

V

PRINCIPLES OF LAND USE

CHAPTER V

PRINCIPLES OF LAND USE

The map of “**soil vocations, assets and constraints**” attached to this study shows the general vocations of the soils, as well as their assets and constraints. It gives the general framework for the elaboration of local urban planning documents, master plans, detailed plans and regulations. It offers as well valuable indications for a certain number of sectoral policies that make use of the territory in one way or another, such as solid waste, sewage, industrial polluting waste or quarries.

The present chapter presents the recommendations of the National Physical Master Plan related to Land Use in accordance with their classification as shown in this map.

These recommendations are presented respectively for:

- General vocations for land use: urban, mixed rural, agricultural rural, and natural;
- Constraints: floods, landslide hazards, and water resources pollutant vulnerability areas; and
- Assets: major natural and heritage sites.

For a given location concerned either by a vocation and a constraint or an asset, or even by the three of them, the relevant recommendations are compiled and the most “strict” principles are applied.

V.1 THE LAND USE PRINCIPLES IN URBAN, RURAL, AGRICULTURAL AND NATURAL AREAS

V.1.1 Land use in urban areas

Urban areas correspond to the country's large agglomerations. These areas were defined taking into consideration their expansion for the coming 25 to 30 years. At present, they already contain 2/3 of the resident population of Lebanon, and the majority of industrial and tertiary activities of the country.

These areas are able to receive all kinds of dwellings, activities, natural and landscaped areas, various technical facilities and equipment, etc. The only excluded land use therein concerns quarry activities. The most hazardous industries could be established within these areas, but on specific dedicated lands, separated from dwelling areas by a buffer zone of non-polluting industries and open spaces.

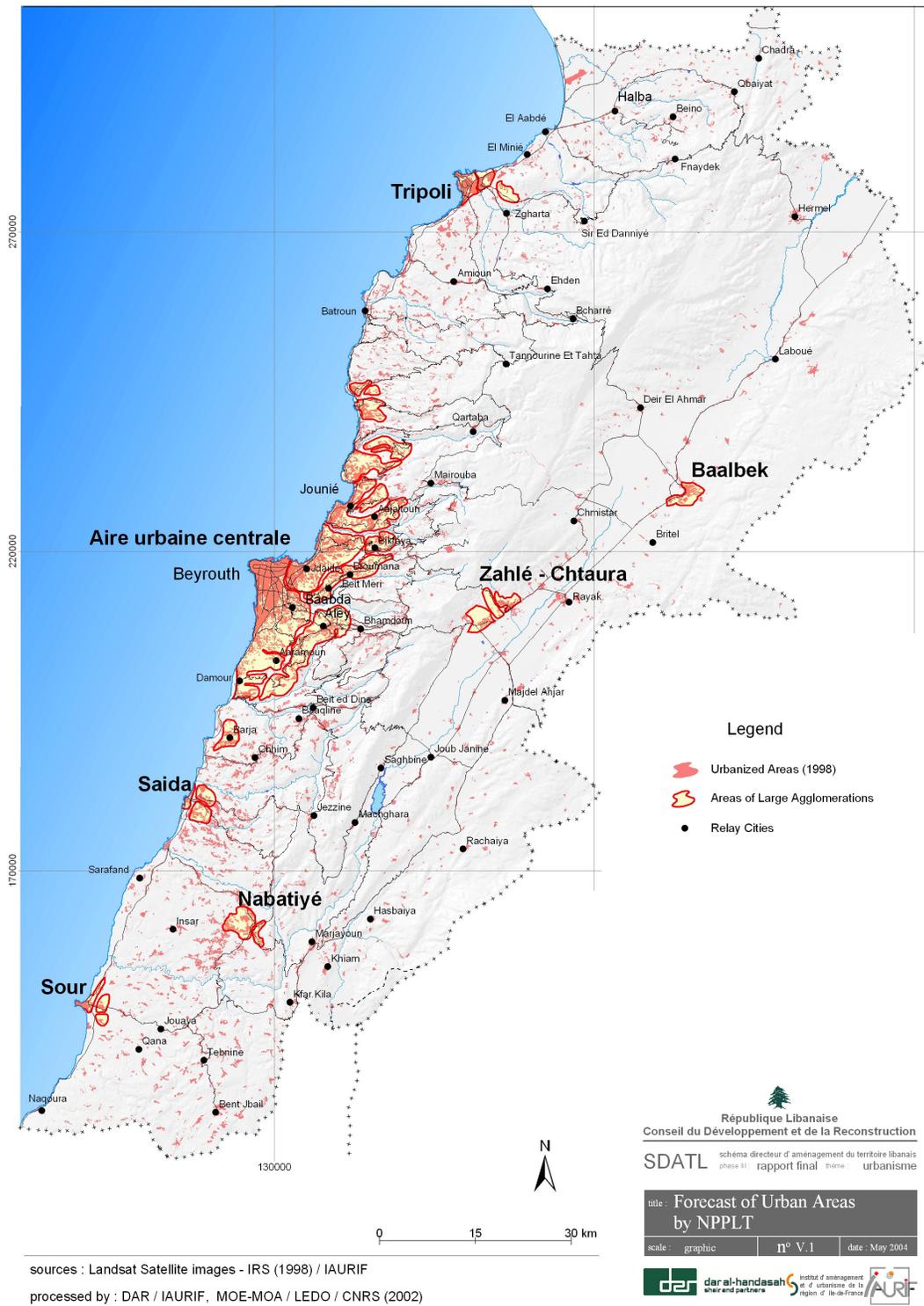
High construction densities could be accepted within the center of urban zones, the outskirts being endowed with specific regulations adapted to their situation and location.

Urban planning for these entities must be conceived by emphasizing the order (front alignments, common parts, façades, etc.), functionality (traffic, parking, access to facilities and commerce, etc.), urban quality, design of public spaces (the street, the square, the pedestrian circulation, etc.), importance of trees and natural spots, and privileged views (over the mountain, the sea, etc.).

Several parts of the urban areas are located in mountainous areas, and therefore have a special residential character for summer holidaying or tourism. In these cities, relatively high construction densities (6 or 7 levels) can be accepted in certain cases, although the general recommended rule is to respect the height of middle-aged pine trees. It is especially the urban character (alignments, heights, materials, architecture, etc.), the vegetal cover and the remarkable heritage location that must be submitted to specific limitations.

The development of these agglomerations along topographic contour lines, rather than roads serving higher villages, will allow a more rational land use and a more pleasant urban framework (just like it was in Aaley for example, after its development along with the railway station at the beginning of the XXth century).

Figure V.1: Urban zones foreseen by the NPMLT



V.1.2 Land use in the main agricultural areas

The main agricultural areas of national interest have been delineated within the rural regions taking into consideration the best agricultural lands of the country, as well as the perimeters concerned by irrigation projects. Hence, the natural land use in this area should be limited, theoretically, to agriculture. The importance of this limitation is greater since the majority of the large agricultural entities has high flood risks and must be considered as unsuitable for construction.

The agricultural lands should profit from projects aiming at quality and output improvements: irrigation projects, agricultural land consolidation, access to the lands, etc. Such projects should be part of a national strategy for agricultural development by modernizing the processes and means of production.

Isolated constructions on major agricultural lands

It is legitimate that the major agricultural lands of the country could, exceptionally, receive buildings and infrastructure intended for farming or agro-industry that require being close to the agricultural lands or even to the individual dwelling of the farmer or the owner.

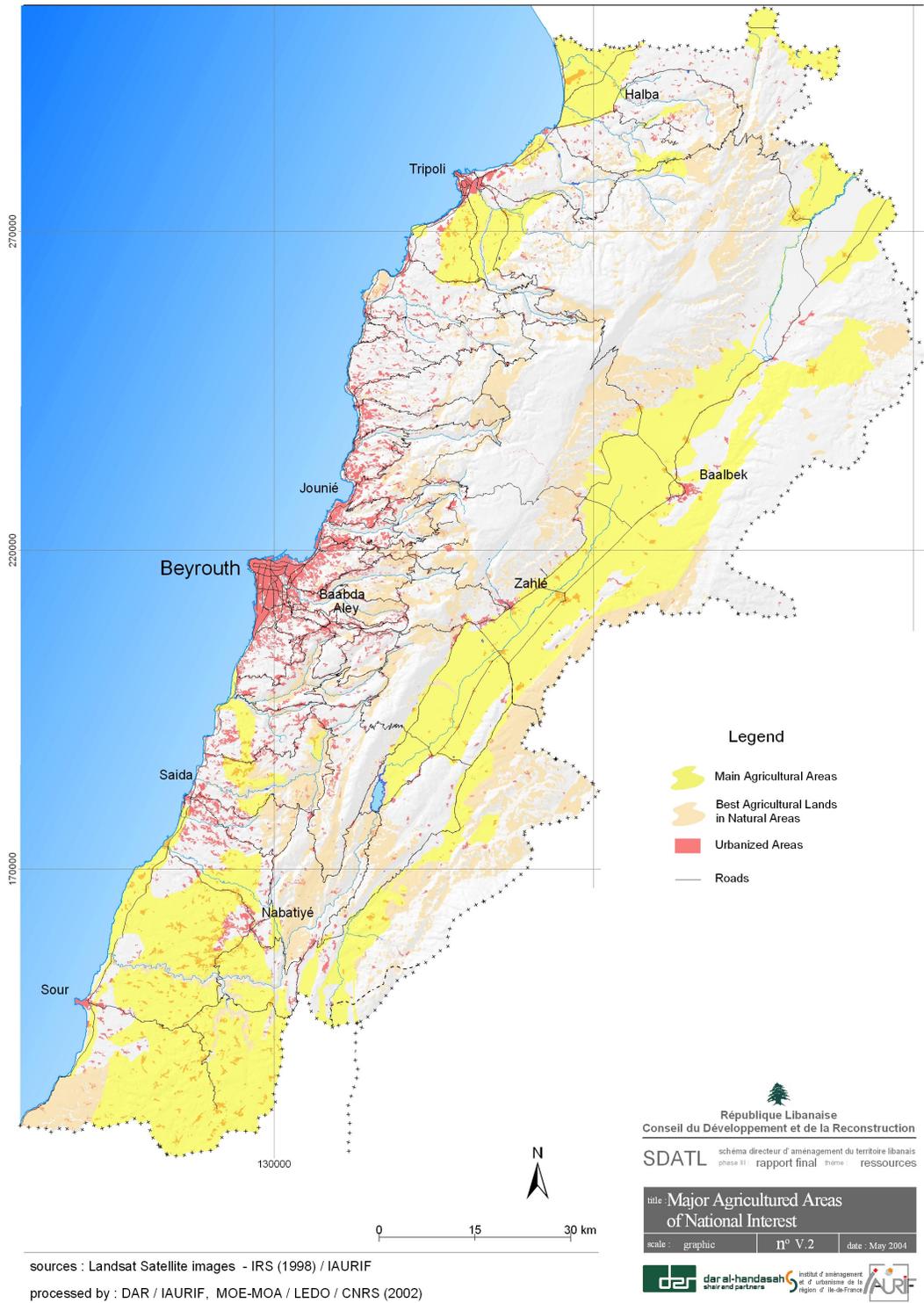
Besides, these agricultural lands of national interest should be restricted from commercial real estate operations. What should be allowed is agricultural land consolidation or a consolidation as a result of inheritance or land property shares, but never for real estate housing developments. It is also important to avoid, in the absence of local urban planning regulations, opening new agricultural roads or asphaltting existing ones. The classification of agricultural lands must precede opening or restoration of roads.

Wastewater treatment facilities, proposed landfill sites or other facilities that cannot be located near villages could exceptionally be located on major agricultural lands, if no other alternative is available in a given area. It is appropriate however to select, amongst the lands, those with the least agricultural value.

Cities and villages within the agricultural areas

Some old hamlets in agricultural areas have developed, especially during the last 10 years, in the center of major agricultural areas. These have been often transformed into real villages and even relatively important cities. The floods during the winter of 2003 have brought up the consequences of challenging nature and the natural vocation of lands. Nevertheless, these cities and villages exist now and a policy for their development should be defined. The only suitable policy consists of managing their urban development as a close continuity of existing districts, as long as a local urban plan has not specified other options.

FigureV.2: Major agricultural areas of national interest foreseen by the NPMP/LT



V.1.3 Land use in the mixed rural areas

The mixed rural areas are areas that contain small cities and villages, agricultural lands with modest dimensions or low productivity, as well as natural areas that could have an importance at a local level, but not at a national level.

These areas are located outside the major agricultural areas of national interest.

The cities and villages of these areas benefit from agricultural, local trade, internal tourism and eco-tourism income.

Construction in these constituted cities and villages

The relay-cities included in this area, with usually 3 000 to 10 000 permanent residents (across the year), fill up the essential functions that serve surrounding villages. These cities would be supported by urban planning and an architecture that respects the identity of the area, especially in terms of construction materials, colors, and height of buildings. As a common rule, it is appropriate to keep low construction heights, not exceeding, if possible, the height of a middle-aged pine tree.

The villages, other than the relay-cities, should conserve their rural aspect, because this constitutes an essential asset for their attractiveness and the quality of life for residents. This can be done through the conservation of soft urban forms, especially as far as building heights are concerned: the height standard will be defined by the local tradition (G+2 usually), or by the height of a middle-aged pine tree. Once more, the material to be used, the forms and colors should be in harmony with the local traditions.

Whether it is cities or villages, the dwellings in mixed rural areas should stay, as possible as could be, clustered within a perimeter. Extensions outside existing districts should be limited by adequate regulations established by local urban plans that should be developed.

Sites of development outside town perimeters

Some building projects are located on parcels outside the perimeter of towns. These parcels are therefore away from existing districts, and are located on agricultural or natural lands.

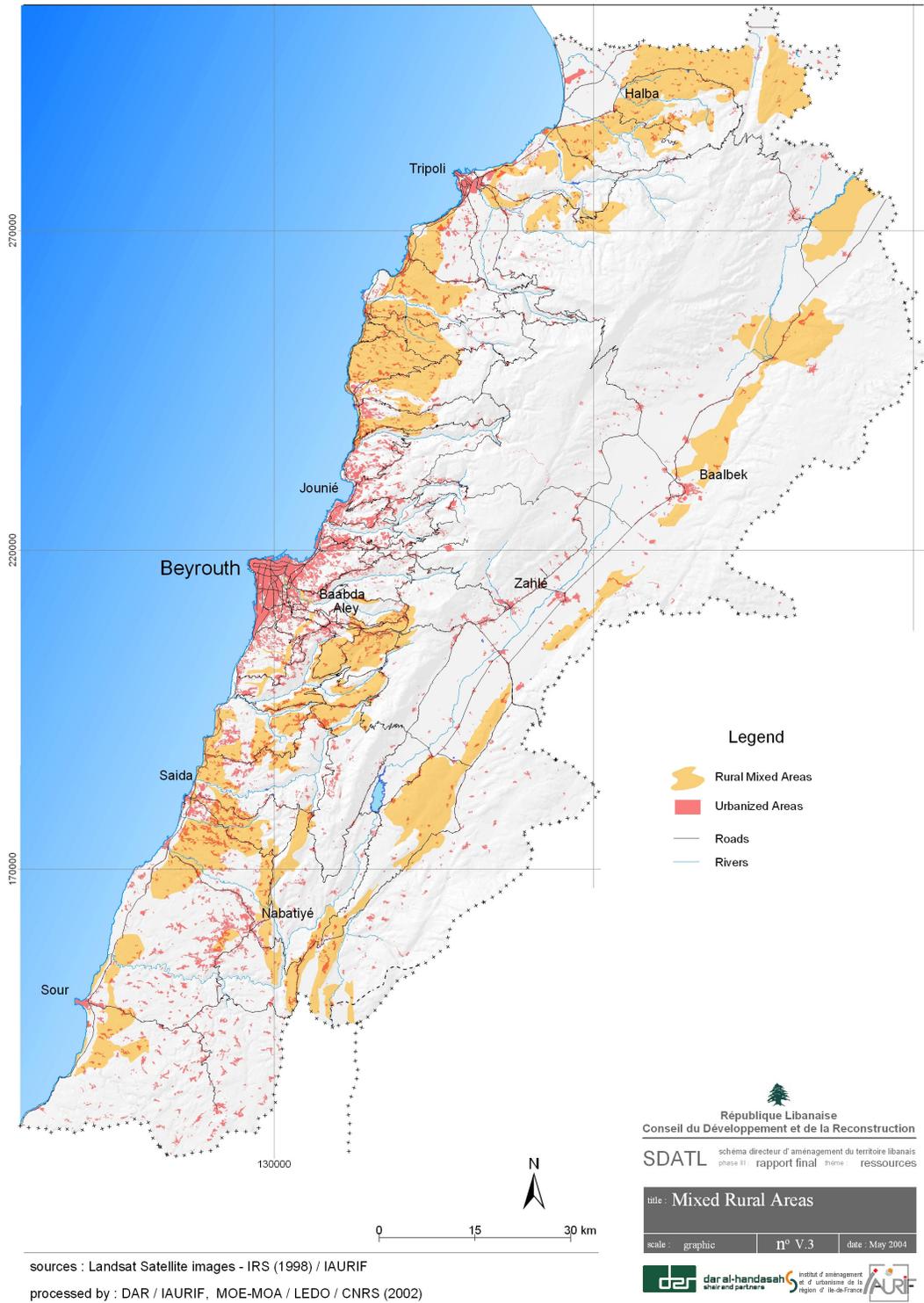
Such projects could be small projects (a villa or a restaurant), medium projects (a residential building or a hotel), as well as big projects (residential parcellation, seaside resort, large hotel), and even larger operations (leisure club or large residential parcellations).

The will to preserve agricultural and natural areas, and safeguard public resources and finance, lead to implementing selective rules for this kind of projects.

The general rule should be demanding: with the lack of approved local urban plan and planning regulations in mixed rural areas, all residential projects, located outside the perimeter of constituted cities and villages, should have a specific size. The objective is not to authorize, outside the villages, except operations with a certain dimension that justifies the provision of infrastructures (i.g. a minimum of 3,000 m² of exploitable area on a single parcel, or plots with a minimum area of 20,000 m²). These authorizations should be coupled with the obligation, to the developer to finance the necessary infrastructures (namely electric supply, water supply and sewage systems), and then transfer them over to public property.

A greater flexibility for approvals should be provided to real estate enterprises (hotels and restaurants, non-polluting industries, etc.), and for the establishment of hazardous facilities and industrial zones outside villages and cities. However, this flexibility should be coupled with stricter regulations in terms of architecture and compatibility with the surrounding landscape.

Figure V.3: Mixed rural areas foreseen by NPMPLT



V.1.4 Land use in natural areas

Land use in natural areas is necessarily restrictive. Three entities are distinguished:

- A - The high mountains above 1 900 m altitude;
- B - The Cedar and mountain tree plantation corridor;
- C - Valleys, forests of quality and other zones of ecological continuity.

A – The high mountain areas above 1,900 m altitude

Above the altitude of 1,900 m, and taking into consideration the fragility of the environment and its sensitivity vis-à-vis the water resources and erosion risks, modifications made by human intervention should be closely evaluated and reduced to the minimum possible.

In case of absolute necessity, electricity poles, tele-transmission antennas, poles and mechanical stations for ski resorts, and agricultural facilities (sheepfold, hill reservoirs, etc.) or military installations could be accepted. The roads necessary for national connections crossing the ranges of Mount Lebanon and Anti Lebanon, and shown in the National Physical Master Plan should be managed in a way to reduce their environmental impact on all levels.

Besides, it is appropriate to avoid creating new roads across the mountain peaks, and to implement adequate rules to ban the construction of housing estates and quarries. The Municipalities and the Government should also discourage all kinds of automobile sports in these areas, for the considerable damages that these sports could cause, in an irreversible way, to the wild flora species, and to the pollution risks of groundwater resources.

The mountain peaks could be subject to strengthening legal protection measures, within the framework of a Mountain Law.

B - The Cedar and mountain tree plantation corridor

The “Cedar and mountain tree plantation corridor” is located on the western slopes of Mount Lebanon, between elevations of 1,500 and 1,900 m. It is appropriate to the altitudes of the natural forests of the Cedar (*Cidrus libani*), as well as to plants of high altitude.

This area, rarely inhabited, has a capital importance, in the sense that it represents the emblem of Lebanon, the Cedar. The Cedar forests are in danger of becoming extinct because of their scattered condition. The first objective of a reasonable management of

this area would thus be to re-establish the ecological continuities all along this corridor, by reforestations and valorization of associated natural sites.

This zone also includes rich agricultural areas, mainly containing fruit trees, vineyards and seasonal vegetable crops. The development of agricultural activities, based on adequate irrigation projects (especially from hill reservoirs) is not contradictory with the abovementioned objective, as long as this activity does not break the ecological continuities.

Finally, this corridor is also the area where ski resorts are located, with their corresponding constructions: parking, host buildings, mechanical tow machinery, hotels, restaurants, chalets, etc. It is rare to see constructions not linked to ski activities¹. Ski resorts could not be excluded from the “Cedar corridor”, but these tourist real estate developments should be conceived respecting the natural vocation of the corridor. Authorization requests for similar projects must imperatively be associated with detailed environmental impact assessments (EIA), including the impacts of the resort buildings, access roads and parkings, as well as related real estate developments (hotels, chalets, etc.).

Concerning industry, the rule must be the exclusion of all industrial activities, other than those of mineral water with the requirement of an EIA.

Other modes of real estate and road developments should be by principle banned.

C – Valleys, forests and other areas of ecological continuity

Besides the areas of mountain peaks and the Cedar corridor, areas of natural vocation include 3 other categories: valleys, forest zones and other areas of ecological continuity.

The valleys

Lebanon’s great valleys are major elements of natural, tourist, landscape and agricultural heritage. They control as well the quality of streams and rivers. Their preservation is essential.

The most remarkable valleys are those of Nahr Moussa, Nahr Qadisha, Nahr el-Jaouz, Nahr Ibrahim, Nahr Bisri (Barouk-Bisri-Awali), and the Litani “elbow” valley in the South. Other remarkable valleys are those of Nahr el-Kalb, Nahr Beirut (valley of Lamartine), Nahr es-Safa and Nahr ed-Damour.

For all these valleys, it is appropriate to implement specific regulations in order to safeguard the natural characteristics of the valleys and to manage the urban planning of

¹ The highest village of Lebanon, Bqaa Kafra, is situated between elevations of 1 500 and 1560 m. All the other villages are below 1 500 m. The only secondary residences and chalets that are not directly linked to ski resorts and that are beyond 1 500 m are those of Laqlouq.

the surrounding villages. In parallel, actions should be undertaken for reforestation, limiting solid and liquid waste discharge and preserving the steep slopes from soil erosions.

These actions could be usefully supported and shared by municipalities concerned by these valleys, developing together touristic, agricultural and environmental coherent projects of high quality.

The same approach could be applied to less majestic valleys, facing similar problems.

In general, the projects to be developed by priority would concern sewage treatment, solid waste management, quality of run-off water and management of the green vegetation. Special eco-tourism activities and construction could be conceived, taking into consideration respect of the environment.

Villages located on top of hills must be capable of developing in harmony with the natural character of the areas. Architecture, building heights, materials, etc. must match the natural set up of the village. Urban expansions must be in continuity with existing villages. The sceneries must be preserved by regulations for buildings located downside the cornices.

Building regulations for the villages located on steep slopes should be more severe. Construction outside the perimeter of the agglomeration should be avoided and constructions must avoid slopes higher than 30%.

In lowlands, the existing villages could develop in continuity with existing constructions, with respect to the surrounding natural set up and avoiding the pollution of streams (even the seasonal ones).

Industries could be accepted in these areas, but away from rivers and streams, provided they are equipped with treatment facilities for their effluents.

The forests

Forests other than the “Cedar corridor” include primarily, on one hand, Firs and Juniper (protected species in Lebanon, like the Cedar) and on the other hand, large Pine forests of Mount Lebanon, the North and the South, and finally forests of Oak.

The Lebanese forests are nowadays located essentially (more than 80%) on public land State-owned land, and on *Meshaa* and *Awqaf* lands. Therefore, it is appropriate first of all to preserve the legal status of these properties everywhere forests exist and perpetuate. Concerned authorities should establish management mechanisms, permitting the maintenance of forests.

It is also vital that the woods and forests located on *Meshaa* lands be preserved, without allowing any activity that might affect their development such as quarries or grazing.

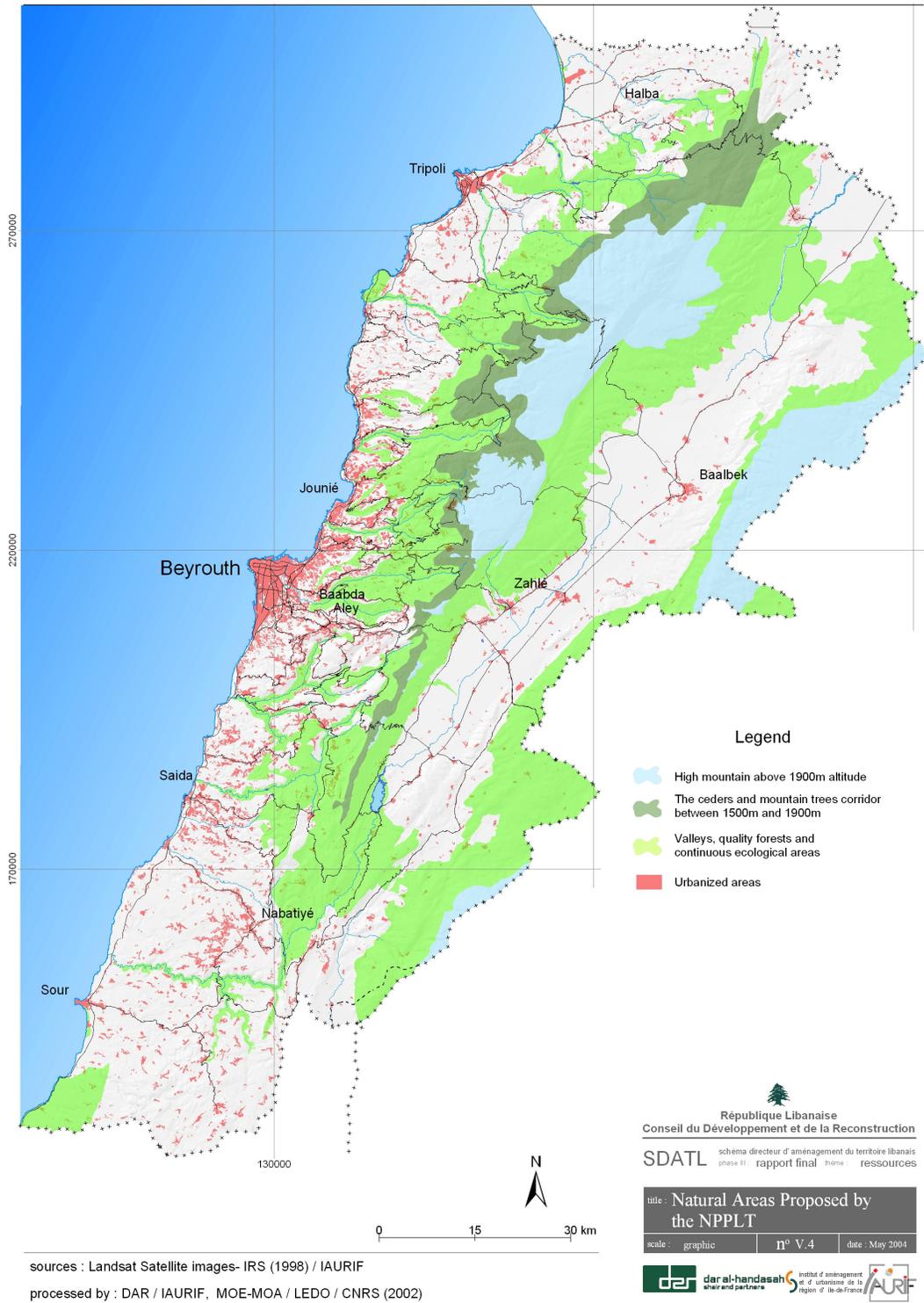
Concerning private forests, it is appropriate to take actions to save them not to become extinct under the growing pressure of real estate activities. Hence, the authorities, Government and Municipalities, should avoid road developments in forest areas. Strict urban planning regulations should also orient constructions towards non-forest areas.

Other zones of ecological continuity

The National Physical Master Plan has defined zones of ecological continuity, other than mountain peaks, valleys and forests. These areas play a major role in maintaining the natural continuity between Mount Lebanon and Anti Lebanon, as well as between the mountain ranges and other remarkable natural entities, especially the region of Naqoura in the South and Nahr el-Kabir at Wadi Khaled in the North.

In these zones, the priority should be given to the natural setup. Regulations for Construction and other activities should be defined in accordance with this objective.

Figure V.4: Natural areas of national interest foreseen by NPPLT



V.2 RULES TO RESPECT IN AREAS WITH IMPORTANT SITES (ARCHEOLOGY, HERITAGE, EXCEPTIONAL NATURAL SITES)

Many Lebanese regions have important advantages that could be exploited in a sustainable way. These advantages represent an asset that could constitute a source of income for many generations. Therefore, it is essential to preserve and exploit these regions.

These advantages or assets are:

- Landscapes;
- Historical heritage; and
- Coastal areas.

V.2.1 Landscape assets

Landscape assets can be major physical landscapes, picturesque villages, natural wonders or important natural sites, sites of exceptional scenarios, etc.

Major landscape entities

Other than the coastline and the landscape of large agricultural plains (Beqaa, Akkar, southern coast), Lebanon possesses other major landscape entities that constitute its identity, its quality of life and its tourist attractiveness. These are in particular:

- The high valley of Nahr Abou Moussa / Nahr el-Bared in the Akkar;
- The valley of Qannoubine (Holy valley);
- The high valley of Nahr el-Jaouz;
- The high valley of Nahr Ibrahim;
- The high valley of Nahr el-Kalb;
- The valley of Nahr Beirut (valley of Lamartine);
- The valley of Nahr el-Barouk / Nahr Bisri / Nahr el-Awali;
- The valley of Nahr Litani between Qaraoun lake and bridge of the Qaaqaaiyeh;
- The highlands of Mount Hermon;
- The hills of the South (Caza of Bent Jbayl); and
- The valley of Yammounh.

Land use in all these regions should take into consideration the need to preserve this natural wealth. This should be done through the implementation of strict rules on construction heights, materials and construction development, since bad construction wrongly implemented or located can deteriorate a whole landscape.

It is also appropriate to avoid quarry activities that could endanger the character of landscapes.

Inter-municipal programs could usefully help these regions through valorization actions: plantations, organization of site visits, advertisement billboards, etc.

Picturesque villages

The number of picturesque villages has significantly decreased in Lebanon during the last 20 to 30 years. However, there still remain a large number of them, characterized by traditional architecture (stones, arcades, tile roofs, etc.) or a particular configuration of streets and buildings (terraces, tiers, stairs, semi-private roads, etc.) or other particular elements (vegetation, site, etc.).

The picturesque character of a village has always been a considerable factor of its summer holiday and tourism attractiveness, and constitutes therefore an appreciable source of income for the inhabitants.

Local authorities should establish regulations and enforce them to strengthen this character.

Remarkable natural sites

The National Physical Master Plan has listed some of extremely valuable natural sites, the absolute protection of which is a national stake. The cascades of Jezzine, the natural bridge of Faqra, numerous grottos and caves, etc. are only a part of the Lebanese remarkable natural sites.

All available legal instruments must be mobilized to assure the strict protection of the site in a restricted perimeter, and its valorization in a larger perimeter.

The restricted perimeter must include the site itself (sink of Balaa, bay and rock of *Grotte aux Pigeons*, natural bridge of Faqra, etc.). There should be an absolute protection against all construction. The access to these sites must be executed with natural material like sand or stone, to avoid damaging the natural set up, with concrete for example.

The enlarged perimeter extends to a radius to be defined according to vision and access to the site. Adapted rules of construction and management must be decreed in order to preserve the scenery and reduce negative impacts of expected constructions, installations and facilities that may, if introduced, obstruct vision of these sites. In general, industrial

establishments, high-tension electricity pylons, and all polluting activities should be avoided in this perimeter.

V.2.2 Historical heritage assets

The historical heritage, whether it is archeological or recent, has vital importance in the tourist economy and in contributing to the country's history.

Classified historical sites

The historical sites enlisted in the Directorate General of Antiquities (DGA) are sites known for their important historical, cultural, heritage and often tourist value.

The local urban plans should preserve these sites with strict measures.

The local urban plans should identify protection perimeters around these sites and define valorization methods adapted to the situation of every site and endowed with adequate valorization regulations.

Non-classified built heritage

Ancient districts of cities and villages represent often a major interest in terms of heritage, culture, etc. The example of rehabilitated and safeguarded districts in the downtown of Beirut shows the attractive power of these areas.

Many Lebanese cities, and the majority of the villages, contain entire districts with valuable heritage that contribute to their identity.

Local urban plans and other legal and technical instruments should be mobilized to safeguard and bring out this wealth and its related memories.

V.2.3 Coastal zone assets

The valorization of the coastline is important not only for tourist development, but also for the quality of life in coastal cities. It requires a series of complementary regulation and operational measures that should converge to give Lebanon back its agreeable and attractive coastline.

The major assets that the coastline offers are:

- Sandy beaches, very limited along the coast (about twenty);
- Exceptional sites (Ras Chaqaa and Enfe);

- Remarkable natural sites, such as cliffs, rocky capes, bays, natural wonders and others (about ten);
- Natural shorelines with high ecological and landscape values, such as dunes, natural wild media, rocky plateaus, islands, etc. (about ten);
- Urban seashore promenades and cornices (shorelines of large cities);
- Picturesque ports (of coastal cities).

The preservation and valorization of these assets require a more severe re-definition of possible and expected coastal land use, especially on maritime public domain and neighboring lands.

The National Physical Master Plan recommends the following actions:

For sandy beaches

The sandy beaches, which are maritime public domain, constitute a rare resource in Lebanon. Therefore, it is important to assure free access to the public, to protect these beaches from sand extraction and litter disposal, and to properly manage and maintain them.

Opening of the sand beaches to the public should be carried out in the framework of a global free sea-access policy and free passage width of minimum 3 m along the coast.

For the exceptional sites of Enfe and Ras Chaqaa

The coastal site of Enfe, with its Phoenician wall, its Salinas and stones, should be enlisted as a historical heritage, as well as natural heritage (Reserve).

The Ras Chaqaa site deserves to be classified as a natural reserve. This is currently being studied by the MOE.

The classification of these sites must be accompanied by action plans aiming at restoring and preserving them, and organizing tourist visits to the sites.

For remarkable natural sites along the coastline

The Lebanese coastline has a few numbers of natural sites that constitute an integral part of its identity and give to the neighboring towns a special advantage in terms of quality of life and tourist attractiveness.

Along the Northern coast, these sites are gradually diminishing. Other than the Palm Islands, the remarkable natural sites are limited to the sites of Enfe and Ras Chaqaa, as well as to the bay of Jounieh. Their character should be preserved against every whim to change it, whether it is through inconvenient landfills or other jetty and bridge projects.

The sandy beaches of Chekka, Batroun, Jbayl and Maamelteïn are the last sandy beaches remaining in the northern coast of Lebanon.

In Beirut, the sea front of Ain Mreïseh, the rock and the bay of the *Grotte aux Pigeons*, as well as the white trail of sand of the Ramlet Bayda are three remarkable sites that are an integral part of the capital's identity. Here again, it is imperative to preserve their natural status and character against every possible development project.

Along the Southern coast, sand beaches are more numerous: Jnah (to be re-oriented to seaside use), Khaldeh, Damour (sand and pebble), Jiyeh, Rmaileh, Saïda, Sarafand, Aadloun, Qasmiyeh and Tyre (at its north as well as at its south). Other remarkable natural sites are much more preserved: capes (Saadiyate, Nabi Younes, Sarafand, etc.), cliffs (Bayada, Naqoura) or coastal freshwater springs (Ras el-Aïn, to be rehabilitated), etc. It is essential to preserve this wealth that represents a sustainable support to tourist and social development.

For the seashores with high ecological value

It is appropriate to underline the high ecological value of certain parts of the Lebanese seashore, for the protection of terrestrial as well as maritime natural media. It is especially the case of the maritime façades of Akkar (dunes), Tripoli-Qalamoun, Barbara, Jbayl-Maamelteïn, Sarafand, Qasmiyeh and Tyre-Naqoura.

The ecological wealth of these zones is often linked to alluvial deposits (Qasmiyeh, Nahr Ibrahim, Nahr el-Bared and Estouane, etc.), to the preserved condition of natural systems (dunes, rocky plateaus) and to the surrounding urban pressure.

It is important to manage these parts of the coastline taking into consideration that these are the last sections of the natural coast still undisturbed by human activities and intervention.

The development projects of these zones should be submitted to EIA studies once they exceed a certain dimension. The MoE and the authorities in general should monitor the proper management of these seashore sections.

For the seashore promenades and cornices

The seashore promenades and cornices constitute an unequalled wealth for the coastal cities. They are the natural escapes of the residents of these cities, as well as important tourist spots.

The municipalities have been aware of this wealth, which explains the attention that has been always given to the cornices, such as in Tripoli – El-Mina, Beirut (Aïn Mreïseh, Raoucheh, Ramlet el-Bayda), Saïda and Tyre.

It is important to preserve and develop this wealth, and to avoid, for the existing cornices, blocking the views of the strollers (as is the case of some places in Beirut). It is also required to create new cornices for coastal cities that do not have yet any.

For traditional ports

Picturesque ports follow the same logic of the seashore cornices, to which they are almost always connected. They are “traditional” fishing harbors, such as in Tripoli, Jbayl or Tyre. In these three cities, it has been proven that the preservation of the traditional character of these harbors exerts an exceptional attraction over tourists and wanderers.

As such, it is important to preserve this asset from any possible mismanagement that could abolish this attraction power. It is also important for cities that possess such harbors, but haven’t highlighted their value, to strive for their adequate management.

These harbors remain first of all fishing harbors that need regular maintenance and modernization. However, their tourist asset, which represents a significant source of indirect income to the fishermen themselves, should not be lost² as a result of any modernization activity.

For public access to the seashore and the use of maritime public domain

In the particular case of Lebanon, marked with numerous coastline abuses, the definition of a coastline wealth valorization strategy requires necessarily resolving of the issue of the maritime public domain use, as well as the use of its surroundings.

The maritime public domain, in the Lebanese legislation (the decree 144/a, dated 10 June, 1925), is defined as being the aquatic port and the coast to the farthest distance the waves could reach in winter, as well as sandy and pebble beaches. The seawater ponds and marshes linked to the sea are also a part of the maritime public domain.

The first rule to restore in this matter is the issue of free public access to the seashore.

The National Physical Master Plan recommends the establishment of a systematic continuous servitude of 3 m wide passage in contact with the sea, except on dangerous sites (rocky cliffs, escarpments, etc.) or on zones reserved for industrial (commercial ports, factories, pipelines, etc.) or military uses.

Beyond this 3 m wide passage, the general rule is that the maritime public domain must remain *non aedificandi*, but can receive provisional facilities (without foundations) of seaside resorts that are dismantled at the end of each season. The municipalities should specify the conditions of installing these facilities.

² This orientation is however in perfect harmony with the strategy that should be adopted for the fishing sector, namely the upholding of traditional fishing that can support a large number of families in a *numerus clausus* assuring them a sufficient income given the low wealth of the Lebanese waters with plankton.

In some cases, the Government could authorize, by special Decrees, the provisional use of maritime public domains by the bordering property owners for tourist or industrial purposes. These exceptional legal dispositions should not be in contradiction to public Laws. There has been an extensive interpretation of the Law that prohibits the use of a maritime public domain surface of more than twice the surface of the bordering parcel. Thus, the developer finds himself systematically granted the right to use the maximum surface (twice the surface of his parcel); and in case, the coast does not offer the totality of this area, the remaining part is taken from the sea, often as landfills or marinas with jetties.

The National Physical Master Plan could not recommend dispositions that are not in strict respect of the Law. It is thus important that everyone that has encroached illegally on maritime public domains, with fixed installations, withdraw into their private parcel and dismantle the totality of these installations on public domains (dwellings, hedged gardens, swimming facilities, hotels and restaurants) as soon as possible. This measure does not exclude the possibility, if the law authorizes, of granting the users the permission to establish temporary installations, but the situation concerning taxes and indemnities (for the previous illegal occupations) should be settled first.

The objective is to institute a situation in which seaside resorts benefit financially from the services they offer to the visitors, rather than from the “privatization” of portions of public property.

The case of “hard” constructions on the maritime public domain, especially hotels and marinas, built previously and in a semi-legal status (as they have been authorized by decree) should be treated case by case, seeking the best way to allow free public access to the seashore. The beneficiaries should at least execute at their expense compensation measures that allow the public to by-pass the obstacles on their way to public properties, and concurrently, they should settle their taxes and fines with the public Treasury.

For the future, it is recommended that the decrees authorizing the use of public domain be based on a public interest notion that figures in the law and should foresee the conditions in which the public could have free access to the shore.

When requests for public domain occupation concern remarkable coastal sites (cliffs of Bayada, springs of Ras el-Aïn, *Grotte aux Pigeons*, etc.), the decrees will have to specify that the natural set up of the coast can not be modified in any case and that all fixed installations are prohibited.

V.3 THE RULES TO RESPECT IN CONSTRAINTS PRONE AREAS (NATURAL HAZARDS AND WATER RESOURCES VULNERABILITY)

V.3.1 Flood hazards prone areas

The National Physical Master Plan has mapped the flood hazards prone areas. They consist of 3 categories:

- Flood prone areas due to shallow water table, beneath a porous soil, where water level is likely to rise, as a result of a significant water runoff (it is the case of plains, namely the Beqaa and Akkar);
- Flood prone areas due to the increase of river flows (it is the case of Abou Ali and El-Kabir rivers, for example);
- Flood prone coastal areas induced by high tides.

Some areas are subject to all these three types of flood hazards, such as the Qasmiyeh plain.

The precautions to be taken in these areas should assure the safety of inhabitants, the safety of people going to schools, hospitals etc. and the safety of properties. The forms of construction that render the soil impermeable that would increase the flood intensities and create obstacles to water flows are to be avoided.

Hence, the rules to be considered are the following:

- Highly reduced construction rights;
- Prohibition of real estate development for residential purposes;
- Non-establishment of public facilities;
- Non-obstruction of river flows;
- Construction of a “piles floor” that would be considered as a separate floor;
- The prohibition of closed fences, in order to facilitate water drainage;
- The obligation to maintain a minimum of 80% of lands with garden, lawn, orchard or vegetables (non-impervious soils).

There are however cities and villages in Lebanon that have developed in the center of flood prone areas. In these cities and villages, the above-mentioned rules should keep on being implemented, as long as the flood prone perimeter has not been protected by adequate construction. The execution of such works is possible for floods induced by torrential river runoffs. On the contrary, it is impossible for floods caused by the rise of the water table in plains.

V.3.2 Landslide prone areas

In landside prone areas, it is imperative that urban planning regulations reduce the possibilities of construction on higher than 10% natural slope lands. Excavation and filling works that would decrease the slope are not adequate solutions; they could even worsen the problem.

Certain regions are subject to general landslide hazards that concern tens of neighboring villages. In such cases, the entire region should be subject to a specific urban planning policy that intends to reduce urban development.

Industries and public facilities should not be accepted in these zones. Quarries, housing parcellations and large scale constructions should be submitted to environmental impact assessment studies.

V.3.3 Areas of extreme water resources vulnerability

The zones of faults and fractures represent an extreme danger for groundwater pollution and consequently, for water resources that supply domestic and potable water demands.

Different treatments should be considered for every situation:

- Where water vulnerability zones are already urbanized, it is imperative to construct, as soon as possible, necessary wastewater treatment plants, as well as to transfer solid waste, and to regulate activities by prohibiting generating workshops and factories producing chemical pollutants.
- Where water vulnerability zones are used for agricultural purposes, work should be carried out towards decreasing the use of chemical fertilizers and pesticides, and to converting towards organic agriculture or returning to the land its natural condition. It is also important to take legal measures limiting the possibilities of construction and prohibiting the establishment of polluting activities therein.
- Where water vulnerability zones are still in their natural condition (forest, scrub, bare rocks, etc.), it would be appropriate, as far as possible, to maintain this condition and to avoid urbanization.

Impact assessment studies should be a condition for allowing construction in these areas. Authorization for housing parcellation projects in these areas should be conditioned by the construction of sewage systems (wastewater and rainwater), prior to the construction of access roads and any other construction.

These preventive measures will be clearly less expensive on the health of the population, as well as on public and private finances, than a policy that would only remedy the effects of carelessness in groundwater pollution issues.

V.3.4 Major industrial hazards prone areas

There are numerous industrial zones in Lebanon that present major hazards in case of fire, an explosion or an accidental leakage of dangerous solid or liquid wastes. A safety perimeter, according to the danger extent, should be considered in urban planning. In this perimeter, it would be appropriate to avoid residential development, and if dwellings exist already, to avoid their expansion. School and health care facilities, and more generally, all public facilities or activities should be prohibited.

Figure V.5: Sites with especial assets foreseen by NPMPLT

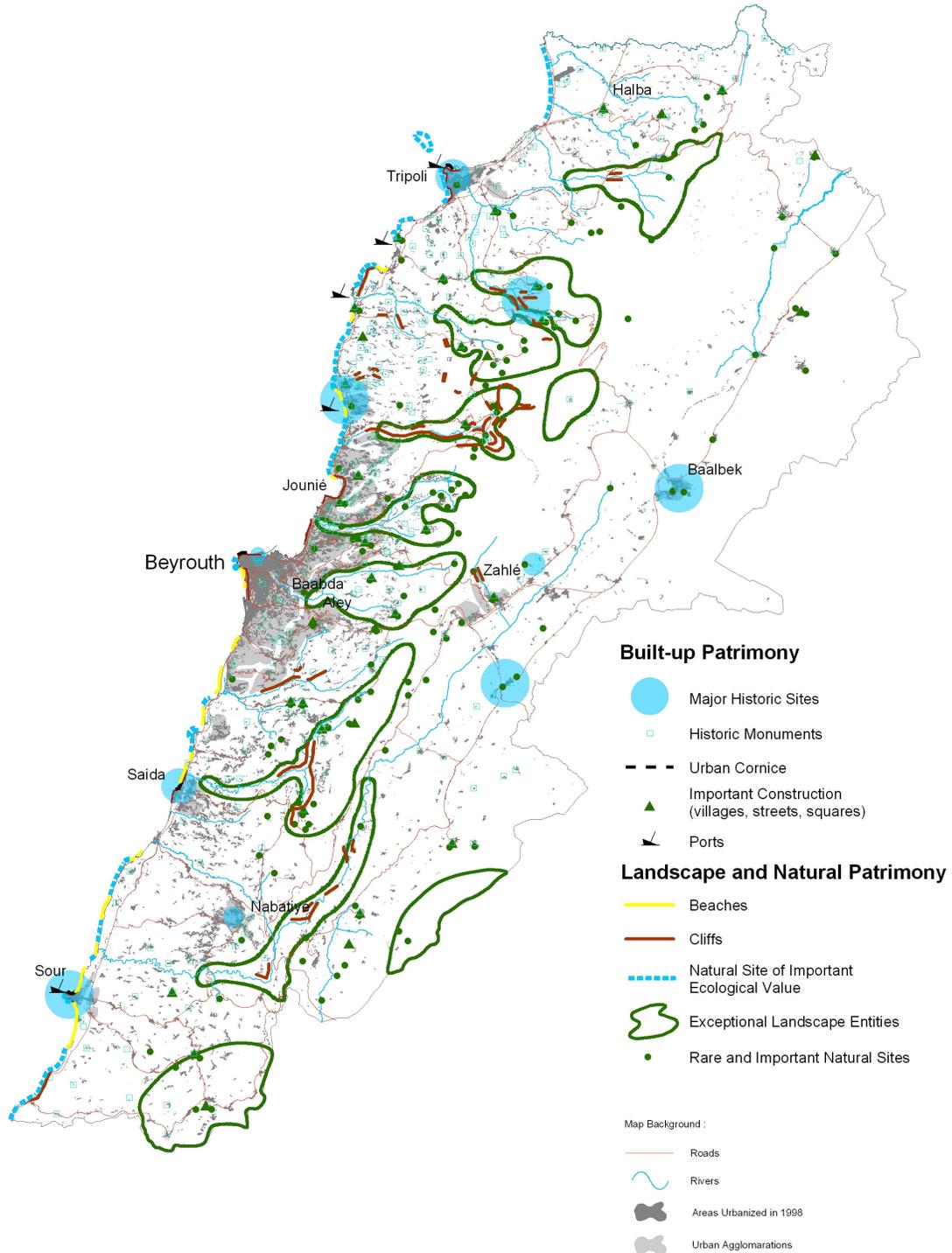
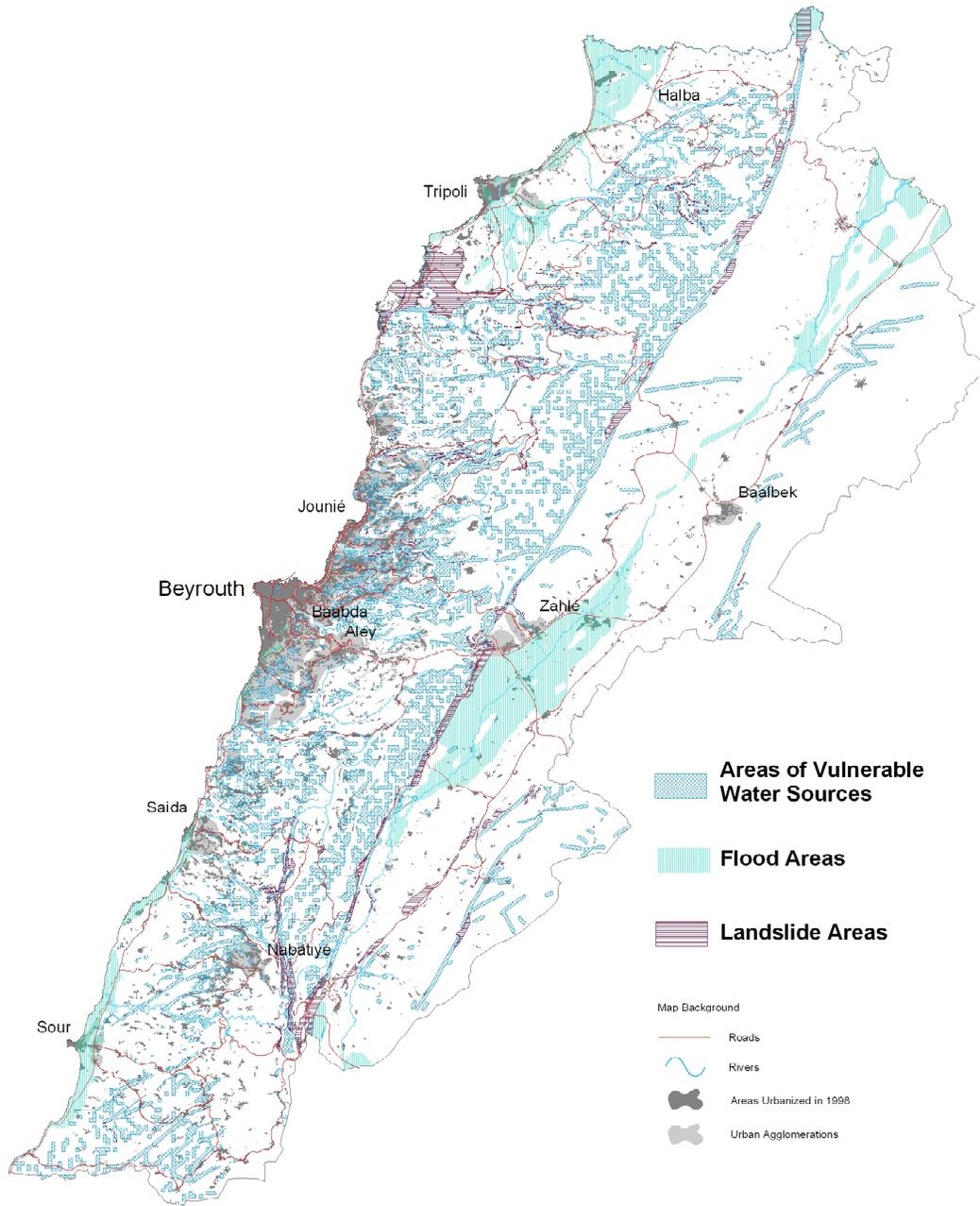


Figure V.6: Vulnerable Areas Taken into Consideration by the NPMPLT



V.4 OVERALL PRESENTATION OF NPMLT'S RECOMMENDATIONS FOR LAND USE

In order to clarify previously mentioned land use regulations, these have been summarized in three tables in the following pages.

The entire territory is covered by the classification of table 27, which means that each area in Lebanon is classified as U, R, A, N1, N2 or N3³. On the other hand, tables 28 and 29 concern only one part of the territory: those that are subject to constraints (table 28) and those that possess major assets (table 29).

The vocation map allows assessing the situation of each zone in the territory (classification U, R, A, N1, N2, N3 / Asset description / Existence of constraints). It is thus appropriate to refer to the corresponding column in table 27 and eventually to the columns concerning the given area in the tables 28 and 29.

For a given area concerned by both a vocation (table 27) and a constraint (table 28) or an asset (table 29), or the three of them, the considered recommendations are added and it is the most "severe" principles that are adopted. For example, in an "R" class area (Rural) subject to a flood hazard, the recommended density of construction would be "very low" (as indicated in table 28) and not "average" (as indicated in table 27).

The areas covered by approved local urban plans remain managed by these plans, as long as they are not modified, or a higher regulation (general decree, law, etc.) that would be contradictory to their dispositions is not decreed.

The elaboration of new local urban plans or amendments of old ones should respect the rules considered in tables 27, 28 and 29. However, if a deeper knowledge of the local geographic realities, while elaborating new plans, lead to minor adjustments of the rules making them more rational, this adjustment could be beneficial but should be seriously justified.

The particular case of areas not-covered by approved local urban plans

Land use regulations in the areas without local urban plans should evolve: the new regulations should respect and implement the dispositions of tables 28 and 29. As far as building permits are concerned, their classifications in these regions as U, R, A and N will not be taken into consideration: all regions that are not covered by a local plan

³ The category "A" (Agricultural domain of national interest) includes essentially agricultural lands, but also the villages at their center. The category "N" (Natural domain of national interest) includes essentially natural areas, but also the villages at their center.

should be endowed with a restrictive “national regulation”, inspired from the one considered for zones A (Major agricultural domain) in table 27⁴.

Table 27: Recommended regulations for construction, quarries and industrial establishments in Urban, Rural, Agricultural and Natural areas

	U Urban	R Rural	A Agricultural	N1 Peaks	N2 Corridor of Cedars	N3 Valleys & links
Compactness⁵ of urbanization	Not required, except for forest area boundaries	Recommended	mandatory	Not applicable (no urbanization possible)	mandatory	mandatory
Density (Built up surface areas)	High, except near forest areas	Average in towns, low on outskirts, very low in forest areas	Average in towns, low on outskirts, very low on distant areas, in forest areas and in large agricultural entities	Construction limited to military and technical installations (pylons)	Very low except for ski resorts (average density)	Low, except in center of cities and villages (average) and prohibition on slope > 30%
Heights	High, except in forest areas	G+2, except in towns (G+3)	G+3 in centers of towns, G+2 on suburbs, G+1 in sensitive areas (forests, groundwater intakes, ...)	Not Applicable	G+1, except in center of towns (G+2) and ski resorts (considered in large scale projects)	G+3 in center of towns, G+2 on suburbs, G+1 in forest, agricultural and natural areas
Classification of housing parcels	Yes	In continuity with villages, otherwise min. 10000m ² on agricultural lands and 20000m ² on forest lands	Only in continuity of villages	No	Only in continuity with villages	Only in continuity with villages, over 20000m ² , otherwise for tourist projects only.; with landscape compatibility study
Large scale projects outside agglomeration	Yes except forest areas	Yes	Only in continuity with villages	No	Ski resorts; only with EIA	Tourist projects; with compatibility study
Quarries	No	Prohibited in woods. Accepted within a min. distance of 500m away from streams and villages; with EIA	Yes With an EIA and reclamation of agricultural lands	No	No	Prohibited in woods. Accepted within a min. distance of 500m away from streams and villages; with EIA
Industries	Yes; with pollutions and hazards impact assessment; and study of landscape compatibility	Yes	Only for industries not polluting agricultural soils	No	Only for mineral water industries; with study of landscape compatibility	Only for industries not polluting the agriculture, streams and forests

⁴ The works started in 2004 by the Higher Council for Urban Planning on regulations for non-covered regions have concluded to a regulation proposition coherent with the column A of table 27.

⁵ Compactness of urbanization = continuity of built up area regarding the limits of the existing towns

Table 28: Recommended regulations for construction, quarries and industrial sites, and infrastructures in natural hazards prone areas

	Flood Risk (regulations for lands classified as flood prone areas by NPMP/LT and for which no technical study has been carried out proving that the project and its road are safe from any flood hazard and that the project itself does not worsen the situation on the premises)	Landslide risk (regulations for lands classified as landslide prone areas by NPMP/LT and for which no technical study has been carried out proving that the project does not present any threat to its future dwellers, nor that it provokes the aggravation of this hazard all around)	Extreme vulnerability of water table (regulations for all lands classified in this category by NPMP/LT)
Urban agglomerations	Expansions accepted only at the edge of existing villages	No particular limitation	No particular limitation
Density (Built up surface areas)	Very low	Very low, and prohibition on slope > 10%	Average in U and R, low in A and N3, very low in N2, no construction in N1
Heights	G+1 including eventual floor on piles	No construction in N1 G+1 including eventual floor on piles in U, R, A, N2 and N3	No particular limitation
Construction setbacks	80% of the land should stay as garden to help water infiltration	80% of the land should stay as garden	No particular limitation
Classification of housing parcels	On immediate borders of cities and villages and via a technical analysis that proves absence of flood hazard on the project and nonexistence of hazard aggravation on the surroundings	In immediate border of cities and villages and via a technical analysis that proves the absence of danger on the project and the nonexistence of hazard aggravation on the surroundings	Conditioned by the execution of appropriate sewage works (total treatment) before construction of any road and building.
Large scale projects outside agglomeration	No	No	Conditioned by the execution of appropriate sewage works before construction of any road and building.
Isolated constructions	No	No	Yes in U; Accepted only for certain building types in R, A and N (harmless public infrastructures and agricultural installations)
Quarries	Prohibited in U, N1 and N2; In A, R and N3, a technical analysis proving the absence of flood hazard on the project and the nonexistence of hazard aggravation on the surroundings.	Prohibited in U, N1 and N2; In A, R and N3, a technical analysis proving the absence of danger on site and the nonexistence of landslide hazard aggravation on the surroundings.	Prohibited in U, N1 and N2; In A, R and N3, conditioned by a technical analysis proving the absence of rocky blocks destabilization risks that could induce groundwater system deregulations.
Industries	Accepted only for industries that do not release toxic and dangerous chemicals that could be spread into the ground in case of floods	Prohibited for all categories	Accepted only for industries that do not release chemicals and solid wastes, the degradation of which constitutes a pollution threat
Public facilities	No	No	Conditioned by the establishment of adequate sewage solutions.

Table 29: Recommended regulations for construction, quarries and industrial sites in and around distinguished sites

	Within large landscape perimeter	In picturesque villages	500m around remarkable natural sites (inland and coastal)	In forests	500m around classified historical and archeological sites	500m around groups of traditional built heritage
Urban agglomerations	Required (in continuity of cities and villages)	mandatory	Study of landscape compatibility showing the absence of a negative impact	Study of landscape compatibility showing the absence of a negative impact	Study of landscape compatibility showing the absence of a negative impact	Study of landscape compatibility showing the absence of a negative impact
Density (Built up surface areas)	Low, except in Relay-Cities	Low, except in Relay-Cities	Nil within a radius of 50m, very low between 50 and 500 (except in U: to adapt according to each case)	Very low if authorized (5%)	Nil outside cities and villages; very low in R, A and N; to adapt according to each case in U	No particular limitation
Heights	G+1 in flat terrain and max. 5m above natural terrain if slope>15%, except in Relay-Cities (G+2 and 10m)	G+1 except picturesque Relay-Cities (G+1 or G+2 according to cases)	G+1 except Relay-Cities (G+2 or more according to cases)	G+1 if authorized	G+1 within a radius of 500m in R, A and N, and within a radius of 50m in U; to adapt for each case between 50 and 500m in U	G+2 in R, A and N and within a radius of 50m in U; to adapt for each case between 50 and 500m in U
Constructions setbacks	No particular limitation	Study of landscape compatibility showing the absence of a negative impact	Minimum 50m from the edge of the sites	No particular limitation	Minimum 50m from the edge of the sites	Study of landscape compatibility showing the absence of a negative impact
Classification of housing parcels	Submitted to landscape impact assessment study	Submitted to picturesque character impact assessment study	To avoid	No	Submitted to analysis showing no negative impact	Submitted to analysis showing no negative impact
Large scale projects	Submitted to landscape impact assessment study	Submitted to picturesque character impact assessment study	No	No	No	Within a radius of 100m, visual impact assessment study required
Isolated parcel construction	No except in immediate continuity of villages	Submitted to compatibility study	Study of landscape insertion showing the absence of a negative impact	No	Study of landscape insertion showing the absence of a negative impact	Submitted to compatibility study
Quarries	No	No	No	No	No	No
Industries	Submitted to landscape compatibility study	Only harmless activities	No	No	Only harmless activities	Only harmless activities