

# The Problems of Forestry Management in the Dannieh Municipal Union (North Lebanon )

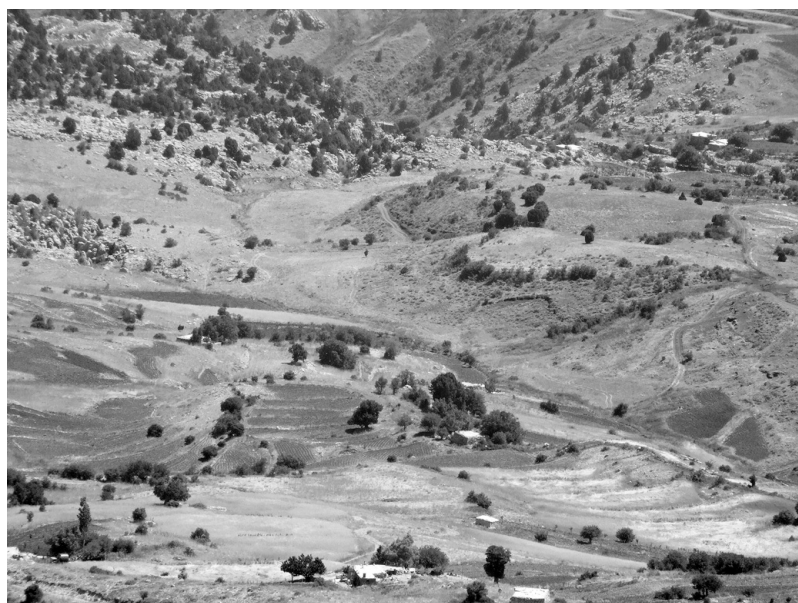
by Mohamed SAADIEH

***The author, having described the general context and forestry issues in the Dannieh region in the North Lebanon, bears witness to the implementation of participatory management via a project for a nature park, but without underestimating the difficulties related to the diversity and the number of stakeholders and people involved, nor the complexity of governance in protected areas which acts as a brake on the whole process.***

Despite the numerous preconceptions that stigmatise the region of Dannieh as a terrorist zone, it is a fervent centre of Lebanese traditions in an idyllic natural setting, with majestic mountains, green valleys and unfailing hospitality from its inhabitants (See picture 1). Dannieh is first and foremost a magnificent region where a tranquil uncomplicated population cultivates both its land and the art of living happily together.

However, the absence of a commonly-agreed basis for managing the natural heritage has created problems of deterioration and conservation. The region's forests (pine, juniper, cedar, oak...), though one of its primary resources, are under threat: deforestation, non-renewal... It is for this reason that we believe that the sustainable management of Dannieh's woodlands must include setting up nature reserves within a framework based on a district and regional policy with broad citizen involvement.

In this article, after an overview of local forestry issues, we will see why it is necessary to set up adequate guidelines for the management of all the woodlands, with the involvement of the population and its elected institutions.



**Picture 1 (top):**

The Mrebbine plain  
in the region of Dannieh  
(North Lebanon)

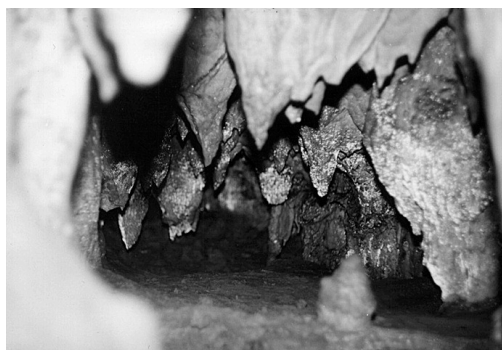


**Picture 2 (above):**

The Dannieh region  
boasts many springs  
for drinking water...

**Picture 3 (opposite):**

... and numerous caves



### Dannieh: background and context

The *préfecture* of Minié-Dannieh is one of twenty five in the Lebanon. Located in the north of the country, its altitude goes from sea level to 3,093 m.

The Minié-Dannieh sub-*préfecture* groups 74 towns villages with a population given as 162,000 who are, in the main, Sunni Muslims (86%) with Greek Orthodox (7%), Maronite (6%) and other small Christian communities, all of whom live together in peaceful coexistence: the region was not a theatre of combat in the Lebanese civil war.

In relation to public services, local branches of organisations and more general collaboration, Dannieh has historically been a neglected area. Even voluntary institutions — NGOs and non-profit-making organisations — have only limited presence. The region's relative geographic isolation from centres of decision-making (Beyrouth) has meant a lack of big projects for infrastructure and the area's involvement in the national economy remains modest. Such features have meant that in order to survive, a fair share of the rural population the has left the land, moving to urban centres or abroad.

Dannieh is considered to be the poorest of the Lebanon's *caza*, despite the wealth of its water (366 springs for drinking water) (See picture 2) and forestry resources and the presence of the highest point in the Middle East, Qornét Es-Saouda (the Black Summit), 3,093 m, as well as its deepest valley, Wadi Jéhannam (Hell Valley), about 800 m deep. There are also numerous caves, archeological remains and a large percentage of agricultural land (See picture 3). The land is worked in the traditional Mediterranean mode of terraced farming which is the region's main source of income (See picture 4).

Dannieh's forestry heritage is exceptional for its diversity and extent. Three distinct forest areas are presently undergoing certification as nature reserves: a juniper forest of *Juniperus excelsa* (300 ha), a cedar forest of *Cedrus libani* (210 ha) and an Aleppo and stone pine forest (380 ha). To manage this natural and historical heritage (See picture 5), the Dannieh Municipal Union (DMU) was set up in December 2004. It groups twenty



five municipalities with the aim of fostering land use and improvement and local development.

## The issues in local forestry

The Dannieh region is home to one of the whole area's rare sites of biological diversity: there are 800 ha of natural woodlands and forest destined to be classified as nature reserves. Juniper, pine, cedar and oak are the main species that characterise the region (See picture 6). They represent a major strong point for the region and as such demand study with a view to laying down a strategy for sustainable management.

### ***Biodiversity under threat: the case of the juniper***

The juniper *Juniperus excelsa* is known as "Lazzab" in the Lebanon. The juniper forest at Dannieh occupies 300 ha of publicly-owned land at altitudes from 1,500 to 3,000 m.

It should be noted that the juniper has a wider range than the cedar which cannot survive in the climatic conditions at altitudes above 2,000 m. The forest (See picture 7) extends over three local communities, Kfarbebnine, Jairoun and Qmemine. The life expectancy of the juniper is longer than that of the cedar, reaching maturity at between 50-60 years old whereas the cedar requires 40-50 years and the olive and the pine 10-15 years.

The traditional uses of the juniper were for a tar obtained from its sap, used in the treatment of animals affected with skin conditions as well as a repellent for insects and reptiles. The tree's fruit is well-known as an anti-oxidative and for its quite effective therapeutic properties against certain fungus diseases.

The main problem confronting these stands is the catastrophic failure in natural self-seeding due largely to the decline of a passerine species of thrush, *Turdus pilaris* (See picture 9), known locally as "Kaykhan" which feeds on juniper berries. The juniper's natural reproductive process requires that its seeds go through the digestive system of these birds. In order to germinate, the seed must be rid of its shell by being digested



From top to bottom:

**Picture 4:** The land is worked in the traditional Mediterranean mode of terraced farming

**Picture 5:** The Sfiré stronghold, an example of the historical heritage of the region

**Picture 6:** Oak is one of the main species that characterise the region



**From top to bottom:**

**Picture 7:**

The juniper (*Juniperus excelsa*) is known as Lazzab in Lebanon

**Picture 8:**

The forested areas of Dannieh have fallen victim to an anarchic production of charcoal

**Picture 9:**

The passerine species of thrush, *Turdus pilaris*, is known locally as "Kaykhan"



prior to dissemination in excrement dropped a long way from the parent tree.

In addition, the forested areas have fallen victim to the disorganised spread of housing, unsuitable practices in animal husbandry, an anarchic production of charcoal and failures in the firefighting systems (See picture 8). Thus, there is an immediate need to establish a plan for the sustained management of these juniper forests. The turning round of such forests after their collapse requires hundreds of years. The disappearance of the juniper would be a national and environmental disaster; maintaining them will necessitate effort.

While forests cover a large part of Dannieh's territory, plots of agricultural land are also extensive. These, too, represent a precious resource for the region but they also raise issues that must be tackled.

### **Agriculture**

Agriculture in the region is fairly undeveloped in comparison to that of the Bekaa or the coastal plains. Agriculture in the Dannieh area often shows little awareness of its impact on the environment and a reasoned farming methodology is the exception.

Despite the prolific plant cover thanks to the region's relatively abundant rainfall, there is a clear worsening of soil erosion on the slopes and the loss of biodiversity. Both these phenomena are linked to the clearing of woodlands for agriculture.

The development of traditional agriculture is hindered by several factors: the region's products are not competitive on the national market, their poor quality, the lack of local management capacity, the absence of training facilities, the difficulty of obtaining loans and inadequate infrastructure. Above all, there is the total absence of local farming development policy.

Life styles and agricultural techniques have changed considerably in recent years as Lebanese society has itself evolved rapidly. Such changes have led to the abandonment of traditional activities, giving rise to two other major problems: deforestation and over-grazing.

### **Over-grazing**

In certain areas the countryside has been badly affected by overgrazing. Yet in other



areas the absence of grazing facilitates the development of shrubby undergrowth which on occasion leads to the loss of biodiversity and the outbreak of wildfire.

This situation underlies the need for a management system that should direct grazing practices towards their integration into natural processes, thus avoiding the gradual deterioration of ecosystems and eventual desertification. Such a management system needs to be based on the right choice of grazing trails (See picture 10) throughout the whole area, taking into account the level of use the ecosystems can bear and the richness of the biodiversity.

The adoption of such a grazing framework would lead not only to a regeneration of the woodlands but, also, to the protection of biodiversity, a reduction in wildfire and the protection of landscapes characteristic of a mix of farming, pastoralism and silviculture.

### **Over-use of wood**

The increase in pressure from human activity (deforestation, the forestry industry, farming techniques) has considerably modified the dynamics of ecosystems.

Trees have become ever more desirable as firewood (See picture 11). This has resulted in increased felling in the forests as a substitute is sought for fossil fuels whose price goes up even more. Yet the local inhabitants do not consider that their forestry methods are harmful to ecosystems when in fact the damage done is already serious.

The design of a commonly-agreed policy for the region must include the management of firewood on traditional lines. These neglected practices met the needs of the local population and at the same time preserved the natural heritage.

Cutting wood raises a second issue: the production of charcoal. Several farmers produce charcoal from pine and oak to supplement their low income. This activity has recently been made illegal in the Lebanon but it should be conducted within appropriate guidelines for various reasons. The population, in need of subsistence funds, cannot just give up this profitable source of income. Also, charcoal production uses the prunings and slash from oak and pine, representing a contribution to the upkeep of the forest. The prohibition of this activity at a national level is thus a potential problem for the environ-



**From top to bottom:**

**Picture 10:** Grazing practices should be directed towards their integration into natural processes.

**Picture 11:** Juniper used as firewood.





### **Pictures 12 et 13:**

In the region, unregulated fly tipping encroaches on woodland areas and rivers

ment at the same time as it pauperises people who are already in difficult financial straits. It seems to us necessary to legalise charcoal burning while establishing a suitable framework at the local level to ensure that cutting is done in a responsible, forest-friendly manner.

### ***Lack of infrastructure***

The whole region suffers from a flagrant lack of infrastructure, be it for drinking and irrigation water, waste and wastewater treatment or the rural road network.

The water resource supplying drinking water to the region is not exploited well enough to meet local needs whereas there is a reservoir for drinking water available in every village. These reservoirs were built without a connection to springs and as a result are often empty and dry despite the high level of rainfall and the flow-rate of the spring water adequate for local demand.

The absence of sewage systems is the cause of severe pollution of the groundwater. Wastewater is discharged into summary holes from where it filters down to pollute the soil, rivers and the water table. Some villages with a system for collecting wastewater dump their sewage in the valley without any prior treatment. Here the lack of infrastructure puts the community at real risk insofar as the effluents contaminate the irrigation water.

Finally, the absence of proper dumps poses a recurrent problem in the region because unregulated fly tipping encroaches on woodland areas and rivers (See pictures 12 and 13).

So, as we can see, the region's natural wealth and attractions are considerable but their neglect or poor use or destruction prevent them from meeting the needs of the local population. This is why it is necessary to put into place in the light of current needs suitable tools for protecting the environment and for local development. The population of Dannieh is full of hope but in the present state of affairs, without shared management, the potential and know-how cannot really take up the challenges.

## **Creating nature reserves**

To deal with the issues raised here, the only appropriate response is to set up one or more nature reserves in the Dannieh region linked to a national nature park covering a much wider area.

The institutions involved in the management of protected areas are notably the Ministries for the Environment, of Agriculture, Finance, Water and Energy, the Ministry of the Interior and Local Authorities, municipal and district councils, non-governmental organisations, scientific research bodies, as well as local communities at large.

This vast array of parties involved, along with the complexity of the governance for protected areas, makes the whole process very slow and qualified people are lacking. Up to now, and despite several initiatives, all existing protected areas continue to depend in large measure on external funding to meet the costs of conservation and the facilities for receiving visitors.

The Dannieh region forms a part of a projected national nature park in the Northern Lebanon (Akkar, Hermel and Dannieh) presently on the drawing board. This park is the idea of the "Framework Plan for Land Use and Development in the Lebanon" which was ratified in 2005 by the Lebanese parliament. The aim of this park is to enhance the value of the environment and local cultures and at the same time serve as a tool for regional development. However, in the light of the various studies carried out by ONGs, the Ministry for the Environment and the Council for Development and Reconstruction (CDR), it would seem that the region's profile does not fit in with the category of park suggested, a national nature park, because the region includes residential, agricultural and tourist areas.

This national park could nevertheless benefit from different forms of protection, depending on the zones involved. The possibilities for the Dannieh region will be determined after a study of the kinds of protection suited to the issues considered above.

What is required is to develop strategies for the governance of natural and woodland and forested areas through the drafting of a management plan calling on widespread participation. The whole undertaking forms part of the furtherance of projects for local development and for back-up for local governance funded by ONGs with the aim of fostering a participatory approach in planning and implementing projects for community development.

Initiatives for collaborating with international ONGs in support of a management strategy for the forests of the Dannieh region in the North Lebanon are amply justified by the existence of great disparities in economic and social development from one smaller area of the region to another. Let us not forget that Dannieh is in a particularly unfavourable position compared to other parts of the country and its social situation is especially alarming.

## Participatory undertakings and priority action

The Dannieh Municipal Union (DMU) was set up in December 2004 and currently groups twenty five member municipalities. The DMU is responsible for the implementation and management of projects involving the member municipalities. The income of the separate municipal account for the DMU is minimal and cannot finance all its member villages without funding from the ONGs.

The staff of the DMU is limited to four people: an accountant, two police officers and a secretary. There is a total absence of commissions for planning, youth and sport, the environment, health and so on. Despite this lack of resources, the DMU has been able to renovate the main road in Dannieh and build eight other roads between villages. In addition, the DMU works in collaboration with other intergovernmental parties involved in development, such as the EU, UNO, the USA and USAID, thus benefiting from all the expertise and know-how needed to enhance the development of the region.

Two community development projects, one financed by USAID<sup>1</sup> the other by the EU, have succeeded in instituting a participatory approach for planning and implementing community development projects. These projects are meant to contribute to national unity and the improvement of living conditions of the local population by making the most of the potential for development in backward regions.

These projects, on the initiative of the UNDP-ARTGOLD<sup>2</sup> scheme, consist in designing a strategy for local development in Dannieh. They fit in with both the policy of the Lebanese government for promoting in a balanced way the economic development of every area in the country and combating poverty; and with sector-specific plans for rural and agricultural development. In this way, the Ministry of Agriculture's strategy for development highlights, amongst other aspects, development in rural and poor areas, the increase in farming income and job creation in a rural context. Particular care is taken to respect the framework plan for land use and development drawn up by the CDR and the Central Department of Town Planning.

1 - USAID: United States Agency for International Development

2 - UNDP : United Nations Development Programme  
ART GOLD Programme: Governance and Local development





**Picture 14:**

Unauthorised quarry

**Picture 15:**

Hunting



The project of the European Union has been conceived around two strategic lines of advance: improving the competitiveness of the agricultural sector and farmers' income and the preservation and the positive exploitation of the region's environmental capital.

To these two projects should be added a project, financed by the GIZ, whose objectives are to facilitate obtaining recognition for nature reserves in Dannieh, to create a footpath between the forest zones and build a guesthouse for eco-tourism.

These projects will enable an analysis to be made of the overall strong points and needs at Dannieh in order to draw up a list of priority projects and identify guidelines for later action.

The activities undertaken must focus on the main objective: encourage the local population to stay and work the land and, by the same token, incite those who have already left home to return. This objective should be attainable while emphasising the value of, and respecting, the environment and local agriculture.

Initially, action could consist of concentrating on a refusal of everything inimical to the environment (cutting down trees, unauthorised quarrying, hunting in the zones involved) (See pictures 14 and 15). In this way, creating posts for forestry wardens, apart from providing jobs for some of the local population, would at the same time improve respect for the ban on bird hunting which currently exists but is not backed up by surveillance. These same wardens might also be able to sort out the problem of quarries which are encroaching on woodlands and disfiguring the landscape.

Other jobs could be created on this model and thus diversify remunerative activity in the region while increasing the effective participation of the population. The choice of applicants should be based on the right criteria and on their competence and skills, without prejudice or regard to religious convictions and giving priority to women and young people. The creation of jobs will also give the opportunity to train a certain number of people in Dannieh on environmental issues and local development.

**M.S.**

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