



Forschungsstelle für Europäisches Umweltrecht

FINAL REPORT

THEME:

Common pools of genetic resources

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1. Subject

Common pools of genetic resources

2. Keyword

Common genetic resources

3. Discipline

Environmental law; development research

4. Work and results report

The Convention on Biological Diversity (CBD) has widely been understood as arranging access to genetic resources and benefit sharing in the form of bilateral exchanges between providers and users. This arrangement has often proved to lack efficiency and distributional justice. Based on a reading of the CBD as enabling voluntary multilateral solutions the research project studied common pools of genetic material and of genetic information with the aim of unveiling their potential to counteract these shortcomings of bilateral arrangements.

Consisting of 8 persons initially and later 21, the project team explored the structures, functioning and legal instruments of existing common pools including networks of in situ genetic material, collections and networks of ex situ resources, data banks and meta-databanks of genetic information, and networks and collections of traditional knowledge. The empirical and legal analysis strived to produce an improved typology of and a legal model for common pools and to explain why pools emerge or why they do not. The results are meant to be a resource for facilitation of access, monitoring of uses, collecting of benefit shares and forwarding them to all source countries.

4.1 Methodology

Empirical study was conducted based on analytical secondary evaluation of surveys of contract texts as well as texts of model access agreements, of existing grey literature and website information on the functioning and operation of existing common pools, e.g. the International Treaty on Genetic Resources for Food and Agriculture (ITPGRFA). Besides, interviews were conducted with experts and actors in the field of ABS, in a number of organisations (e.g. EAPGREN, ITPGRFA) and also with a number of experts and personalities in other fields, for instance traditional healers (e.g. at K2C, S.A.), legal counsels for local communities (e.g. for San) and local farming groups (e.g. in the Andes).

4.2 Cooperation partners

John Kleba	United Kingdom/Brazil
Juliana Santilli	Brazil
Bevis Fedder	Bremen
Gerd Winter	Bremen
Evanson Chege Kamau	Bremen

Christine Godt	Bremen
Brendan Tobin	Northern Ireland/Peru
Gurdial Nijar	Malaysia
Morten Walløe Tvedt	Norway
Kabir Bevikatte	South Africa
Tom Dedeurwaerdere	Belgium
Sélim Louafi	France
Matthias Buck	EU Commission
Tianbao Qin	China
Marie Schloen	Belgium
Peter-Tobias Stoll	Göttingen

4.3 Output

4.3.1 Work packages

The tasks of the research project followed the work packages listed below as foreseen in the project proposal:

- (1) Elaboration of checklist for pool analysis
- (2) Analysis of pools
 - in situ networks
 - ex situ collections and networks
 - genomics data banks
 - traditional knowledge networks and collections
- (3) Theory building
 - categorization of pools
 - systematic analysis of structures, operations and legal framework
- (4) Evaluation and reform considerations
 - improvements of structures and functions
 - elaboration of model agreements and rules of practice
 - framing as national law of source and user states
 - suggestions for international law development
- (5) Dissemination/ conference
 - a mid-term workshop
 - a side-event at COP 10

4.3.2 Findings

The main findings of the research, which have been published in the book titled '*Common pools of genetic resources. Equity and innovation in international biodiversity law*' edited by Evanson Chege Kamau and Gerd Winter (London: Earthscan-Routledge, 2013, 424pp), concluded as follows (Winter in Kamau/Winter (2013)), p. 21ff.):

Overlooking the variety of common pools it appears that the pool approach does provide opportunities to enhance R&D in the interest of biodiversity protection and generation of useful products. If the pools shall be further developed two aspects should be kept in mind: that the diversity of forms warns against a one for all solution, and that care must be taken to overcome the difficulties of construction and maintenance of pools.

Concerning the diversity of forms further work on a general categorisation of pools is needed (*emphasis added*). Taking their primary objectives as major characteristic, the following types may be distinguished:

(1) *Grassroots pools* (such as the Potato Park in Peru), which comprise 'wild' GR and scientifically untested TK. They aim at local services and are socially embedded. They are reinforced in order to defend themselves against competition from and exploitation by the modern sector. They are ruled by customary law but deserve a supportive framework of national legislation.

(2) *Stipulating pools* (such as the Hoodia network of the San in Southern Africa and the Pacari association in Brazil), which bring together holders of GR or TK who wish to pursue their rights of benefit sharing. They can build up organizational capacity to trace products to provider states and ensure the equitable distribution of benefit shares among participants of the pool. They may also aim to publish their knowledge in order to prevent patenting by third persons, or strive to obtain intellectual property rights themselves.

(3) *Basic research pools* (such as the network of botanical gardens IPEN, but also the worldwide public domain of taxonomic research and knowledge), which encompass collections, data bases and print media on 'wild' and cultivated GR and related MK. They aim to enhance biological knowledge, primarily by understanding biodiversity and thus providing a basis for its protection and further use. They defend the public domain character of biological material and knowledge. However, considering that even basic research results (especially in genomics and microbial research) are suitable for patenting, they are under increasing pressure to become commercial. This entails problems similar to those of applied research pools.

(4) *Applied research pools* (such as the Multilateral System of the ITPGR), which contain collections of cultivated GR and related MK. They aim at cooperative R&D and serve as an infrastructure for commercialization including attaining intellectual property rights and developing marketable products. As they enable commercial benefits, they are under pressure from the ABS regime to ensure benefit sharing with providers of pool resources. This can, for instance, be done by giving the provider privileged status concerning the sharing of benefits.

(5) *Commercial development networks* (such as the intercompany exchange networks concerning high yield animal, forest and plant GR), which are platforms of cooperation or market transactions between owners of GR and MK. They tend to avoid forming a pool in order not to lose commercial opportunities. With the upcoming ABS regime, they must, however, adapt to benefit-sharing obligations and will have to decide whether to form pools that collect and distribute monetary benefits, either as a separate organization or as part of a research and development pool.

The legal basis for improved forms of pools could be Articles 4 (2) and (4), 10 or 11 of the Nagoya Protocol. But they can also be started as local, national or transnational initiatives which ripen over time to be embedded in an international treaty and organization only at a later stage of development. Furthermore, it may be advisable to abandon the clear distinction between the three basic concepts and instead suggest that common pools can be combined with elements of the models 'free appropriation and use' and 'property and market'. This is particularly apparent if one considers the relationships between a pool and external actors. While socializing resources internally, pools often act as owners of their resources externally, excluding non-participants or entering into market-like transactions with them.

Concerning the difficulties of construction and maintenance of pools, it is remarkable that in many of the analysed cases the problem of possible under-supply of the pool turn up, both at the use and the provision end. At the use end of pools users at times strive to take material or knowledge from the pool without providing R&D results and commercial benefits in exchange, thus acting as free-riders. At the provider end of pools, providers may prefer not to submit their GR or TK but rather enter into bilateral relations with individual users, because they do not anticipate benefits flowing to them from the pool.

These problems of under-supply can arguably be solved by appropriate rules and their implementation. At the use end the obligation of users to share non-monetary and monetary benefits with the pool must be strengthened and enforced. In addition, the availability of intellectual property on GR, TK and MK should be confined to the final stages of the valorisation chain, thus freeing R&D from restrictions at a premature stage. At the provider end, appropriate incentives for providers to participate must be elaborated and enforced. A crucial question in that regard is whether the actual provider should be granted privileges over other resource holders. If the answer is in the affirmative, it is crucial that mechanisms are available to track products down to an original sample and the location where it was taken from.

Alternatively, and as a means of avoiding the potentially enormous technical and financial costs of such tracking, the right to benefit shares would be decoupled from the specific GR or TK and their provider. Resource holders would receive benefits according to appropriate allocation rules which can still reward those who are particularly supportive of the pool. Those pools which are aiming at R&D as such (types 1, 3 and 4) rather than the stipulation of benefit sharing or commercial development (types 2 and 5) could even be released from managing the flow of benefits, and especially from claiming and allocating shares in monetary gains. These shares could be managed by separate regional or global funds, covering a single resource or cross-cutting several or even all resources. The concept causing the least transaction costs would be a charge laid on commercial monetary benefits from products or royalties based on GR and TK. As suggested in some of the chapters, it seems that such a charge, if appropriately designed, can disburden the R&D common pools, bring about both 'horizontal' and 'vertical' equity, enable sustainable uses of GR and TK, and provide knowledge and means for biodiversity protection.

4.3.3 Practical output

The mid-term and final findings of the research project were instrumental in transferring knowledge into practice as follows:

- In September 15/16, 2011, we hosted a conference in Bremen (pictures below) (Theme: “Common pools of genetic resources. Improving effectiveness, justice and public research in ABS”)
- In October 2010 we organised a side event at COP-10 in Nagoya, Japan
- We consulted with the Coordinator of the EAPGREN/ASARECA on the possibilities of EAPGREN coordinating the formation of a eastern Africa region common pools (Entebbe, Uganda, 14/16 February 2011)
- We sent the results of the study to the East Africa Community HQ in Arusha, Tanzania
- We participated in the online discussions convened by the Executive Secretary of the CBD through the ABS Clearing-House from 8 April to 25 May 2013 on how Article 10 of the Nagoya Protocol on the Global Multilateral Benefit Sharing Mechanism should be construed and operationalised
- Gerd Winter and Caroline von Kries participated in the MICROB3 project on microorganisms (funded by the EU Commission)

Picture 1: Conference in Hotel Munte



Picture 2: *Outside Hotel Munte*



4.3.4 Publications

Apart from the edited volume of 19 chapters (see attached the table of contents of the edited volume), Gerd Winter, Bevis Fedder and Evanson Chege Kamau authored the following journal articles that feature the theme of common pools:

1. Evanson Chege Kamau and Gerd Winter, An Introduction to the International ABS Regime and a Comment on its Transposition by the EU, *9/2 Law, Environment and Development Journal*, 2013, pp106-126. Available online at <http://www.lead-journal.org/content/13106.pdf>
2. Gerd Winter and Evanson Chege Kamau, Von Biopiraterie zu Austausch und Kooperation. Das Protokoll von Nagoya über Zugang zu genetischen Ressourcen und gerechten Vorteilsausgleich, *Archiv des Völkerrechts*, Vol. 49, 2011, Mohr Siebeck, pp373–398
3. Evanson Chege Kamau, The Multilateral System of the FAO Treaty: Lessons for ABS for Genetic Diversity of Global Importance in: Prado Soares/ Shimada Kishi (Eds), *Revista Internacional de Direito e Cidadania*, Special Edition on Biodiversity, IEDC, 2011. Available online at <http://www.reid.org.br/arquivos/00000257-MLS-LessonsforABS-withoutdiagramssite.pdf>. Reprinted at International Treaty visual library, http://www.planttreaty.org/virtual_library
4. Evanson Chege Kamau, Common Pools of Genetic Resources – A Potential Approach in Resolving Inefficiency and Injustice in ABS in: Ute Feit/Horst Korn

(Eds), Treffpunkt Biologische Vielfalt X. Interdisziplinärer Forschungsaustausch im Rahmen des Übereinkommens über die biologische Vielfalt (BfN-Skripten 289), Bonn, 2011, pp177–188. Available online at <http://www.bfn.de/fileadmin/MDB/documents/service/skript289.pdf>

5. Evanson Chege Kamau, Bevis Fedder and Gerd Winter, The Nagoya Protocol on Access to Genetic Resources and Benefit Sharing: What Is New and What Are the Implications for Provider and User Countries and the Scientific Community? *6/3 Law, Environment and Development Journal*, 2010, pp246–262. Available online at http://www.lead-journal.org/current_issue.htm

5. Summary and final conclusion

The Convention on Biological Diversity (CBD) acknowledges sovereign rights of states over their natural resources including genetic resources (GR). User states are obliged to share the benefits derived from the utilization of genetic resources with states providing the GRs. Thus, provider states and user states are expected to create bilateral exchange relationships.

Legal practice on international and national levels has proved that this individualistic approach lacks efficiency: while the scope and content of sovereign rights of provider states over their GRs are far-reaching, due to the territoriality principle they, provider states are hampered to control the downstream process of value creation. Attempt to enforce their legal powers effectively causes high transaction costs.

User states, on the other hand, could be asked to make leeway. While they are less hindered by the territoriality principle because R&D activities related to GR are largely under their jurisdiction, they also face substantial transaction costs if they use whatever powers they have in order to control the upstream process.

Even if the control by provider and user states is improved, questions of distributional justice arise. Many GRs have a geographical range shared by regions of states suggesting that benefits should be shared among all states in which the GR is endemic instead of the first provider state taking the entire share.

Therefore, common pools of genetic resources are proposed as a solution for vertical and horizontal inequity. However, these should not be designed or understood as setting aside or overriding the basic concept of sovereignty of resource states over their genetic resources as embedded in the CBD but rather to understand the concept as enabling voluntary multilateral solutions.