

THE ASPECT CONCERNING AT INSTALLATION OF CONDITION AND FUNCTIONAL EFFICIENCY OF FOREST PROTECTION CULTURES INSTALLED IN THE DEGRADED LANDS FROM VRANCEA COUNTY

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ABSTRACT

Among the concerns on the environment protection and the sustainable exploitation of the land area, a special role has the control action of the degradation processes of the lands and of returning in the productive circuit of degraded and unproductive lands by afforestation.

The main processes of land degradation, are the pluvial erosion and land sliding. Thus, about 45% of the lands, consist of stations with lands affected by degradation or highly exposed to degradation. The consequences of these processes are the diminution or the reduction, sometimes using up of the soil production capacity; the disruption of the system for surface and underground water draining; the changing of the microclimate and serious deteriorations of the landscape.

On the degraded lands under extreme station conditions (very strong and excessively eroded lands, ravined lands, banks and gradients of the torrential hydrographic network, sliding lands with strong division into fragments) the installation of the forestry vegetation represented the only way of fighting against the degrading processes, and of rehabilitating the ecological and social-economic balance of the areas with such lands, by means of the protection effects which were achieved.

Afforestation works have been carried out in two steps.

A first step, between 1950 - 1976, there have been carried out afforestation with pines (*Pinus nigra*, *Pinus silvestris*), in pure cultures and mixed with broadleaves species (*Cerasus avium*, *Acer* sp. *Fraxinus* sp. etc.) and locust (*Robinia pseudacacia*), in favorable station. The strongly and very strongly eroded lands and the ones characterized by deep erosion have been afforested with

sallow thorn (*Hippophae rhamnoides*).

The second step, between 1977 - 1983, when afforestation works have been carried out on lands characterized by less favorable conditions for this kind of vegetation with pines mixed with willow thorn and substitution works in the temporary cultures, to stabilize the erosion and to fertilize the soil, formed by willow thorn bushes.

The specific conditions of the degraded lands imposed the execution of some specific works of consolidation and preparation of the lands with a view to planting, as well as the use of some limited species and of some specific afforestation means.

Among the operations for land preparation and consolidation, the most successful ones were the terraces supported by willow thorn branches and twigs, which lead to a much greater economic-technical benefit than the terraces supported by hurdles. The cost is about 61% lower and the functioning period is longer with 2-3 years.

The seedlings grown in polyethylene are better for planting, the success being higher than 90 % and the increment was improved with 25-30 %.

The combination of planting with land preparation with terraces supported by willow thorn branches and root-suckers lead to dense stands and the diminishment of erosion from 50 cubic meters per ha per year (in some cases 300-400 mc/ha/year) to almost normal limits (under 1 mc/ha/year). This combination is regularly done on bare lands, with rocks, after ten years.

The unproductive lands or presenting a very low productivity have been reintegrated into the economic circuit, their degradation being stopped on most of the surfaces. The soil had been improved and the disagreeable landscape of lands lacking their protective vegetation shield has been replaced by a beautiful landscape with forest cultures.

It was stressed the possibility to achieve a proper natural and economic-social frame by improving the land productive potential, and by the landscape restoration, and achieving some esthetic-sanitary, recreational and climatic functions.

Beside of these effects, the stands on the degraded lands lead to a series of direct economic effects, represented by the wood mass, honey, resin, berries and others.

Keywords: degraded lands, afforestation works, willow thorn