

SYSTEMS RESEARCH INSTITUTE,
POLISH ACADEMY OF SCIENCES, SZCZECIN DEPARTMENT
AGRICULTURAL UNIVERSITY OF SZCZECIN
FACULTY OF ECONOMICS AND ORGANIZATION OF FOOD ECONOMY

MODELLING OF ECONOMY IN SPECIALLY PROTECTED REGIONS

*Proceedings of the international conference
held on 9-11 june 1994 in Drawno, Poland*

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REFLECTIONS ON ECONOMICS, FORESTS AND ENVIRONMENT

Paolo Gajo

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The numerous and broad debates on the problems connected to the environment highlight a growing awareness in terms of public opinion and public administration. They also permit a development of ideas in particular aspects of the relationship between the environment, the forests and the economy. Such a relationship can, with the calls of opposing interests, cause intrinsically conflicting problems. To reconcile economic development with the preservation of the environment appears to be an absolute priority, desired by all, in the positive interrelation between material welfare and collective interests.

As far as the forestal sector is concerned, this presents an increasingly evident environmental dimension, be it in the context of agricultural politics or that of the activities taking place.

Above all, this reality is linked to the reinforced multipur-

pose nature of the forest ecosystems which show an extraordinary capacity to carry out a manifold service, answering an ever-growing demand for the needs of environmental benefits.

Therefore the forest reaffirms its special character as a complicated ecosystem with its very delicate balances. Furthermore, it establishes a biological environment open to other systems and economic sectors with which it integrates in various ways, and in relation to which it has a notable influence, in its turn being heavily influenced by human activity.

In this context, the forest, in the realm of an intense and ever-widening demand connected to the need for environmental benefits, finds itself among the essential components of the sources of well-being, thus boasting the characteristics of a typical useful mixture, both public and private. Therefore, on the one hand, it shows itself to be competitive in that consumption which is linked essentially to both wood production and non-wood production and by that token, on the market. On the other hand, in the pursuit of manifold public interests, it supplies numerous priceless services: recreational, environmental, quality countryside, etc. which are at the disposal of all.

To this purpose, it is expedient to remind ourselves that the economic theory, dealing with the phenomena of production and consumption, long overlooked environmental resources: assets which are not commercially viable, having little or no monetary value. Furthermore, these resources were always considered infinite and as such, constantly reproducible. Thus, all these entities whose value could not be expressed in financial terms were disregarded by economic theory. In this manner, in the relationship between productive activity and the environment, the

problems regarding the protection of the environment were underestimated. In particular, with regard to the forestal sector and in relation to its multiple functions as a unique provider of services, its relationship with man was long neglected.

Therefore, fresh realities have arisen out of the ever intense production of residues resulting from the increasingly sophisticated procedures for the transformation of resources. These residues, when introduced into the environment, represent one of the main causes of pollution and environmental deterioration. At the same time, a rapid and widespread awareness of the numerous risks that are a threat for the whole humanity has emerged at different levels. At this stage, everybody is well-aware that the condition of the environment is quickly deteriorating as a result of deforestation, drought, desertification, ozone depletion, gas emissions, dumping, etc.

The economic analysis is finally concentrating its interest on environmental problems including all those resources which until now have not been the focus of commercial attention. The focus being placed on the environment in the widest sense of the word is becoming increasingly animated and widespread, as its welfare increases and the man is becoming ever more interested in its defence.

The recent Congress of Vienna, that of 1993, saw the proclamation of environmental rights setting down a series of environmental principles and established standards of solidarity in the realm of international politics. Embracing the concept of "sustainable development" which is the development of acceptable conditions in the context of environmental protection.

It is here that economic politics shows a profound interest in protecting all natural resources, including all the forestal vegetation, which are reproducible but under fixed terms, with the aim of ensuring not only the maintenance, but also the improvement of the quality of life.

Therefore environmental problems have also evolved a typically economic nature and economics displays a new approach with regard to the various activities of production.

Agriculture and the forestry are the sectors which involve the environment as a whole and which show the impact of human activity on nature. The man invented agriculture, used the forests and over time some effects of the various activities of production have multiplied, also in terms of environmental pollution.

The fundamental problems which emerge from this attention to agriculture and forestal resources and the interaction which developed between them, the environment and socio-economic system, lead us to make certain observations.

With reference to the forestal sector, it seems absolutely necessary to make a distinction in terms of rules, between production and consumption. The latter includes a vast range of priceless services of considerable social and economic importance supplied by the forest increasing its worth as a recreational facility for rural activity with pure air, which stand alongside its function as protector and producer of wood, among other things. These functions are sustained by both production-oriented operations and proper selvicultural management. With the result therefore that consumption falls off to the point of extinction, when limits production.

It follows that in order to ensure the manifold functions of all the forestal vegetation, as a whole, especially where important ecosystems are involved, a policy of conservation and "sustainable management" of forestal resources is indispensable. This must all take place within the framework of a stable and wide-ranging strategy, which protects biological equilibrium while satisfying the social and economic requirements of the man.

What we are witnessing is an increasing and attentive participation of the various social groups to the problem of the state of the environment and resource management. In this framework, in reference to the forestal sector, which is above all public property, although bound by strict legislative rules, some choices must be made with the objective of optimizing the functionality of the forests, taking into account technical and social realities, in the context of environment which is in constant evolution.

The adoption of suitable models of forest management and planning capable of satisfying above all the collective needs would appear to be a rather arduous undertaking.

The "normal forest" model, which defines a well-developed selvicultural structure, has been realised on a wide scale, both national and international, limited however to the objective of sustainable wood production. The multicriteria model, which in any case represents a step forward compared to the one mentioned previously, is suitable from the point of view of methodology and economic theory to the harmonization of the relationship between the forest, man and the environment. Nevertheless, the difficulties relating to its practical application are well-documented, particularly in terms of the rather lengthy periods during which changes in the very functions of the forest's eco-system and in

man's need are possible, and also due to the still modest levels of understanding of the complex interrelations that exist between the systems numerous variables.

One development which seems to be of particular interest and attempts to overcome the limitations caused by the two above mentioned models is that which connected with is the concept of ecological economies which aims to integrate methods and models of qualitative ecology with economic models and methods. In this way, it is intended to overcome the multicriterial analysis of application, retaining its effectiveness in terms of operation and decision-making.

Everywhere, forest systems represent one of the most important factors in maintaining natural equilibrium and therein the very life of the planet and of human activity. Moreover, their conservation and the possibility of carrying-out their own various functions and of providing services indispensable to man must be ensured.

The important world events which we have witnessed oblige us to tackle these arguments in an absolutely interdisciplinary manner and evaluate man's requirements, which remain at the centre of the system, in a context where human and social values must prevail over economic interests.

The expectations which are tied in with the environment are rapidly spreading in the light of a wealthier, more aware, more involved society, but also an increasingly frightened society which is unsatisfied and overwhelmed by needs, not always new ones but ones which until now were much neglected. The requirements of an increasing number of people are becoming evermore multi-

farious and diverse. The forestry sector, in particular, was until recently subjected to the pressure of very committed ecologists, who brought to bear an intense protest act aspiring towards the absolute conservation of the environment and the forest, in a vision dominated by feelings of "ecological integralism". They, thus gave the impression of loving man less than "their" forests which only they are capable of enjoying. The situation today has changed, due to the widespread presence of ecological movement, whose actions tend to be increasingly founded on scientific knowledge rather than sentimentalism, thus also showing their appreciation of the various economic and social implications of the system.

Even agricultural activity, which played a considerable role in the context of environmental deterioration, is showing new and interesting trends. Some of them are certainly having positive effects on the ecosystem. The pressure on woods and pastures has been greatly reduced, while poor land is being abandoned by an increasingly demanding agriculture, encouraged by timely legislative measures. This is allowing for the reconstruction of ecological equilibrium and the real beneficiary at the end of the day is the forest, which is spreading into new areas often naturally, while existing areas improve.

Unfortunately, with the spread of mechanisation, the attempts to increase yields on the best lands and monoculture involve the use of technology which often alters the environment and which can also prove to be a source of pollution. The characteristics of this phenomenon are well-documented and of such dimensions that it is a cause of serious alarm and represents a danger to humanity.

The cost-profit balance arising out of these realities, while on the one hand does not provide for alternatives to food pollution, on the other it calls for a searching debate on the disputable proposal "who pollutes pays". Speaking of which, complex problems crop up with regard to the definition of environmental damage and to the legitimacy of the State to act in the defence of the community in the ambit of unitary legal aid, enjoyed by all. Furthermore, the existence of a "pollution tax" could generate a typically entrepreneurial type of conduct dedicated to finding a level of optimal financial pollution which, however, the environment may not be able to support. As a matter of fact, this level could lead to an excessive accumulation of pollutants, to such a point that it could cause irreversible forms of environmental deterioration.

Questions of the greatest importance are being poised, involving the agricultural sector, public administration and anyone involved in environmental operations. The necessity of the guided use of advanced production technology, dictated by the requirements of an increasingly competitive market technology, which simultaneously ensures economic development, economic success and the protection of public health, is becoming necessary.

The policy of the EEC, which took on a guiding rule in the promotion of concerted effective action on a global scale, is highlighting some interesting common interest strategies. It considers the adoption of measures which truly integrate environmental policies in the ambit of the community's political realm. In terms of general environmental planning it will have to

bring about a territorial plan, formulated in close connection with a preventative analysis of production activities which have an environmental impact.

The validity of global environmental policy is confirmed, being applied on the basis of the principles of solidarity and cooperation at an international level, likewise, the concept of "sustainable development" is asserted and the tendency toward valid preventative measures in an effective, legal context is agreed to.

Moreover, human activity as a whole will have to submit itself to norms that respect the environment, with strategies agreed through negotiation. A tool necessary for the involvement of Eastern European Countries.

Furthermore, recent EEC environmental policy measures highlight the new means of understanding the environmental dimension of forestal activity. Already in the 1980', the EEC had revealed its complete global vision of resource management and environmental protection. The problem of forest protection was also the subject of animated anxiety, especially in relation to the damage of so-called "acid-rain" and of fires.

Forest policy intervention takes the shape of financial support for the safeguarding of the forests, their reestablishment and the protection of the soil. This community action, which proved particular effective for the safeguard of numerous natural parks in Europe, has also been effective in creating new job opportunities. Environmental policy is thus becoming an essential component of every economic policy and is showing its extraordinary importance employment, characterised by its topical in-

terest, permitting the marriage of environmental protection with job opportunities. Likewise, economic incentives as a support to agricultural revenue are justified, being related to the operation of correct and responsible management of environmental assets.

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