
TOTAL	13 families	31 families	43 families

5.10 SWOT analysis

STRENGHTS	WEAKNESSES
❑ Well established heritage tourism to Palmyra ❑ Desert hospitality – genuine culture and traditions, still untouched by mass tourism ❑ NBI is the most threatened bird of the Western Palearctic, and one of the rarest in the world ❑ Due to PP previous long-term work: opportunity to have a solid preparatory basis from which to start ❑ Taking the lead in sustainable ecotourism, an idea in line with Millennium Development Goal n. 7 and Convention on Biological Biodiversity's Art. 1 ❑ Availability of DCNEC locally - a milestone conservation education and awareness resource regionally ❑ Visitor safety (Anderson 2003, BBC World news April 2005)	❑ Politically turbulent region of the world ❑ Lack of legal framework relatively to protected areas management and ecotourism ❑ Confusion about the difference between ecotourism and nature mass tourism ❑ Top-down tradition of running intl. cooperation and development projects in Syria ❑ Project area geographically very decentralized and remote: getting support and backing from national authorities is not easy ❑ Govt. and developers overlooking value of small-scale ecotourism for local community
OPPORTUNITIES	**THREATS**
❑ Ecotourism seems to have the economic potential to drain the poaching activity in Palmyra and it is also compatible with the traditional livelihood of nomadic Bedouin ❑ Potential as a pilot project ❑ Motivation of local community ❑ Capitalize on the world-class heritage attraction of Palmyra: idea of a National Desert Sanctuary for Archeological, Cultural and Natural Heritage	❑ Political regional instability; risk of escalation of regional political crisis ❑ Ecotourism runs out of control (runaway), becoming destructive and unsustainable mass ecotourism: attractiveness and fascination of the site diminished ❑ NBI colony becomes extinct ❑ Leakages of revenues outside local community, alienating it from the scheme ❑ Risks intrinsic to starting a small business (about 80%

❑ Potential for improving the image of Syria internationally ❑ Targeting one of the most disadvantaged and marginalized segment of Syrian rural society: initiating a rural development scheme specific for *al badia*, targeting Bedouins ❑ Fresh failures of *al talila* and *abu rigimin* PAs projects in meeting the needs of the local communities: a protected area recently established within Palmyra area (Ibis PA), holding a high international interest, is an opportunity to showcase a different human-oriented approach to nature conservation, benefiting from the useful lessons learned ❑ Local community's empowerment potentials associated to establishing a Palmyra-based locally-own business/enterprise ❑ Globally important and iconic NBIs detaining a high potential as a flagship for conservation and awareness movement in Syria ❑ Birdlife's commitment to continue conservation efforts in the benefit of NBIs, and to support the capacity development of a Syrian-based conservation NGO (e.g. Syrian Society for Conservation of Wildlife, SSCW)	according to Klein 2002) ❑ Very challenging selecting the target beneficiaries, achieving an agreement on revenue sharing, achieving a partnership agreement between local community and private sector *etc.* ❑ Competition from alternative destinations

5.11 Risk assessment



5.12 Sustainability assessment

The single most important action needed to ensure the long term sustainability of a ecotourism scheme (and of a conservation strategy) is a legal framework on protected areas and ecotourism. This is the bottom line assumption and precondition needed in place before starting any planning exercise. It is foreseen and expected that the sustainability of project results will be ensured also by the following facts and arrangements set up and achieved during the scheme implementation:

- consistency of the project with local socio-cultural norms and practices
- building on the extensive knowledge, good practices and lessons learned developed by previous PP
- due to PP's 8-year operation, awareness of local institutions and community is already in place

- the deep sharing of the decision-making process, and the communal efforts taken by the stakeholders should stimulate the raising of a sense of ownership and commitment to project objectives and implementation

- project's ability in having addressed the key felt needs of the target beneficiaries, and in having identified, through the agreed action plans, a reasonable, practical and cost-effective compromise between the interests of different stakeholders

- empowerment and advocacy capacity built up among Ibis PA inhabitants

- local community's motivation to implement changes ensuring sustainability of their present and future livelihoods, and to improve their living conditions

- awareness raised in Damascus on the importance of project, through communication strategy; networking with similar and/or complementary projects and programs, and with organizations and agencies holding overlapping interests

- the project potential for becoming a model to be replicated in other areas of *al badia*

- all stakeholders, and in first place the local community, are fully made aware of the economic opportunities and the risks (to local culture and natural assets) associated to development of eco-tourism

- capacity and self-commitment developed by local trainees during the training program

- use of technology appropriate to local socio-economy, culture and environment.

6. PROPOSED DEVELOPMENT PLAN

The aim of a feasibility study is to provide stakeholders with all the key elements needed to make a balanced and informed decision about whether a specific ecotourism business idea is viable and sustainable, socio-economically, culturally and environmentally. It is not therefore the scope of a feasibility study to also provide a specific development plan or action plan, recommending the way ahead to proceed with the implementation of the idea. Nonetheless, the author thought that just suggesting a way ahead would anyway be useful for decision the making process itself.

6.1 Justification for action

Taking the lead in the development of responsible eco-tourism in Syria. The demand for responsible

ecotourism is growing in Europe (Addley 2006 in Annex 1). PP has well highlighted the outstanding additional interest potentials of the area, especially in terms of natural and cultural heritage (Serra 2003a). The eco-tourism potential of Ibis PA (especially due to scenic landscapes and unique biodiversity) and of the wider Palmyra desert, surrounding the ruins and the oasis, is considerable (Anderson 2003): dozens of foreign birdwatchers parties have already flocked to the area since 2002, to watch the last NBIs, the most threatened vertebrate species of the Middle East, in their native habitat. Since 2005, 2 PP trainees as eco-guides started making a living out of guiding eco-tourists within the Palmyra desert and especially to watch the NBIs. Sustainable eco-tourism could become a concrete socio-economic development opportunity for Ibis PA inhabitants, and the national sanctuary an opportunity for the whole Palmyra local community – certainly facilitated by Palmyra being already a first-class world renown archeological site.

The long standing interest of Syrian Government and Ministry of Tourism for the development of eco-tourism in the country and especially in Palmyra is a plain fact. Proposed project has the chance to take a lead on such important and strategic rural development issue – a lead that could be otherwise taken by less ecologically and culturally conscious organizations and institutions for developing destructive mass business-oriented nature tourism, marking the end for the beauty and fascination of Palmyra desert. The proposed project could trigger awareness, discussion and planning for the first time in the country about responsible eco-tourism development.

Turning the new protected areas of Palmyra desert from a threat to local livelihoods and culture heritage to an opportunity of sustainable development (in line with Millennium Development Goal n.7). Based on the lessons freshly learned in the Palmyra area (i.e. establishement of PAs of *al talila*, *abu rigimin* and *sabkhat al moh*), there is scope to develop a pilot project aimed at showing people and institutions that a different way of protecting threatened natural resources is possible, integrating the needs of the local communities (Borrini-Feyerabend *et al.* 2004).

Taking the lead in supporting the survival of the traditional livelihoods and culture of mobile indigenous people of Syrian desert. Opportunity to target one of the most disadvantaged and marginalized segment of Syrian rural society, i.e. the mobile indigenous people or Bedouins, depositaries of a fascinating desert cultural heritage: there seems to be scope to consider initiating a rural development scheme specific for *al badia*, covering a strategic area of Syria (i.e. 55% of Syria surface, also an area of high international importance due to archeology, landscapes and cultural heritage). It is an opportunity to raise awareness of local community and that of the institutions, to empower the locals on the role they can play in achieving environmental sustainability, and to build a locally-based advocacy capacity. The awareness of national and local institutions, and of civil society, has to be raised in order to change the rather simplistic perception of the nomadic Bedouin as a backward people. Despite the appearence, the majority of Syrian people would be ready to state the importance of the Bedouin desert culture legacy relatively to the Arab culture in general. Beside being a significant and distinctive element of the global cultural human

heritage, the millenary Bedouin desert culture is of paramount importance as a reference of cultural identity, at a regional and at a national level.

It should be here noted that the Bedouin pastoralists still living in Syria according to their traditional mobile lifestyle are rather unique regionally. In facts, in most neighbouring countries, governments had succeeded in settling Bedouin nomads down, usually at the peripheries of the desert. On the contrary, the Bedouin mobile traditional lifestyle and associated desert culture, despite increasingly threatened, are still alive within the Syrian desert today. Syria seems likely to be the best bet in the Middle East where attempting to support their struggle to keep living according to their traditions. The Desert Culture and Nature Education Center, at the entrance of *al Talila* PA, clearly explain and document this fascinating subject, putting it into the strictly associated landscape and natural context. This is surely a fascinating additional dimension of interest of the Palmyra desert, as also evidenced by the interest of foreign visitors for this theme (i.e., the desert culture heritage is certainly an attractive and fascinating subject for foreigners).

Potential as a pilot project and opportunity to build up on the groundbreaking and preparatory work of PP. The socio-economy in the area of Palmyra is strictly linked to the exploitation of natural resources (e.g. livestock grazing, underground water extraction *etc.*). Halting the destruction of natural resources and prompting their sustainable and wise exploitation (in line with the Millennium Development Goal n. 7) is a necessary and inescapable step to sustain the future livelihoods of the local community of Palmyra. The project holds a pioneering and groundbreaking potential, and it is designed to develop a model: the achievements of this pilot project will set a standard regionally, showing the people and the institutions that sustainable development and nature conservation can be successfully combined also in the Middle East.

Despite not sustainable nor institutionalized yet, the fresh achievements of PP relatively to promotion of sustainable livelihoods and biodiversity conservation achieved until 2004, were quite remarkable, pioneering and undoubtedly groundbreaking. At least 10 Ibis PA families, mostly in economic need had been already involved in the NBI protection program in operation during 2002-04, and their awareness was raised. A pool of locals (MAAR staff, pastoralists and hunters) had been intensively trained as rangers and eco-guides during PP operation, and their ecological and conservation awareness significantly raised (Serra *et al.* 2003b). Moreover, an ecological awareness campaign was carried out by the same project, targeting Palmyra hunters.

It is actually due to the 8-year *in situ* operations of PP that there is presently a very good and solid basis for a new project to build on. This implies that the proposed new project could rely on a massive amount of information collected and analyzed, and on precise and clear insights, good practices, experience and lessons learned: moreover, some key trained local human resources (unique of their kind in the country) are still available in place, and eager to continue to give their personal contribute to the conservation of local

cultural and natural heritage. This is a remarkable chance for the proposed new project to be very focused on specific targets, practical and cost-effective.

Relevance of the NBI colony of Palmyra at a regional and global level. The last colony of NBI of the Middle East is not only an invaluable pearl of biodiversity and beauty of the Arab deserts: this bird in facts used to be until recently a keystone species of Syrian *al badia*, both in a cultural and in an ecological sense. The last NBI survivors of Palmyra is nowadays an emblematic (and sad) symbol of the apparently inexorable destruction of the Syrian *al badia*. As these creatures are so unique and threatened on a global scale, their survival is clearly of international and global concern, i.e. ensuring their survival would make a contribution to conservation of biodiversity heritage not only on a national but also on a global scale, consistently with the internationally recognized instrument, the Convention on Biological Biodiversity's Article 1 of which Syria is a contracting party since early 1990s. Time is rapidly running out to ensure the survival of the Palmyra NBIs. Should this happen, it would be detrimental not only to the Ibis PA inhabitants, but also to the whole country and its future generations.

This iconic bird is potentially very important also regionally and nationally. There is evident scope for highlighting through the media the efforts taken up to present to preserve these last bird survivors, with the aim of making this bird a flagship species for a fledgling conservation movement in Syria. This charismatic bird has undoubtedly the potential to become a symbol of the commitment and attitude of the Syrian Govt. and civil society toward their outstanding natural heritage. The NBI could be used, for instance, to initiate the promotion of a national campaign focused on ecological awareness and conservation education. Ensuring medium-term survival of this "Phoenix of the Arabian deserts" surely will attract international attention of media and donors (i.e., good credits and opportunities to obtain additional funding, project extensions *etc.*).

6.2 Two ecotourism development scenarios

The planning process, through a participatory approach, is critical to achieving ecotourism potential as a powerful conservation strategy (Drumm *et al.* 2004). There are actually two options for developing the ecotourism scheme described in the present study:

OPTION A: it is a low budget option, which will be focused on tackling mainly the threat of the poaching in the Palmyra desert. As argued above, a small-scale ecotourism scheme holds the potential for absorbing most if not all the current poaching business of the Palmyra desert in a relatively short time period. This option can be pursued by selecting as target beneficiaries of the scheme the Palmyra poachers and, in a lesser percentage, also the settled Bedouin herders with traditional links with the pastures included in the Ibis PA. The goal of such a scheme would be: halt and reducing the loss of biodiversity of *al badia* through halting or reducing the poaching business in the Palmyra desert. This project would be focused on selecting the true and real poachers of Palmyra and involve them in the ecotourism scheme, which would mainly

encompass capacity building and training (interpretation, customer service, English *etc.*) and a micro-credit program to enable the ex-poachers to start 1 or 2 local cooperatives (one for a lodge/hotel and one of the ecoguiding operations). This scheme would need a budget of about 100-200,000 Euro to be spent over the course of 3-4 years.

OPTION B: this is a more comprehensive development option aimed at targeting not only the Palmyra poachers and the settled Bedouin but also the still mobile Bedouin herders whose traditional pastures are included in the Ibis PA. This option can be pursued by integrating the ecotourism scheme in a conservation and sustainable development project, so that ecotourism merges and complement with traditional local economic practices and with conservation priorities for the Palmyra area. The recommended goal and objectives of such a conservation and sustainable development project could be the following:

Goal

Halt and reduce the loss of biodiversity of *al badia* while contributing to improve secure traditional livelihoods and to reduce poverty of Ibis PA families through sustainable development and nature conservation

Objectives

- *al talila* and Ibis PA become operational protected areas according to recently approved (new) law
- a viable conservation action plan for NBI and other threatened fauna of the desert is discussed, approved and started
- a participatory planning work, chaired by the conservation NGOs, is carried out aimed at discussing, negotiating and agreeing following objectives:
    - micro-credit program to assist mobile Bedouin pastoralists shifting their traditional livelihood toward sustainability (especially relatively to sheep grazing and energy use)
    - improving literacy and raising awareness about family planning
    - training and micro-credit program to assist Palmyra poachers and Bedouins starting ecotourism small-scale business
    - waste management plan for Palmyra area
    - conservation and awareness raising and education.

A project proposal envisaging most of above listed objectives was commissioned in 2006 by Fund for Integrated Rural Development Of Syria (FIRDOS) to the author of present study (Serra 2006). The estimated budget for implementing such a project plan is between 1 and 2 million Euro, and its duration could be 3-5 years.

6.3 Recommended actions

The next steps that the NGOs and/or the Govt. are recommended to take are the following:

1. Awareness raising and advocacy aimed at convincing Govt. about the dire need to develop and prepare a legal framework for protected areas and ecotourism, possibly using as starting point the work done by Cirelli and Monif (2003).
2. Awareness raising about the differences between ecotourism and mass nature tourism.
3. Involving all stakeholders, in first place the local community, in a 5-day workshop aimed at:
   - studying and discussing the present feasibility plan
   - debating whether ecotourism is deemed being developed; discussing and agreeing on goal and on development options A or B
   - discussing and agreeing on Limits of Acceptable Changes and on socio-cultural parameters to be adopted for monitoring the scheme.
4. Fund raising campaign and project concept preparation and planning.
5. Finalizing the project proposal and submission to donors.
6. Project implementation during the course of 3-5 years (through either of 2 envisaged development options).

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ANNEX 1

Boom in green holidays as ethical travel takes off
Gas-guzzling industry is belatedly catching up with growing market

Esther Addley, July 2006, The Guardian

It was the cockroaches, in the end, that turned Paul Leonard into an ethical traveller. A disastrous package trip to Spain, involving collapsing roofs and a beetle infestation, convinced him there had to be another way. He did not have much in the way of green convictions at that stage, he admitted, but, encouraged by his vegetarian girlfriend, he was persuaded to try a holiday through a "responsible" travel operator.

After two weeks in a Malaysian mountainside lodge, bathing in the warm feeling of doing good, the 31-year-old electrical project engineer was a convert. "They explained that they used environmentally friendly products, ensured that money got paid back into the local economy, employed local people - which we liked. I was surprised that a holiday could be so different."

The pair now take their holidays at organic farms and B&Bs, and pay to offset air travel carbon emissions. They have taken their ethics home with them, too, recycling as much as they can.

Mr Leonard is not alone. While there have always been travellers who have sought to minimise the negative impact of their journey, the travel industry at large has long been more associated with thirsty golf courses and gas-guzzling air miles than a desire to do good. But as mainstream consumers become increasingly accustomed to recycling their household rubbish and going easy on the gas heaters, they are also looking for more ethical ways of taking a break - prompting a striking surge in demand for a greener type of travel.

"In the past 10 to 12 months we have seen a 10-fold increase in sales," said David Wellington, of climatecare.org, a website that calculates carbon emissions and invests in projects to offset them. He added that 85% of the growth was in "online sales for offsetting flight emissions". In 2006 that would be equivalent to 220,000 return flights to Paris.

Justin Francis, managing director of the firm ResponsibleTravel.com, said: "Our bookings are double what they were this time last year. We have had this consumer demand [for ethical products] in food and fair trade for 15 years, but not in travel."

Five years ago, when the company started, he says, they could find only five travel firms in the UK supplying holidays they were happy to recommend. "Now we have over 160 tour companies ... Tourism is one of the world's biggest industries, some say the biggest [for] employment. This is an industry that until the last two or three years has been untouched by a strong consumer ethical dimension, though other global giants, like oil and mining, have had to show a commitment ... We have the world's biggest industry belatedly in catch-up."

Holidays sold as "responsible" or "sustainable" still make up perhaps just 1% of trips overseas, equating to 450,000 holidays from Britain a year. But as the ethical consumer market grows - Fairtrade food and drink sales increased by 52% in 2005, while ethical investments were up by 31% - the ripples reach the travel industry. According to consumer research firm Mintel, by 2010 the outgoing "ethical" holiday market from the UK will have swollen to 2.5m trips a year.

Jane Ashton, head of corporate social responsibility at the holiday giant First Choice, said: "The product we sell is the people and environment - so we have an obvious interest in protecting them." First Choice, she said, would be working on diverse projects, including environmental and educational schemes. She added: "We're not experiencing a huge demand from the average consumer, but we do believe that awareness is increasing, and in a few years' time we will have needed to have integrated these principles into our supply chain."

Tricia Barnett, director of Tourism Concern, accepted that talking in terms of an "ethical" holiday when flights were one of the main contributors to carbon emissions was "a very difficult issue", but argued that even mass tourism, when fair to local communities, could do more good than harm: "If people stop travelling then the benefits wouldn't get to the people at all." Travellers, she said, should ask to see operators' policies and choose a travel firm that respects the environment and pays fair wages to local staff. "We joined the Make Poverty History coalition, because we see tourism as an opportunity for people to come out of poverty."

As for Mr Leonard, so enamoured was he with one Malaysian ethical holiday he proposed to his girlfriend there, on the island of Tioman. They are planning a highly responsible honeymoon.

How to be a responsible tourist:

Offset your flights

The travel industry is eager to point out that flights account for just 3-5% of carbon emissions, but they are still a significant contributor to global warming. Sites such as www.climatecare.org will calculate the equivalent cost of your emissions and invest in a carbon reduction project, such as planting trees, to offset them. Offsetting return flights for two to Marrakech, for instance, would cost just £7.56.

Find out as much as possible about your destination

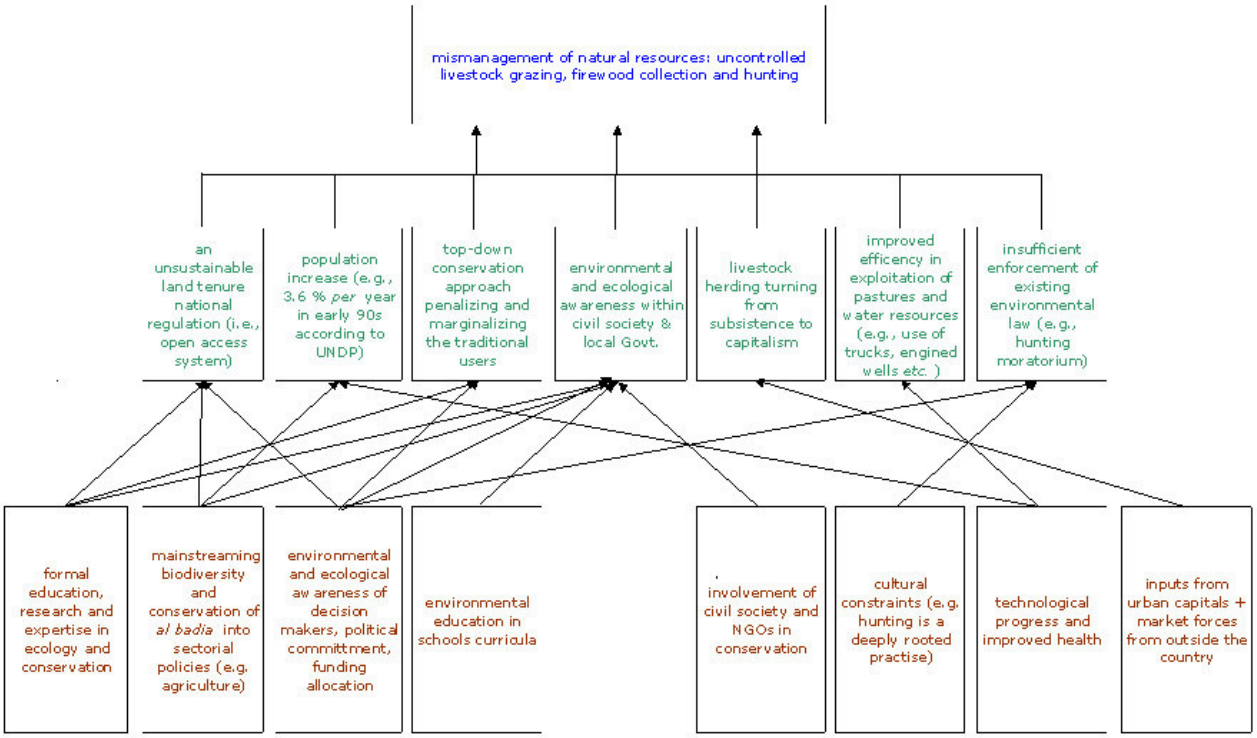
Tourism Concern is running a campaign about the Maldives, a luxury destination where 30% of under-fives suffer from malnutrition and more than half the population live on just over $1 a day. Rather than calling for a boycott it is urging concerned travellers to join its campaign. For more information visit tourismconcern.org.uk or see The Ethical Travel Guide by Polly Pattullo, available from www.earthscan.co.uk

Choose a responsible operator

Ask your operator if they have an ethical policy. Are they committed to reducing waste and water use, and to minimising damage to wildlife and marine environments? Do they use local staff and, wherever possible, locally sourced produce? Do they pay fair wages to their local staff?

ANNEX 2

Problem tree for Palmyrean desert



ANNEX 3

Key fauna species for Limits of Acceptable Change monitoring program

#	Common (English) name	*Scientific name*	Ecological and conservation Significance
1	Monitor Lizard	*Varanus griseus*	top-predator; the species seems declining within Syrian *Al Badia* due to habitat destruction; high potential as eco-tourism attraction
2	Common Crane	*Grus grus*	eastern population is listed in IUCN Red List 2006 as Vulnerable; high potential as eco-tourism attraction
3	Greater Flamingo	*Phoenicopter ruber*	the species has a restricted distribution range (around edges of Mediterranean basin); high potential as eco-tourism attraction
5	Griffon Vulture	*Gyps fulvus*	resident species with high value in terms of birdwatching attractions - possible key-stone species for the Palmyrean *al badia*; possibly one of the two colony left in the country
6	Egyptian Vulture	*Neophron percnopterus*	possible key-stone species for the Palmyrean *al badia* ecosystems; declining numbers globally
7	Golden Eagle	*Aquila chrysaetos*	resident top-predator species with high value in terms of birdwatching attractions - possible key-stone species for the Palmyrean *al badia* ecosystems
8	Imperial Eagle	*Aquila heliaca*	listed in IUCN Red List 2006 as Vulnerable
9	Greater Spotted Eagle	*Aquila clanga*	listed in IUCN Red List 2006 as Vulnerable
10	Steppe Eagle	*Aquila nipalensis*	important numbers; high potential as birdwatching attraction
11	Booted Eagle	*Hieraaetus pennatus*	important numbers; high potential as birdwatching attraction

12	Steppe Buzzard	*Buteo vulpinus*	important numbers; high potential as birdwatching attraction
13	Pallid Harrier	*Circus macrourus*	listed in IUCN Red List 2006 as Lower Risk-near threatened
14	Levant Sparrowhawk	*Accipiter brevips*	important numbers; high potential as birdwatching attraction
15	Lesser Kestrel	*Falco naumanni*	listed in IUCN Red List 2006 as Vulnerable
16	Saker Falcon	*Falco cherrug*	species heavily hunted within Syrian *al badia* - listed in IUCN Red List 2006 as Vulnerable (real status might be worse)
17	Lanner Falcon	*Falco biarmicus*	species heavily hunted within Syrian *al badia*
18	Peregrine Falcon	*Falco peregrinus*	species heavily hunted within Syrian *al badia*
19	Stone Curlew	*Burhinus oedicnemus*	species heavily hunted within Syrian *al badia*
20	Pin-tailed Sandgrouse	*Pterocles alchata*	opportunistic migrant breeder - species heavily hunted within Syrian *al badia* - high value in terms of birdwatching attraction
21	Spur Lapwing	*Vanellus spinosus*	the species has a restricted distribution range (Middle east, Turkey, Greece)
22	Sociable Lapwing	*Vanellus gregarius*	restricted range and dramatically declining, Critically Endangered in the IUCN Red List 2006 – Syria is an important area for the wintering of this species
23	Cream-coloured Courser	*Cursorius cursor*	possible key-stone species for the Palmyrean *al badia* ecosystems
24	Greater Sand Plover	*Charadrius leschenaultii*	the species has a restricted distribution range, and high value in terms of birdwatching attraction (i.e., it does not belong to Western Paleartic range)
25	Houbara Bustard	*Chlamydotis undulata*	opportunistic migrant breeder - species heavily hunted within Syrian *al badia* - listed in IUCN Red List 2006 as Lower Risk - near threatened; high potential as birdwatching attraction

26	Eagle Owl	*Bubo bubo ascaphalus*	resident top-predator species with high value in terms of birdwatching attractivity - possible key-stone species for the Palmyrean *Al Badia*
27	Trumpeter Finch	*Bucanetes githagineus*	opportunistic migrant breeder - high value in terms of birdwatching attraction
28	Desert Finch	*Rhodospiza obsolete*	resident species with high value in terms of birdwatching attraction
29	Sand Cat	*Felis margarita*	resident predator species with high value in terms of eco-tourism attraction – possible decline within Syrian *al badia* due to habitat destruction
30	Wild Cat	*Felis silvestris lybica*	resident predator species with high value in terms of eco-tourism attraction – possible decline within Syrian *al badia* due to habitat destruction
31	Wolf	*Canis lupus*	resident top-predator species with high value in terms of charismatic attraction – possible decline within Syrian *al badia* due to habitat destruction and intense persecution
32	Striped Hyaena	*Hyaena hyaena*	listed in IUCN Red List 2006 as Lower Risk -near threatened - resident predator species with high value in terms of charismatic attraction – possible decline within Syrian *al badia* due to habitat destruction and intense persecution
33	Euphrates Jerboa	*Allactaga euphratica*	possible key-stone species for Palmyrean ecosystem - listed in IUCN Red List 2006 as Lower Risk - near threatened
34	Sand Gazelle	*Gazella subgutturosa marica*	charismatic species listed in IUCN Red List 2006 as Vulnerable

ANNEX 4

Syrian birdwatching menu

According to Hofland & Saveyn (2005): "[…] The country has much more to offer, such as a desertic avifauna that almost equals the one of much-visited Israel and Egypt (including gems like Dunn's Lark *Eremalauda dunni* and Thick-billed Lark *Ramphocoris clotbey*); a riverine habitat that hosts large amounts of wintering waterfowl including internationally important numbers of Pygmy Cormorant *Phalacrocorax pygmeus*, Ferruginous Duck *Aythya nyroca* and Greater Spotted Eagle *Aquila clanga*; a great potential for enjoying large amounts of migrant songbirds, because of its empty southeastern desert with but a few oases; a number of good (Western Palearctic) birds that until now had only been known from few other Western Palearctic countries (such as Black Francolin *Francolinus francolinus*, Blue-cheeked Bee-eater *Merops persicus,* Upcher's Warbler *Hippolais languida,* Scrub Warbler *Scotocerca i. inquieta,* Chestnut-shouldered (Yellow-throated) Sparrow *Gymornis xanthocollis* and Syrian Serin *Serinus syriacus*) and the potential to equal Israeli soaring bird numbers during migration, over the western mountains".

Five main towns could be used as a basis for birding the most interesting sites of Syria through 1-day or half-day trips - in these 5 towns a wide range of accommodation and food can be found without any problem. (When no indication is below reported about temporal occurrence of a given bird species, it means it is regarded as a resident in the area in which it is listed.)

1. *From Damascus*

One of the world's most ancient and continuously inhabited towns, its oldest heart surely deserves (at least) a half-day visit – the Great Mosque is a must-see. Two birding trips are recommended from Damascus:

One-day excursion to the *Yarmuk* River at the border with Jordan. The site is reachable in about 2 hrs drive from Damascus. Impressive landscape made up by deep drainages and gorges. The bird targets of this excursion will be:

Griffon Vulture
White-breasted Kingfisher *Halcyon smyrnensis*
Long-billed Pipit *Anthus similis*
Palestine Sunbird *Nectarinia osea*

One-day excursion to *Bloudan*, on the mountain range between Syria and Lebanon, to see Golden Eagle, Shore Lark *Eremophila alpestris bicornis* and Syrian Serin – also possibly occurring in this area, but not yet proven, are Bimaculated Lark *Melanocorypha bimaculata* (in spring and summer, or during migration), Hill Sparrow (Pale Rockfinch) *Carpospiza brachydactyla* and Crimson-winged Finch *Rhodopechys sanguinea.*

2. *From Palmyra*

A three-hour drive from Damascus, Palmyra is an ancient oasis of the Syrian desert, and a world renowned archeological site. The ruins and oasis of Palmyra should not be missed. The oasis is a very rewarding migration bottleneck during spring and autumn, especially for passerines and soaring birds. A stay of at least three days (2 nights) is recommended. It is also recommended that visitors obtain a copy of the paper on the long term bird survey of the Palmyrean desert (Serra *et al.*, 2005a).

Through easy half-day trips (or 1-day trips), Palmyra is the best basis to watch:

Northern Bald Ibis - the famous relict colony, occurring from mid Feb through mid Jul
Greater Flamingo - in winter
Griffon Vulture
Common Crane *Grus grus* - in winter
Houbara Bustard *Chlamydotis macqueeni* - very rare, possibly opportunistic breeder
Great Bustard *Otis tarda* – reported by locals to occur in winter
Cream-coloured Courser *Cursorius cursor* - common during Mar-Sept
Greater Sand Plover – quite common during Mar-Jun
Sociable Plover *Vanellus gregarius* - four sightings in Feb-Mar recorded over three years
Pin-tailed Sandgrouse *Pterocles alcata* - quite common during Mar-Jun especially in wet years
Laughing Dove *Streptopelia senegalensis*
Dunn's Lark – seen during May-Jul in wet years
Bimaculated Lark - rare, all throughout the year
Temminck's Horned Lark *Eremophila bilopha* - common
Hoopoe Lark *Alaemon alaudipes* - common
Finsch's Wheatear *Oenanthe finschii* – common during Oct-Mar
Mourning Wheatear *Oenanthe lugens* - common
Rufous Bush Robin *Cercotrichas galactotes syriacus* - breeding during Apr-Jun
Citrine Wagtail *Motacilla citreola* - during migration time
Ménétries' Warbler *Sylvia mistacea* – breeding during Feb-Jun
Eastern Olivaceous Warbler – breeding during Apr-Jul
Asian Desert Warbler *Sylvia nana nana* – in winter
Scrub Warbler
Isabelline Shrike *Lanius isabellinus* (possibly *arenarius* ?) – during migration
Steppe Grey Shrike *Lanius pallidirostris* – during migration
Brown-necked Raven *Corvus ruficollis* and Common Raven *C. corax*
Red-billed Chough *Pyrrhocorax pyrrhocorax*
Rock Sparrow *Petronia petronia* –migrant breeder (or resident)
Trumpeter Finch *Bucanetes githagineus* – breeding during Mar-Jul in wet years
Dead Sea Sparrow *Passer moabiticus*

Desert Finch *Rhodospiza obsoleta*

During migration time, another full day is recommended for wandering within the desert south of Palmyra, also known as the *Hamad*, excellent for spotting, in addition to birds mentioned above, migrating birds such as:

White Stork *Ciconia ciconia* and Black Stork *C. nigra*
Migrating raptors such as Montagu's and Pallid Harrier *Circus pygargus* and *macrourus*, Levant Sparrowhawk *Accipiter brevipes,* Steppe Buzzard *Buteo buteo vulpinus*, Steppe Eagle *Aquila nipalensis*, Greater and Lesser Spotted Eagle *Aquila clanga* and *pomarina*, Honey Buzzard *Pernis apivorus*, Saker Falcon *Falco cherrug*, Lanner Falcon *Falco biarmicus*, Peregrine Falcon *Falco peregrinus*, Lesser Kestrel, Red-footed Falcon *Falco vespertinus etc.*
Common Crane *Grus grus*
Houbara Bustard
Caspian Plover *Charadrius asiaticus*
Black-bellied Sandgrouse *Pterocles orientalis*
Namaqua Dove *Oena capensis*
Thick-billed Lark
Red-tailed Wheatear *Oenanthe xanthoprymna*
Cyprus Pied Wheatear *Oenanthe cypriaca*
Pale Rock Sparrow *Petronia brachydactyla*

During migration time, virtually any species of songbird can be spotted resting in tiny patches of trees growing around wells spread everywhere in the middle of the desert. A dinner and a night spent as guests of a nomadic Bedouin family, inside their tent, will become an unforgettable human and folkloric experience.

3. *From der-ez-zor*

The town itself is not so attractive touristically speaking, except from the nice views and suspension bridge over the Euphrates. Pale (Striated) Scops Owl *Otus brucei* should be searched for within gardens along the river at dusk. Before breakfast a 2-hour visit should be paid to the gardens along the river, to search for Blue-cheeked Bee-eater, White-cheeked Bulbul and Iraq Babbler. Several 1-day or half-day birding excursions can be arranged from der-ez-Zor, such as:

Half-day visit to *muhamedie* wetland to watch:
Ferruginous Duck - wintering and/or breeding
White-headed Duck *Oxyura leucocephala* - wintering and breeding
Marbled Teal *Marmaronetta angustirostris* - wintering and/or breeding
Grey-headed Swamphen *Porphyrio (porphyrio) caspius*
White-tailed Plover *Vanellus leucurus*
Great Spotted Cuckoo *Clamator glandarius* – during migration (and/or breeding?)

One-day or half-day trip is suggested to visit the Euphrates reservoirs further up stream, and / or same of the numerous oxbows near the river, especially during winter, to watch:

Pygmy Cormorant – internationally important numbers in winter
Bittern *Botaurus stellaris*
Marbled Teal - wintering and/or breeding
Red-crested Pochard *Netta rufina* – in winter
Ferruginous Duck – internationally important numbers in winter (also breeding?)
White-headed Duck – wintering and breeding
Greater Spotted Eagle – internationally important numbers in winter
Black Francolin
See-see Partridge Ammoperdix griseogularis
Grey-headed Swamphen
Spur-winged Plover *Vanellus spinosus* – migrant breeder
White-tailed Plover - migrant breeder
Armenian Gull *Larus armenicus* - in winter
Greater Black-headed Gull *L. ichtyaetus* - in winter
Iraq Babbler
Pied Kingfisher *Ceryle rudis*
Graceful Prinia *Prinia gracilis*
Moustached Warbler *Acrocephalus melanopogon mimicus*
Bearded Reedling *Panurus biarmicus*
Penduline Tit *Remiz pendulinus*
Dead Sea Sparrow

More than a thousand Sociable Plovers were detected during the writing of this text in eastern Syria, in what could be presumably their wintering ground (Hofland *in prepar.*). There is suitable habitat for Slender-billed Curlew *Numenius tenuirostris* along the Euphrates, but this rare and highly endangered bird has not yet been detected in Syria.

4. *From Aleppo*

This town holds one of the most beautiful *suq* (market or bazaar) of the whole Middle East – it certainly deserves a visit – and also the finest restaurants of Syria. Staying at the iconic Baron Hotel is recommended. Aleppo is the best base to visit the internationally important Ramsar wetland of *Sabkha Jabboul*.

One full day should be enough (alternatively, 1-day + half-day visits) to take a look at the wetland from the two main viewing sites (North-west and South-east). Bird highlights discovered here so far are:

Dalmatian and White Pelican *Pelecanus crispus* and *P. onocrotalus* – in winter
Greater Flamingo - almost 13,000 counted during 2004 OSME Expedition (winter)
Ruddy Shelduck *Tadorna ferruginea* – in winter
White-fronted Goose – in winter
Red-crested Pochard – in winter
Ferruginous Duck – wintering (also breeding?)
White-headed Duck – about 160 seen in Feb 2003; possibly a breeding bird
Greater Spotted and Steppe Eagles - in winter
Grey-headed Swamphen
Greater Black-headed Gull – in winter
Armenian Gull – in winter
Iraq Babbler

A probable Lesser White-fronted Goose *Anser erythropus was* seen during 2004 OSME Expedition (winter). Remarkable numbers of most common species of Western Palearctic waterbirds can be watched within this Ramsar wetland during winter.

5. From Latakia/Slenfe

Slenfe is a small village (a popular summer resort for Arab tourists) ideal for exploring a recently established protected area called the Fir-Cedar PA, where the last stand of Syrian cedars *Cedrus libani* still strives to survive – the stand of firs *Abies cilica* is on the other hand overwhelming.

The PA is easy to be accessed from Slenfe for half-day or 1-day trips to see following breeding birds:

Spectacled Bulbul *Pycnonotus xanthopygos*
Rufous Bush Robin – migrant breeder
White-throated Robin *Irania gutturalis* – migrant breeder
(Eastern) Orphean Warbler *Sylvia (hortensis) crassirostris* – migrant breeder
(Eastern) Long-tailed Tit *Aegithalos caudatus tephronotus*
Masked Shrike *Lanius nubicus* – migrant breeder
(Eastern) Jay *Garrulus glandarius atricapillus*
Black-headed Bunting *Emberiza melanocephala* – resident and/or migrant breeder
Rock and Cretzschmar's Bunting *Emberiza cia* and *E. caesia* – migrant breeders

The ridge of the PA (of which *jebel nabi matta* is the summit, at around 1600 m asl) offers a spectacular view point for observing the autumn migration of soaring birds coming down from Turkey. Up until now only two ornithologists have the chance to visit this key site in autumn (Pyman in 1953 and Serra in

2004), and have witnessed a soaring bird passage that could potentially equal that of Israel. Bird species detected so far are:

White Stork
Black Stork
Levant Sparrowhawk
Common Buzzard *Buteo buteo*
Steppe Buzzard
Steppe Eagle
Lesser Spotted Eagle
Booted Eagle *Hieraaetus pennatus*
Honey Buzzard