

Analysis Regional Regimes for the Protection of Intellectual Property Rights Related to Biodiversity and Community Rights

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Abstract:

In this era of bio economy, intellectual property (IP) protection for genetic resources based inventions and recognition of community rights for sustainable development becomes necessary. All regions around the world provides specific legal regimes for the protection of their genetic resources related to traditional knowledge (GRTK) and community rights after the conclusion of the World Trade Organisation (WTO) rules of the Trade-related Aspects of Intellectual Property Rights (TRIPs) Agreement in 1994. This TRIPs Agreement provides a strong protection on biotechnological inventions, including living things. The objective of this research is to analyse legal protection for both IP related to biological resources and community rights in the context of access to such resources in three different regional regimes; that are Association of Southeast Asian Nations (ASEAN), African Unity, and Andean Community Nations. This research focuses on whether those influential regional integration blocks provide equitable and sufficient legal regimes as inspired by the spirit of the Convention on Biological Diversity (CBD) to acknowledge and protect traditional knowledge (TK) and innovations of local communities as well as to accommodate the TRIPs Agreement rules. It also analyses the consistency of such regional regimes with prevailing international law in dealing with this issue.

Keyword: *Genetic Resources related Traditional Knowledge, Community Rights, ASEAN, African Union, Andean Community Nations.*

1. Introduction

Intellectual property rights (IPR) protection for biodiversity related inventions and community rights including traditional knowledge (TK) related to it has been subject of concern at a number of international and regional organisations since in the era of 2000s (WIPO, 2016);(Blakeney, 2011). However, after twenty years of seeking solution to deal with those issues, no binding international law has been agreed (Goss, 2019). Some regional intergovernmental organisations such as Association of Southeast Asian Nations (ASEAN), Organization of African Unity – now African Union (AU) and Andean Community Nations (Spanish – Comunidad Andina, CAN) has also issued regional legal frameworks with objective to address a number of issues such as, the biodiversity lost, access procedures, protection of farmers, breeders, local communities, and establishment system of sharing benefit. Accordingly, those regional integration blocks is not only deal with the issues of economy and trade, to foster free trade area (FTA) in their regions, but also paid special attention to some specific areas resulting from trade impacts.

In 2000, ASEAN has issued the “Draft ASEAN Framework Agreement on Access to, and Fair and Equitable Sharing of Benefits Arising from the Utilisation of Biological and Genetic Resources” (ASEAN ABS Draft). Unfortunately also, after twenty years, this ASEAN ABS law is still in the form of draft. On the same year in 2000, AU has issued an “African Model Law for the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources” (African Model Law). Earlier in 1996, CAN has issued “Common System on Access to Genetic Resources” known as Decision 391, and then in 2000, established new IPR regime known as “Common Intellectual Property Regime” or Decision 486.

Judging from the time of issue of those laws, those regional economic integrations, has expressed similar concerns on the similar times. This shown that the above issues are not only issues of specific or certain region, but it becomes concern of all regional economic integrations and international community. One of the driving force behind the issuance of such regional regimes is the because the international IPR law of World Trade Organization (WTO) –Trade related Aspects of IPR (TRIPs) Agreement in its Article 27.3.b, provides strong protection to all inventions in all field of technologies including inventions related to living thing, biological materials, such as genes, microorganism, and many others. But, those communities who preserve and conserve biodiversity for such inventions are ignored by IPR system.

Those IPR protections have been criticized by a number of scholars due to its significant impacts on biodiversity and the protection of rights of local communities (Dutfield, 2018);(Correa, 2015);(Bandyopadhyay, 2018). Scholars argued that many inventions derived from the local community innovations and knowledge has been protected by international IPR regimes, particularly patent, without proper acknowledgement of role of such communities. On the other hand, the Convention on Biological Diversity (CBD) has concluded by the Conference of the Parties (COP) in 1992 to conserve biodiversity for sustainability and to acknowledge significant contribution of local communities has in conserving such biodiversity, including TK related to it. CBD strongly emphasizes principle of sovereign right of state over biological resources (Barizah, 2013), and requires Member nations to provide legal frameworks dealing with this sensitive issue

Interestingly, those regional regimes is not only deal with the issues related to biodiversity and local community rights, but also touch policy of patent law which provides protection of living thing, including genetic material and genes. These regional regimes are vitally important as expected to bridge the negotiation processes to accommodate different perspectives and interests amongst the Member nations, particularly to solve the conceptual gap in the conventional IP regime. They are also important to guide their Member nations in providing such national legal framework.

Furthermore, in this era of bio economy, protection of the community rights is an urgent need because the concept of collective rights is now emerging among different theories of rights (Javanovic, 2012); (Newman, 2004). The recognition of the concept of collective rights or group rights under international law particularly on human rights law (Casals, 2006) provides legal justification for the need to protect community rights. Innovations that have been invented by a group of people of community plays an important role for economic and sustainable development, but it rarely recognized under Patent law, as it does not fulfill the criteria of newness and inventiveness.

This research analyses legal protection for both IP related to biological resources and community rights in the context of access and sharing of benefit derived from such resources in three different regional regimes; that are Association of Southeast Asian Nations (ASEAN), African Unity, and Andean Community Nations. This research focuses on whether those influential regional integration blocks provide equitable and sufficient legal regimes as inspired by the spirit of the Convention on Biological Diversity (CBD) to acknowledge and protect traditional knowledge (TK) and innovations of local communities as well as to accommodate the TRIPs rules. It also analyses the consistency of such regional regimes with prevailing international law dealing with this issue.

The research also analyzes the specific legal character of the three regional regimes to address issues related to IP, biological resources and community rights, whether those regimes are binding or they only function as moral commitments among their Member States. In addition, this research also analyzes whether such regimes place more emphasis on environmental approaches rather than IP law, or whether the regimes focus more on the private property approach rather than the benefit sharing approach. In addition, this research specifically examines the sufficiency of those regional legal frameworks in protecting rights of local community, through access principles, disclosure of origin rules, and sharing of benefit mechanism.

2. Research Method

This research is normative legal research by using primary and secondary legal resources. To answer the problems of this research, some approaches are used, that are statute, conceptual, comparative and historical approaches. Statute approach are used to analyzes prevailing laws and regulations related to the problems, to find philosophical grounds of the laws and to examines the consistency of the prevailing laws related to this research. Conceptual approach is used to understand the concepts, theories and thought which can be used to answer the problem. Comparative approach is to compare law from one jurisdiction to another, and in this context to compare three different regional legal frameworks. While historical approach is to analyze the historical background behind the issuance of such laws. This primary legal material consists of conventions, treaties, protocols, regional, national laws relevant to this research. While secondary legal materials consists of books on law related to this research, journal articles and many others. All the above legal materials and resources then analyzed by using such approaches above.

3. Result and Discussion

3. 1. The Draft ASEAN Framework Agreement on Access to, and Fair and Equitable Sharing of Benefits Arising from the Utilization of Biological and Genetic Resources

It was 20 (twenty) year ago, the Draft ASEAN Framework Agreement on Access to, and Fair and Equitable Sharing of Benefits Arising from the Utilisation of Biological and Genetic Resources (ASEAN ABS Draft) has been agreed by the 10 (ten) member-countries of the ASEAN in Singapore in 2000. This ASEAN ABS Draft was inspired by the fact that Southeast Asia is a mega genetic resources region, and ASEAN is still rich in biodiversity until now (Rintelen, 2017). These resources are an important asset of this ASEAN region and are essential resources for the future century (Peria, 2000). Member nations recognised the value of genetic resources for regional and national economic prosperity but facing the problem of biodiversity loss (Subramanian, 2011) caused by climate change, population growth, food and medicines, deforestation and many others (Dale, 2013).

Biotechnology is one of the high growth areas of investment where the ASEAN countries will have the competitive edge (Tambunan, 2012) By taking this approach, Member countries try to minimise competition with each other and promote cooperation with the potential users of these resources, either within ASEAN or outside (Peria, 2000). Thus, ASEAN ABS Draft does not tend to hamper ASEAN from potential users of its biodiversity.

This ASEAN ABS Draft is developed based on the CBD principles of state's sovereign right, prior informed consent (PIC), disclosure of origin, fairness sharing of benefit as stipulated under its paragraph 4 and 5. Implementing these principles means that this ASEAN ABS Draft places emphasis on an environmental law approach rather than an IPR approach with

the objective of protecting the ASEAN interests in biological and genetic resources from illegal bio-piracy as enshrined in the paragraph 3 of the Preamble, including bio-prospecting activities. Member countries realised that in the absence of regional access legislation, such activities have been extensively spread throughout the region. And accordingly they concluded that consistency and uniformity of access regulation would be of great value in this territory to address the problems.

Substantially, based on Articles 6-7, this ASEAN ABS Draft regulates several essential provisions for access to genetic resources, including; prior informed consent (PIC), and sharing of benefit arrangement. However, the draft provisions are not as detailed as those developed by the African Model Law. It is not clear under the Draft who should be entitled to benefit sharing and its quantum. This ASEAN ABS Draft is also not as strong as the African Model Law in preserving the rights of local communities because it only obliges consent from the State (Competent National Authority) and not consent from the local community as enshrined under Article 6. Furthermore, this Draft's emphasis on the environmental approach and does not touch upon the matter of IPR laws. Accordingly, there is no single article dealing with IPR.

Nevertheless, its implementation is not easy, especially concerning the principle of PIC and sharing of benefit mechanisms, even though under Article 5 parties shall be responsible for establishing a procedure for granting PIC at the national level and establishing legislative and administrative measures to regulate ABS, this ASEAN ABS Draft is not binding in nature. The likely prospect is that it will simply function as a moral commitment among the ASEAN Member Nations and not have sanction mechanisms for the Members which do not obey it.

It seems that this ASEAN ABS Draft is an attempt to develop cooperation for the utilization of biodiversity among ASEAN Member nations (Kamau, 2013). This observation is based on the fact of the unique process for developing this ASEAN ABS Draft, in which the initial proposal was not derived from the Government of Member nations, but from the Civil Society Organizations and Non-Governmental Organizations working on the issues of biodiversity, natural resources and community rights (Peria, 2000). Then the Draft was adopted by the 15th Meeting of ASEAN of Working Group on Natural Conservation and Biodiversity on 21-23 June 2005 in Bangkok. However, Member of ASEAN still does not consider the important of this Draft as a guideline for establishing new national law, and some of them also still do not have such law.

3.2. The African Model Law for Protection of Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources

Africa is a continent rich in biological resources particularly crops and medicinal plants (UNEP-WCMC, 2016). As with other biodiversity rich regions, the economic value of such valuable resources has not yet been accurately calculated. The enormous commercial potential of its biodiversity and genetic resources should enable this continent to be socially and economically developed (NEPAD, 2004). But regrettably, seen from an economic perspective; it remains the least developed continent in the world (Ekpere, 2000), and food sovereignty is still insecure (Oguamanam, 2018).

Similar to ASEAN, the Organization of African Unity (now African Union) has issued an African Model Law for the Protection of the Rights of Local Communities, Farmers and Breeders, and for the Regulation of Access to Biological Resources in 2000 (African Model Law). It was first adopted in Ouagadougou in 1998 and recommended to be the basis for African national laws and a new chapter on Farmer's right and Breeder's rights was added to

anticipate the finalization of the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA). Then this enlarged model was adopted in the summit in Lasaka, Zambia of July 2001 (Munyi, 2012).

This African Model Law combines 3 (three) different themes into one law to respond the WTO global trade rules on IPR which provides protection on living things, as it considered has implications on innovations developed by African communities. The OAU declaration clearly states that the existence of community collective innovations has been ignored by the IPR model developed by the WTO which emphasizes industrial inventions to admit individual monopolies on living thing. The OAU under the Declaration accompanying the Draft Model Law, also further states that “the WTO-based approach is predatory in nature and runs counter to the aspirations of communities which are in the first place the innovators of biodiversity so necessary for survival of the planet” (Dutfield, 2000).

The most important aspect of this African Model law in the field of IPR is that it articulates an African stand toward the patent protection of life forms (Medaglia, 2014), and plant breeder rights (PBR). Interestingly, the provisions of this Model law are also consistent with each other, for instance both in its Preamble and in part III Article 9, the consistency is very obvious. In principle, it rejects patent on all types of life forms, as the last paragraph of the Preamble states that “patenting of life, or the exclusive appropriation of any life form or part or derivate” are regarded as breaches of human right to life. Furthermore, Article 9 (1) highlights the Preamble and states that OAU does not recognise patent protection for life forms and other biological processes. In this context, the Model Law is contrary to the provision of the main multinational IPR Agreement - the TRIPs Agreement.

Moreover, the Article 9(2) of the African Model Law strongly sets out that collector of biological resources can not apply for patent on life forms and biological processes under this Model Law and any other laws related to it, such as regulation on access, the utilization, community innovation and knowledge.

The essential reason underlying prohibition of patents on life forms is based on ethics, because patenting is considered as a privatisation of life forms through the IPR regime. Under the Paragraph 10 of the Declaration by the OAU Scientific, Technical & Research Commission (OAU/STRC) Task Force on Community Rights and Access to Biological Resources, this privatisation breaches the basic right to life and is against the African value of respect for life (Munyi, 2012). However, the rejection to the notion of patent on life forms seems to be a kind of political rhetoric rather than idealism. Their experience of Western colonialism may make this Organisation reject any ideas that have the potential to create Western domination over their resources and people.

The consistency of this African Model law can also be seen in the provision which confirmed the African group position on the TRIPs Agreement and its revision of Article 27.3 (b) (NEPAD, FANRPAN and IFPRI, 2004). In this position the African group argued that a stipulating obligation requiring the patenting of micro-organisms and microbiological processes under Article 27. 3 (b) contravenes the basic principles of patent law that substances and processes which exist in nature are not an invention, but a discovery. This group also declares that living organisms which occur naturally are not to be considered as an invention or creation of human intelligence, and natural processes that produce plants, and animals and other living organisms should not be patented.

Under the African Model Law Explanatory Booklet, natural processes are still regarded as governing all organisms although they are bred by human intervention and accordingly should be no right for the following generation to claim them as her or his inventions (Ekpere, 2000). It also clarifies that biological resources encompass parts of organisms: genes and cells, and patents shall not be granted to them as well as to biological processes or their derivatives (Ekpere, 2000). Accordingly, the African approach regarding the natural process above may close off the potential benefit that the African nations may have for the utilization of genetic resources through the IPR system.

However, both WIPO and UPOV objected to this African Model Law and both tried to undermine the whole process of the OAU's Model Law. For instance, WIPO indicated that the ban of patents on life forms sits in opposition to Article 27.3 (b) of the TRIPs Agreement which obliges patents on micro-organisms (Singh, 2002); (South Centre, 2001); (Grain, 2001); (Egziabher, 2002). WIPO also rejected the inalienability community rights stipulated in this legislation (Singh, 2002). UPOV pointed out that this African Model Law was contrary to the UPOV Convention, and to facilitate its compliance, UPOV officials proposed revisions of more than 30 Articles of the Model Law (Singh, 2002).

Furthermore, the African Model Law devotes a wide-ranging part to the issues surrounding PBR, in Articles 28 to 56 (Ekpere, 2000). In general, it provides adequate protection of the rights of breeders over the varieties they develop, at the same time it promotes commercial plant breeding adapted to farming systems in Africa. The provisions of PBR are in accordance with Article 27 (b) of the TRIPs Agreement for the protection of plant varieties through a *sui generis* system. On the other hand, this African Model Law also recognises farmer rights, as a part of community rights with the objective to ensure that customary practices of local farmers are not impeded by exclusive commercial breeding (Ekpere, 2000).

By providing for both recognition and economic compensations for community, it seems that this model tries to accommodate the interests of both individual and breeding institutions in their endeavour and investment in developing new plant varieties (Article 28) (Titilayo, 2019). Under the African Model Law, plant breeders have exclusive rights to produce and sell their new varieties, but these rights are balanced by the provision of farmer rights specified in part V Articles 24-27 of the Model (Article 30), in which farmers are permitted to save, use, exchange and sell farm-saved seed and other planting material as long as such sales are not made to the seed industry on a commercial scale (Article 26). Farmers also have a right to use new varieties protected by PBR to develop their own varieties (Article 26) (McManis, 2012). Accordingly, this African Model Law is compatible with the UPOV Convention of 1961 and 1978, as in both UPOV such exemptions are tolerated. However, under the UPOV 1991, such exceptions are not permitted. This is one of the reasons why the African nations are choosing not to adopt UPOV 1991 (Singh, 2002).

It is important to note that this African Model Law tries to facilitate Member countries to fulfil their obligation as stipulated under the Article 27.3 (b) the TRIPs Agreement (Medaglia, 2014) without ignoring the local community rights (Titilayo, 2019), and attempts to achieve that by specifying the exemptions and restrictions to the breeder's rights as stated in Articles 31 and 33 respectively. Both exemptions and restrictions constitute a very constructive way to provide adequate protection for traditional farming communities to meet with the national interest in vital areas like food security and public health needs, and help overcome any possible negative effect the PBR system may have in that areas of concern (Articles 31-33). Moreover, it also has comprehensive provisions regarding the process and

procedure of application, granting, and registration as well as a disputes settlement mechanism in case of infringement of PBR (Articles 35-56).

The essential principle motivating this Model Law is to maintain local community's control over their own system of food production, distribution and supply toward food security and sovereignty (Munyi, 2012). And according to the explanatory booklet, this Law 'sets up a boundary line between communal open systems and those of monopoly control and privatisation, and sets out to make it into a line of defence of the community' (Ekpere, 2000).

The last theme is access to genetic resources. In this aspect, the Model Law refers to the CBD principles of PIC and fair and equitable benefit sharing. The PIC principles are enshrined under Article 3 (1) of the Model Law, which states that PIC and written permit is required for access to biological resources and knowledge and technologies owned by local community.

It is noteworthy that this Model Law obliges consent not only from the state but also from the local community (Articles 5) while benefit sharing is regarded as the right of local communities, and the right of states. The consequence of this is that a minimum 50 % of the financial benefit derived from the use of genetic resources shall be shared with the local community (Article 22). The Model Law also provides the mechanism for this benefit sharing, for instance by 'establishing a Community Gene Fund as an Autonomous Trust' (Article 66) (McManis, 2012); (Medaglia, 2014). This OAU Model offers a very good theoretical model and there is no doubt that the UN was inspired by this Model. However, there is no example of the actual implementation of this model.

3. 3. Common System on Access to Genetic Resources and Common Intellectual Property Regimes of Andean Community Nations

Similar with OAU, the Andean Community Nations has established an interesting and innovative regime which attempts to provide a balanced regulatory model for the problem of IPR and access to genetic resources. Long before the proposal for the establishment of the South American Community, the Andean Community had already paid attention to the issues of IPR and genetic resources. This concern was found in its adoption of two important decisions on the new IPR regime as 'Common Intellectual Property Regime of 2000' and 'Common System on Access to Genetic Resources of 1996' known as Decision 486 and Decision 391 respectively.

The special feature of the Common IPR regime, which is not found in other regional arrangements of IPR, is that it devotes special attention to biological and genetic heritage and traditional knowledge. Under the new law (Decision 486) those are given prominence and they are placed in Article 3, a part of general provisions, after the principles of National Treatment and Most-Favoured Nations treatment provisions. This Article provides that together with protection of IPR, genetic resources and traditional knowledge of indigenous and local community heritage shall also be respected. Thus, if patent protected given to invention related that heritage, the ownership of that material subject to international, Andean Community, and national laws.

In its special topic on patents, the new law in its Article 25 has distinguished between subjects that shall not be considered as an invention and subjects which shall not be otherwise, patentable for other reasons, and they are regulated in a separate article. Partial or complete living thing and biological material found in nature, including genome or germ

plasm, natural biological processes are examples of something which are not regarded as invention.

‘Plants, animals, and essentially biological processes for the productions of plants or animals other than non- biological or microbiological processes’ are deemed not to be patentable under Article 20. This non patentable subject matter also includes inventions in which the prevention of the commercial exploitation within the region of a member country is required to protect public order and morality, human or animal life or health or to avoid serious prejudice to environment and plant life (Article 20). Similarly, still in the Article 20, diagnostic, therapeutic, and surgical methods for the treatment of humans or animals shall not be patented. Reading Article 20 above, means that this regime has used all of the opportunities for exclusion from patentability given by the TRIPs Agreement in Article 27.2 and 3 (a) (b).

However, the regime has gone further than the TRIPs Agreement by excluding micro-organisms from patentability, while TRIPs obligates the provision of patent protection for them. However, the language used in Article 15 (b) and 20 (c) is confusing and the provisions seem to overlap each other. For instance, Article 15 (b) uses the more general term of ‘any living thing’ while Article 20 (c) uses the specific terms ‘plants, animals.’ Similarly, Article 15 (b) uses the term ‘natural biological processes’, whereas, Article 20 (c) uses ‘essentially biological processes’. However, it can also be argued that both Articles underline each other to show the position of the Andean Community nations on patenting on life forms and its parts and biological material.

It is noteworthy that this new law is the first legislation in the world which requires PIC. These are very controversial provisions to prevent the misappropriation use of genetic resources and traditional knowledge of indigenous and local communities of Member nations through the patent system. In this respect, as provided by Article 75, the applicants are required to submit a copy of a contract for access to genetic resources if they apply for patents for products or processes derived and developed from genetic resources originated from Member nations. Similarly, for patent applications for a product or process obtained from indigenous traditional knowledge, it shall include a copy of the document licensing or authorising its use from the relevant community in accordance with Decision 391. Under Article 75 also, non-compliance with such requirements gives rise to a possible cancellation and invalidity of any IPRs given.

The Decision 391 is created under the spirit of the CBD, which declares the principle of state sovereignty over genetic resources. Furthermore, this sovereign right is expanded to the derivatives (by-products) of genetic resources, which is considered to go beyond the CBD’s provisions (Dutfield, 2000). According to this Decision, a derivative encompass ‘a molecule, a combination or mixture of natural molecules, including crude extract of live or dead organism of biological origin that come from the metabolism of living being’ (Article 1). The consequence is that patents of isolated bio-compounds which are derived from the Andean Community’s genetic resources could become subject to claims of the Andean Community Member Nations (Dutfield, 2000). According Articles 3-4, the scope of this Decision comprises non-human genetic resources, their derivatives, their intangible components, as well as the genetic resources of migratory species found in the territories of Member Nations with the latter being highly controversial, like migratory birds, etc.

The specific feature of this Decision not found in other regional laws is the use of term of 'intangible component' covering all individual and collective know how and practices related to genetic resources with real and potential value. Dutfield argues that the inclusion of this 'intangible component' concept leads to the withdrawal of non -IPR - protected knowledge from the public domain. This is problematic. It could be argued that this concept is aimed to provide a legal basis for indigenous people and local communities dealing with misappropriation of their knowledge.

The Article 32 of the Decision also provides detailed regulation of the access procedure and technique. It consists of application for access and specifies the parties of the contract, like between the applicants with Competent National Authority, as a representative of state. A supplementary contract can be signed between the applicants and other institutions like the owner of the land, and an ex-situ conservation centre. Communities are not specifically listed as a named party to such a contract but not especially excluded either. Nevertheless, this Decision provides a possibility for a community to be a party of supplementary contracts if it is identified as an owner, possessor or manager of biological resources containing genetic resources as provided under Article 41. This contract is subject to a range of conditions as stipulated by this law, including requirements to strengthen and develop communities in relation to their intangible components, and to take into account the rights and interests of the supplier of genetic resources, derivatives and their intangible components. As stipulated under Article 35, this access contract shall be integrated with an annex which specifies an equitable and fair benefit sharing distribution.

This access regulation is intended to address the problems of misappropriation by complementary provisions stipulating that if the access activities do not comply with this decision, any rights given, including IPR to genetic resources, derivatives, or intangible components shall not be acknowledged by the Member states. Furthermore, IPR rights shall not be given by the national IP office of Member nations where applicants do not present the registration number of the access contract, and provide a copy, if there are reasonable indications that the application for IPR is for products or processes originated from the genetic resources of Member nations. There is a system for the exchange of information between both the Competent National Authority and the national IP office that is required to trace the authorised access and IPR granted.

Although the Andean Community law together with the OAU's Model Law regarded as providing a useful model law for developing countries to address the problem of IPR and genetic resources, the conformity of those Model Law with international law related to this issue are still in question.

4. Conclusion

In response to unsatisfactory achievements at international forums, several countries grouped under regional economic integrations have tried to address these issues from their own regional perspectives and interests regarding the protection of IP and the conservation of genetic resources. They pay special attention to social and cultural values including morality as a foundation for their perspectives. Accordingly, the legal approach taken by these regional groups can be seen to be slightly different from the approaches taken on international law.

If the mainstream international laws use private property approach, the majority approach at the regional level is a benefit sharing approach. Interestingly, most regional trade integrations

also have a more or less similar policy towards patent on life forms and its commercialisation, including the requirement of access, PIC, disclosure or origin, and benefit sharing mechanisms. Accordingly, they shares similar sets of commitment and priorities to mega diverse developing countries. This benefit shall be shared with the people, community and populations of the country of origin from which the samples of genetic resources are obtained. If benefit sharing mechanism principles are implemented effectively, they can be used as an instrument of poverty alleviation. However, this goal is only likely to be reached if benefit sharing is regulated as a part of a national that is equitable and fair.

From its substance, it is apparent that some regional frameworks reject all protection of IPR on genetic resources and other life forms, whether derived from humans, animals, plants, or micro-organisms, but some of them do not touch IPR matters. This rejection is based on several considerations like morality and cultural values including human rights. These trends do not fit easily with a number of international agreements like the WTO-TRIPs Agreement which requires patent protection for micro-organism inventions. Some substances of these regional arrangements also go further than the CBD, although they were created under the spirits to implement the CBD's obligation. In addition, the objections raised by WIPO and UPOV regarding the regional legal framework issued by the African Union are because the African Model Law sits in opposition to Article 27. 3 (b) TRIPs Agreement and is contradictory to the UPOV Convention.

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