

# The Rights of Local Communities and Their Role in the Sustainable Exploitation of Biodiversity

## Prawa społeczności lokalnych i ich rola w zrównoważonym wykorzystaniu różnorodności biologicznej

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### Abstract

Agricultural biodiversity is the biological and cultural heritage of the world. Human food safety and opportunity for further development depends on the behavior and the ways in which agricultural biodiversity is used. The protection of the diversity is primarily based on the knowledge and practical experience of small rural households and communities. The system of maintaining and expanding the potential of genetic diversity of plants and domestic animals has been reliable, though now it has become seriously endangered. In the context of sustainable development, there is an urgent need to find new legal and organizational ways to protect this wealth from the seemingly uncontrolled influence of modern biotechnology on agriculture and food production.

**Key words:** genetic diversity of organisms used for agriculture, sustainable use of biodiversity, the rights of local and rural communities

### Streszczenie

Bioróżnorodność rolnicza jest dziedzictwem biologicznym i kulturowym świata. Od jej zachowania i sposobu wykorzystania zależy bezpieczeństwo żywnościowe człowieka i możliwości dalszego rozwoju. Ochrona tej różnorodności opiera się przede wszystkim na wiedzy i praktyce funkcjonowania małych gospodarstw wiejskich oraz życiu społeczności lokalnych. Jednakże ten niezawodny do tej pory system utrzymania i powiększania potencjału różnorodności genetycznej roślin i zwierząt użytkowych jest obecnie poważnie zagrożony. W kontekście zrównoważonego rozwoju istnieje pilna potrzeba szukania nowych sposobów prawnych i organizacyjnych zabezpieczenia wciąż jeszcze posiadanego bogactwa przed (wydaje się niekontrolowanym) wpływem nowoczesnych biotechnologii w produkcji rolno-spożywczej.

**Słowa kluczowe:** różnorodność genetyczna organizmów rolniczo wykorzystywanych, zrównoważone wykorzystanie różnorodności biologicznej, prawa społeczności lokalnych i wiejskich

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### Introduction

This paper is an analysis of the rights of local communities<sup>1</sup> in determining the possibilities of influencing the conservation and rational usage of

biological diversity in areas occupied by them in the context of sustainable development and, thus, caring for the welfare of present and future generations (Sztumski, 2006).

The main aim is to analyze the current legal situation in this subject, and on the other hand, to trace the factors determining the content and scope of legal regulations to protect the genetic diversity of plants and domestic animals, as well as of wildlife. This will help to formulate *de lege ferenda* proposals strengthening the position of the custodians

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<sup>1</sup> A local community is a community living in an isolated, relatively small territory, such as a village, located close to each other or the housing estate, where there are strong ties with community interests and needs and with a sense of rootedness and belonging to an inhabited space.

of traditional knowledge as the guarantors of bio-security of food in the sustainable use of agricultural and natural diversity.

### Biodiversity and its importance to humanity

Since the 1900s, modern agriculture has led to the extinction of more than 75% of the varieties of crop plants. In Italy, over the past 40 years nearly all cultivated species of wheat, onions, tomatoes, lettuce and peas have died out. In South Korea in the late 1980s and early 1990s, over ¾ of crop species ceased to exist. In China, in 1949 there were still 8,000 kinds of rice, whereas today only 50 kinds are cultivated. Out of 10,000 types of wheat that could be found there in 1949, only a thousand lasted until 1970s. In Mexico, 80% of corn species have become extinct since 1930 and in the United States, over 7300 varieties of vegetables had been deleted from the national seed list by 1983 (Agrinatura.pl, 2011).

This raises a number of questions: Is it possible to find the biotic and abiotic causes of the decline of biodiversity in legal factors? What are, or could be, the economic consequences? Is this a threat to the humanity and to present or future generations? What can be done to prevent it? What can local communities do to protect biodiversity?

These questions point to a more general problem: To what extent could the rights given to local communities affect the conservation of biological diversity, upon which the future of agriculture and food security depends?

A literature-based general hypothesis can be put forward, indicating that the current regulations at the international level assigned to the local communities do not provide adequate protection for all human society in the maintenance of biological diversity of the world, which is evidenced by the rapid extinction of commercial and wild species.

What, then, is biodiversity and why is it so important?

Biodiversity is usually understood as the diversity of all living organisms from terrestrial, marine, and other aquatic ecosystems, and the ecological complexes they are part of. It includes diversity within species, between species and between ecosystems, (Art. 2 of *The Convention on Biological Diversity*).

Most often, the following division is suggested:

- a) agricultural biodiversity (organisms used in agriculture);
- b) the biodiversity of wildlife<sup>2</sup>.

<sup>2</sup> This two-part division broadly overlaps, mostly regarding the ability to access and share the benefits arising from both agricultural biodiversity – usually collected and protected *in situ* and *in vitro* – and natural biodiversity (mostly still occurring *in situ*, and only in a minimum amount of stored and protected in controlled *ex situ* (Szulc, 2011) seen in the *Convention on Biological Diversity*).

Agricultural biodiversity is the biological and cultural heritage of the world. Used by humans, both wild or locally produced species have many beneficial characteristics, such as resistance to diseases, drought or cold, they may give early fruit or be well-conserved. Similarly, indigenous breeds of farm animals can adapt to local climatic and feeding conditions and are resistant to diseases. The limitation of biological diversity in agriculture involves the replacement of local varieties and species by species and breeds that have been *programmed* in terms of productivity characteristics.

Agricultural diversity is primarily seen as a securing source of our basic needs, such as food. It is the result of domestication, selection and adaptation of the ancestors of wild plants and animals, carried out by many generations of farmers and shepherds over a period of more than ten thousand years. In other words, agricultural biodiversity, in addition to a purely biological component, represents centuries of cultural evolution as the human race has evolved in different ecosystems along with other species.

Biodiversity of wild organisms is seen as the wealth of nature. Non-specialists often associate it with the endangered species of plants and animals living in ecosystems characterized by a low degree of human influence. Biodiversity is therefore based on living creatures inhabiting our planet, which also are the *factory of life* because they are alive and determine the conditions of this life.

Many available publications on this topic focus on the commitment and an understanding of the risks arising from the rapid disappearance of wild and commercial species. However, a broad and comprehensive analysis of related issues in the era of sustainable development requires many skills and extensive knowledge (even in the field of genetics, biology, ecology, sociology, international and economic law, environmental and patent law, and bioethics). Taking into consideration today's pace of learning, carrying out such an analysis is a very difficult task because of the extensive specialization in biological sciences. Inevitably, available publications usually restrict discussions to a specific topic in detail. Although such approach raises their scientific value enabling a careful reflection on the selected problem, it also significantly impedes a comprehensive look at the phenomena of the modern world, including the problem of the rapid extinction of species, which is the subject of analysis in this paper.

The international community has demonstrated certain foresight, e.g. by introducing legislation on the role and rights of local communities in the conservation of biological diversity for food and agriculture (such as the *International Treaty on Plant Genetic Resources for Food and Agriculture*). Unfortunately, they seem to be too modest and insufficient.

The destruction of biological diversity has resulted in the destruction of livelihoods for a large part of the population of the Third World countries, which mostly consists of small farmers, fishermen and craftsmen. This, in turn, has caused irretrievable loss of knowledge and experience gained from the local community through contact, observation and use of elements of the surrounding world. The destruction of these measures is mainly due to modern agriculture.

Local communities understand agriculture as an activity resulting from the internal and material needs of man, using skills and experience specific for a certain place and transmitting them from generation to generation. However, modern agricultural production by introducing foreign plant varieties and animal breeds, ignores and *stifles* local farming culture (Szulc, 2011, p. 141-146). In this perspective, it is clear why globalization and industrialization (based on simplified technological and economic mechanistic models of biological treatment of wealth on a par with minerals) lead to a rapid dissemination of agricultural (genetic) and social mono-cultures, which results in destruction of diversity (Myga-Piątek, 2010; Urbisz, 2010). This raises a legitimate concern, for example, because of a direct threat to food security, because genetic monocultures artificially unify methods of production, which is associated with environmental instability and – paradoxically – it may increase the cost of growing a type of crop (at least in the context of increasing the number of necessary agro-technical procedures)

However, by 2000<sup>3</sup> 95% of the genetic diversity used in agriculture at the beginning of the 20th century had been lost. Out of 6400 known breeds, 1,000 had disappeared forever and in the next decade further 2000 will disappear. This is partly due to the so-called *green policy* revolution – a new production model based on mono-cultures, mechanization and chemicals used in agriculture<sup>4</sup>. The current revolution – this time a genetic one – continues the uniform and homogeneous model of agriculture, oriented to economic benefits and short-term satisfaction of the needs of a growing number of people in the world.

It should be emphasized that attempts at helping the poorest farmers with access to modern biotechnolo-

gy and its benefits which ignore the needs of local communities and the prevailing agricultural conditions by implementation of industrial production based on technologies foreign to such ecosystems, are detrimental to them.

Having regard to these far-reaching and mostly unknown profound changes related to possible economic, ecological and social consequences (and thus covering all three pillars of sustainable development), we should reflect on the importance of small farming/rural communities in protective programs and the knowledge they possess, the specificity of local culture and the natural resources that make these people involuntary creators and custodians (unfortunately, marginalized by the invasiveness of advanced technologies). This issue certainly requires more attention. Meanwhile, even the *Convention on Biological Diversity* (paragraph 12 of the Preamble and Art. 8j) and the *Cartagena Protocol* (Art. 26) only briefly mention the importance of biodiversity for local communities and their achievements. Only recently, the *International Treaty on Plant Genetic Resources for Food and Agriculture* clearly distinguished the contribution of small farmers in this area (paragraph 7 of the *Preamble*).

#### **Local communities and the protection of genetic resources in the Convention on Biological Diversity**

The first initiatives to preserve crops and livestock were related almost entirely to *ex situ* protection (outside their place of origin, including *in vitro* gene banks). Only *the Convention on Biological Diversity* imposed an obligation on countries to preserve endangered native species in agricultural use on farms, or in a place where they have *always* been<sup>5</sup>.

*The Convention on Biological Diversity* can be regarded as a sign of growing concern and of seeking legal ways to save the living environment and preserve the balance between *the ecological principles* of biodiversity and economic sustainable use and social requirements of a growing human population in the world (*Preamble*, paragraph 20). It shows, among others, the growing awareness of the *significant importance of biodiversity and the ecological, genetic, social, economic, scientific, educational, cultural, recreational and aesthetic values of biological diversity and its components* (paragraph 1 of the *Preamble*). In the definition of biological diversity adopted in the document, it is easy to notice scientific and naturalistic aspects (Art. 2). It was also noted that the protection of *biological diversity, sustainable use of its components and the fair and equitable sharing of benefits arising from*

<sup>3</sup> The phenomenon of loss of diversity is associated with food production in yet another way. In the history of agriculture and for nutritional purposes, man used about 10,000 plant species to various degrees. Currently, 90% of our diet is provided by less than 120 species and only 12 species of plants and five animal species provide more than 70% of the food. Half of the food is provided by four plant species: rice, corn, wheat, and potatoes (<http://agrinatura.pl/o-bioroznorodnosci.html> (20.12.2011)).

<sup>4</sup> The accelerated erosion of the species *helped* the belief that every product diversity can be replaced by something else: fossil wood, or animal manure with mineral fertilizers, or synthetic compounds of natural substances.

<sup>5</sup> The same course was adopted by the FAO in developing the *Worldwide Plan of Action for the Conservation and Sustainable Use of Plant Genetic Resources*.

*utilization of genetic resources* (Art. 1) is in the interest of all humanity and should contribute to the stabilization of relations between states<sup>6</sup>. Unfortunately, except for the general rules concerning the use of genetic resources of another country, the *Convention* did not specify effective protection measures that could be used by economically weaker countries, especially the so-called Third World countries, which are usually extraordinarily endowed with various species of plants and animals. It just *appeals* to create national legislation that would protect and maintain knowledge and practices of indigenous and local communities, leading traditional lifestyles conducive to the conservation and sustainable use of biological diversity (Art. 8j). These countries, of course, also recognize the need to adopt economic measures conducive to social and legal protection of genetic resources, but the *Convention* does not provide them with profits derived elsewhere (i.e. in rich countries) in patents and is limited only to stating that the country of origin may determine the means of access to these resources on mutually accepted principles (Art. 5, Paragraph 4).

### Biodiversity protection in the European Union

The European Union was, in a sense, forced to form a new approach to biological diversity – today practically worldwide – by assigning a significant scientific and economic value to it. The component that connects legislative undertakings designed to counteract *genetic erosion*<sup>7</sup> of local agricultural ecosystems and wildlife is that the disappearance of species, varieties and breeds has a negative influence on economic development, because they constitute the natural basis for the production of food, feed, fiber, beverages, medicines, and biotechnological processes in many branches of the economy (agriculture, fishing, reclamation), upon which the continued existence of our species depends. Hence, the EU seeks to integrate environmental issues with other sectorial policies (Jaśkiewicz, 2009), in particular, those relating to economic and social aspects, in accordance with the terms laid down in Art. 130 R, Paragraph 2 of *the Treaty establishing the European Community*. The continuing debates over the future of agriculture and the conservation of agricultural and wildlife biodiversity are intended to draw attention to the dependence of the *world*

economy on *local* economies. Meanwhile, today's global market requirements tend to subdue the traditional ways of management and use of goods produced by traditional methods. It is therefore necessary to apply existing legal tools (or create new ones) to reconcile market needs with the need to preserve resources by local communities and practical knowledge about them (Pawłowski, 2009). The interest in the importance of biodiversity for sustainable development of agricultural production and rural areas has been manifested by the adoption of *Ordinance 870/2004/EC*. The document was published under the name 1590/2004/EC as a specific intervention program for 2004–2006 on *the conservation, characterization, collection and utilization of the potential of this diversity in a sustainable way to promote the objectives of the Common Agricultural Policy (CAP)*. Among the tools necessary to accomplish this task, the protection of genetic resources *ex situ*, i.e. beyond the natural place of occurrence, and *in situ*, i.e. in the *natural* ecosystems, has been pointed out. This involves, for example, the maintenance and rebuilding of viable populations of species and breeds in their natural environment or on farms where these plants and animals have developed their own specific characteristics (Article 3, e and g).

In the view of the new awareness of the importance of maintaining diversity and the growing competitiveness of biotechnologically *improved* seeds, there is an urgent need for legislation to protect all of the traditional crops. Despite the still-imperfect international rules to constitute a reference point, the EU legislature attempted to regulate and develop a comprehensive policy of coexistence of households which use different methods of breeding and cultivation. This concerns Commission Recommendation 2003/556/EC on the development of national strategies and the best practices for the co-existence of genetically modified crops, organic crops and conventional crops mostly based on local agricultural diversity. The content and character of the document reveals serious difficulties faced by the European institutions in reaching an agreement between Member States (who display a reluctance towards the introduction of GMOs into the agro-food industry), which would result in establishing uniform rules for the co-existence of different models of management and matching them to the requirements of the global market. As a result, we are dealing with recommendations only, rather than binding legal regulations.

The purpose of the document was not to clearly limit the *genetic pollution* of traditional crops (already impossible to avoid), which incidentally leads also to a reduction in diversity, but only to guide and support the Member States in implementing the general principles in developing *national strategies and the best practices for the coexistence of genetically modified crops with conventional and organ-*

<sup>6</sup> This approach can be considered as a kind of concession that the developing countries lent the developed countries, because the former rightly recover dominion over the genetic resources in their own territory (Paragraph 4 of the *Preamble* and Art. 3 of the *Convention*).

<sup>7</sup> *Genetic erosion* means a progressive loss of genetic diversity between and within populations or varieties of the same species, or reduction of the genetic basis of a species due to human intervention or environmental change (Article 2 of Directive 2009/145/WE).

*ic crops* (Paragraph 9 of the Introduction and Point 1.5). Of course, the question of co-existence refers not only to economic aspects, but to environmental and sanitary ones, as well (Paragraph 4 of the Introduction and Point 1.2).

### **Rights of local communities and the exclusive right to sowing substance**

There is no doubt that free exchange of seeds among farmers has always been the basis of maintaining (and even increasing) biodiversity and food security. Along with the seeds (especially in poorer countries), the knowledge of the agronomic requirements, methods of cultivation, and advances in culture, technology, customs, traditions, and beliefs has been passed on between neighbors and from generation to generation. This exchange was part of the tradition and the local law of rural communities. Due to the succession and specific *co-existence* of generations (past, present and future), there should not be any exclusive right to the genetic heritage and local varieties, which can be managed and passed on. However, these rights cannot be appropriated, rejected or withdrawn. The local exchange of the reproductive material produced on subsistence farms should include the sanctioned rights of the community. Such rights cannot be the subject of derogation, authorization or restrictions, as the exchange of seeds is a practice which allows communities to survive and maintain diversity and, as such, belongs to the primary law, which preceded and was the starting point for any subsequent statutory law. Meanwhile, new technologies, related to large-scale farms operating on different principles and intellectual property rights, has led to a reduction in the diversity of local varieties, while inducing the introduction of mono-cultures, *tyed production* and acts of *bio-piracy*. This has led to individual communities losing control over the heritage of local species and transmitting it to third persons or institutions. It means depriving local farmers of their right to produce, sell, develop, use or distribute individual species. Unless a new set of rules for marketing and property (based on a different legal and economic logic) to protect local *knowledge* is established, the aspirations of native communities for the management and control of local genetic resources will remain elusive (Gajuś-Lankamer, Wójcik, 2011).

To achieve this goal, it is necessary to go beyond the strict mentality of ownership and individualism which, in this matter, is guided by the law. Exclusive rights and patents for new plants give developers *ius excludendi alios*, which is essential only for the achievement of economic goals and does not take into account the need to preserve the integrity of the property, even in order to pass it on to future generations. This is a violation of the fundamental

principle of sustainable development relating to the inter-generational justice<sup>8</sup>.

Thus, by granting exclusive rights, seeds are taken out from their ecological context and placed on the market as an ordinary *res in commercio*, and their biogenetic heritage, which has arisen spontaneously as a result of evolution or was given intentionally by the owner, has no significance for the buyer, and it is impossible to value it objectively and express it in financial terms, although it is inextricably linked to it. It is necessary to assign a legal value to an intangible asset (expressed by invisible set of information by which a particular plant or animal is distinguished by its unique characteristics that may be used or will be necessary to use). It is equally impossible to value components of genetic resources and the cultural, historical and environmental factors inextricably linked to a specific organism which is connected to, or manufactured by, local communities.

Current protection of agricultural diversity is based on two systems: (a) the exclusive right of the creator to varieties, and (b) patents, the use of which generates many controversies<sup>9</sup>. It is implemented at three levels (Gacek, 2012):

- 1) International – *sui generis* system of the *UPOV Convention on the Protection of Plant Varieties* and the *TRIPS Agreement on the Trade-related Aspects of Intellectual Property Rights*.
- 2) Regional – *Community Plant Variety Right* (CPVR) based on the *UPOV Convention* and European Council Regulation No/2100/94. It should be noted that in the EU countries, the patent system is not used for the legal protection of varieties<sup>10</sup>.

<sup>8</sup> This can be described as a *conditio sine qua non*, without which, in the context of sustainable development, it is not possible, or even desirable to maintain a large biological diversity of wild organisms or the ones used in agriculture.

<sup>9</sup> Case C-305/00 Schulin 04/10/2003 Treuhandverwaltungs Saatgut; Enola beancase, Monsanto rapeseed case in Canada, p. 89-91, Basmati rice, Turmeric herb – for wound healing, Neem has strong anti-bacterial, anti-viral, anti-septic, anti-fungal, anti-parasitic properties. In addition, it has anti-inflammatory, anti-pyretic, diuretic and insecticidal effects. Individual parts of plants are used externally and internally as a natural remedy to treat malaria, cholera, leprosy, diabetes, pneumonia, urinary tract infections, gangrene, ulcers of the skin, any skin inflammation, eczema, acne, fungal infections, eye and mouth diseases and in combating parasites, brazzaina – flavored protein (fruit sugar bush from Gabon); Kamut.

<sup>10</sup> In the European Union there is a law against patenting new varieties of plants, contained in Council Regulation 2100/94/EC (from 27.07.1994 on communal protective system of plant variation (Journal of EC 227, 09.01.1995, p. 1-30) as amended by Regulation 2006/95/EC and in European Parliament and Council Directive 44/98/WE of 6 July 1998 on the legal protection of biotechnological inventions.

- 3) National: *sui generis* system of the *UPOV Convention*; patent systems (the USA, Japan, Australia), combinations of both systems (e.g., in the USA).

The *UPOV Convention* provides protection of the rights of the author of new varieties by the *sui generis* system, which applies only to the commercialization of the material, not the method of obtaining it or its use. It deprives a small farmer of the possibility to use seeds for another sowing on their own farm, or sell or exchange them without appropriate charges. It provides for dual protection (the creator and patent rights) of the *improved* variety, but not the traditional one, the characteristics of which do not meet the requirements of novelty, distinctiveness, uniformity and stability. Farmers' rights in this system are therefore not sufficiently protected. In this way, an ordinary, spontaneously spreading clover, gathered along a roadside in Poland, may be transported together with its genetic code to an institution, for example in Australia, where it obtains the status of a certified seed and the rights belong to the person who *improved* it. An institution or an individual will be able to seek its rights when any other farmer, including a Polish one, obtains the seeds of an *improved* version of the clover which has grown next to his field for a long time. If a *self-sowing gene* is discovered, the institution may treat it as a new variety and patent it. In this way, the clover will become the sole property of the patent owner and anyone who wants to use it will have to pay the appropriate fees and will not be granted permission for seed production for his own use, although this plant grows wild in Poland.

#### **Some limitations of the legal protection of genetic resources**

Despite the growing public concern about the phenomenon of *bio-piracy* as one of the reasons for the decline of genetic diversity, the research of multinational corporations in the agro-food sector has not declined. This progressive process of privatization of primary agricultural and environmental knowledge has led to:

- a) weakening of the public, national and international research system,
- b) concentration of the seed industry,
- c) negative effects on the economy, food security (especially in the poorest countries) and agro-ecology in protecting agricultural biodiversity (Fonte, 2004, 92).

*Appropriation of nature* is usually done by biotechnological corporations which are able to obtain exclusive rights, to the detriment of the poorest countries, which are then deprived of their most important resources which form the foundation of their economies. For example, the current rules of intellectual property protection regulate only formal innovation systems, whereas the informal systems,

characteristic for conventional farming and local communities, are not only devoid of profit opportunities provided by law, but also are doomed to fail in fight against the obligations under international rules (mainly under the WTO agreements). Thus, the damage done to local biodiversity is ironic because the patent system in such cases actually involves the appropriation of others' achievements, knowledge and gained experience.

The current provisions for the protection of intellectual property rights recognized in the *TRIPS Agreement* are also unsatisfactory, because they *do not guarantee protection of knowledge and skills of local communities. This situation favours a phenomenon called 'bio-imperialism', i.e. the unlawful appropriation of genetic resources in poor countries by industrialized countries* (Pavoni, 2000).

#### **Local communities and the protection of agricultural biodiversity in the *International Treaty on Plant Genetic Resources for Food and Agriculture***

Art. 8 of the *Convention on Biological Diversity* can be a normative starting point for this problem. In this document, the task of *in situ* protection of biodiversity was entrusted to the States-Parties, which have been committed to the protection and maintenance – with the help of national laws – of knowledge and skills used by indigenous and local communities as well as innovations and practices conducive to the protection and sustainable usage of biodiversity. A particular method of *in situ* protection is the so-called *on farm* assumed storage of genetic material in the households of farmers interested in maintaining these resources.

In *International Treaty on Plant Genetic Resources for Food and Agriculture* States recognize the tremendous contribution of local and indigenous communities and farmers in all regions of the world, particularly in regions of origin and centers of crop diversity, the preservation and development of plant genetic resources, which are the basis of food and agricultural production worldwide (Art.9.1). For this purpose, responsibility for implementing farmers' rights related to genetic resources and concerning protection of traditional knowledge of plant resources for food and agriculture purposes, the right to participate in decision-making at the national level on matters related to the maintenance and sustainable use and participation in the sharing of benefits arising from the use of those resources, was granted to the governments of individual countries.

The Treaty does not provide the explicit definition of the word *farmer*. Therefore, it should be assumed that this task also rests on the national legislation. However, in Paragraph 7 of the *Preamble* it is indicated that the foundation of the rights of farmers is the *past, present and future contribution of farmers from all regions of the world, especially in the*

*regions of origin*. It can be concluded that the primary recipients of the provisions of this document should be associated with geographical origin (Article 2), namely, the countries of the South, where the vast majority of centers with considerable genetic potential are concentrated. This interpretation is supported by Article 13, Paragraph 3. The main beneficiaries of the proceeds from the use of genetic resources under the *Treaty* and the *Multilateral System of Access and Benefit Sharing* are farmers from developing countries and countries undergoing economic transformations.

## Conclusions

Maintaining local plant varieties is a very difficult task due to the fact that these plants, unlike the modern varieties, are heterogeneous and show a high variability of their characteristics. These varieties are called *traditional*, as they have been commonly cultivated in a specific place and passed on for many generations (Angelini, 2004)<sup>11</sup>. The model of an *extensive* seed market interferes with the regime set out in the *TRIPS Agreement*, which provides patent protection and the rights associated with it. Therefore, it is recommended to look for a balance between the rights of creators of traditional varieties and the rights of patent owners.

What can be done and why is it so important? First of all, local authorities should take care of cataloguing varieties and breeds, and require industry to disclose the source of biodiversity as the basis of patenting. Since the policy of conservation of biological diversity in agriculture is generally geared to action in two nearly opposite directions, i.e. the maintenance of diversity as a common good affordable for the whole human community, and on the other hand, protection of the interests of large companies investing in this sector. In the meantime, the third direction should be managed by enhancing the protection of collective rights to resources used by agricultural entities on a specific territory (Article 10d of the *Convention on Biological Diversity*).

Reconciling these three seemingly disparate goals is possible through a broader understanding than just the corporate interests of the farmers, which, to be able to protect the biodiversity, should apply to everyone, including – according to the concept of sustainable development – future generations. This aspect of protection and use of biological diversity was clearly highlighted, for example in Paragraphs 23 and 3 of the *Preamble* of the *Convention on Biological Diversity*.

The institutional measures aimed at the search for collective entities (mainly local), which would be

able to pursue public purposes (i.e. protection of biodiversity) in the interests of society as a whole and at its expense, should be initiated. This is consistent with the logic of fostering social responsibility which reflects a more general philosophy of subsidiary and the concept of sustainable development. The protection of the interests of the farmers is also included here. The proposed solution, which does not consider individual intellectual property rights, would function as the conservation of biodiversity (through storage, improvement, innovation, sales and exchange of seeds), which would have involved the implementation of farmers and indigenous and local communities. The protection of the interests of farming communities understood in this way would serve at the same time to:

- a) maintain species,
- b) provide access to genetic resources by a larger number of potentially interested parties,
- c) reduce the desire for easy profit from the use (with simultaneous depletion) of natural resources by *the third parties*.

This would also be a form of investment in biological resources in order to achieve a balance between scientific and technological capabilities and the richness of nature. This is another reference to sustainable development, which will not be a limiting factor from the perspective of the biological impoverishment of the capital. The protection of the interests of local farming communities, together with the protection of the environment as a public interest, would then be able to withstand the economic power of the set of benefits dictated by the need to maximize profit by uncontrolled destruction or the use of biological resources.

Bearing in mind the above-mentioned goals and also the real opportunities and the necessity for long-term development, it is worth noting the content of Art. 10c of the *Convention on Biological Diversity*. In this *Convention*, the parties encourage the *customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation and sustainable use*. This is another argument for the development of social awareness (Hłobił, 2010) and a system of guarantees (which should be supported by international, national and regional institutions) covering the interests of local communities. After all, it is the local communities which throughout history have protected and developed traditional agricultural production and refined plant and animal reproductive material, and they have done so without burdening, but rather to the benefit of the whole society.

<sup>11</sup> The title of common ownership in this case should not be inferred from public or private law, but rather should relate to the material, legal and symbolic spheres of the community expressed in the habits, customs, places of worship, language, and others (Angelini, 2004, p. 111).

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