

Report of the working group for Sustainable Management of Terrestrial Natural Resources

After a responsible and scientific discussion, the representative of each country agreed to develop together the following approaches:

1. The development of an innovative scientific topic quality indicators for specific and sensitive areas (Riparian vegetation)

Serbia, Croatia, Albania, Montenegro, FYROM and Kosovo are interested to develop this potential project.

Flat land vegetation (or non zonal vegetation or riparian vegetation) are the most sensitive and seriously damaged by the human interference without taking in consideration the principles of dynamism and natural development of ecosystems. Some efforts are done by respective governments to recover these areas, sometime planting exotic species, causing often a lost of autochthonous species or biodiversity.

Natural rehabilitation of degraded ecosystems is one of the priorities of environmental policy of respective countries.

For a successful process of land rehabilitation the establishment of an innovative and scientific monitoring system is one of the most important aspects.

On the other hand some peculiarities concerning the vegetation types and geographic characteristics in respective countries exist, and are interesting to consider.

The Albanian and Kosovo experience is still not adequate and the other countries are using different indicators and not a unified methodology.

Another important aspect is the utilization of new techniques, equipments, software and scientific analyses.

This innovative monitoring system will be involved on:

- 1.1. Establishment of unifies indicators for the monitoring of water, soil and vegetation.
- 1.2. Establishment of the unified methodology on water and groundwater quality monitoring
- 1.3. Establishment of the unified methodology on soil quality monitoring
- 1.4. Establishment of the unified methodology on vegetation quality monitoring;

2. Development of novel unified methodologies for Sustainable management of terrestrial natural resources

Serbia, Croatia, Albania, Montenegro, Bosnia and Herzegovina, FYROM and Kosovo are interested to develop this project.

To manage on a sustainable way the terrestrial ecosystems means to develop without conflicts the natural productive system, the elements of which are: ecosystem, society and economy.

Promoting an integrated manner and sustainable use of terrestrial ecosystems in an equitable way is the aim of this potential project.

Based on the qualitative (bad or good) and quantitative (less or much) factors, which affect on sustainable management of natural productive system, an unified statistical (multivariate) analyze, encompassing ecosystems, economic and social factors, is to establish and use in order to identify the best managerial alternative, based on area conditions and community needs.

Another innovative aspect of this potential project will be the using of vegetation type (Braun Blanquet *sensu strictu*) as management unit and land use planning.

The main issues to address are:

- 2.1. An ecosystem-based approach, whereby activities affecting the terrestrial environment will be managed in an integrated manner promoting conservation (long-term objective) and sustainable use (e.g. periodic planning of fisheries) in an equitable way of terrestrial ecosystems.
- 2.2. An ecosystem-based approach focused on anthropogenic impacts especially in vulnerable areas.
- 2.3. A knowledge-based approach, in order to achieve better connection to policy-making.
- 2.4. Development of integrated resources based on improved understanding of complex human-environment interactions in vulnerable region.
- 2.5. Identification of reference sites and detection of hot spots like soil, surface and ground water contamination as well as air pollution in most endangered areas.
- 2.6. Determination of the pollution emission and listing of pollution emitters in the area.

3. Forests of Dinarides: environmental conditions, diversity and stability

Forests are one of the most important natural resources of South-East Europe, with very high environmental factors (e.g. water purification, carbon sinks) and economic meaning (e.g. forestry, tourism).

Dinarides are at the same time a particular geographical region with very important biodiversity aspects as: the presence of endemic, rare and endangerment species, high ecological diversity and other environmental aspects.

There are of an very high scientific importance the identification of:

- 1) different historical approaches to forest management,
- 2) spatial inhomogeneities in human population density,
- 3) influences of recent war (especially in excessive exploitation of wood) and
- 4) different exposure to air pollution from distant sources.

The aims of the proposed research are:

- 1) mapping spatial distributions of forest types and dominant tree species diversity on the entire area of Dinarides,
- 2) estimating spatial distributions of naturalness and stability of these forests and
- 3) explaining these distributions as a function of environmental factors.

This research will be methodologically based on:

- 1) remote sensing (e.g. aerophotogrametric images with high spatial resolution, time-series of satellite images with high temporal resolution) which will be used for recognition of spatial patterns,
- 2) optimized field sampling (e.g. tree species populations, parameters of forest health status) which will be used as ground truth informations,
- 3) raster-GIS techniques (e.g. DEM-based modelling) which will be used for processing of spatial data and
- 4) environmental modelling techniques (e.g. multivariate statistics, neural networks) which will be used for data analysis and building of prediction models.