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Ecosystems and the Biodiversity Relation with the Mountain Natural Rural Habitat

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Abstract – **The human society has been linked to activities that have led to depletion of the Earth, their activities and most polluting. Products and services we need absorb resources, produce waste and pollute, such methods have found that economic development without stopping, to avoid depletion and destruction of the planet, thus giving a chance for future generations. The new principle of sustainable development the term aims harmonization between production and consumption on one hand, and protecting a life-friendly environment on the other hand, marking the transition from corrective measures to the preventive measures.**

Keywords – **Rural Space, Ecosystem, Biodiversity, Ecologic Balance, Sustainable Development.**

I. Introduction

Rural space in sustainable development context. Sustainable agriculture that uses natural resources and human needs of food and other agricultural present and uture assets to be guaranteed, while the environment and natural resources remain protected. In 1987 the World Commission on Environment and Development (WCED) was defined, and has introduced the sustainable agriculture with forestry and other occupations that are intended to be sustainable in rural areas. According to the European Charter, the interior space includes a rural or coasta villages and towns which has most land in use for:

- Agriculture, forestry, aquaculture;
- Economic and cultural activities in mountain areas (crafts, services);
- Design of our non-urban areas (nature reserves);
- Other uses (except housing).

Agriculture and forestry and other sustainable activities will be integrated in rural /mountain area with characteristic weakness, known as resources to be more carefully managed, and ensuring sustainable development. Ecological principles for sustainable development of mountain regions can be divided:

- a: to maintain the ecological balance of ecosystems;
- b: biodiversity conservation of natural habitats;
- c: potentation of low input's of agricultural resources, forestry resources, etc.;
- d: providing equal opportunities for people;
- e: is to establish natural and socio – economic handicaps on altitudes.

All these ecological, economic and social principles are recording a close interdependency [4], [5].

II. Mountain Ecosystems and Ecological Balance

From a geographical point of view, Rosia Montana area in Romania is situated at 600-800 meters, representing about 30% of the Romanian territory. In the Romanian mountain space, over time observations, research, geography, pedology, geology, climatology, hydrology, ecology, sociology, vegetation, wildlife, livestock, forestry, ethnography, economics, architecture studies were made. Geographer George Vaslan [9] says that "... mountain landscape...isn't anymore just materia raised above the rest, is not only rock, not only climate, vegetation and animals that are linked between them. Combining all gives unitary individuality with own particularities... and what we call mountain, makes new manifestations which neither of our compartments have it."

Radu Rey [7] defines knowledge about mountain-montanologia-as "the most scientific - inter -and trans - disciplinary, aimed at the study of economic-ecological and social relationships that characterizes human– nature relation in mountain systems."

The main factors that determine the complexity and evolution of mountain ecosystems are shown in the figure below. Mountain ecosystems components that make up the biotope (habitat) are represented by relief, soil, water and climate (Table 1).

In summary biocoenosis includes plants and animals plus the most important factor of influence in mountain ecological balance - man. The mountain agriculture area is considered as a deprived area is progressively inhospitable altitude and even limited crop production ,livestock and other productive activities compared to the hills and plains.

Climbing the mountain, relief turns, and the terrain is more rugged, harsh climate, poor soil fertility, low productivity plants and animals that man further efforts for survival [2].

Coming down to the hills and plains, culture conditions are more favourable for plants and animal breeding, so human effort is reduced and socio – economic conditions are more attractive, because these natural and socio-economic features through the ages have been an ongoing exodus of population in mountain areas to other areas more favourable, alarmingly emphasizing today as a trend.

Ecological balance of the mountain in recent years has been severely affected by deforestation, overgrazing or abandon the use of pastures and hay fields in remote or inaccessible areas, destruction of soil by construction, chaotic flow of tourists, wild boars gigging, soil erosion and torrential phenomena, landslides, floods, pollution by overgrazing, garbage, sewage, etc.

For restoring ecological balance we can do:

- Specific works of land reclamation and control torrents, erosion curbes and landslides;
- Afforestation of degraded lands by rain and wind erosion;
- Collection, regulation and rational use of water resources;
- Restoring water balance; in nature by retaining its forest plantations in the high mountain area;
- Alignments of forest along rivers;
- Stopping clogging lakes;
- Stopping excess soil moisture;
- Avoiding pollution of soil, water, air, landscape;
- Management and rational exploitation of forest;
- Maintenance and rational use of pastures and natural grassland; [8];
- Avoid overgrazing resting places by polluting soil, water, outbreaks of illness;
- Ordering the movement of tourists, means of transport, mining and other works that affect soil, vegetation, water and other natural resources of the mountain.

III. Natural Habitat and Biodiversity Conservation

Agricultural and forestry production intensification in developing exploitation countries and irrational of plant and soil resources in poor countries have reduced concerns for biodiversity and natural habitats on Earth.

The Convention on Biological Diversity (CBD) adopted in May 1982 in Bern, is the legislation for preserving genetic diversity and species diversity, habitats and ecological systems, the only way to solve the biotechnology revolution.

Agriculture on biological "clean" basis, unpolluted, for making vegetable and livestock production, can be an alternative to intensive agriculture, chemically, generating pollution.

Crop production - pastoral fund- should be maintained in working order to capture solar energy provided free by nature, the maintenance and proper use. Preserving biodiversity and productivity of grasslands must be supported by specific works:

- Amelioration of soil acidity by amending calcium;
- Supply the soil with phosphor and sometimes potassium using natural products such as flour and potassium salts phosphorites;
- Promoting and expanding organic fertilization with manure, slippers and more rational grazing, others.

It is necessary to promote a introduction program, expansion and maintenance of perennial legumes in pastures or arable crops, to perpetuate the atmospheric nitrogen fixation and other measures to clean low input sites to increase crop production on green ways [3].

Animal production should be stimulated to fully exploit and value resources of nature plant growth by:

- Expansion of species and animal breeds and developing methods and ecological veterinary measure of care and animal health maintenance.
- Maintaining pasture productivity by regulating the duration and animal load on altitude and distance between resting places-calves.
- Improving the collection and storage systems for the period of feed for calves.

Ensure proper bedding of manure production shelters or stalls on the grid system to achieve semi-decomposed manure necessary organic lawn fertilization and other cultures.

Maintenance and proper management of livestock for game.

Table 1: Factors that determine the complexity and evolution of mountain ecosystems

▪ conditions for agrotourism ▪ herbal medicine, recreation ▪ archaic lifestyle ▪ versatility, handicrafts, carvings ▪ diversity, folklore, customs ▪ language, traditions ▪ respect, faith, religion ▪ isolation, loneliness ▪ dispersed settlements ▪ restricted access roads	HUMAN	▪ density of inhabitants ▪ consolidation of householders ▪ social conditions, culture ▪ information, external influences ▪ training, specialization ▪ conventional energy consumption ▪ mechanization, chemical treatments ▪ pollution, air, water, soil, etc. ▪ stress and risk factors ▪ degree of modern civilization
▪ snow layer, frost ▪ wind frequency and speed ▪ nebulosity, fog ▪ air humidity, soil ▪ rainfall	CLIMAT	▪ sunshine ▪ temperature, air, soil ▪ atmospheric pressure ▪ dryness ▪ vegetation

▪ bio-agriculture ▪ biodiversity conservation ▪ herbs, honey ▪ natural grasslands ▪ forests, shrubs	PLANT	▪ deforestation, grubbing ▪ arable crops ▪ fruit trees and shrubs ▪ plant protection ▪ plant productivity
▪ trophicity reduction ▪ raw humus accumulation ▪ skeletal material	SOIL	▪ edaphic volume increase ▪ rivers, flow, floods ▪ available accessible
▪ density, springs, rivers ▪ drinking water sources ▪ flow rate	WATER	▪ groundwater accumulation ▪ rivers flow, flood ▪ suspended solids, clogging
▪ unpolluted products ▪ extensive use of grassland ▪ wild animals, game ▪ adaptation to harsh conditions	ANIMAL	▪ improved breeds ▪ concentration fodder ▪ zoo veterinary interventions ▪ intensive exploitation
▪ unpolluted products ▪ extensive use of grassland ▪ wild animals, game ▪ adaptation to harsh conditions	ANIMAL	▪ improved breeds ▪ concentration fodder ▪ zoo veterinary interventions ▪ intensive exploitation
▪ landscape sensitivity ▪ rocks appearance ▪ slopes' inclination ▪ fragmentation accentuation	LANDSCAP	▪ alteration, rock mineralization ▪ accelerated erosion ▪ peaks and valleys widening ▪ accessibility increase

Creating an appropriate infrastructure (roads, watering systems for man but also animals, forest shade, fencing, rational use, collection and distribution of manure on pastures etc) for use in all areas of grazing country, located in present in various stages of abandonment.

Providing specific equipment and processing organically produced animal products.

These are some principles for the implementation of measures preponderant ecological, which should under pin crop and animal production without which it can initiate and promote organic agriculture, sustainable development included in the mountain area.

The mountain area of Romania, with areas of pastures and hayfields can turn into a huge area of biological farming [1]. In organic farming, pastures and feed crops through the plant photosynthesis process condenses solar energy in plant matter (roots, grass, hay, leaves, tubers, seeds, etc.).

In this context the wild or domestic animal occurs and has the role of convection in animal products, vegetable material and strictly fishery (milk, meat, wool, skins, etc.), the main source of organic fertilizer, traction and protection, recreation centre and company for humans.

The evolution of natural and socio-economic factors in the Romanian Carpathians, regarding altitude [7], starting from plain areas, through hills and up to 2,000 m., is closely related to environment. The fundamental importance of biodiversity stands in the fact that it provides essential goods and services, being also critical for food security.

IV. Conclusion

The main problem of agriculture from mountains regard especially raising soil fertility status occupied by pastures, to improve floristic composition and growth of pastures and hay production.

Ecological reconstruction of degraded mountain ecosystems is as essential measure and must be taken before the rest of the actions concerning sustainable development.

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