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Livestock Keepers' Rights

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Abstract

The Livestock-Keepers' rights have been developed in a cooperative process by civil society and livestock-keepers. They are based on the rationale that the diversity of Animal Genetic Resources in developing countries is eroding due to the loss of the traditional rights of the livestock keepers. They contain a set of principles that are meant to strengthen the position of the livestock-keepers in the South.

The question asked in this paper is whether - in order to achieve the goal to foster in-situ conservation of animal genetic diversity - the concept of livestock keepers rights ought to be formalised and institutionalised in a legally binding international instrument, in analogy to the Farmers Rights on Plant Genetic Resources for Food and Agriculture.

The question emerged in the context with an investigation into the rights to ANGRFA, at the interface of genetic engineering; innovation and trade. One of the resulting questions was, whether the existing system of private property rights to AnGRFA is appropriate to provide a basis for fair market relations. One of the conclusions was, that in taking account of the probable entry of patents in the field of AnGRFA, a set of measures is needed to conserve, maintain und sustainably use diversity in AnGRFA and to promote equitable and fair market access for smallholders from the South. Therefore the paper lays the focus on the livestock keepers' rights under a trade angle, and the prospect of increasing protection by intellectual property rights in the industrial utilisation of the AnGRFA.

In a first step, the paper explores what can be learned of the process leading to the formalization of farmers' rights. On the basis of this analysis, in a second step, conclusions are drawn as to the elements of the Livestock Keepers' Rights that are considered important to achieve equitable and fair trade relations. And finally, the pro and cons of the integration of the Livestock-Keepers Rights in an International Treaty are assessed on the basis of a brief excursus into the effect of the formalisation of the Farmers' Rights in the International Treaty.

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Content

I. Introduction

A. General context: the discussion about (property) rights to genetic resources

1. The discussion about rights to genetic resources for food and agriculture
2. Livestock Keepers Rights – a short introduction
3. The discussion on property rights to genetic resources: an anthropological approach

B. Question and overview

1. Question
2. Method

II. Factual background and development of rights to PGRFA

A. Introduction

B. A comparison between animal and plant-breeding and related property rights

C. Plant breeders Rights and Farmers Rights

1. Plant Breeders rights: Development, rationale and function
2. The genesis of the farmers' rights

III. In comparison: The proposed Livestock Keepers Rights

1. In general
2. Development of Science and Research Progress of industrialisation; enclosure; markets
3. Political process and legal situation
4. Summary and Conclusions

V. Trade-related aspects of the livestock-keepers rights

VI. Integration into an international instrument: cost benefit analysis based on the example of farmers' rights

D. The claims: Farmers Rights and Livestock Keepers Rights in Comparison

E. Impact and Implementation of the farmers' rights: assessment in view of livestock keepers' rights

VII. Preliminary Conclusion

Bibliography

I. Introduction

A. General context: the discussion about (property) rights to genetic resources

1. The discussion about rights to genetic resources for food and agriculture

The discussion about the rights to genetic resources has emerged in parallel to the developments in bioscience and biotechnology - in particular in genetic engineering - that triggered a paradigm shift in the perception of the potential value of the genetic information.

In genetic resources for food and agriculture, scientific progress and a shift from public to private research brought genetic resources under protection of intellectual property rights and led to increasing enclosure of the genetic information by patents. In plant genetic resources for food and agriculture (PGRFA), at a relatively early stage, a system of *sui-generis* rights adapted to the specifics of plant breeding was created: the plant breeders' rights (PBR). In parallel -and as a reaction to this development - the farmers' rights have been established, first in the framework of the International Undertaking of Plant Genetic Resources for Food and Agriculture (International Undertaking)¹, at a later stage in the International Treaty on Plant Genetic Resources for Food and Agriculture² (International Treaty). The Convention on Biodiversity's (CBD) assertion of the sovereign rights of the states over their genetic resources and the corresponding system of Access and Benefit Sharing (ABS) is another point in case. The debate on animal breeders' rights and livestock keepers' rights – and the question of the applicability of the ABS system to the animal genetic resources for food and agriculture -has to be seen in this context.

In a broader perspective, the question of the necessity for and the feasibility of creating specific rights to genetic resources for food and agriculture (GRFA) needs to be assessed against the background of the goals to maintain their diversity, to improve the livelihoods of farmers and livestock keepers in the South as guardians of important diversity, to promote equity in the marketing of the resources; and – ultimately – to maintain the gene-pool to assure food security under changing conditions.³ The question asked in this context is whether an adapted system of property rights creates incentives⁴ and thus is able to foster conservation and sustainable use of genetic diversity for food and agriculture in general and the maintenance of specific adaptation traits in particular.

¹ Adopted by the 22nd session of the FAO Conference in 1983, Resolution 8/83.

² Adopted by the 31st session of the FAO Conference in 2001, Resolution 3/2001.

³ See Biber-Klemm S. and T. Cottier (eds), 2006; Biber-Klemm S. and M. Temmerman, 2011.

⁴ For a discussion on the creation of incentives by assigning property rights see Biber-Klemm S. and M. Temmerman (2011) and the more profound discussion of this question in Biber-Klemm S. and D. Szymura (2006). See also Anderson S. and R. Centonze (2006).

2. Livestock Keepers Rights – a short introduction

Livestock Keepers' Rights are a concept developed in an iterative and participative process by civil society and livestock-keepers in the run up to the Interlaken Technical Conference on Animal Genetic Resources in 2007.⁵

According to Köhler-Rollefson, the idea of LKRs is based on the rationale that the diversity of Animal Genetic Resources for Food and Agriculture (AnGRFA) in developing countries is eroding due to the loss of the traditional rights of livestock keepers to sustain their livestock on common property resources, and to policies that are adverse to small-scale livestock keepers. This is to be seen against the background that there is a higher diversity in AnGRFA in the so-called smallholder systems⁶ in particular in developing countries. The LIFE Network defines livestock keepers as mixed crop-livestock farmers, pastoralists, and landless livestock keepers from both indigenous and non-indigenous communities⁷.

Livestock Keepers' Rights are a set of principles that are meant to strengthen the position of the livestock-keepers and to enable and encourage them to continue making a living from their breed, thus leading to both – *in-situ* conservation of AnGRFA diversity and to improving rural livelihoods. They flag the precarious situation of the livestock-keepers in many countries.

Originally the principles were modelled on the example of the Farmers' Rights as enshrined in the International Treaty. In the course of their development, the Livestock Keepers Rights evolved into a more comprehensive concept that encompasses three principles and five specific rights⁸:

Principles:

1. Livestock keepers are creators of breeds and custodians of animal genetic resources for food and agriculture.
2. Livestock keepers and the sustainable use of traditional breeds are dependent on the conservation of their respective ecosystems.
3. Traditional breeds represent collective property, products of indigenous knowledge and cultural expression of livestock keepers.

Livestock keepers have the right to:

1. Make breeding decisions and breed the breeds they maintain;
2. Participate in policy formulation and implementation processes on animal genetic resources for food and agriculture;

⁵ International Technical Conference on Animal Genetic Resources for Food and Agriculture, Interlaken, Switzerland, 3-7 September 2007.

⁶ There is no agreed definition of the term "livestock keepers". It is used interchangeably with smallholders, subsistence or family farming. It is described as resource-poor, low-income, low external input, low-output or low-technology livestock keeping (FAO 2009).

⁷ LIFE Network, 2010.

⁸ Köhler-Rollefson et. al (2010), Köhler-Rollefson in Biber-Klemm S. and M. Temmerman (2010).

3. Appropriate training and capacity building and equal access to relevant services enabling and supporting them to raise livestock and to better process and market their products;
4. Participate in the identification of research needs and research design with respect to their genetic resources, as is mandated by the principle of prior informed consent;
5. Effectively access information on issues related to their local breeds and livestock diversity.

The background rationale is to counter the drivers of change in livestock production systems and in diversity of Animal Genetic Resources for Food and Agriculture (AnGRFA) that affect the traditional livestock keepers, such as market-driven threats (growth and changes in demand for animal products; developments in trade and marketing that lead to standardized production and breeding systems); one-sided information and inadequate livestock-sector policies in particular regarding incentive and subsidy measures; inadequate institutional capacities; and frameworks affecting ownership and access to land and water.⁹ This explains the importance of the first – and basic – principle to recognize the role and importance of livestock keepers as creators of breeds and custodians of AnGRFA¹⁰.

Analysed from a legal viewpoint the livestock-keepers' rights, as they stand now, consist of different elements: There are elements that have a policy character. Here the principle regarding the recognition of livestock keepers as creators of breeds and custodians of AnGRFA can be subsumed, as well as the embeddedness of traditional breeds in the social and cultural practices of the breeders, and their dependence of the conservation of their ecosystem.

Other elements are directly or indirectly right oriented – either regarding material or immaterial property rights, or rather political and human rights¹¹. The former encompass the allusion to traditional knowledge (TK) as an immaterial good, the implicit reference to the rights to their genetic resources (the right to make breeding decisions and breed the breeds they maintain), the reference to collective property, and the indirect indication of the rights to (access to and use of) land and other common pool resources. The latter include the participatory rights and questions of equity in access to capacity-building, information, and relevant services.

3. The discussion on property rights to genetic resources: an anthropological approach

The concepts of rights to traditionally generated information – traditional knowledge, farmers crop varieties or the livestock-keepers rights – all set out from a specific approach to the notion of rights and property. Also the holders of the rights regularly insist on the holistic approach of their concepts. An anthropological approach might help to understand – and to find ways to build a bridge between the two approaches.

⁹ See FAO 2007; FAO 2007 a; Commission on Genetic Resources for Food and Agriculture, 2009; Biber-Klemm S. and Temmerman, 2010; Biber-Klemm S. and Temmerman, 2011. FAO 2009.

¹⁰ The terminology of livestock *keepers* is not quite satisfactory, as it might back the misunderstanding that traditional breeds are and have been developed without active decisions of the keepers but based on natural selection and environmental conditions only.

¹¹ A more theoretical approach to the language of „rights“ used in both the Livestock keepers Rights and the Farmers Rights would be of interest but exceeds the scope of this paper.

Wiber and von Benda-Beckmann F. and K.¹² approach the questions of property from a theoretical, anthropologically oriented viewpoint. In their analysis they describe two aspects that are relevant in our context: Firstly the concept of legal pluralism at the interface of “old” and “new” legal orders, and secondly the multifaceted character of “property”.

The concept of legal pluralism describes the situation that more than one legal order is present in a given social field that can protect various claims to use and control resources (Wiber, citing Griffith, 1986). In a legal approach this describes “the plurality of property ideologies and legal institutions” that are based on different sources of legitimacy, such as the State legal system, customary law, religious law, international law.

Wiber¹³ examines some of the questions raised at the interface between new forms of property – as a rule “western” models of property concepts - that are for instance introduced as a solution to world-wide natural resource management problems, (e.g. the creation of rights to intangible goods), at the interface with situations of legal pluralism. Accordingly, technological, economic and political developments lead to an expanding variety of goods in which property rights can be established. Questions regarding such new property rights might arise at the interface between highly institutionalised and differentiated legal orders, where property relations are conceived of as a relatively isolated legal sub-field. In turn, many less differentiating legal orders do not separate out property categories in the same way, but treat them as one aspect or “strand” of many-stranded relationships (17). Wiber proposes the “old” bundle of rights metaphor to analytically approach these strands. This allows taking account of two aspects: firstly of the systemic character of arrangements of real property, embedded in the wider political, social and economic organization; and secondly of its multifunctional character, encompassing not only economic values, but also contributing to social security, being important for the ethnic identity of individuals and groups; structuring the continuity of such groups; having religious value¹⁴. From this approach Wiber and the v. Benda-Beckhams conclude that property regimes cannot easily be captured in one-dimensional political, economic or legal models.

The farmers’ rights and livestock-keepers’ rights formula are an illustration for this analysis. The hypothesis is that this may be one reason for the difficulties for their integration into and implementation within a system of international and possibly also national law.

The question is what can be learned from this approach in view of the creation of rights to genetic resources; in particular for livestock-keepers rights. It is argued that this viewpoint is important, because traditional breeding systems are closely linked to traditional systems of property rights; and that these systems need to be taken into account in the debate on the creation of rights to AnGRFA. The hypothesis is that the “bundle of rights” characteristic has to be answered by a multifaceted approach that cannot be realised in one instrument, but that a plurality of measures is needed. This is where the question of multi-layered governance comes in¹⁵.

¹² Wiber M.G (2005); von Benda-Beckmann F. and K and M. G. Wiber (2006) .

¹³ Wiber, M.G., 2005.

¹⁴ Wiber M.G (2005); von Benda-Beckmann F. and K and M. G. Wiber (2006).

¹⁵ On the concept of multi-layered governance, see Cottier T. et al. (2011).

B Question and overview

1. Question

The question asked in this paper is whether - in order to achieve the above-mentioned goal to foster in-situ conservation of animal genetic diversity - the concept of livestock keepers rights ought to be formalised and institutionalised in a legally binding international instrument, in analogy to the Farmers' Rights on PGRFA.

The question emerged in the context with an investigation into the rights to ANGRFA, at the interface of genetic engineering; innovation and trade¹⁶. One of the resulting questions was, whether the existing system of private property rights to AnGRFA is appropriate to provide a basis for fair market relations. One of the conclusions was, that in taking account of the probable entry of patents in the field of AnGRFA, a set of measures is needed to conserve, maintain und sustainably use diversity in AnGRFA and to promote equitable and fair market access for smallholders from the South. The recommendation was, to set out from a tool-box approach, in order to find an ideal combination of instruments to serve this end. It was considered that in this sense a *sui-generis* protection system including the protection of traditional knowledge, and livestock keepers' or breeders' rights might be useful.

With the above question a series of ancillary issues are connected: Should livestock keepers' rights be institutionalised as a type of *sui generis* (intellectual property) right; in the framework of a Treaty on AnGRFA? What elements would the rights have to encompass, in particular if considered in a trade context and at the interface with markets, the ABS system and intellectual property rights. What would be the approach under the aspect of multi-layered governance¹⁷? Would a top-down or rather a bottom up approach be the solution? And what if we look at the horizontal aspect: can the concern of livestock-breeders' rights be integrated as an entire complex into one legal instrument or would it rather make sense to take it as a series of principles to be realized in a variety of contexts and integrated into different legal approaches?

2. Method

It would go beyond the scope of this paper to answer all these questions. Given the above context, we focus on the livestock keepers' rights under the angle of (a possible/their) interface with trade and the prospect of intellectual property rights in the industrial utilisation of the AnGRFA, being aware that this approach covers only one (albeit important) strand of the concept as it is proposed in the Declaration on Livestock Keepers Rights.

This approach is chosen for two reasons: Firstly, LKRs can be understood as a reaction to increasing industrialisation of breeding processes and the accompanying enclosure of genetic resources and related traditional knowledge. The concern is that the resources and associated traditional knowledge might be misappropriated, and the freedom of livestock keepers to use and develop their

¹⁶ Discussed at the occasion of an interdisciplinary workshop; see Biber-Klemm S. and M. Temmerman, 2010; Biber-Klemm and Temmerman, 2011.

¹⁷ Cottier T. and P. Delimatsis (eds.), 2011.

own breeding stock and breeding practices might be interfered with¹⁸. In order to assure equitable outcomes, the different property systems need to be balanced. This argument is closely linked to the general debate on access to/rights to genetic resources and traditional knowledge that is led in the framework of the CBD ABS process and in the Intergovernmental Committee on Intellectual Property and Genetic Resources, Traditional Knowledge and Folklore (IGC) of the World Intellectual Property Organisation (WIPO)¹⁹. Secondly, in a positive approach it is argued, that selection, management and conservation of traditional breeds by livestock keepers is highly sophisticated, creative and innovative. From this viewpoint the discussion of an IPR approach is indeed plausible.

It is proposed to proceed in three steps. In a first step, it is explored what can be learned of the process leading to the formalization of farmers' rights. On the basis of this analysis, in a second step, conclusions will be drawn as to the elements of the Livestock Keepers' Rights that are considered important to achieve equitable and fair trade relations in taking account of potential future evolution in science and of the necessity to conserve and sustainably use AnGRFA diversity. And finally, a brief excursus into the effect of the formalisation of the Farmers' Rights in the International Treaty will be made and discussed in view of the pro and cons of the integration of the Livestock-Keepers Rights in an International Treaty.²⁰

II. Factual background and development of rights to PGRFA

A. Introduction

Scientific progress brought about a shift in the perception of biological resources. With the – present and future - options of genetic engineering, genetic resources and the information they contain gained increased value and importance. This led to a new, two-layered approach regarding the property in biological material, consisting of property in the organism, and property in the genetic information - a paradigm shift, as symbolized in the confirmation of sovereign rights over genetic resources in the CBD. In fact, a two-layered ownership-model is for instance realised in the Andean Pacts Common Regime on Access to Genetic Resources.²¹ This (theoretically) implies that farmers cannot autonomously decide on the use made of the genetic resources they have developed²². As elaborated in more detail below, in PGRFA the protection of the results of formal breeding by IPRs increased in the course of the evolution of science and technology. The call for protection of informally created informational values, for rights to traditional knowledge; rights to landraces can be seen as the answer to this development. The question is whether an analogous development in AnGRFA is to be anticipated.

¹⁸ Köhler-Rollefson I.U. in Biber-Klemm S. and M. Temmerman (2010); LIFE Network, March 2010.

¹⁹ See Biber-Klemm S. and M. Temmerman, 2011.

²⁰ In particular regarding scenarios of progress in biotechnology and of climate change. See. Drucker et al. (2007).

²¹ Decision 391: Common Regime on Access to Genetic Resources (07.02.1996).

²² See International Institute for Environment and Development in document IT/GB-4/11/Inf.6, and Biber-Klemm S. Origin and Allocation of Traditional Knowledge and Traditional PGRFA: Basic Questions. In Biber-Klemm S. and T. Cottier (2006)

B. A comparison between animal and plant-breeding and related property rights

In traditional AnGRFA, as in the traditional plant varieties - the so-called landraces - the active role and importance of the breeders in selection was for a long time overlooked. Livestock breeds kept by rural communities were regarded as products of natural selection alone. It was thought that they had developed mainly due to geographical isolation²³. Yet, traditional animal breeders in many cases have highly sophisticated knowledge systems and social mechanisms for managing their genetic resources. According to Sansthan and Köhler-Rollefson (2005), this knowledge has so far remained largely invisible for several reasons: indigenous knowledge on animal breeding often represents “tacit” rather than expressed knowledge; it is not easily accessible by scientific methods and little research has been conducted for a long time. Moreover, classification of breeds, breeding decisions and results are not documented in herdbooks, but memorized by the breeder.²⁴

In discussing a potential analogy between the creation of rights to PGRFA and to AnGRFA, it is important to be aware of the basic differences between the two. Farm animals, with the exception of pigs and chickens, produce few progeny. This leads to a higher market value of the individual animal. The flow of the genetic resources in the market differs accordingly and is based on bilateral exchanges of private property rights. Even if animals used for production exhibit the same genetic diversity as those used for selection, the “dual character” of PGRFA as both, seeds containing hereditary information and as tradable goods or foodstuff, is less evident in AnGRFA. Here, the value of the genetic information is included in the market price of the animal. The main resource for genetic change in AnGRFA is genetic variation *within* the animal populations. Whereas plants depend on continuous introgression of new genetic information, this is not necessary in AnGRFA as there is spontaneous mutation and sufficient genetic diversity²⁵. For these reasons, property rights in the genetic resources relate to individual animals that belong to a specific breed. Their exchange is regulated by private ownership – contracts under private law, or agreements under customary law. Breeding processes are similar in traditional and in conventional²⁶ breeding: selection is made according to desirable traits. The qualities of the parental lines are documented in a register (Europe), or memorized by the breeder²⁷. In traditional and conventional breeding systems, the value of the genetic information created by the breeder is included in the market price of the animal. The

²³ CGRFA-12/09/Inf.12, citing Lanari et al., 2005. See also Sansthan L. P. and I. Köhler-Rollefson (2005). As regards PGR, in the so-called landraces (farmers’ varieties) for a long time the role of human selection was downplayed. The qualities of a particular landrace were considered to be the results of its adaptation to its growing conditions. This changed only from the 1970ies on. In 1993 Hodgkin et al state that “the most important feature” of landraces is that human intervention is needed to create and maintain them. See. M. Halewood et al. 2006.

²⁴ For more details see FAO 2009, CGRFA 2009 a; Sansthan and Köhler-Rollefson 2005.

²⁵ Mäki-Tanila in Biber-Klemm S. and M. Temmeran, 2010.

²⁶ For this publication a terminological distinction is proposed between: “traditional/indigenous breeding” referring to community breeding contexts without written documentation; “conventional breeding” meaning phenotypical selection criteria; including artificial insemination and embryo transfer technologies; and “modern breeding” based on quantitative genetics, analysis methods (marker assisted selection, single nucleotide polymorphism). Compare also Biber-Klemm S. and M. Temmerman, 2010.

²⁷ Marguerat and Köhler-Rollefson in Biber-Klemm and Temmerman 2010.

right to progeny is – as a rule – transferred with the transfer of the female animal. So the farmers own the animals and, in the case of females, also their direct offspring, regardless of whether it has been produced by artificial insemination or natural mating. Prices of live animals and their derivatives like embryos or semen depend on the genetic value and/or market conditions. In traditional/indigenous systems, the property rights system might be more diverse, but follows the same basic principles.

C. Plant breeders Rights and Farmers Rights

As mentioned above, the formalisation of the Farmers' Rights in the International Undertaking was closely linked to the development of protection of formally bred plant varieties. The integration of the PBRs into the International Undertaking²⁸ - the predecessor to the International Treaty²⁹ - was the trade-off for the recognition of the compatibility of the PBRs with the goals of the International Undertaking.

At the origin of this step lay a blend of causes. A closer look might provide insights into the present developments in the animal sector, notwithstanding the differences of the two sectors. The hypothesis is that the development in plant and animal breeding is comparable as regards scientific, technological and economic aspects. LKRs and farmer' rights pursue analogous objectives. Moreover, farmers' rights have a longer history and are integrated in a legally binding instrument.

Therefore in the following an overview of the development of plant breeders' rights and farmers' rights in its context with the scientific and technological development is given. The question at this stage is what can be learned from the process leading to the formalization of the farmers' rights and what this implies for the realization and implementation of the concept of LKRs?

1. Plant Breeders rights: Development, rationale and function

Technological evolution in plant and animal breeding – and the corresponding creation of IPRs has been strongly influenced by the evolution in science and technology³⁰. Landmarks in this process are the scientific progress in the last third of the 19th century and the rediscovery of the Mendelian theory of inheritance on the turn of the century; and a century later the identification of the structure of DNA in 1953 by Crick and Watson³¹. Based on the work of Mendel and Huxley, plant breeding became a recognised scientific field at the beginning of the 20th century. Working on the basis of the genetic theory, breeders now were better able to control the outcome of plant reproduction and to create improved varieties. With the appearance of new, improved varieties on the market, a new industry was born³².

In the first half of the 20th century the plant breeding industry was becoming economically very important. In order to ensure that the entire potential of this new industry – economical and

²⁸ A.a.o. FN xx

²⁹ A.a.o FN xx

³⁰ Palladino P., 1993.

³¹ It is interesting to note that – as well in UK as in CH there were contradictory appreciation of the „new“ methods of breeding based on the theory of inheritance/Mendelian genetics. See: Moser for CH. and Palladino for the UK.

³² Margaret Llewelyn and Mike Adcock.

agricultural – was realized, protection by a specific intellectual property right was deemed essential by both, policy and the formal plant breeders.³³ A strong argument for the creation of rights was the promotion of seed trade – to this end a harmonized system of protection (in Europe) was necessary.³⁴

In 1961 the UPOV system of plant variety protection³⁵ came into being with the adoption of the International Convention for the Protection of New Varieties of Plants³⁶ by a diplomatic conference in Paris; the rights of plant breeders now were recognized on an international basis. This was seen as critical to underpinning research. In turn it was considered against the public interest to allow plant breeders to have an over-extensive monopoly. Therefore the scope of the PBRs – in the 1961 version – is limited by the so-called breeders' privilege (a research exemption) and the farmers' privilege – the right to use farm saved seed without obligation to pay a licence fee to the right owner.

The convention was revised three times, in 1972, 1978 and in 1991. The revisions mirrored the evolution in biotechnologies and in the seeds markets. There is a clear trend for the strengthening of the rights granted by expanding their scope that led to a broadening of the rights of the formal breeders³⁷. The last revision is insofar of importance in our context as the farmers' privilege is no longer compulsory, but optional.³⁸

Given the increasing application of genetic engineering and ensuing patenting of the results, the UPOV system today is discussed controversially³⁹.

³³ The rationale for the creation of specific intellectual property rights to protect new plant varieties and not to rely on an (adapted) patent system was that patents were not considered adequate as plant material cannot meet the novelty requirement; and plant breeding programmes are rarely inventive. Yet, the results of breeding are of industrial application.

³⁴ See Llewelyn and Adcock, 2006; Girsberger 1999.

³⁵ The International Union for the protection of Varieties of Plants (Union internationale pour la protection des obtentions végétales).

³⁶

³⁷ Llewelyn connects this development with the increasing involvement of the private sector in the European plant breeding scene. With regard to the developing countries, Llewelyn gives a critical assessment of the last developments in UPOV: "However, there remain issues as to whether the evolved European model is necessarily or automatically the best system for developing countries in the 21st century. Not only are their plant breeding sectors closer to those which existed in post-war Europe but also the nature of their agricultural communities differ as do their economic climates (198).

³⁸ S. Biber-Klemm, Community-based management of Genetic Diversity in Agroecosystems. In J.M.M. Engles, V. Ramanatha Rao, A.H.D. Brown and M.T. Jackson, *Managing Plant Genetic Diversity*. CABI Publishing 2002: 437-454.

³⁹ See: Intellectual Property Watch, 20. April 2011: Plant Breeders Rights – A Blessing Or A Curse. Interview with Niels Louwaars of the Centre for Genetic Resources, Wageningen University. Louwaars underlines that the original rationale for the development of plant breeders' rights was to merge the biological complexity and traditional rights with the need to recognise – and financially support – the contribution of a plant breeder. He points out that the rights of breeders and farmers have to carefully represent the needs of the different agricultures in each country. He judges that "... breeders' rights can definitely be a blessing for an innovative and pluriform breeding sector". *Insert URL*. Mark D. Janis & Stephen Smith, *Technological Change and the Design of Plant variety Protection Regimes*. *Chicago-Kent Law Review* 1557 (2007) who advocate a rethinking of the Plant Breeders Rights, taking account of the important technological change that has taken place since the inception of the UPOV

2. The genesis of the farmers' rights

In parallel to this development in PGR-related IPRs, in the FAO discussion on access to genetic resources in-situ and ex-situ resulted in the adoption of the International Undertaking. The International Undertaking was a voluntary instrument to promote international harmony in access to plant genetic resources for food and agriculture. To answer to the high interdependence of states regarding PGRFA, it was based on the principle that plant genetic resources should be freely accessed and exchanged as a "heritage of mankind". The objective was "to ensure that plant genetic resources of economic and/or social interest, particularly for agriculture, will be explored, preserved, evaluated and made available for plant breeding and scientific purposes" (Art. 1).

The International Undertaking was revised several times by agreed interpretations. Step by step a narrowing of the principle of open accessibility took place. The compatibility of the plant breeders' rights with the principle of the free access was acknowledged. A further narrowing down took place with the subordination of the principle of common heritage of mankind under the sovereignty of states over their plant genetic resources. This process mirrors the described paradigm change in the last decennia of the last century and was clearly in the interest of the industrialised countries with important seed industries.

The asymmetric treatment given to donors of germplasm – the farmers in the centres of diversity – and the donors of technology led to debates in the FAO; the new Commission on PGRFA⁴⁰ founded in 1983 being the relevant forum. The idea of specific rights for the farmers was born and taken up in connection with the debate on how to increase adherence to the International Undertaking. Fact was that many Member States had made reservations regarding PBRs. The trade-off was to acknowledge both, the compatibility of the principles of the IU with the PBRs, and the Farmers' Rights. The rationale was to achieve a balance between the products of biotechnology (commercial varieties and breeders' lines), and farmers' varieties and wild material; and between the interests of developed and developing countries⁴¹. The recognition of the Farmers' Rights was clearly motivated by the need to create acceptance for the recognition of PBRs, particularly among developing countries.⁴²

The resolution adopting the farmers' rights was adopted by the twenty-fifth session of FAO Conference in November 1989⁴³. It defines Farmers' Rights as "rights arising from the past, present and future contributions of farmers in conserving, improving, and making available plant genetic resources, particularly those in the centres of origin/diversity". According to the resolution the Farmers' Rights have the purpose of ensuring full benefits for farmers; to provide assistance in the protection and conservation of their PGR, and to allow farmers, their communities and countries to

treaty. They propose an alternate approach based on unfair competition principles as a basis for discussion. Compare also the profound discussion by Llewelyn and Adcock (2006).

⁴⁰ Now Commission on Genetic Resources for Food and Agriculture (CGRFA).

⁴¹ <http://www.fao.org/ag/CGRFA/iu.htm>.

⁴² See on the website of the Farmers' Rights Project: http://www.farmersrights.org/about/fr_history_part4.html.

⁴³ Report of the Conference of FAO Twenty-fifth Session Rome, 11-29 November 1989. <http://www.fao.org/docrep/x5588E/x5588E00.htm>.

participate fully in the benefits derived from the improved use of PGR “through plant breeding and other methods”⁴⁴

The final version of the Farmers’ Rights, as laid down in the International Treaty, encompasses the following elements (Art. 9):

- The recognition of the enormous contribution of the farmers to the conservation and development of PGRFA.
- The responsibility for the implementation of farmers’ rights rests with the national governments.
- This includes
 - The protection or promotion of relevant TK;
 - The right to participate in the equitable sharing of benefits resulting from the use of traditional PGRFA;
 - The right to participate in making decisions, at the national level, on matters related to the conservation and sustainable use of plant genetic resources for food and agriculture.

In addition there is an explicit reservation regarding the farmers’ privilege.

In legal terms, and in analogy to the above analysis of the Livestock Keepers Rights, the Farmers’ Rights contain both “policy” oriented (recognition of contribution) and rights oriented elements (protection of TK; participatory rights; right to benefit sharing). Yet, the farmers’ rights as such do not have the function of a *sui-generis* intellectual property right.

III. In comparison: The proposed Livestock Keepers Rights

The above analysis confirms the insight that in PGRFA, the development of rights to genetic resources is closely linked to the evolution of science, and – in connection with the development of the markets – the industrialisation of research and production. The Farmers Rights appear as a counterpart to the Plant Breeders Rights.

At the outset of this paragraph, the hypothesis was formulated that the development in plant and in animal breeding is comparable as regards scientific, technological and economic aspects. If this is the case, the ensuing question is what can be learned from this for the Livestock Keepers Rights.

Therefore, in the following, the proposed LKRs and the FRs are compared in view of their rationale; the development of science and research, and the progress of industrialisation of production and privatisation of the information.

1. In general

From the development of the farmers’ rights it can be concluded that they were strongly motivated by the question of rights to genetic information as contained in the farmers’ varieties; of access to

⁴⁴ For details and the texts of the relevant resolutions see http://www.farmersrights.org/about/fr_history_part4.html.

these varieties, and of the sharing of the benefits resulting from their utilisation in a formal breeding process.

In turn, in the Livestock Keepers Rights a connection is made between the loss of breeds and the erosion of the traditional rights of the livestock-keeper to breed, keep and sustain their livestock on common property resources⁴⁵. As has been shown, the loss of the traditional rights of livestock-keepers is due to a series of drivers of change⁴⁶. The impacts of industrial and corporate models of livestock breeding, the privatization of genetic resources through intellectual property rights and the free market system in genetic resources are perceived as one among other threats to the rights of the livestock keepers⁴⁷.

Both – the FR and the proposed LKR are to be seen against the two facts having an important impact on the debate: 1) The erosion of diversity of GRFA and its increasing replacement by homogenous varieties and uniform breeds; and 2) the paradigm change in the perception of genetic resources brought about by the possibilities given by modern biotechnology.

In the latter context, for both types of resources the technology gap between “diversity rich/technology poor” vs. “technology rich/biodiversity poor countries” plays a role. Value adding activities take place in technology rich countries. This leads to a (potential) inequity in benefits, and has triggered claims of benefit sharing by the holders of the resources, as expressed in the ABS-system of the CBD and the ITPGRFA. Yet the aspect of benefit sharing is not explicitly mentioned in the Livestock Keepers Rights.

Diversity-rich countries have resources that are of global importance and may be more so in future scenarios of change (PGRFA). As in plant breeding there is a higher dependency on introgression of new genetic information, the gene-flow in plants is at present to a higher degree South-North than the gene flow in AnGRFA. PGRFA therefore in a South-North relationship have both, a utility and an option value; in AnGRFA, at present the option value is relatively more important in the global context.

Because of the close connection of the breeding to environmental conditions and the permanent adaptation to change, *in-situ* conservation in both, PGRFA and AnGRFA is considered essential to maintain diversity and answer to challenges regarding food security under scenarios of change. This is even more prominent in AnGRFA, as there *ex-situ* conservation is more complicated and costly.

2. Development of Science and Research Progress of industrialisation; enclosure; markets

Sources regarding the scientific development and the research activities in AnGRFA are difficult to find. It can be assumed that in AnGRFA, formalised scientific research started at the same stage as in PGRFA with the rediscovery of the Mendelian theories at the beginning of the 20th century. Yet, in AnGRFA research, until recently, no boost comparable to the Green Revolution took place.

⁴⁵ Köhler-Rollefson (2010).

⁴⁶ Above, and FAO 2009.

⁴⁷ LIFE Network, Declaration on Livestock Keepers Rights, Preamble.

It seems that research was for a longer time publicly funded. It is submitted that private companies developed (in many cases out of the farmers' breeding cooperatives) once the technology of artificial insemination and cryoconservation facilitated (international) trade; and the market for livestock products started to grow due to the increasing demand (livestock revolution). Moreover the liberalisation and privatisation agenda led to decrease of investment in public sector research.

No disaggregated data are available regarding public investment in AnGRFA and PGRFA research. According to the general data of the 66 OECD-FAO Agricultural Outlook 2009-2018, public investment in agricultural research in high income countries continues to rise in real terms, but growth rates in public agricultural research expenditures started to decline in the 1980, and continued to fall in the 1990. This means that the private sector has become an increasingly important contributor to research and development in agriculture.

In the livestock breeding industry, mainly in the animals with high fertility rates a concentration process is taking place. According to Gura, commercial pork and poultry breeding is concentrated to a high degree and processes of vertical integration starting. Unlike in the modern plant breeding industry, protection of the breeding lines is not based on intellectual property rights, but on trade secrecy combined with hybridisation.

In turn, in PGR, privatisation and industrialisation in some European countries took off already at the beginning of 20th century. Seed companies specializing in the breeding and production of hybrid and improved crop seeds emerged. In the last decades of the 20th century several waves of acquisitions and mergers led to higher concentration in the industry. Seemingly the strengthening of the Plant Variety Protection in the 1970ies and 80ies led to a wave of acquisitions and mergers between seed companies. With the advent of biotechnology, an integration of biotech firms and seed companies took place, as seed sales became an important direct market link for biotech firms. Pharmaceutical and chemical firms moved into plant biotechnology and then integrated vertically to seed breeding and marketing⁴⁸.

The development of markets and industry explains why intellectual property rights became relevant at an earlier stage in PGRFA, whereas in AnGRFA no rights comparable to the PBRs exist and patenting only entered the field with the application of biotechnological methods. So far they do not impact traditional breeding methods and markets. To what degree such an impact must be anticipated – in analogy to the PGR, needs to be carefully assessed.⁴⁹

3. Political process and legal situation

The international political processes mirror the described developments. Farmers' rights have a longer political history on the international level. Political debates on the common heritage vs. sovereignty principles are said to have started in context with the Green Revolution.⁵⁰ This led to a "politisation" of PGRFA starting with the negotiations in the framework of the IU and continuing through the adoption of the CBD up to its implementation for PGRFA in the International Treaty.

⁴⁸ Cullet et al. In Biber-Klemm and Cottier (2006).

⁴⁹ For the question of IPRs in AnGR see Temmerman, forthcoming; Temmerman in Biber-Klemm and Temmerman, 2010; Temmerman, 2011.

⁵⁰ In Kloppenburg (1988).

As to the international political action aiming at halting the erosion of diversity, analogous processes took place in PGRFA and in AnGRFA, but with a shift in time. The adoption of the IU led to the creation of the Commission on Plant Genetic Resources in the FAO. Under its aegis, the state of the world's PGRFA was analysed and diagnosed – the publication appeared in 1997 - and taken up by the FAO Technical Conference on Plant Genetic Resources. The conference adopted The Global Plan of Action for the Conservation and Sustainable Utilization for Plant Genetic Resources (GPA) and the Leipzig Declaration⁵¹. The analysis of the State of the World's AnGRFA was finalized in 2007, as a basis for the First Technical Conference on AnGRFA in Interlaken that also adopted an Action Plan.⁵²

Regarding property rights, there are different starting points and differences in the present situation in PGRFA and AnGRFA respectively. There are two aspects that are relevant in our context: first the question of the property to the genetic information as contained in the animals/plants and created by the traditional breeders; and second the impact Intellectual Property Rights – and in particular patents – have or might in future have, on the accessibility to the resources. A third question is if and how benefits resulting from added value in the downstream technological value chain should be shared.

The situation regarding rights to genetic resources, including access to the resources and sharing the benefits resulting from their use, differs essentially in PGRFA and AnGRFA. PGRFA have a dual character. This means that they are traded and used as commodities, but also as seeds containing hereditary information; the genetic information can easily be accessed. Rights of the creators of the germplasm therefore can only be assured either by hybridisation or by intellectual property rights. This is one of the reasons for the early emergence of intellectual property rights in plant breeding. Farmers' landraces, for several reasons, cannot be protected by PBRs, and the creation of *sui-generis* intellectual property rights proves to be difficult.⁵³ This is one of the rationales behind the Multilateral System on Access and Benefit Sharing of the ITPGRFA. In turn, in AnGRFA the genetic information is – collectively or individually – privately owned. The right to the genetic information, including the right to the progeny, is transferred by bilateral exchange of private property rights. The value of the genetic information is included in the market price of the animal or germplasm.⁵⁴

While plant patents including progeny are a reality, in animals reproduction by means of genetic engineering (cloning) and gene transfer is at present limited to industrial or other capital intensive uses. So far there exist no transgenic animals in the livestock – agricultural use sector. In any case they would have to pass the patentability test (new, inventive, useful invention). More problematic are patents granted to breeding or production methods that extend to the animals that are the outcome of these methods ().⁵⁵

⁵¹ 4th International Technical on Plant Genetic Resources (ITC4), Leipzig, Germany, in June 1996

⁵² *Ref*

⁵³ Biber-Klemm and Cottier, 2006; Girsberger, 1999.

⁵⁴ Biber-Klemm and Temmerman, 2010 and 2011.

⁵⁵ Flury in Biber-Klemm and Temmerman, 2010. Temmerman in Biber-Klemm and Temmerman, 2010; Temmerman, 2011.

4. Summary and Conclusions

The comparison between AnGRFA and PGRFA in view of their development and background rationale leads to the conclusion that in part lessons from the farmers' rights can be drawn. In other aspects there are essential differences.

In a global context traditional AnGRFA have an important option value with regard to scenarios of change⁵⁶. The use value, in turn, is in most cases limited to the local level. From this follows that at present AnGRFA have less relevance for private research and markets (as industry, as in PGRFA, is not interested in uncharacterized varieties/breeds). Consequently – for the time-being - the concept of benefit sharing in an international context is less relevant than in the case of the Farmers' Rights. In AnGRFA benefits are closely related to the market value. To increase the market value, (and the motivation for conservation and sustainable use), value adding activities are necessary. As the rights to property in the genetic information are included in the market value, value adding generates benefits that directly accrue to the owners.

Industrialization of production and privatisation of research started to develop at a relatively later stage in AnGRFA and so far takes place only in specific sectors. Up to now, intellectual property rights (other than trade secrets) in the animal sector are closely linked to the application of biotechnology and not yet relevant to agricultural markets⁵⁷. Therefore the relevance of enclosure of the genetic information is at present relatively small in AnGRFA. This might be increasing with advances in technology and with increasing market-interest as indicated by the comparison with the development of science and economy in PGRFA. Yet, in contrast to the development in PGRFA, with the PBRs and the Farmers' Rights, there seems to be some time left for preventively finding solutions for balancing a possible impact of patents on the rights of the livestock-keepers.

V. Trade-related aspects of the livestock-keepers rights

The above analysis shows that economic development, markets and trade are essential factors in the area of rights to AnGRFA. The prospect is that they will lead to a shift in the balance of the rights. This is also expressed in the first of the Livestock Keepers' Rights that claims the right of livestock keepers to make breeding decisions and breed the breeds they maintain.

The point is to "disentangle" this claim in view of the rights to genetic information and their interface with trade. The question is, what would be the essential elements of the proposed Livestock Keepers Rights for balancing increasing intellectual property rights in the industrial utilisation of the AnGRFA and to foster equitable and fair trade relations in taking account of the necessity to conserve and sustainably use AnGRFA diversity

According to Biber-Klemm and Temmerman (2010 and 2011), in this context two scenarios regarding rights to AnGRFA and access and benefit sharing need to be distinguished: 1) an immediate and short term scenario, where the sharing of possible benefits resulting from the utilisation of AnGRFA depends on the market price of the animals that obviously is lower in a local than in a global context. Equity of benefits here depends on value-adding measures and accessibility of the resources in a

⁵⁶ See Drucker et al., 2007.

⁵⁷ See Biber-Klemm and Temmerman, 2011.

wider context. 2) A future scenario that takes progress in biotechnology and increase in patenting into account.

The first “market-failure” scenario is based on the insight that there exists a market-failure with regard to the traditional breeds. The price is adapted to local markets; and, due to the absence of accessible documentation, the specific qualities of a breed are known only in a geographically small sector.⁵⁸ Value-adding measures such as characterization and documentation of selection and breeding and of specific traits might increase accessibility of the relevant information and open larger markets. Yet, given that AnGRFA represent primarily an option value this cannot be reached through market mechanisms, but is clearly a task of public research and public funding under the argument of a common public good. In order to reach the goal to maintain diversity, the integration of the knowledge of the breeders in such activities is essential. Their participatory rights in the research design, the policy formulation, and respective implementation processes, as postulated in the Livestock-keepers rights are therefore a critical element.⁵⁹

The second scenario on “biotechnology and patents” implies the question of the (free) use of the breeders of their animals for breeding, or - worded differently - the free access to the genetic material they created. In this context, a first question is how States will regulate the property rights to genetic information. A dual system (ownership in genetic information vs. ownership in the organism) is in fact possible. Yet, its consequences have never been analysed for GRFA. In AnGRFA the approach seems to be utterly impractical.⁶⁰ In this context, the livestock-keepers’ claim of the rights to make breeding decision is important.

A second question is about the impact of patents on the access of the Livestock-Keepers to the genetic material that is the result of their breeding efforts. Whereas transgenic animals are still scarce in the agricultural sector, patents have come through in the form of process patents. The question is the scope of the patents – concretely how many subsequent generations of a protected animal will remain under the patent right and thus under the control of the patent holder. Here, more impact studies are necessary to assess the possible impact of patents on smallholders. In contrast to the farmers’ rights, that were a reaction to the PBRs⁶¹, in animals there remains time to take preventive measures in particular in tailoring the IPR/patent system to the needs of traditional breeders, too. Flexibilities of the patent system, such as no patenting of animal genetic information; breeders exemptions; research exemptions, compulsory licensing, need to be examined in view of both, patents on processes and patents on transgenic animals.⁶² In the case of a – prospective –

⁵⁸ See Biber-Klemm and Temmerman, 2011.

⁵⁹ The case of trade-induced national policies on livestock production that narrow the scope for taking breeding decisions (as e.g. possible through AI) to boost productivity is not treated here.

⁶⁰ A control of the problem of all prime animals of a national herd being sold can be reached by other means.

⁶¹ To make them compatible with PBRs (as in UPOV 91, and probably bilateral contracts?) now is one of the difficulties for implementation. See below xxx.

⁶² In the case of a – prospective – expansion of the market of genetic resources South-North, and their utilisation in a modern breeding context, the question of ABS has to be thought through. The scenario could be to import valuable germplasm from a traditional breed; and breed a great number of progeny in a relatively short time (by cloning and implanting embryos) questions arise as to the equity of the benefits, and eventually as to who owns the breed. Similar questions arise in access to TK; and at the interface between ABS and biotrade.

expansion of the market of genetic resources South-North, and their utilisation in a modern breeding context, the question of ABS has to be thought through.

The above conclusions are to be assessed against the background of the objective of the Livestock Keepers Rights to strengthen the position of livestock-keepers to – also – foster conservation of breed diversity. In this context they give a strong signal as to points to be taken account of and assessed more closely in a context of international trade.

VI. Integration into an international instrument: cost benefit analysis based on the example of farmers' rights

LKRs up to now appear only to a small degree in the international regulatory framework. The debate on the implementation of the CBD and the Nagoya Protocol for AnGRFA (in analogy to the International Treaty) is at its beginnings. In the soft-law instruments resulting from the Interlaken Conference – the Interlaken Declaration and the Global Plan of Action as well as in and the Funding Strategy⁶³ LKRs are not explicitly (verbatim) integrated⁶⁴. Yet they are materially taken account of⁶⁵.

In order to answer the question if and how the LKRs could best be formalised, it is proposed to assess whether analogies can be drawn between the two concepts – the Farmers' Rights and the Livestock-Keepers Rights - from a governance viewpoint. In a second step, it is then asked what has been the impact of farmers' rights on international and national levels so far. It is conjectured that this approach is useful in order to assess the cost-benefit ratio of a potential formalisation of livestock-keepers rights, as proposed by the promoters of livestock-keepers' rights.

D. The claims: Farmers Rights and Livestock Keepers Rights in Comparison

If comparing the two concepts, it must be clear that the language of the Farmers' Rights are legally formalized and have passed through an international negotiation process whereas the concept of FRs at present is a political claim. This explains some differences in the approach.

From the comparison of the two concepts follows that both concepts contain "rights" approaches (such as participatory rights; aspects of property rights) and "policy" approaches (recognition of contribution to diversity). Albeit in the Livestock-Keepers' Rights – allegedly – in comparison to the Farmers' Rights, a broader approach is chosen.

Under the policy aspect both concepts contain a strong element of recognition of the past, present and future contributions of the traditional farmers to the diversity of agricultural resources; and their important role in maintaining this diversity. Given the long scientific doubts regarding the farmers'

⁶³ Funding Strategy for the Implementation of the Global Plan of Action for Animal Genetic Resources adopted by the Twelfth Regular Session of the Commission on Genetic Resources for Food and Agriculture October 2009 (CGRFA-12/09/Report-Appendix C).

⁶⁴ The African region promoted their inclusion; this was opposed by the European and North American regions (Köhler-Rollefson, 2010).

⁶⁵ In the Interlaken Declaration; in some Strategic Priorities of the Plan of Action; and in one of the initial three priorities in the Funding Strategy.

skills and knowledge in breeding, their recognition the policy elements of both concepts are an essential element for awareness-raising on the one and identification on the other side.

In the LKRs, some background arguments are included in this element, namely the embeddedness of the breeds in the socio-cultural environment including the aspect of collective property, and the dependency of livestock-keepers on access to resources. The language in the principles of the Livestock-Keepers Rights makes the necessity of a crosscutting approach in the national implementation obvious.

Under the rights approach, the two concepts have two elements in common: the aspect of traditional knowledge – albeit more strongly formulated in the Farmers’ Rights; and the inclusion of participatory rights.

As the International Treaty is an implementation of the CBD regarding PGRFA, the farmers’ rights contain a stronger ABS context, namely measures to promote the sharing of benefits, and the protection and promotion of traditional knowledge in the responsibilities of the Contracting Parties (Art. 9). In contrast, the livestock-keepers’ “right to make breeding decisions and breed the breeds they maintain” is multi-faceted; implying as well possible difficulties to make free use of their breeds due to licensing or other fees; as well as autonomy vis-à-vis livestock policies of the state.

In summing up it can be said that in the Livestock-Keepers’ Rights the “bundle of rights” approach, as discussed at the outset, is more present than in the Farmers Rights. The Farmers Rights are – also due to the negotiation-process - to a higher degree already adapted to a more differentiated legal order. This diagnosis raises the question, whether the different strands, as postulated in the Livestock Keepers Rights, do lend themselves to be integrated an effective manner in a single soft-law or legally binding instrument. An alternate option could be the integration in different instruments, and on different levels. The question here is, what would be the essential elements or strands of the LKRs in legal terms, and under which legal title they could/should be integrated, on which level of governance.

E. Impact and Implementation of the farmers’ rights: assessment in view of livestock keepers’ rights

In order to assess the option of regulation the Livestock Keepers’ Rights in an international instrument, in the following the impact of the inclusion of the farmers rights in the International Treaty is analysed.

The implementation of the Farmers Rights – under the guidance of the International Treaty - lies with national governments. Inquiries into the progress made have been on the Agenda of the Governing Body of the International Treaty since its first session⁶⁶. It appeared that in many countries there was uncertainty as to how Farmers’ Rights can be implemented. The Governing Body therefore encouraged Contracting Parties and other relevant organizations to submit views and experiences on the implementation of Farmers’ Rights in three consecutive resolutions (2/2007; 6/2009; and 6/2011).

⁶⁶ See Doc. IT/GB-4/11/16.

Until the fourth meeting of the Governing Body in March 2011, 17 Contracting Parties (of 127) and 7 organisations have submitted their contributions. The Contracting Parties primarily reported on the state of implementation; the organisations (NGOs and academic institutions) provided reports on international enquiries, on research carried out during several years or on analysis of gaps in the state of national implementation.⁶⁷

It would go beyond the scope of this work to thoroughly analyse these contributions.⁶⁸ Some emerging patterns might however be emphasized: In the seven years, since the entry into force of the Treaty, in seven of the reporting countries the farmers' rights have triggered studies and/or legislator processes. Others report on how the principles – for instance the participation or the sharing of benefits – is implemented in the current legal order.

Regarding the policy aspect, it seems that the importance of the contribution of farmers is as a rule recognized – and in several reports explicitly mentioned. Yet, several countries mentioned the PBRs or IPRs as the instrument to implement the rights; this leads to questions as to what extent the concept has been properly understood. The same is true for the sharing of benefits on national level that is referred to the protection by IPRs and trade.

The overall impression is that, what concerns Farmers' Rights, the Treaty so far has only to a small degree triggered essential implementation activities by the Contracting Parties. Yet, allegedly, seven years are a short time in this respect. The flow-back of answers also might be a sign that concern and interest of the Contracting Parties regarding the farmers rights is rather low.

This impression might change in more closely analysing the contributions of the organisations, as they inquired into options for the implementation of the FRs, too, and in part collected case-studies as success stories. Their contributions also contain an analysis of the problems encountered, and open questions. An important issue that kept surfacing is the interface of the FRs with the seed legislation and the compatibility of the farmers' rights – i.e. the farmers' privilege - with the obligations of UPOV regarding the PBRs. It is obvious that the implementation of the concept is no easy task. The interface with the industrially oriented legislation (seed law, PBRs) seems to be particularly complex.

In analysing these observations and in view of a potential integration of Livestock-Keepers' Rights into an International Treaty on AnGRFA, the following points can be made: The integration of the concept into an international treaty has doubtless some attraction. The explicit recognition of the concept of Farmers' Rights and of their role and function of traditional farmers regarding PGRFA diversity contributes to awareness-raising and provides an important policy argument on national level. Also, the treaty provides a platform to raise the concerns of the farmers and for advocacy for their interests – one example being the benefit-sharing fund that - as it is too early to acquire regular contributions - is replenished exclusively by contributions of Contracting Parties and international organisations (with two small exceptions). The concept also has triggered a fair amount of supportive activities by NGOs and scientific institutions. Moreover, the treaty theoretically (provided funding is available) could provide support in the implementation of the concept. It further disposes of some mechanisms to monitor compliance.

⁶⁷ *Insert references to relevant docs.*

⁶⁸ *Amore thorough analysis of the available material would be interesting, though.*

Yet, it must be taken into account, that the negotiation of an International Treaty on AnGRFA is still a very open option. Further, in comparison with the formalisation of the Farmers' Rights in the International Undertaking, the Livestock Keepers Rights are in a weaker bargaining position as at present no similar trade-off is in sight. Also, the ABS context in AnGRFA is less obvious than in the case of PGRFA; an approach featuring traditional knowledge would have to be investigated. Further, it is questionable whether the interface with IPRs could be resolved in such a treaty; being a question that enters into the domain of WIPO. Moreover it is most doubtful whether the – important – question of access to resources (land and water) for livestock-keepers would be taken up in the negotiations.

VII. Preliminary Conclusion

The proposed concept of LKRs takes up a series of elements that are essential for halting the erosion of AnGRFA diversity in the smallholder systems of the South and to improve the livelihoods of the livestock-keepers. In this aspect they lay the basis for and draw attention to the need for a holistic approach that includes diverse aspects of what could be designed as “good life”⁶⁹.

Some conclusions have emerged in the course of the above arguments. They do not answer all the questions asked, but might give some indications. They are summarized here as a basis for further discussion:

The option of the integration of the concept into a legally binding international instrument has some attraction, taking account of the effects observed in the case of the farmers' rights. This is in particular true for the policy part; but also for the elements referring to political and human rights. The integration into an international treaty would raise awareness and strengthen the position of the livestock-keepers on the national level. Yet, as regards other elements, the different strands of the claims would have to be disentangled. This analysis of the different “strands” of the bundle of rights leads to different regulatory areas: the implementation of the ABS principles (right to participate in the identification of research needs), land rights, political rights, human rights; questions of ownership of genetic information and the interface with intellectual property rights, to name the most obvious. This calls for a differentiated approach. Solutions are to be sought also on national level (land rights, recognition of collective rights); or in relevant international bodies (intellectual property rights; collective IPRs).

As to the rights to genetic information at the interface with ABS and IPRs, two scenarios need to be distinguished: The present scenario, relatively free from enclosure by IPRs and a rather clear situation regarding the property rights. In this scenario, benefits from the breeding activities are a question of markets. The second, future scenario implies a stronger presence of intellectual property rights that narrow the rights of the breeder. The research into the evolution of the farmers' rights indicates that there remains some time to think about solutions for the trade-related interface with potential aspects of ABS and of intellectual property. Yet there is a need to analyse possible scenarios and their impact on the rights of the livestock-keepers/breeders, and to show ways how national IP legislations can best answer the challenges. It needs to be analysed to what extent the concerns and claims of the LKRs are already incorporated and concretized in the Global Plan of Action on AnGRFA;

⁶⁹ In the sense of the discussion on capabilities by Sen and Nussbaum (*indicate source*).

and what are the options in the framework of the CGRFA to strengthen the position of the livestock-keepers/smallholders. This includes the implementation of the Funding Strategy in a way that benefits (also) the Livestock-Keepers. And last the option of creating a concept of Animal Breeders' Rights, tailored to the characteristics and needs of the livestock-keepers, could be evaluated.

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