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Plant genetic resources protection in the Mediterranean basin: the case of Sardinian forage species

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Summary - A regional bill on “Protection of Sardinian local plant genetic resources and regulations regarding collection activities for scientific, economic and commercial purposes” has been worked out by the Authors of this paper and submitted to the Sardinian Regional Parliament in April 1999 by the first Author. Main objectives of the regional bill are the regulations and rationalization of collection activities of autochthonous plant genetic materials for economic and/or commercial purposes without constraints for the rights and interests of local populations and workers that take benefit from such resources. By means of this paper, we intend to bring the Sardinian Regional bill to knowledge of all people involved in local germplasm protection and of public opinion as a whole, its set of rules could in fact be useful at the Mediterranean level.

Key-words: local germplasm, legal protection

Résumé - Au mois d'Avril 1999 une proposition de loi sur “La protection des ressources génétiques végétales de la Sardaigne et la réglementation des activités de récolte pour des buts scientifiques économiques et commerciaux” a été déposée auprès du Conseil régional de la Sardaigne. Cette proposition de loi a pour but la réglementation et rationalisation des récoltes des ressources végétales locales aux fins économiques et commerciales sans léser les droits et les intérêts des populations locales qui bénéficient de ces ressources. Le rapport qui suit vise à faire connaître la proposition de loi à tous qui s'occupent des problèmes concernant la protection des ressources génétiques locales.

Mots-clés: ressources génétiques végétales, protection légale

Introduction

The need for precise regulations concerning local germplasm protection arises from the awareness of the high economic potential deriving from local plant genetic resources and also from the increase in plant collection activities made by non local people, initially acting for scientific purposes and often continuing their activities until the release of new commercial varieties, without any economic return for local populations. There are several basic reasons which lead to consider Mediterranean plant germplasm as a breeding material of high value. Particularly, with regard to Sardinian genetic resources of forage species, such reasons can be summarized as follows: the presence of different microclimates and pedologic situations that increase the genetic variability over the limited surface of the Island and consequently enhances collection results; the remarkable abiotic and biotic stress resistance characterizing Sardinian natural populations of many plant species and particularly the adaptation of many Sardinian forage legumes and grasses to high grazing pressure and high stocking rates.

In front of this situation, there could be considerable effects of an underevaluation of the damages deriving to our Region from the lack of specific rules governing local plant germplasm collections and from the lack of effective controls on the subsequent activities of exploitation and use of these collections. By this point of view, damages should be

considered in terms of reduction both of the environmental and economic potential of local resources.

Taking into account such problems, a bill on “Protection of Sardinian local plant genetic resources and regulations regarding collection activities for scientific, economic and commercial purposes”, has been submitted to the Sardinian Regional Parliament by the first Author of this paper in April 1999.

Objectives

Main objective of the regional bill is the enhancement of conservation and protection of autochthonous plant genetic resources of Sardinia by means of the provision of suitable controls and specific legal rules aimed at regulating Sardinian plant germplasm collection activities, stating among other things the involvement of local populations and institutions in the enjoyment of all benefits stemming from the collection, transfer and utilization of plant genetic resources of our Region. The bill is also an occasion for the Sardinian Region to comply with the recent legislation adopted on germplasm protection at international, community and national level.

The “Convention on biological diversity” adopted by UNCED in 1992 merits to be mentioned in such frame. It considers biodiversity as a universal value and promotes the definition and carrying out of a global and integrated strategy for the conservation and protection of the world biologic diversity. The Convention on biological diversity also states the principles to be followed by national government authorities in adopting appropriate measures and policies of conservation and protection, and the ways related to their implementation.

At the same international level, it must also be mentioned the “International Code of Conduct on Collection and Transfer of Plant Germplasm” adopted by FAO in 1993. Mainly addressed to national government authorities responsible for plant germplasm protection, the Code recommends the turning of the principles therein formulated into a national legislation and it also sets out the appropriate standards of conduct to comply with in the fulfilment of collection activities. As a substantial aspect, the Code points out the need of suitable actions and programs related to the involvement of local populations in the safeguard, collection, conservation and utilization of local plant genetic resources and particularly the mutual sharing of all benefits deriving from genetic resources between donors, holders and users of germplasm.

At the European Community level it merits to be remembered the Council Directive n. 9/43/EEC concerning natural and semi-natural habitats protection and its subsequent related acts and also the Council Regulation n. 1467/94/EEC concerning conservation of genetic resources in agriculture.

Regional bill on “Protection of Sardinian local plant genetic resources and regulations regarding collection activities for scientific, economic and commercial purposes”

As already anticipated in the previous section, the regional bill provides a set of rules aiming at regulating collection, conservation, transfer and utilization of local plant genetic resources of Sardinia with the purpose of protecting the regional phyto-genetic resources and the scientific, economic, environmental and cultural values that they represent (art.1).

All the local plant genetic resources within the regional territory of Sardinia, susceptible of actual or potential utilization for scientific, economic, ecologic and cultural purposes fall within the scopes and the effects of the bill at issue (art. 2-3).

The regional bill is based on a system of rules articulated into two parts: 1) the first one devoted to discipline the local germplasm collections made for economic and/or commercial purposes (ITEM II), and 2) the second one, devoted to discipline the collections made for scientific and teaching purposes (ITEM III).

With regard to the first part (art. 3-5), the bill subordinates the collection of local plant genetic resources for economic and/or commercial purposes to the obtaining of a formal authorization after the payment of communal tributes for the authorization release (art. 3). The amount of such tributes is settled and cashed by municipal authorities of the commons in whose territories the collections will be made. The authorization is released, after a written request, by the Regional competent authority for the Environment Protection in the form of a personal card containing the expiring period according to the time necessary to the collection, the indication of sites of collection and the list and quantity of each species to be collected. The competent authority will release the authorization together with a handbook listing the responsibilities and duties of collectors and any other subject involved in collection, conservation, transfer and exploitation of Sardinian plant germplasm, as well as a code of conduct to be observed before, during and after collection activities and some suggestions about the protection of the environment and natural habitats. The application form to get the authorization for collection has to be completed with the indication of species and quantity to be collected, collection sites, time length of expedition, number and title of collectors, indication of private or public subjects that have committed or funded the collection expedition and the indication of the other subjects if different from the formers, that will be liable for conservation and/or utilization of collected materials. Another requirement is the signing of an arrangement binding the collectors to give to the indicated institutions charged of the Sardinian plant biodiversity conservation (art. 3. par. 5; art. 5), a duplicate of each accession of the collected materials and a description list of collection sites. Priority will be given to the applications for collections that involve the carrying out of projects in cooperation with local populations and particularly local farmers, seed producers, extension service agents and researchers, in view of encouraging collaboration, interchange and sharing of benefits deriving from collection, transfer, conservation, transformation and use of local genetic resources. Authorizations will be given in accordance to the regulations in force on parks and on environment protection and conservation. No authorization as any other accomplishment or formality is needed (art. 3 bis) when: 1) the collection, conservation, transfer and use of local plant germplasm are made by owners or farmers within their properties or by resident populations when such activities are developed in the frame of professional activities or within the limits of normal food consumption needs and in accordance to regional and national laws and European community or international acts; 2) the collection, conservation, transfer and use of local plant germplasm are made for scientific and teaching purposes by scientists and technicians from local research institutions and universities, provided that such activities are carried out without breaching of the national and regional laws and European community or international acts. Local municipalities can designate a local counterpart in order to escort the expedition participants within their communal territories in this way assuring the respect of the local environment and, at the same time, the best results of collection (art. 4).

With regard with the second part of the regional bill in question (art. 6-7), no authorization is needed (art. 6) when the request of collection of local plant genetic resources for research or teaching purposes is made by scientists coming from research institutions outside Sardinia, anyhow they are required to declare that their collection activity is done only for research purposes and in accordance to national and regional laws and European community or International Acts. Moreover, they must always notify the Sardinian competent authority for Environment Protection about dates of expeditions, plant species and quantity to be collected

and sites of collection and, in order to accomplish to the Sardinian germoplasm inventory and conservation purposes, they have to give the duplicates of collected materials and the descriptors of collection sites to the indicated institutions charged of Sardinian plant biodiversity conservation (art. 6).

The Regional bill devoted to safeguard and valorization of local phylogenetic resources enhances public and private actions aimed at both the protection, increasing and diffusion of knowledges about such resources and at their respectful and correct utilization and the valorization of potential products obtainable from local germplasm. In this perspective the bill allows regional fundings to studies, researches, experiments and conferences adressed to the attainment of such results as well as training courses and programs on local germplasm protection and exploitation for all interested people. Enterprises aimed at conservation and management of local plant germplasm can also be funded if the responsible of such activities agrees to transfer the property of collected and stored germplasm to the Sardinian Region.

The Forest and Environment Police of the Sardinian Region as well as agents and officers of state, municipal and rural police are responsible for vigilance activities in order to assure the respect of the law. Penalties involve the forfeiture of collections and their allotment to the indicated scientific institutions charged of the Sardinian plant biodiversity conservation as well as the payment of fines for all transgressors of the law prohibitions, aims and provisions.

Future perspectives

If approved by the Sardinian Parliament, the regional bill can constitute a significant legislative contribution, filling up the present dangerous gap, to the regional law system of environmental safeguard in the perspective of protecting the natural/phylogenetic, economic and the cultural values of Sardinian resources. In particular, the achievement of an objective of valorisation together with an objective of protection can really represent an appropriate answer to the warning signals coming from many sectors of civil, political and scientific community about the protection of local germplasm against very particular forms of violation, alteration and damage to the regional environment considered in its natural, economic and cultural dimensions; it can also contribute to raise or increase the awareness on the value and the meaning of what can properly be defined as “Sardinian Commun heritage”. Strictly linked to these aspects, the question related to the importance of developing studies, researches and experiments on the valorization, exploitation and use of local plant germplasm as source of local typical products, is taken into a great account by the examined bill by providing specific funds for fostering this kind of initiatives.

Even if the new legislation could well represent an important step toward a more articulated, organic and complete regional law system adressed to face the various and complex environmental problems that affect Sardinian Region (and the Mediterranean basin as a whole), it is necessary to make clear that further questions attend to be settled. In this respect, considering for example the case of forage legumes that are precious potential resources (as many other plant species and microorganisms of Sardinia, which consequently need protection and valorization) it is worth recalling the farmers’ difficulties in seed production of Mediterranean species at competitive prices, the limited farm surfaces, the scarce interest of scientific research for agricultural marginal areas, hence the same trend of the European Community agricultural policy which need further and new efforts in the way of searching for fair, well balanced and suitable solutions.