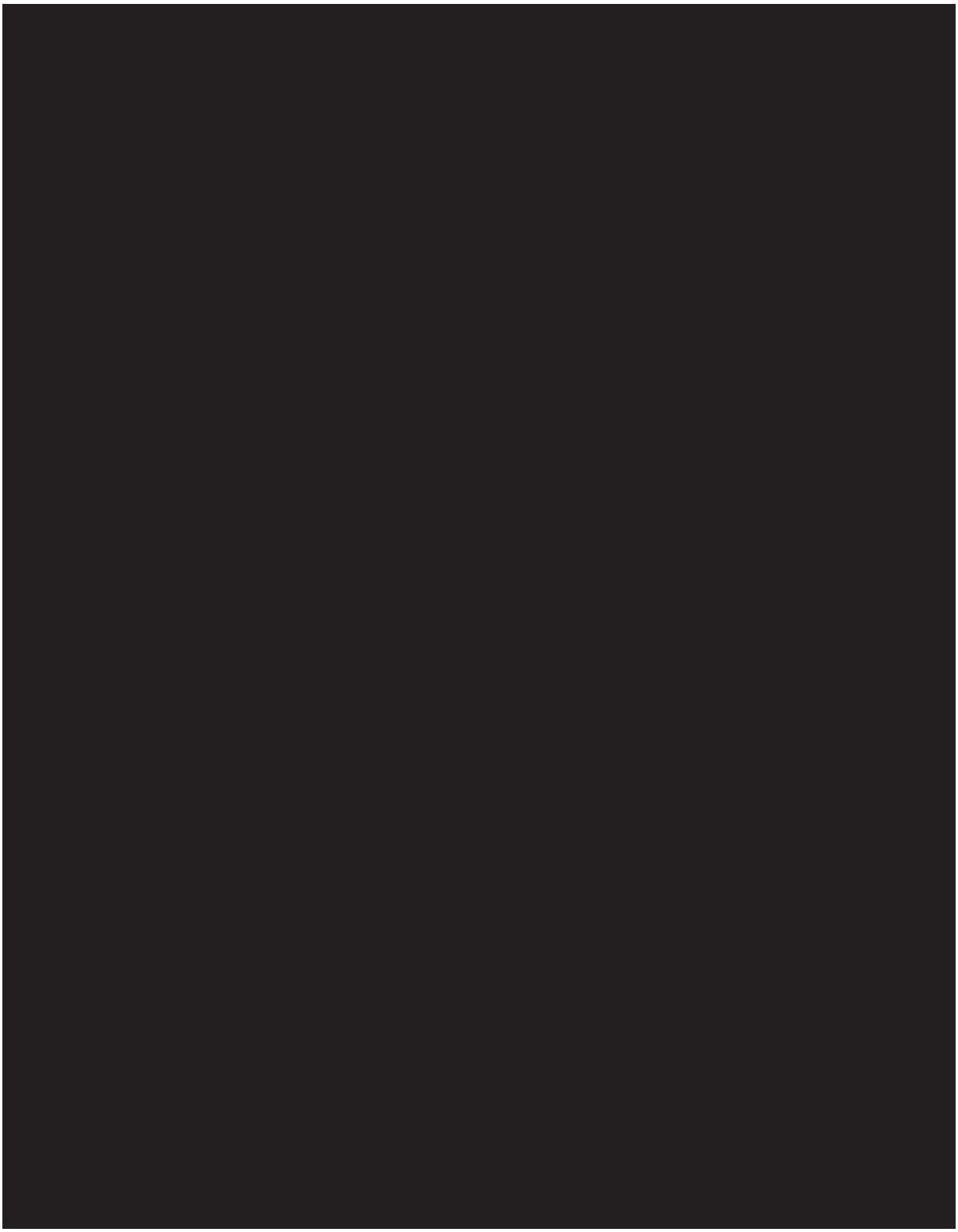

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The African Centre for Biosafety (ACB) is a non-profit organisation, based in Johannesburg, South Africa. It was established to protect Africa's biodiversity, traditional knowledge, food production systems, culture and diversity, from the threats posed by genetic engineering in food and agriculture. It, has in addition to its work in the field of genetic engineering, also opposed biopiracy, agrofuels and the Green Revolution push in Africa, as it strongly supports social justice, equity and ecological sustainability.

The ACB has a respected record of evidence-based work and can play a vital role in the agro-ecological movement by striving towards seed sovereignty, built upon the values of equal access to and use of resources.

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Design and layout: Adam Rumball, Sharkbouys Designs, Johannesburg

Original cover image: http://robinhesselgesser.com/wp-content/uploads/2013/04/Plant-the-seed.jpg

Acronyms and abbreviations

ACB	African Centre for Biosafety
AFSA	The Alliance for Food Sovereignty in Africa
AGRA	Alliance for a Green Revolution in Africa
ARIPO	African Regional Intellectual Property Organisation
AU	African Union
CAADP	Comprehensive Africa Agricultural Development Programme
CGIAR	Consultative Group on International Agricultural Research
GDP	Gross domestic product
Ha	Hectare
IPR	Intellectual property rights
LDC	Least Developed Country
NDUS	New, distinct, uniform and stable
NEPAD	New Partnership for Africa's Development
PESDA	Strategic Plan for Development of the Agricultural Sector
PNISA	CAADP National Investment Plan for Agriculture and Food security
PVP	Plant variety protection
R&D	Research and development
SADC	Southern African Development Community
SSA	Sub-Saharan Africa
TRIPS	Agreement on Trade-Related Aspects of Intellectual Property Rights
UN	United Nations
UNAC	União Nacional de Camponeses
UPOV	International Convention for the Protection of New Varieties of Plants
WIPO	World Intellectual Property Organization
WTO	World Trade Organisation

"Seed is the first link in the food chain and embodies millennia of evolution and thousands of years of farmers breeding as well as the culture of freely saving and sharing seed. It is the expression of earth's intelligence and the intelligence of farming communities down the ages." The Law of the Seed[1]

Introduction

We (African Centre for Biosafety (ACB)) have been requested by the União Nacional de Camponeses (UNAC) to provide an opinion on Mozambique's Norms on the Protection of New Plant Varieties, as approved by Decree no. 58/2006 of 26th December, (year unknown) (hereinafter referred to as the PVP law). This PVP law was ostensibly approved in terms of "current developments in the field of plant variety protection, and pursuant to subparagraph (f) of paragraph 1 of Article 204 of the Constitution of the Republic". We were not given any information about the scope and nature of the public consultation that is required to be undertaken by the government of Mozambique in the drafting and approval of the PVP law and whether any such public consultation has indeed taken place. These are issues for UNAC to explore further.

In this paper, we have dealt only with the most important provisions of the Mozambique PVP law that affect small-scale farmers. The ACB has worked from the version of the PVP law translated from Portuguese by translator, Mr Dudu Coelho from Mozambique.

Summary

Mozambique, as a member of the G8 New Alliance on Food Security and Nutrition, has undertaken to restructure its seed system to enable the production and distribution of improved seeds, with a particular emphasis on hybrid seed, in efforts to increase agricultural yields.

The country has already developed a set of seed laws titled *Regulation On Seed Production, Marketing Quality Control And Certification* (Ministerial Order No. 184/2001). This set of seed laws creates an exclusive seed market for certified, improved, commercial varieties of seed. It excludes farmers' varieties from the market, as it makes it impossible for these varieties to be officially recognised and registered.

This PVP law is part of the package to restructure Mozambique's seed system to provide secure markets for private investment, including, and especially through, the protection of private ownership over seed in the form of intellectual property protection, based on the provisions of UPOV 1991 (International Convention for the Protection of New Varieties of Plants of December 2, 1961, as revised at Geneva on November 10, 1972, and October 23, 1978).

Mozambique is not dissimilar to many African countries; desperate for investment and financial relief, it is willing to make whatever policy changes are necessary to bring capital into the country on the terms set by the array of actors behind the Green Revolution push underway in Africa.

The architecture of Mozambique's PVP law is based on UPOV 1991 signalling the government's support and promotion of a

particular type of plant breeding system, namely industrial breeding for cultivation in large-scale, mono-cropping, commercial farming systems. These systems are heavily dependent on high irrigation and synthetic fertiliser and pesticide use. There is no evidence in the Mozambique PVP law that policymakers in Mozambique looked at *sui generis* (of its own kind) systems from developing countries for guidance. *Sui generis* systems seek to include and support the interests of all affected groups, including farmers, consumers, indigenous communities and local industries. Indeed, Mozambique's PVP has pointedly snubbed the African Model Law. This is all the more tragic, as Mozambique is classified as an Least Developed Country (LDC) and is not obliged to implement its obligations in terms of Article 27.3(b) of the World Trade Organisation's (WTO) Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) agreement for another eight years. Article 27.3(b) requires countries to provide protection for plant varieties through an effective *sui generis* system.

This orientation towards industrial breeding is most clearly epitomised in the requirement that registration of a plant breeders' right will only be granted if a variety is new, distinct, uniform and stable (NDUS). This requirement is modelled on UPOV 1991. These criteria encourage genetic homogeneity and cannot be used to protect more diverse plant varieties, traditional varieties or cultivated land races.

The government of Mozambique has turned a blind eye to its small-scale farmers and their seed and farming systems. The provisions dealing with the exclusive rights granted to plant breeders' and the exceptions to those rights render the centuries-old African farmers' practices of freely using, exchanging and selling seeds/propagating material illegal. The PVP law also forbids farmers from freely exchanging or selling farm-saved seed and propagating material even in circumstances where breeders' interests are not adversely affected, for example in small amounts or for local rural trade. This must be fiercely and urgently resisted.

Key agriculture issues at a glance

Mozambique, known as Lourenco Marques during the colonial period, has a population of about 25 million people. Most live in rural areas and most rely on farming for all or part of their household income. Located on Africa's southeastern seaboard, the country encompasses biodiversity sites of great significance. These sites include the Gorongosa Mountains, the Great Inselberg Archipelago of Quirimbas in Northern Mozambique, and the Chimanimani Massif. Mozambique is home to around 5 500 plants, 581 birds, and 205 mammals, according to national estimates.[2]

Portuguese settlers were allocated large pieces of land during the colonial period, while most of the working population engaged in manual labour. Agricultural production was focused on increasing the supply of raw materials to Portugal. In the two years following independence in 1975 and prior to the outbreak of civil war in 1977, the new Mozambican state concentrated on the agricultural sector making provision for inputs, controlling prices and setting up marketing channels. The civil war lasted from 1977 to 1992 and nearly devastated the agricultural sector. Floods in 1977 and 1978 and a three-year drought in 1980 almost brought the sector to collapse. The country became almost entirely dependent on external aid for food and inputs. At the end of the war, donor money flowing into Mozambique was contingent on the government putting structural adjustment policies in place and liberalising the sector.[3]

Today agriculture is said to account for 25% of Mozambique's gross domestic product (GDP) and the sector employs 80% of its workforce. Of the agricultural workforce, 60% are female.[4] Cassava, sugarcane and maize are the major crops cultivated in the country (see table below). Average grain yields in 2010 were less than 1 ton per hectare (ha). According to the Alliance for a Green Revolution in Africa (AGRA), Mozambique has 49.4 million ha of agricultural land (annual, perennial and pasture), 5.4 million ha of which was cultivated in 2011.[5] AGRA estimates that the adoption rate for "improved" maize seed is 11% and that, between 2005 and 2008, only 4–5% of small-scale farmers used fertiliser with the bulk of fertiliser use (90%) accounted for by tobacco and sugarcane

cultivation.[6] Spending on agricultural research is low compared to continental averages. In 2008, Mozambique had 11.8 agricultural research staff per million people in contrast to the sub-Saharan Africa (SSA) average of 23.4 and public spending on research and development (R&D) as a percentage of agricultural GDP was 0.4% compared to the SSA average 0.9%.

Major crops cultivated in Mozambique in 2013

Crop	Production (tons)
Cassava	10 051 364
Sugarcane	3 393 904
Maize	1 177 390
Sweet potato	900 000
Pulses	602 406
Bananas	470 000
Rice	280 000
Sorghum	239 000
Potatoes	205 000
Groundnuts	112 913

Mozambique is seen as a high potential agricultural country. Consequently, AGRA, Feed the Future (a USAID initiative) and Grow Africa (a joint African Union (AU) Commission, New Partnership for Africa's Development (NEPAD) and World Economic Forum Initiative) are all active in the country. Mozambique's Comprehensive Africa Agricultural Development Programme (CAADP) National Investment Plan for Agriculture and CAADP National Investment Plan for Agriculture and Food Security (PNISA) and the Strategic Plan for Development of the Agricultural Sector (PESDA) guide these initiatives. Mozambique is a G8 New Alliance member country. By 2013, 17 companies had signed 'Letters of Intent' through Grow Africa, including the African Cashew Initiative, AGCO (tractors, machinery), Cargill and SAB Miller.

Key policy commitments under Mozambique's G8 Co-operation Framework include crafting policies and regulations for input markets, reforming the land tenure system, promoting liberalisation of agricultural trade, increasing access to credit and implementing a national plan on nutrition.

Members of the G8 have stressed the importance of concentrating on the Beira, Nacala and Zambezi Valley agricultural corridors in the country.[7] The corridors will each focus on a particular commodity. Beira will focus on sugarcane, fruit, potatoes, livestock, rice, horticulture, poultry and soya; Nacala will focus on banana, vegetables, grains, soybeans, sesame, tea, groundnuts, cotton and livestock; and the Zambezi Valley on cotton, maize, rice and soybeans.[8]

Despite these formal interventions, Mozambique's seed sector remains characterised by a farmer-saved seed system, which serves over 70% of farmers and informal exchange, which contributes 20% to the seed sector.[9] Seed in Africa is still primarily produced and disseminated through "informal" seed systems,[10] that is, through on-farm seed saving and unregulated distribution between farmers. This system has survived for centuries and has generated a wide diversity of seed adapted to local agroecological conditions.

The formal seed sector in Mozambique is relatively small in comparison and comprises not more than 10% of the seed sector, which is concentrated in the horticulture sector and, to some extent, the maize sector.[11] The farmer-saved and community-based informal seed systems are of most relevance for crops for food security, for example the traditional cereals and food legumes. They are also most relevant for vegetatively propagated crops such as cassava and sweet potato.[12]

Restructuring seed laws

Mozambique, as a member of the G8 New Alliance on Food Security and Nutrition and in terms of Annex 1 of the Cooperation Framework,[13] has undertaken to restructure its seed system to enable the production and distribution of improved seeds as part of the objective of increasing agricultural yields, with an emphasis on hybrid seeds. Already the country has developed a set of seed laws titled *Regulation On Seed Production, Marketing Quality Control And Certification* (Ministerial Order No. 184/2001.[14]

Donors and potential investors have identified weak governance and regulatory systems and institutions in Africa as immediate obstacles to the expansion of seed systems that are based on quality controls and intellectual property. A key priority in the commercial agenda is to facilitate regional harmonisation of policies and laws to regulate and support investment in seed and agrochemicals. Towards the end of 2012, the ACB published a report titled "*Harmonisation of Africa's seeds laws: a recipe for disaster – Players, motives and dynamics*"[15] showing how African governments are being co-opted into reviewing their seed laws and supporting the implementation of PVP laws through fast-tracked regional harmonisation processes and trading blocs. The government of Mozambique has actively participated in two regional harmonisation processes with regard to draft PVP protocols developed under the auspices of the African Regional Intellectual Property Organisation (ARIPO) (the Legal Framework for the Protection of New Varieties of Plants) and the Southern African Development Community (SADC) (the Protocol for the Protection of New Varieties of Plants (Plant Breeders' Rights) in Southern African Community Development Region). As is evident from the discussion below, Mozambique's PVP law has been heavily influenced and informed by the draft SADC PVP Protocol.

Harmonisation of PVP law efforts aim to provide secure markets for private investment including and especially through the protection of private ownership over seed in the form of intellectual property protection, based on the provisions of UPOV 1991. Mozambique, not dissimilar to many African countries, desperate for investment and financial relief, is willing to make whatever policy changes are necessary to bring capital into the country on the terms set by the array of actors behind the bigger Green Revolution push in Africa. These actors range from multinational corporations, non-African states, philanthropic institutions, multilateral institutions such as the World Bank, the African seed companies and even non-government organisations.

The often-repeated mantra in various regional and national stakeholder workshops by policymakers is "harmonisation, free trade and protection of private intellectual property rights or no investment". Yet, a 2005 World Bank study of five developing countries (China, Colombia, India, Kenya and Uganda) found no empirical evidence that plant breeders' rights would induce new research, new varieties or strengthen developing country seed industries, thereby questioning the value of PVP regimes in developing countries.[16]Indeed, the authors concluded that in developing countries where formal seed systems are just emerging, the efficient and transparent management of regulations for seed marketing, variety registration, and seed certification and quality control could do more to encourage commercial seed development than the establishment of PVP.[17]

Mozambique and International Treaty Obligations

Mozambique ratified the Convention on Biological Diversity in 1995 and is a Party to the Cartagena Protocol on Biosafety, but it is not a Contracting Party to the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA)[18]. Mozambique is also not a member of either UPOV 1978 or UPOV 1991.

Mozambique is a member of the WTO and is recognised by the organisation as a LDC.[19] It is important to note that LDCs are given an extended transition period of eight years to put in place the intellectual property rights systems required by Article 27.3(b) of the WTO's TRIPS agreement. This is in recognition of the special requirements of LDCs, their economic, financial and administrative constraints, and the need for flexibility so that they can create a viable technological basis. [20] There is thus no international legal obligation on Mozambique for at least another 7 years to "provide protection for plant varieties either through patent protection either through patent protection or an effective *sui generis* system or a combination of the two."[21]

Mozambique's PVP Law – what kind of "effective *sui generis* system?"

Leaving aside for the moment the fact that Mozambique as an LDC is not currently obliged to implement the provisions of 27.3(b) and assuming that the Mozambique PVP law represents "an effective *sui generis* system" as set out in Article 27.3(b) (in the view of policymakers in Mozambique), then one has to ask what kind of effective *sui generis*

system has been put in place. *Sui generis* refers to "of its own kind" or "unique." It is worth noting that TRIPS does not define what a *sui generis* system entails, which means that WTO member states have flexibility in crafting such an effective *sui generis* system, including one that arguably does not have to be an **intellectual property rights** regime. However, there is a strong prevailing view that Article 27.3(b) requires meeting minimum requirements, which might be inferred to include that it should confer a property right, which can be protected.[22]

It has been argued that where a PVP regime is established, WTO member states have sufficient flexibility to seek a balanced approach, one that includes and supports the interests of all affected groups including farmers, consumers, indigenous communities and local industries, in light of the fact that obligations which Mozambique has committed to through various international treaties should be of benefit to all.[23]

It is our view that the architecture of Mozambique's PVP law is based principally on that of UPOV 1991. To this extent, it is our respectful view that Mozambique's PVP law has not adopted an approach that seeks to balance the proprietary rights granted to commercial plant breeders and the rights of farmers and the importance of biodiversity conservation and food security.

The Alliance for Food Sovereignty in Africa (AFSA) argues that UPOV 1991 is a restrictive and inflexible legal regime that grants extremely strong intellectual property rights to commercial breeders and undermines farmers' rights. Indeed AFSA is of the view that African seed laws based on UPOV 1991 will likely increase seed imports, reduce breeding activity at the national level, facilitate monopolisation by foreign companies of local seed systems, and disrupt traditional farming systems upon which millions of African farmers and their families depend for their survival.[24]

The government of Mozambique appears to have turned a blind eye to the enormous role that the diversity of animal and plant kingdoms, species and gene pools play in the productivity of farming systems in a range of growing conditions. There is increasing consensus that diverse farming systems are generally more resilient in the face of climate change and they enhance food security. Diversity of plant life can maintain and increase soil fertility and mitigate the impact of pests and diseases. Diversity of diet, founded on diverse farming systems, delivers better nutrition and greater health, with additional benefits for human productivity and livelihoods.[25]

This is all the more tragic when one considers that WTO member states do not need to adopt the protection required by both the UPOV Acts (UPOV 1978 and 1991) for compliance with the requirement for an "effective *sui generis*" of the TRIPS Agreement. This is because Article 27.3(b) does not require plant variety protection laws to contain the same subject matter, eligibility requirements, exclusive rights, terms of protection or other detailed provisions of either the two UPOV Acts.[26] Indeed, the WTO does not require any member state to join the UPOV system at all!

The various key provisions of the Mozambique PVP law, which are based on UPOV 1991, that are concerning include the following:

- Chapter II dealing with the conditions for granting plant breeders' rights, read together with the definitions set out in Article 1 of the PVP law with regard to the NDUS criteria.
- Chapter V dealing with the plant breeders' rights, in particular the provisions relating to the scope of protection of plant breeders' rights in Article 27 and the exceptions to the plant breeder's rights as set out in Article 28.

The key provisions in these chapters are dealt with in detail below.

Overview of Key Provisions

Objectives and Scope (Articles 2 and 3)

The objective of the Mozambique PVP law is to establish rules for the protection of **new** plant varieties (Article 2). The main aim of a *sui generis* PVP law must be to create a balance between the interests of commercial breeders – those that develop **new** varieties – and to

uphold practices of local breeders, mainly farmers engaged in ongoing cultivation of "**domestic**" varieties, while at the same time, accommodating **new** varieties that farmers may develop.[27]

By contrast, the Thai PVP[28] law deals with different categories of varieties: new varieties, domestic and wild varieties, and local varieties, so as to accord differential protection to different categories. The Thai PVP law does not accord exclusive protection to all varieties, but rather seeks to provide incentives to breeders of domestic farmers' varieties. For general domestic and wild varieties, the Thai PVP Act (Chapter 5) details access and benefit sharing (ABS) rules and gives more specific protection rights for registered local community varieties (Chapter 4). The community would then receive exclusive rights to conserve, use, research, sell, and commercialise if so desired, similarly to new plant variety rights. [29]The Mozambique PVP law does not entertain any differential protection for variety protection at all.

Article 3 of the Mozambique PVP law states that the law is to apply to all genera and species of plant varieties. This provision is consistent with Article 2 of the draft ARIPO Legal Framework for the Protection of New Varieties of Plants and Article 3(1) of the draft SADC PVP Protocol.

It would have been prudent for Mozambique to limit the Act's application within a particular genus or species and thereby exclude certain species from commercialisation to ensure food security, conserve agricultural biodiversity and limit the type of plant breeding, manner of reproduction or multiplication, or certain end uses, in the public interest (for example, genetic modification, synthetic biology, terminator technology and so forth). It is interesting to note that the provisions of Article 3 go beyond that which is required even by UPOV 1991. Article 3(2) of UPOV requires States to protect at least 15 plant genera or species upon ratifying the UPOV 1991 Act (which Mozambique has not done) and to extend protection to all plant varieties within 10 years.

Chapter II of the Mozambique PVP law (read together with definitions in Article 1)

Criteria for protection

The PVP law promotes and protects only one type of plant/seed breeding, namely industrial breeding for cultivation in large-scale, mono-cropping, commercialised farming systems, heavily reliant on high irrigation, synthetic fertiliser and pesticide use. Implicit in the Mozambique PVP law is the view that agricultural biodiversity is valued only as a source of traits that can be used in scientific breeding programmes to improve the productivity of crop varieties. See for example in this regard, the definition of "variety" in Article 1.[30] The emphasis is on the expression of characteristics arising from the genotype - the genetic make-up of the variety, and its protection rather than on observable physical or biochemical aspects of the variety. This implicitly renders the orientation of the law towards industrial breeders that engage in plant breeding. This definition in Article 1 of the Mozambique PVP law is identical to the definition in Article 1(vi) of UPOV 1991.

This orientation towards industrial breeding is further epitomised by the provisions set out in Chapter II of the PVP law dealing with the conditions for granting plant breeder's rights. These provisions clearly state in Article 7 that plant breeder's rights will be granted only when a variety is NDUS. These NDUS criteria are based on UPOV 1991. Civil society groups have criticised these criteria as encouraging genetic homogeneity and as being unable to protect more diverse plant varieties, traditional varieties or cultivated landraces for various reasons more fully discussed below.[31]

The Malaysian PVP law[32] by contrast, grants a breeder's right if the plant variety is NDUS to cater for commercial breeders, but then provides that where a plant variety has been bred, discovered and developed by a farmers, local community or indigenous people, a breeder's right is awarded if the plant variety is new, distinct, and **identifiable**.[i] This is done

i. Identifiable is defined in section 14 of Malaysia's PVP law as follows: a plant variety is identifiable if –
(i) it can be distinguished from any other plant grouping by the expression of one characteristic and that characteristic is identifiable within individual plants or within and across a group of plants; and
(ii) such characteristics can be identified by any person skilled in the relevant art.

to accommodate small-scale breeders seeking protection for their varieties. In this regard, the criteria for protection have been distinguished instead of the varieties.

There is no evidence in the Mozambique PVP law that it looked to *sui generis* systems from developing countries for guidance. There is only evidence of a slavish adoption of the provisions of UPOV 1991.

When will a variety be considered to be new?

A variety is deemed new if it satisfies the **novelty criteria** set out in Article 8 of the Mozambique PVP law.

Novelty in Article 8(1) of the Mozambique PVP law is identical to the novelty criteria set out in UPOV 1991, as well as Article 8(1) of the draft SADC PVP Protocol that define novelty in terms of whether a variety has been previously sold or disposed off, without the consent of the breeder. As in the case of the SADC PVP Protocol provisions, the variety under the Mozambique PVP law is considered novel if the variety has not been sold/disposed off in the SADC region earlier than one year before the date of application; and outside of the SADC region earlier than four years and six years for trees and vines. It must be noted that the concept of "common knowledge" is not referred to in Article 8 of the Mozambique PVP law, but rather this concept is dealt with in Article 9 dealing with distinctness. Novelty is one of the criteria for patentability in any examination as to substance. An invention is new if it is not anticipated by prior art. Prior art is in general, all the knowledge that existed prior to the relevant filing or priority date of a patent application, whether it existed by way of written and oral disclosure.

How is distinctness determined?

Mozambique PVP law Article 9 sets out the criteria for distinctness. A variety is considered distinct if it is clearly distinguishable from any other variety whose existence is **common knowledge** at the effective date of application. This wording is taken verbatim from Article 7 of UPOV 1991.

The determination of the existence of a variety of common knowledge is to be tested against the factors set out in Article 9(2)(a)-(g) of the Mozambique PVP law (read together with section 1 of the definitions.) However, Article 9 is silent on where such common knowledge needs to exist – in Mozambique, the SADC region or the entire world. One of the factors considered is the "inclusion of the variety in a collection of varieties of plants accessible to the public". This seems to refer to gene banks, however, it should refer to all gene banks in the world, including unimproved germplasm already in the public domain, such as those found in the Consultative Group on International Agricultural Research (CGIAR) seed collections.

Another factor is the "existence of a precise description of the variety in any professional publication". A similar provision is to be found in Article 9 of the draft SADV PVP Protocol. Comments made by civil society point out that the wording, "any professional publication", is too restrictive and that the provision should apply to "all publications".[33] The main concern being to avoid a situation in which a commercial entity seeks to obtain plant variety protection over biological resources, including plant varieties that belong to or are under the control of farmers and indigenous communities. A recent example of such misappropriation through the "shopping for intellectual property at farmers' markets" is the "Turkey Purple Carrot" case where Monsanto's subsidiary Seminis purchased farmers' seed in southern Turkey of a certain variety of purple carrot and after a simple process of selection, obtained plant variety protection in both the United States and the European Union.[34]

Article 9(2)(g) provides an opening for the list of factors against which distinctness is tested to be expanded by the Registration Entity, an opportunity that should be fully utilised by UNAC to seek protection for farmers' varieties against misappropriation including protection of unimproved or wild germplasm found in CGIAR seed collections. (see discussion below on disclosure).

How is uniformity determined?

Article 10 of the Mozambique PVP law deals with uniformity and provides that "a variety is deemed to be uniform if, subject to the variation that may be expected from the particular characteristics of its propagation, it is sufficiently uniform in its principal characteristics".

This criterion is the most blatant expression of support for genetic uniformity by the reward of a plant breeder's right to breeders of uniform, homogenous plant varieties rather than rewarding breeders who cultivate landraces that exhibit diverse traits. Such a provision has the effect of actively discouraging variability in plant varieties. This diversity is absolutely necessary to ensure food security.

How is stability determined?
In terms of Article 11 of the Mozambique PVP law, a variety shall be deemed to be stable if its principal characteristics do not change over a number of generations, taking into account the seed chain and seedling production system. This wording is a little different to the stability criterion in Article 9 of UPOV 1991 and Article 11 of the draft SADC PVP Protocol, which are identical to each other: "a variety shall be considered to be stable if its relevant characteristics remain unchanged after repeated propagation or, in the case of a particular cycle of propagation, at the end of each cycle". Nevertheless, Article 11 of the Mozambique PVP law is consistent with the UPOV and SADC formulations as it conveys the consistent and central message that a breeder has to show that the essential characteristics of its variety are homogenous or uniform over time, even after repeated reproduction or propagation. Hence, the same criticisms that apply to the uniformity criteria apply to the stability criteria, as regards it precluding the protection of cultivated landraces and other traditional plant varieties inasmuch as such varieties are inherently unstable and in permanent evolution and adaptation.

UNAC should seek amendment of the PVP law by arguing in favour of a less strict criterion to be adopted namely, "identifiability" instead of the UPOV 1991 style "uniformity" and "stability". Identifiability would allow for the inclusion of plant populations that are more heterogeneous, and thus would take into account the interests of farmer breeders, as well as serve as an incentive to all breeders to bring more genetically diverse varieties to the market.

Chapter III-Application for plant breeders' rights

No exceptions to the eligibility for breeders' protection
An application for plant breeders' rights will be granted when the conditions set out in Chapter II discussed above have been satisfied (the meeting of the NDUS criteria). Implicit in the law is that the applicant will bear the burden of proving that the variety in respect of which a plant breeder's right is being sought, satisfies the NDUS and other procedural requirements of the law. (See also in this regard Article 25 and the discussion below with regard to pre-grant objections.)

It must be noted that Article 7(2) provides that the granting of plant breeders' rights shall not be subject to any additional criteria, provided that the applicant complies with the formalities imposed in terms of the law. This is in line with UPOV 1991, which does not allow any exceptions to the eligibility for breeders' protection. For example, it does not allow provisions that may disallow the granting of breeders' rights where the public order or morality may be adversely affected and where there are reasonable grounds to believe that the cultivation, reproduction or any other use of that plant variety may have adverse environmental impacts and so forth. It is a pity that the Mozambique PVP law has taken such a permissive approach to the granting of breeder's rights and is slavishly following the prescriptions of UPOV 1991, an international regime designed by and for developed countries. Equity, social and environmental justice were obviously not priorities for the Mozambican government when drafting their PVP law.

Information to be furnished by applicant hopelessly insufficient; no disclosure requirements
The formalities that an applicant for a plant breeder's right must comply with are set out in Article 13 of the PVP law including the furnishing of certain information about the applicant and the proposed name and technical description of the variety. In addition, the Registration Entity (defined as the organ responsible for the administration of plant breeders' rights) may request any information, documentation or material on the variety as

may be required for the purposes of conducting analyses (Article 13(5)). Nevertheless, a number of critical elements are missing from the provisions of Article 13.

For instance the Malaysian 2004 PVP Act (Section 12) requires an application for PBR *inter alia* to:

- Specify the method by which the plant variety is developed.
- Be supported by documents and information relating to the characteristics of the plant variety that distinguish the plant variety from other plant varieties.
- Contain information relating to the source of the genetic material or the immediate parental lines of the plant variety.
- Be accompanied with the prior written consent of the authority representing the local community or the indigenous people in cases where the plant variety is developed from traditional varieties.
- Be supported by documents relating to the compliance of any law regulating access to genetic or biological resources.
- Be supported by documents relating to the compliance of any law regulating activities involving genetically modified organisms in cases where the development of the plant variety involves genetic modification.

The Indian PVP law (Section 18) requires an application for PBR protection to include:

- An affidavit sworn by the applicant that such variety does not contain any gene or gene sequence involving terminator technology.
- Complete passport data of the parental lines from which the variety has been derived along with the geographical location from where the genetic material has been taken and all such information relating to the contribution, if any, of any farmer, village community, institution or organisation in breeding, evolving or developing the variety.
- A declaration that the genetic material or parental material acquired for breeding, evolving or developing the variety has been lawfully acquired. These elements are important to safeguard against misappropriation of genetic resources and associated traditional knowledge and to operationalise benefit sharing. African governments have long championed in various international fora such as the World Intellectual Property Organization (WIPO) and the WTO, for intellectual property systems to incorporate a mandatory disclosure of origin requirement that would include proving prior informed consent and benefit sharing.

Requiring full disclosure of information on how the variety is developed in exchange for receiving plant variety protection is also critical to transfer technology and knowledge to the local communities. Moreover, full disclosure of information will enable Mozambique to ensure that varieties that are injurious to health and the environment do not receive protection.[35]

It should be noted that African civil society representatives participated in a regional workshop to review the draft SADC PVP Protocol 13-14th March 2014, in Johannesburg South Africa when the other workshop participants, including representatives of SADC member states, agreed to include in the Protocol, as part of the application requirements for a plant breeder's rights, a declaration to the effect that the genetic material or parental material acquired for breeding, evolving or developing the variety has been lawfully acquired.

Publication of Information and pre-grant objections

Article 21 deals with the publication of information in the Government Gazette at regular intervals, including any information of public interest. It would be important for UNAC to request that public interest in this context be defined, at least to include information relating to the disclosure of origin of the genetic material used to develop the new varieties in the light that no provision on disclosure of origin is contained in the PVP law.

In terms of Article 21(2), confidential information included in the application for plant breeders' rights shall not be published without the consent of the plant breeder. There is really no good reason for the protection of "information," which is much wider in scope than "confidential business information." In any event, the Registration Entity should decide what confidential business information needs protection for commercial purposes and what information should be put in the public

domain. As the law is currently crafted, the withholding of confidential information by the applicant trumps the public interest.

Article 22 obliges the Registration Entity to post, in either the Government Gazette or a newspaper of widest circulation in the country, a notice of every application received. This notice must include the name of the applicant, effective date of the application, the proposed designation of the variety, plus any information relating to the application that may be needed to describe the variety for purposes of public comment or that may be detailed in the supplementary norms without prejudice to the confidentiality of information under paragraph 5 of article 5 of the regulation.

The requirement for "information relating to the application which may be necessary to describe the variety for the purposes of public comment" is too vague and may result in arbitrary decision-making on the part of the Registration Entity. This provision should be more fully defined in supplementary norms to include information that the public may require to enable meaningful commentary and participation in the decision-making process.

Article 5(5) provides that "The Registration Entity shall determine what specific information in the register may be accessible to the public, with due respect for the confidentiality of certain information, particularly that which pertains to company secrets". It is not known why there is this discrepancy between Article 21(2) and Article 5(5), the latter which attempts to signify what kind of information may quality as confidential information, namely company secrets. Reading through the provisions of Article 22(2), 22(3) and 22(4), it becomes immediately apparent that the pre-grant comment procedure is aimed at other (perhaps competing) commercial breeders who are constituted as organised entities and not the general public.

First, Article 22(2) refers to "any entity" as opposed to "any person" that may submit a duly substantiated written objection. Second, the written objection is to be accompanied by the payment of fees. Small-scale farmers who may want to object to an application will be hard pressed to find money to pay fees or may be discouraged to object if they have to pay such fees. Moreover, why should they if it is their democratic right to participate in decision-making that affects their or the public's interest? Third, the grounds to found any objection as set out in Article 22(4)(a)-(j) are burdensome to small-scale farmers and not focused on issues that they engage in. These are more in the nature of grounds that competitors in the plant breeding industry would be interested in. Article 22(4)(k) provides some saving grace in that grounds for an objection may also include other reasonable grounds, to accommodate the interest of small-scale farmers. Where an objection is lodged, the applicant is given an opportunity to contest the objection. The final decision is made by the Registration Entity, "having heard the parties concerned and the opinion of the Technical Committee". It appears as if the law contemplates an oral hearing that the decision of the Registration Entity not be a unilateral one, but one taken after soliciting the opinion of the Technical Committee. The Technical Committee is established by the Minister of Agriculture to advise the Registration Entity on all matters relating to plant breeders' rights, consisting of a plant breeding specialist, a specialist according to the nature of the issue and a jurist. (Article 6(1)).

Article 25 deals with the granting and rejection of plant breeders' rights, which is obligatory on the Registration Entity where the application meets the NDUS requirements, the application meets with the requirements of the law with regard to designation of varieties, and where the Registration Entity concludes that the objections received provide no grounds for the prevention of the granting of the plant breeders' rights. This appears to imply that despite the provisions of Article 7(2) discussed above, objections may well stand in the way of the grant of plant breeders' rights. The only concern however, is that the provisions in Article 25(3) dealing with the rejection of an application, do not include an objection submitted as one of the grounds for rejection.

Chapter V Plant Breeders' Rights

Exclusive rights, exceptions and limitations

The provisions in this Chapter, particularly Articles 27 and 28 deal with the tensions between the granting of exclusive intellectual property rights (IPRs) to a breeder to exclude

all third parties from reproducing, modifying or distributing the plant variety in respect of which the IPRs have been granted in order to allow the breeder to recoup its investment to create the subject matter of the intellectual property (the new variety) and exceptions to those exclusive rights in the public interest or in furtherance of social and policy objectives. These exceptions appear in two forms: one that permits third parties to engage in specified uses of protected variety without the permission of the right holder and without remuneration being paid to the right holder. The second form is known as "compulsory licences", which allow third parties to use the plant variety without the right holder's consent, but only upon the payment of adequate compensation.[36] Compulsory licences are dealt with below.

These provisions in Articles 27 and 28 also epitomise the stark tensions between exclusive IPRs granted to the breeder and farmers' rights. The concept of farmers' rights was developed to reflect the contributions that traditional farmers, particularly in the developing world, have made to the preservation and improvement of plant genetic resources. The Food and Agriculture Organisation Resolution 5/89 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 in centres of origin/diversity."[37] Such rights are also recognised in Article 9 of the ITPGRFA, to which Mozambique is not a contracting state.

There are different strands to farmers' rights. These include providing for farmers' rights as exceptions to the exclusive rights granted to plant breeders, discussed below. A second approach is develop an appropriate *sui generis* law in order to permit farmers themselves to claim exclusive rights in the plant varieties they develop within their own breeding systems, already discussed above. A third approach is to recognise farmers' rights through benefit-sharing mechanisms such as financial payments and technology transfers, which compensate farmers for their contributions to plant genetic diversity.

Article 27 sets out the scope of the exclusive nature of plant breeders' rights and Article 28 deals with the exceptions to plant breeders' rights.

Article 27 (1) confers exclusive rights to plant breeders to:

- Produce and multiply propagating material of the protected variety
- Package for purposes of propagation
- Sell, market, export, import and store the protected variety.

Anyone who wants to undertake any of the above activities must obtain the consent of the plant breeder in the form of a licence granted by the right holder, and usually upon payment of royalties. Article 27(1) is to some extent modelled on Article 14(1) of UPOV 1991 and Article 29 of the draft SADC PVP Protocol. Similar provisions are also to be found in the draft ARIPO PVP Protocol, but there are some important differences. Article 27 of the Mozambique PVP law does not have the same controversial and draconian Article 27(2) that is found in the SADC PVP, which extends the exclusive plant breeders' rights to harvested material including entire parts of plants. This is at least a saving grace.

Article 27(4) also extends exclusive rights to varieties, which are essentially derived from the protected variety, where the protected variety itself is not an essentially derived variety and whose production requires the repeated use of the protected variety. These provisions are consistent with the provisions of Article 27(3) of the draft SADC PVP and Article 14(5) of UPOV 1991.

The exceptions to the plant breeders' rights as set out in Article 28 are as follows (in other words, the following activities are allowed in respect of the protected variety without a licence having to be issued by the plant breeder and without the payment of royalties):

(a) The use of the protected variety in a programme of improvement of new varieties, except where the protected variety is repeatedly used.
(b) Experiments or research activities.
(c) Activities carried out by smallholders for purposes of propagation on their own fields, and the product of the cultivation of the protected variety in their own fields.
(d) Any other private activity carried out for

non-commercial purposes.

Points (c) and (d) affect small-scale farmers directly. But what do these exceptions mean?

Dealing with (c) first:

Activities carried out by small-scale farmers for **purposes of propagation on their own fields**, and the **product of the cultivation (harvest)** of the protected variety **on their own fields**.

"Small-scale farmers" is not defined and is a broad concept that can include family farmers, subsistence farmers, small- scale commercial farmers and so forth.

This means that small-scale farmers are only allowed to re-plant farm saved seeds of the protected variety on their own fields and to use the product of the harvest only on their own fields. Such farmers are thus not allowed to exchange, barter, or sell either farm-saved seeds of the protected variety or to share the product of their harvest with anyone else (for example, family, neighbours or the community), except to use this on their own fields. Small-scale farmers are also not allowed to exchange, barter or sell the product of their harvest if it derived from the replanting of farm saved seeds of a protected variety. This provision is modelled on the optional exception contained in Article 15(2) of UPOV 1991.

Dealing with (d):

Any other **private activity** carried out for **non-commercial purposes**.

This is identical to the exception provided in Article 15(1)(i) of UPOV 1991. According to the UPOV guidance document, this means that "... propagation of a variety by a farmer exclusively for the production of a food crop to be consumed entirely by that farmer and the dependents of the farmer living on that holding, may be considered to fall within the meaning of acts done privately and for non-commercial purposes".[38] This means that even consumption by the farmer and his/her neighbour or community would not fall within the exception.

What is wrong with these provisions?
The first crucial issue is that the exclusive rights granted to the breeder, as set out in Article 27, in conjunction with the exceptions, prohibits the centuries-old African farmers' practice of freely using, exchanging and selling seeds/propagating material. These practices underpin 90% of the agricultural systems on the African continent. Further, these provisions forbid farmers from freely exchanging or selling farm-saved seed and propagating material even in circumstances where breeders' interests are not affected (for example, in small amounts or in local rural trade). Farmers wanting to engage in these activities would have to obtain a licence from the breeder and pay royalties.

Where small-scale farmers buy protected varieties for the purposes of planting for commercial purposes, these provisions would force such farmers to pay a second charge on something they already possess. Implicit in these provisions is the mischievous objective of replacing traditional varieties with uniform, commercial varieties and increasing the dependency of small-scale farmers on commercial seed varieties. This system aims to compel farmers to purchase seeds for every planting season or pay royalties to the breeder in the case of reusing farm-saved seeds. In addition, farmers are required to pay for expensive inputs, such as fertiliser, since the performance of these commercially protected varieties is often linked to such inputs, thereby creating vicious cycles of debt and dependence.

Such a system will result in the erosion of crop diversity and reduce resilience to threats such as pests, disease and climate change. It will also result in farmer indebtedness in the face of unstable incomes (as revenue would vary depending on seasons). Additionally, these commercial, high-yielding varieties are very likely to be less suited to the specific agroecological environments in which farmers work than locally adapted traditional farmer varieties.

Farmers in Africa rely heavily on seed that is saved on the farm, exchanged with family members and neighbours, bartered or bought on the local market. This reliance on these informal seed sources is independent of whether farmers cultivate local or modern varieties. The reasons for this dependence include inadequate access to markets; unfavourable market channels for farmers living in remote areas; limited access to

financial resources or credit to buy seeds; the inability of a formal system to provide timely and adequate access to quality seeds of improved varieties and to varieties that are specifically adapted to local conditions.[39]

The government of Mozambique appears to have forsaken its small-scale farmers. It also appears to have forgotten about its international obligations under the Convention on Biological Diversity. Article 10(c) compels each Party, to "protect and encourage customary use of biological resources in accordance with traditional cultural practices that are compatible with conservation or sustainable use requirements".

The government of Mozambique has turned its back on the African Model Law,[40] which tries to balance the exclusive rights granted to breeders with those of farmers' rights. Article 30 of the African Model Law grants the right holder the exclusive right to sell and produce the protected variety. The rights do not extend to essentially derived varieties or to harvested material. Article 31 of the African Model Law deals with the exceptions to the plant breeders' rights and allows farmers to propagate, grow and use plants of that variety for purposes other than commerce: use of the protected variety in further breeding, research or teaching and use of plants or propagating material of the variety as an initial source of variation for the purpose of developing another new plant variety, except where the person makes repeated use of plants or propagating material of the first mentioned variety for the commercial production of another variety.

Farmers' rights under Article 26 and 31 of the African Model Law include the right to use the protected varieties to develop farmer varieties and to save, use, multiply, process and exchange farm-saved seed of protected varieties. The farmers may also sell the farm-saved seed/propagating material of a protected variety provided it is not on a commercial scale.

It must be noted that the African civil society representatives who participated in a regional workshop to review the draft SADC PVP Protocol 13-14th March 2014 in Johannesburg were able, after marathon and difficult discussions, to convince the stakeholders present, including SADC member state representatives, to revise the provisions dealing with exceptions to plant breeders' rights in Article 28 of the draft SADC PVP Protocol. Article 28(d)[41] has been deleted in its entirety and a new clause has been inserted as follows:

> ***"Acts done by a farmer to save, use, sow or resow, or exchange for non commercial purposes his or her farm produce including seed of a protected variety, within reasonable limits subject to safeguarding the legitimate interests of the holder of the breeder rights. The reasonable limits and the means of safeguarding of legitimate interests of the holder of the breeder rights shall be specified in the regulations made by the contracting parties."***

Chapter VI Compulsory licences

The issue of a compulsory licence is another form of restricting the exclusive rights of the plant breeder. Article 32 of the Mozambique PVP law does provide for the issue of a compulsory licence in the public interest or where the plant breeder unreasonably refuses to grant the licence or imposes unacceptable conditions. Since "public interest" is not defined, it is not known whether compulsory licences will be issued in the event of the right holder engaging in anti-competitive behaviour. This is an issue that may become very relevant given the increasing corporate control and consolidation of the seed industry in several countries, including in South Africa.

It is recommended that UNAC seek revision of this Article to include the factors as set out in the African Model Law. These factors include instances where food security or nutritional or health needs are adversely affected; where a high proportion of the plant variety offered for sale is imported; where the requirements of the farming community for propagating material of a particular variety are not met; where it is considered to promote the public interest for socioeconomic reasons and for developing indigenous and other technologies; and any other reason that the government may deem necessary in the public interest, in situations of emergency or to alleviate poverty.

Enforcement

Violations of the plant breeder's rights constitute an infringement of the PVP Law in terms of Article 41. In terms of Article 42, infringement obliges the Registration Entity to impose penalties, including "necessary corrective measures including warnings, fines, temporary or permanent suspension and seizure of material".

It is questionable whether the violation of private law rights should result in an organ of state, such as the Registration Entity, imposing punitive measures. These violations should only be dealt with in terms of civil law remedies and in terms of Article 42 of the PVP Law, which provides that any "entity violating plant breeders' rights may be sued by the right holder in a competent court with a view to prohibition of the activity and/or compensation for damages".

Conclusion

We strongly recommend that UNAC urgently seek a total revision of Mozambique's PVP law as soon as possible. The right of farmers to reuse all farmed-saved seed is inviolable. In this regard, the wise counsel of outgoing UN Special Rapporteur on the Right to Food, Olivier De Schutter, should be brought to the attention of the government of Mozambique:

> ***"... reliance by farmers on farmers' seed systems allows them to limit the cost of production by preserving a certain degree of independence from the commercial seed sector. The system of unfettered exchange in farmers' seed systems ensures the free flow of genetic materials, thus contributing to the development of locally appropriate seeds and to the diversity of crops. In addition, these varieties are best suited to the difficult environments in which they live. They result in reasonably good yields without having to be combined with other inputs such as chemical fertilizers. And because they are not uniform, they may be more resilient to weather-related events or to attacks by pests or diseases. It is, therefore, in the interest of all, including professional plant breeders and seed companies which depend on the development of these plant resources for their own innovations, that these systems be supported."***[42]

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1. The provisions of Article 2 read together with those of Article 3 appear to make it impossible for farmers' varieties to be officially recognised and registered. Further, Article 2 makes it clear that farmers' varieties will not be able to be marketed in Mozambique. This law essentially creates an exclusive seed market for certified improved, commercial varieties of seed and excludes farmers' varieties from this marketing system;
2. Small farmers in Africa, seeking to develop or maintain varieties, create local seed enterprises or cultivate locally adapted varieties are excluded from the system, unless they abandon their traditional seed and become one of the many millions of farmers who will be co opted into seed certification schemes (to bulk up registered improved seed);
3. The regulations do not deal at all with the protection of farmers' rights.
4. The regulations do not contain any measures to safeguard the diversity on-farm and the continued maintenance of heterogeneous crop varieties, which is so vital to ensure food security and resilient food systems for the future.
5. The importation of GM seeds is strictly prohibited. This appears to signify that Mozambique is intent on producing only GM-free seed in Mozambique – possibly for further sale on the regional and global markets.
6. Inspectors will have free access to any farms and the right to inspect seed. Inspectors may seize any seed that does not meet the conditions set out in the Regulations and order its confiscation.
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