BIRDS AS PEACEMAKERS "BARN OWLS KNOW NO BOUNDARIES"

A project in the Middle East

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The environment is a very effective tool for people to people interactions. The goal of our project is to use nature conservation as tool to encourage positive interactions between people from Israel, Palestine and Jordan in a context of ongoing conflict in the Middle East. We believe that civil initiatives hold the key to breaking the political conflict within the region.







History of the project

Regional cooperation on the subject of biological control between Israel and Palestine was initiated by an emblematic person, Yossi Leshem. His idea is to promote projects that help preserve nature and educate children to be aware of the loss in biodiversity. Starting this project in Israel, Yossi Leshem rapidly understood that to protect nature, we have to convince our neighbours to participate in a global effort. This is why the project was extended to Palestine and Jordan thanks several NGOs and the European Community.



An Israeli farmer (Shauli Aviel, on the ladder) with a Jordanian farmer who holds a barn owl nestling.

Yossi Leshem used several biological systems to promote regional cooperation including bird migration and bats. Nevertheless, the most successful project was about the use of the barn owl to limit the spread of rodenticides. Not surprisingly the project started in the Kibbutz Sde Eliyahu, a leading station in the field of organic agriculture. This project received financial support from the Israeli Ministry for Regional Cooperation, the Jewish Federation in Cleveland (USA), USAID-MERC, European Union and the German Hanns Seidel Foundation. In Jordan, the project was leaded by General Mansour Abu Rashid from the Amman Center for Peace and Development (ACPD).

After the peace treaty between Jordan and Israel in 1994, the official relationship between the two countries was normalized. The Jordan Valley was the source of cross-border cooperation and the Biological Pest Control Project using barn owls turned out to be a very promising "people to people" initiative between Israel and Jordan.









General Mansour Abu Rashid during the Peace treaty between Jordan and Israel (left) and holding a barn owl (right).

Using barn owls as biological pest control agents of rodents in agriculture: The first step towards a global project

The Jordan Valley is world renowned as an area rich in human and natural history. This region, which includes Israel, Palestinian Authority and Jordan, has undergone a massive expansion of agriculture over the past 50 years. Modern agricultural techniques have significantly increased1 yields that have also resulted in significant negative impacts to the environment such as decreased biodiversity and ecological imbalance. Modern agricultural methods depend heavily on the use of chemicals for enriching poor soil and controlling pest plants and animals (herbicides/pesticides). Rodents constitute one of the most damaging groups of pest animals within the Middle East with damage reaching up to 35% of certain crops such as wheat. In the long-term, rodenticides are ineffective, problematic, costly, and have severe negative impacts on the environment: pollute soils and water sources, damage ecosystems, and have secondary poisoning health effects on wildlife and humans. The danger to wildlife is particularly poignant in this region being located along a major bird migration route of global significance where it is estimated that over 500 million birds pass through twice a year.

Birds of course "know no boundaries" and Israel's raptors, including barn owls, move regularly into Jordan and Palestine where they are at risk of secondary poisoning and hunting. Even in Israel, which has extensive laws concerning the use of pesticides, meaningful enforcement and regulation is sorely lacking. Unfortunately, the situation in Palestine and Jordan is much worse. In these regions, law enforcement and regulation are totally inadequate. Hunting and poisoning are of course significant causes of raptor population declines throughout the world, but are especially apparent in the Middle East. Illegal hunting of birds of prey is widespread in this region, especially in Jordan and some areas of Palestine because many Muslim people consider owls "bad omens". In addition to hunting, secondary poisoning from pesticides and rodenticides is also an important factor within all countries. Thus, an important goal of our Barn Owl Project is to raise public awareness about the usefulness of raptors and the benefits of environmentally friendly agricultural practices.





In the 1980's a conservation plan was devised to reduce the use of rodenticides and instead, use birds of prey as part of biological pest control. Barn owl nesting boxes were erected in 1982 at Kibbutz Neot Mordechai in the Hula Valley, in the hope of creating a barn owl population that could control the rodent populations. Unfortunately, after a short time, rodenticides were reintroduced to the fields, killing the barn owls and causing the project to be abandoned.

A year later, Kibbutz Sde-Eliyahu, located in the Great Rift Valley, 7 km from the city of Beit Shean, 30 km south of the lake of Galilee, was chosen as the replacement for Neot Mordechai, due to its better environmental awareness and support of nature conservation. Fourteen barn owl nesting boxes and hunting perches were erected in fields and plantations in order to establish stable barn owl populations. During the first couple of years there were many ups and downs. The first nest box design came from Europe and did not supply enough ventilation for the 40°C summers. However, within a couple of years and after a few improvements to the nest box designs, a population of barn owls was formed which is still thriving to this day. The project is based on the erection of large numbers of nest boxes in farmland (typically spaced at 200-400 meter intervals), a decrease in the use of pesticides, and creating a friendly environment for raptors in general. After integrating this project into first organic, then non-organic farming practices, other farmers started placing nest boxes within the Valley, and later in other parts of Israel. After switching from rodenticides to barn owls as a control measure, other wildlife species (e.g. Kestrels), some of which also prey upon agricultural pest species, have also reaped the benefits of the reduced rodenticide use and population numbers have increased to their normal levels.



A barn owl parent coming back to its nest. Amir Ezer.





Towards a regional project

During the past twenty years, Kibbutz Sde Eliayhu has been using raptors as an environmentally friendly and economically profitable solution for eliminating rodents from their agricultural fields and plantations. Due to the success of the project, a sister project was started opposite to the Kibbutz Sde Elivahu project on the Jordanian side of the border. The Israeli ministry of Regional Cooperation funded the project to write a manual (translated in Arabic) describing the management techniques (establishment and maintenance of the barn owl nest boxes) to assist the Jordanians in starting the project. In addition, an Israeli team, led by Yossi Leshem from the Tel Aviv University, passing on the twenty years of experience in seminars on both sides of the border. The hope is that the barn owls would be used as a bridge to connect Israeli, Palestinian and Jordanian people. Our aim is also to educate farmers on both sides of the border to stop using toxic pesticides and to explain the benefits wildlife can offer us all (nature conservation). In 2002, a joint seminar on the subject of using barn owls as biological pest control took place with great success. 20 Jordanian farmers came to Israel for two days, learned about the project and left with motivation to start a similar project in Jordan. After the success of the seminar in 2002, there was hope that we would be able to place nest boxes in Jordan soon after. Due to political situation caused by the start of violence, the cooperation was put on hold. The project finally started in 2005 thanks the Jewish Community Federation of Cleveland that founded the joint project between Jordan and Israel. Unfortunately, due to their long held superstitions and beliefs, Jordanian farmers were initially worried about having barn owls on their farms. However, after the success of the first two years those farmers who had erected nest boxes were soon asking for more, and new farmers were also requesting boxes. The Jordanians learned how to monitor the nest boxes by themselves.



Dr. Motti Charter (Israel) holding a barn owl with Jordanian collaborators.







Dr. Motti Charter holding a small mammal with a Palestinian collaborator holding a barn owl nestling.

An Ecologically Sustainable Approach 2007-2010: USAID-MERC

The next step of the project was to initiate a scientific program between the partners. In addition to Jordan, we also wanted to incorporate the Palestinians into the project in order to enlarge the environmental pest control project regionally. USAID-MERC funded our project that tests whether naturally occurring avian predators can be used to control agricultural rodent pests in order to reduce rodenticide use and contribute to local sustainable economies. This study was performed in different landscape type in terms of climate, geography, soils and ecology (Israel Beit Shean, Palestinian Authority Jericho and Jordan Northern Jordan Valley).

The project was designed such that the Israeli (The Israel Ornithology Center of the Society for the Protection of Nature Israel and Tel Aviv University), Palestinian (Palestine Wildlife Society), and Jordanian (The Amman Center for the Peace and Development) teams cooperated during all the different stages of the project.

Field personnel from all regions had an extensive training together to assure quality control and standardization of the methodology. These training sessions occurred at the beginning of each field season and took place within the different regions. Study sites from the three regions were set up with 64 nest boxes each, rodent survey, monitoring of nest boxes and crop yields were reported from plots with and without nest boxes. Each partner was responsible for all aspects of the project within their area as well as the collaborative activities.







A barn owl with a vole. Amir Ezer.

An Ecologically Sustainable Approach 2007-2010: EU funded, Hanns Seidel Foundation and Peres Center for Peace and Development

To improve cooperation, long-term dialogue and experience exchange between Arabs and Israelis in the Jordan Valley as a means to strengthen civil society action in peace building and conflict transformation, Hanns Seidel Foundation in cooperation with the Palestine Wildlife Society, Amman Center for Peace and Development, the Israel Ornithological Center of the Society for the Protection of Nature, and the Tel Aviv University started a three year European Commission funded project in 2008. The project was designed to contribute to the preservation of environmental quality and ecological balance in the Jordan Valley (Israel, Palestinian Authority and Jordan) by reducing negative impact on wildlife, soil and water resources caused by the over-use of pesticides. Furthermore, the project aimed to increase the adoption of biological pest control as a sustainable resource management model by farmers in the Jordan Valley through expanding regional cooperation between Jordan, Israel and the Palestinian Authority of the West Bank & Gaza in support of the Middle East Peace Process.







Shimon Peres and Dr. Motti Charter releasing a kestrel.



Motti Charter repairing a barn owl nest box.







A barn owl box in Israel. At the back Palestine (Jenin Region). Motti Charter.

University of Lausanne and Addax-Oryx Foundation

In 2011, the project ran the risk to collapse due to the lack of financial resources. After having visited the field sites with Yossi Leshem and Motti Charter in 2009 and 2010, we decided to join our efforts for a new start. In 2012, I obtained a three-years grant from the Addax-Oryx Foundation in Geneva. The main aim of this project is to cover the costs involved by the coordination of the cooperation project between Israel, Jordan and the Palestinian Authority. Since then the project took off again and we were able to keep the cooperation alive but also to start new projects. The Addax-Oryx grant helped us convince different partners to continue this wonderful story. Since 2012 we succeeded in:

- 1) We obtained 10'000 euros from the Office of the Czech Republic in Ramallah to finance the project in Palestine in 2013.
- 2) We started a project at a Circassian middle school in Israel. The Muslim Circassian schools were very motivated to learn about nature conservation and participated actively in conservation projects run by Motti Charter.
- 3) We convinced the Hanns Seidel Foundation from Germany to finance 5 workshops to bring Israeli, Jordanians and Palestinians together in Israel and Jordan.
- 4) We obtained money from the Israeli government to organize three extra workshops and to finance our activities in Jordan.







Etienne Dubuis (Journalist at the Swiss newspaper "LeTemps"), Alexandre Roulin & Amir Ezer constructing a barn owl box at Moshav Ram On.



Etienne Dubuis (Journalist at the Swiss newspaper "LeTemps"), Alexandre Roulin & two farmers from the Circassian community explaining the threat caused by voles in their fields. They spontaneously fixed barn owl boxes in their fields.







Legs of a pair of Israeli and Jordanian barn owl pair. Motti Charter.





CES ROMANDS QUI PROTÈGENT LA NATURE 4/5

En Israël, Alexandre Roulin protège les chouettes effraies

Professeur d'écologie à l'Université de Lausanne, le Fribourgeois Alexandre Roulin participe à la sauvegarde de l'effraie en Israël, où celle-ci aide à limiter la prolifération des rongeurs dans les cultures. Suite de notre série «Nature».

houettes sans frontières.»
Le programme de conservation de la chouette effraie en
Israël porte bien son nom. «Ce projet novateur a démarré dans les années 1980 sous l'impulsion du biologiste israélien Yossi m, de l'Université de Tel-Aviv, explique le Fribourgeois Alexandre Roulin. Pour limiter l'usage de pesticides, massivement utilisés par les agriculteurs de la plaine, ce dernier a cu l'idèe de changer de stratégie en faisant de l'effraie le plilier de la lutte biologique contre les rongeurs. Vision-naire, il imaginait que ce programme per-mettrait aussi d'instaurer le dialogue entre agriculteurs et ornithologues des diffé-rents pays de la région, en conflit depuis des décennies.» que le Fribourgeois Alexandre Roulin. Pour

Chouette alliée des paysans

d'écologie et Découverte Professeur au Département d'écologie et évolution de l'Université de Lausanne – et évolution de l'Université de Lausanne – et lui aussi grand spécialiste de la chouette ef-fraie – , Alexandre Roulin rencontre Yossi es fraie —, Alexandre Roulin rencontre Yossi Leshem en 2007, lors d'une conférence in-ternationale sur les rapaces nocturnes. En-tre les deux chercheurs, le courant passe immédiatement. «Ces vingl dernières an-nées, près de 2000 nichoirs ont été instal-lés sur des pilotis à travers le pays, explique le Fribourgeois, qui s'implique dans la par-tie scientifique du projet depuis trois ans. La rode du invaste une la vericulture is: La règle du jeu veut que les agriculteurs in-vestissent eux-mêmes l'argent nécessaire pour poser les nichoirs. Ceci dans le but de les impliquer davantace et 2-1pour poser les nichoirs. Ceci dans le but de les impliquer davantage et de les motiver à les entretenir régulièrement.» Chaque précise ce dernier. Ces données nous ser-chouette pouvant manger annuellement entre 1000 et 2500 rongeurs, des millions d'entre eux sont éliminés de façon natu-relle, sans devoir utiliser de pesticides. Pour actroître encore la pression sur les nuisibles, les scientifiques ont aidé le fam-con, un autre prédateur chassant cette fois-ci de jour, à coloniser les plaines culti-vées. «Autrefois menacée, la chouete ef-En paralléle, le professeur a ésalement acvées. «Autrefois menacée, la chouette ef- En parallèle, le professeur a également ac-fraie a fait un bond spectaculaire, se réjouit compagné durant deux ans les travaux d'un fraie a fait un bond spectaculaire, se réiouit le scientifique. L'espèce a en effet une pro-ductivité très forte. En plus, elle est plutôt l'Université de Lausanne. «Cette année,

«Dans cette région du Moyen-Orient en oiseaux contribuent au rapprochement

polyandre que polygame, c'est-à-dire que les femelles abandonnent les jeunes à mi-nichés pour partir à la recherche d'un autre mâle. Lorsqu'on se promène dans la vallée de Beit Shean, où nous travaillons, il n'est pas rare de voir jusqu'à dix jeunes chouet-tes pas rare de voir jusqu'à dix jeunes chouettes par nichoir, tous les 300 mètres!»

«Je leur apprends à manipuler correcte

formations scientifiques sur l'espèce et à assurer le monitoring des populations», précise ce dernier. Ces données nous ser-

cis, dits mélaniques, s'enthousiasme Alexandre Roulin. Nous avons en effet remarqué qu'il existe une grande variété de colorations dans le plumage des chouettes effraies, allant du blanc cassé au brun très foncé. Ces caractéristiques ne sont pas que visuelles. Elles ont aussi une influence sur la physiologie. Les individus les plus mélaniques sont aussi ceux qui résistent le mieux au stress et au manque de nourriques sont aussi ceux qui résistent le mieux au stress et au manque de nourriques. Cette question, qui intéresse Alexandre Roulin depuis vingt ans, n'a pas encore fait l'objet de travaux scientifiques approfondis. Sebs découvertes dans ce domaine pourraient avoir un intérêt pour d'autres disciplines, notamment pour la médecine.»

Rapprocher les peuples
Si l'on voit régulièrement ornithologues et apriculteurs texaller ensemble d'un côté altre sois terme la médicine. nous allons étudier ensemble un des gènes

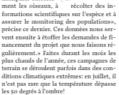
acceptée en Israël, la chouette effraie na jouit pas d'une bonne réputation du côté arabe. Beancou d'agriculteurs palestiniens continuent de penser que c'est un
oiseau qui porte malchance, surtout lorsqu'il vient de chez le voisin, tant détesté!
«La région est en proie à des conflits depuis
des décennies, rappelle le Fribourgeois.

Si l'on voit régulièrement ornithologues et agriculteurs travailler ensemble d'un côté d'autres régions touchées par la proliféra-et de l'autre de la frontière, les choses ne et de l'autre de la frontière, les choses ne tion des rongeurs dans un futur proche. sont pas toujours simples. Si elle est bien Que ce soit au Moyen-Orient ou en Afri-

ALEXANDER ZELENKA

proie aux conflits, les entre les peuples.»













Opération Chouettes

Rien de tel que des rapaces pour lutter contre la prolifération de rongeurs dont souffrent Israël et ses voisins. Mais la multiplication de ces oiseaux suppose un développement improbable: la collaboration de paysans juifs et arabes. Un professeur lausannois a été appelé à la rescousse

Etimne Dubuis (INVOYE PCCIAL
FINSRAELE TRO NISOROANIE

Une paite. A:croupt dans son champ de Kfar Fama, en Basse-Gallife, Amjad Shami montre du dogt les innombrables tuanels life, Amjad Shami montre compagnation and the son and the so

L'occasion était belle de servir à la fois une initiative écologique et un projet de coopération entre deux peuples ennemis

mille et que ces familles peavent compter une dizaine d'individus, un compter une dizaine d'individus, un complete des aprogéniture et sus-cyclible l'etunidate la dispacition. La dispacition d'un millier de rongeurs par mois. Cela fait bien 30 ans que l'idée infance problème. Les presses deux les prodecient en faite et disposer ces rapases aux rongeurs germe fe fait les chouettes effinies étant assuré le gire, quelques mindres, pour les disposer des rapases aux rongeurs germe fe fait les chouettes effinies étant assuré le gire, quelques indivisposer des rapases aux rongeurs germe fe fait les chouettes effinies étant assuré le gire, quelques indivisposer des rapases aux rongeurs germe fe fait les chouettes effinies étant assuré le gire, quelques indivisposer des rapases aux rongeurs germe fe fait les deputs de la complete de le que politique de paradité que le virgantir la foit partie de propuse de paradité que le virgantir le girt, quelques inichirs, pour le confect que leurs voisins juis à en ployec ces voisionnent encoré de paramas du kibboutz bio 3dé Elia-hou a teat l'expérience. Il alique de gandes quantités de pesti-des emposionnent encoré egandes quantités de pesti-des emposionnent encoré de parasans juits on rête le pair que le virgantir des propus des participations entre et des propus des propus de participation de propus de la finance participate en l'est que leurs voisins juis à en ployec ces voisions et d'aliant de participate au l'est de l'el Aviv, fois Le parama, du kibboutz bio 3dé Elia-hou a teat l'expérience. Il alia finiter nas-tional.

Les passans juits on rête le plus de l'expérience de la finance participate de la finance participate et l'entre de propuse de participation entre et de propuse de participation entre des propuses de participate en troit de propuse de participate de la finance participate et la finance participate le finguent participate le finguent participate de la finance participate le finguent participate le finguent participate le finguent participate le finguent particip







