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Food and Agriculture  
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Продовольственная и  
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Alimentación y la Agricultura

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# COMMISSION ON GENETIC RESOURCES FOR FOOD AND AGRICULTURE

## Item 4.2 of the Provisional Agenda

### Nineteenth Regular Session

Rome, 17–21 July 2023

## ACCESS AND BENEFIT-SHARING AND GENETIC RESOURCES FOR FOOD AND AGRICULTURE: TYPOLOGY OF COUNTRY MEASURES

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## I. INTRODUCTION

1. The Commission on Genetic Resources for Food and Agriculture (Commission), at its Seventeenth Regular Session, requested its Secretary to prepare a survey of existing legislative, administrative and policy approaches, including best practices, for ABS for the different subsectors of genetic resources for food and agriculture (GRFA) and traditional knowledge associated with GRFA (TKGRFA) held by indigenous peoples and local communities, with the aim of identifying typical approaches and lessons learned from their implementation, as well as challenges and possible solutions.<sup>1</sup>

2. In response to the Commission's request, the Secretariat commissioned a survey to address the question which types of legislative, administrative or policy measures countries have taken to accommodate the distinctive features of GRFA and subsectors of GRFA and of TKGRFA in their ABS measures. The *Survey of access and benefit-sharing country measures accommodating the distinctive features of genetic resources for food and agriculture and associated traditional knowledge* (Survey) was published in 2021.<sup>2</sup>

3. In considering the Survey, the Commission, at its Eighteenth Regular Session, requested the preparation of a stand-alone document providing specific examples of existing country legislative, administrative or policy measures that directly or indirectly accommodate distinctive features of GRFA and associated traditional knowledge.<sup>3</sup> With the support of the University of Bremen, Germany, the Secretariat produced a typology of ABS country measures reflecting the importance of GRFA, their special role for food security and their distinctive features, for review by the Commission's intergovernmental technical working groups<sup>4</sup> and the Team of Technical and Legal Experts on Access and Benefit-sharing.<sup>5</sup>

## II. TYPOLOGY OF ACCESS AND BENEFIT-SHARING MEASURES

4. The typology should be read alongside the Survey referred to in the typology table as 'Humphries *et al.* 2021'. Like the Survey, the typology follows the structure of the five key elements of ABS measures for GRFA identified in the *Elements to facilitate domestic implementation of access and benefit-sharing for different subsectors of genetic resources for food and agriculture – with explanatory notes* (ABS Elements):<sup>6</sup>

- (i) institutional arrangements;
- (ii) access to and utilization of GRFA;
- (iii) access to and utilization of TKGRFA;
- (iv) benefit-sharing relating to GRFA and TKGRFA; and
- (v) monitoring and compliance.

5. The ABS measures mentioned in this document are examples. The document is no way meant to be an exhaustive compendium of all existing ABS country measures. Given the pace in which laws are

<sup>1</sup> CGRFA-17/19/Report, paragraph 19.

<sup>2</sup> Humphries, F., Laird, S., Wynberg, R., Morrison, C. Lawson, C. and Kolesnikova, A. 2021. *Survey of access and benefit-sharing country measures accommodating the distinctive features of genetic resources for food and agriculture and associated traditional knowledge*. Rome, FAO on behalf of the Commission on Genetic Resources for Food and Agriculture. <https://doi.org/10.4060/cb6525en>

<sup>3</sup> CGRFA-18/21/Report, paragraph 26.

<sup>4</sup> CGRFA-19/23/7.1, paragraph 35; CGRFA-19/23/8.1, paragraph 24; CGRFA-19/23/10.1, paragraph 38; CGRFA-19/23/11.1, paragraph 32.

<sup>5</sup> CGRFA-19/23/7.1, paragraphs 6–12.

<sup>6</sup> FAO. 2019. *ABS Elements: Elements to facilitate domestic implementation of access and benefit-sharing for different subsectors of genetic resources for food and agriculture – with explanatory notes*. Rome. <https://www.fao.org/3/ca5088en/ca5088en.pdf>

being developed or adjusted to cope with new developments, it may also happen that a measure listed in the typology is no longer in force. However, this does not diminish the value of the typology as a source of inspiration for policy- and decisionmakers. In fact, as stated in the ABS Elements, developing and implementing ABS measures is work in progress and so is the development of the ABS Elements and of the typology of ABS country measures. The ABS Elements and the typology of ABS measures are living documents.

6. Not all the measures listed are necessarily specific to GRFA. Where the typology refers to genetic resources (GR), it refers to all genetic resources. While the typology focuses on measures accommodating directly or indirectly the distinctive features of GRFA, in order to indicate the wide range of options countries have with regard to regulating ABS for their genetic resources, and in line with the non-prescriptive nature of the ABS Elements, it in some places also lists other measures. Thus, the document reflects the wide range of options policymakers have in the development of ABS measures and in tailoring these measures to the distinctive features of GRFA and the special needs of their users.

7. Not all measures listed are necessarily contained in legislative or administrative measures that carry access and benefit-sharing in their titles. There are countries that address ABS for GRFA through measures that do not make explicit reference to ABS. There are also countries that address ABS for GRFA in measures that also address biological resources.

8. The typology does not refer to Farmers' Rights. In this regard, reference is made to the *Inventory of National Measures, Best Practices and Lessons Learned on the Realization of Farmers' Rights*<sup>7</sup> and its online version on the website of the International Treaty on Plant Genetic Resources for Food and Agriculture,<sup>8</sup> which will be reviewed and updated, as necessary.

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<sup>7</sup> IT/GB-9/22/Report, Resolution 7/2022 - Implementation of Article 9, Farmers' Rights, Annex.

<sup>8</sup> <https://www.fao.org/plant-treaty/areas-of-work/farmers-rights/overview-inventory/en>

**ABBREVIATIONS AND ACRONYMS**

|          |   |
|----------|---|
| ABS      | access and benefit-sharing  |
| ABS CH   | Access and Benefit-sharing Clearinghouse (ABSCH)  |
| AnGR     | animal genetic resources for food and agriculture   |
| Art.     | Article   |
| BABS     | bioprospecting, access and benefit sharing  |
| BR       | biological resources  |
| BS       | benefit-sharing   |
| BSA      | Benefit-sharing Agreement   |
| c.       | Clause  |
| CA       | Competent Authority   |
| CBD      | Convention on Biological Diversity  |
| CGen     | Consejo de Gestión del Patrimonio Genético (Genetic Heritage Management Council Brazil)   |
| CNA      | Competent National Authority  |
| DEA/DEFF | Department of Environmental Affairs/Department of Forestry, Fisheries and the Environment |
| FGR      | forest resources for food and agriculture   |
| GIZ      | Gesellschaft für Internationale Zusammenarbeit  |
| GR       | genetic resource(s)   |
| GRFA     | genetic resources for food and agriculture  |
| INABIO   | Instituto Nacional de Biodiversidad (Costa Rica)  |
| IPLCs    | Indigenous Peoples and Local Communities  |
| MAT      | mutually agreed terms   |
| MoA      | Memorandum of Agreement   |
| MTA      | Material Transfer Agreement   |
| NBCC     | National Biodiversity Coordination Committee (Nepal)                                      |
| NEMA     | National Environment Management Authority (Kenya)   |
| NEMBA    | National Environmental Management: Biodiversity Act                                       |
| No.      | Number  |
| NP       | Nagoya Protocol   |
| OJ       | Official Journal  |
| PIC      | prior informed consent  |
| PTKCEA   | Protection of Traditional Knowledge and Cultural Expressions Act (Kenya)                  |
| R&D      | research and development  |
| Reg.     | Regulation(s)   |
| s.       | Section   |
| SENESCYT | Secretaría Nacional de Educación superior, Ciencia, Tecnología e Innovación (Ecuador)     |
| SMTA     | Standard Material Transfer Agreement  |
| TK       | traditional knowledge (associated with genetic resources)                                 |

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|        |  |
|--------|--|
| TKGRFA | traditional knowledge associated with genetic resources for food and agriculture |
| Treaty | International Treaty on Plant Genetic Resources for Food and Agriculture         |
| UNCST  | Uganda National Council for Science and Technology                               |
| UNDP   | United Nations Development Programme   |

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## ANNEX

**ACCESS AND BENEFIT-SHARING AND GENETIC RESOURCES FOR FOOD AND AGRICULTURE:  
TYPOLOGY OF COUNTRY MEASURES**

|  | Measure   | Country (examples)   | Further reading   |
|--|---|--|---|
| <b>Element 1: INSTITUTIONAL ARRANGEMENTS</b>   |   |  |   |
| <b>1.1 Institutional responsibility</b>  |   |  |   |
| <b>1.1.1 Single institutional responsibility for access and benefit-sharing (ABS)</b><br><br><i>Some countries have chosen to entrust one single institution with the administration of ABS measures</i> | (a) Single institution with focus on food, forest and/or agriculture                      | Comoros; <sup>1</sup> Benin; <sup>2</sup> Netherlands (the Kingdom of); <sup>3</sup> Portugal; <sup>4</sup> Bulgaria; <sup>5</sup> Viet Nam; <sup>6</sup> Grenada; <sup>7</sup> Saint Kitts and Nevis; <sup>8</sup> Peru; <sup>9</sup> Honduras; <sup>10</sup> | Humphries <i>et al.</i> , 2021, p13f, 16ff; Hailu & Kamau, 2022, p243f; Mulesa & Westengen, 2020; National Biodiversity Centre, Bhutan, 2018, p23 |
|  | (b) Single institution with environmental focus   | South Africa; Burundi; <sup>11</sup> Ethiopia; <sup>12</sup> Denmark; <sup>13</sup> ; Dominican Republic; <sup>14</sup> Guatemala; <sup>15</sup> Syrian Arab Republic <sup>16</sup>  |   |
|  | (c) Single institution with science/technology focus                                      | Uganda; <sup>17</sup> Singapore; <sup>18</sup>   |   |
|  | (d) Single institution with overall responsibility for all biodiversity                   | Peru; <sup>19</sup> Costa Rica; <sup>20</sup> Ethiopia <sup>21</sup>   |   |
| <b>1.1.2 Shared institutional responsibility for ABS</b><br><br><i>Other countries have chosen to entrust different institutions with the ABS administration</i>   | (a) Based on type of genetic resource (e.g. Annex I, MLS, Article 15 PGRFA of the Treaty) | Viet Nam; <sup>22</sup> Republic of Korea; <sup>23</sup> Estonia; <sup>24</sup> Zimbabwe <sup>25</sup>   | Humphries <i>et al.</i> , 2021, p. 14f; Trang, Ba Nguyen & Thu, 2022, p333; Lee & Cho, 2022, p380f  |
|  | (b) Based on commercial or non-commercial utilization                                     | South Africa; <sup>26</sup> Ecuador <sup>27</sup>  | Humphries <i>et al.</i> , 2021, p14f; Kamau, 2022a, p168f; Cabrera Ormaza, 2022, p103ff   |

|  | <b>Measure</b>   | <b>Country (examples)</b>   | <b>Further reading</b>   |
|--|--|---|--|
|  | (c) Based on (sub)sector or field of research  | Peru; <sup>28</sup> Republic of Korea <sup>29</sup>   | Humphries <i>et al.</i> , 2021, p14f; Lee & Cho 2022, p380   |
| <b>1.1.3 Interagency coordination of ABS decisions</b><br><br><i>Countries have established various mechanisms to coordinate administration of ABS among responsible agencies.</i> | (a) One-stop-shop approach   | Uganda; <sup>30</sup> Mozambique; <sup>31</sup> Nepal <sup>32</sup> Brazil; <sup>33</sup> Ecuador <sup>34</sup> India; <sup>35</sup> Dominican Republic <sup>36</sup>   | Humphries <i>et al.</i> , 2021, p16ff; Otieno <i>et al.</i> , 2017; ABS Initiative, 2019; Nepalese Government, 2014, p112; Halewood, 2015; Mozini, 2022, p79f; Kamau, 2022b, p311f; Cabrera Ormaza, 2022, p104 |
|  | (b) Coordination committees/councils ( <i>in addition or in lieu of the one-stop-shop approach</i> ) | South Africa; <sup>37</sup> France; <sup>38</sup> Kenya; <sup>39</sup> Bhutan <sup>40</sup>   | Humphries <i>et al.</i> , 2021, p16ff; Wynberg, 2017, pp198–218; FRB, 2020   |
| <b>1.2 Provision of national information on responsible institutions, ABS measures and procedures</b>  |  |   |  |
| <i>Countries use different ways to provide information on responsible institutions, ABS measures and procedures</i>  | (a) National websites, web portals, virtual platforms or information portals                         | Finland; <sup>41</sup> Denmark; <sup>42</sup> Republic of Korea; <sup>43</sup> Hungary; <sup>44</sup> Cameroon; <sup>45</sup> Malaysia; <sup>46</sup> France; <sup>47</sup> Germany; <sup>48</sup> Costa Rica; <sup>49</sup> Kenya; <sup>50</sup> Qatar; <sup>51</sup> South Africa <sup>52</sup> | Humphries <i>et al.</i> , 2021, p17ff  |
|  | (b) ABS Clearing-House   |   | ABSCH, 2022  |

|  | Measure  | Country (examples)  | Further reading   |
|--|--|---|---|
| <b>Element 2: ACCESS TO AND UTILIZATION OF GENETIC RESOURCES FOR FOOD AND AGRICULTURE (GRFA)</b>   |  |   |   |
| <b>2.1 Categories of genetic resources (GR) subject to national ABS provisions on access</b>   |  |   |   |
| <b>2.1.1 Temporal scope</b>  | ABS provisions on access may apply to:   |   |   |
|  | (a) GR accessed prior to entry into force of ABS measure, if there is a new use  | Malaysia; <sup>53</sup> France; <sup>54</sup>   |   |
|  | (b) GR accessed after entry into force of ABS measure  | Malaysia; <sup>55</sup> France; <sup>56</sup> Malta; <sup>57</sup> Norway; <sup>58</sup> Korea; <sup>59</sup> Japan <sup>60</sup> | Winter, 2022; Greiber & Frederichs, 2022; Michiels et al. 2022; Lee & Cho, 2022, p379 |
| <b>2.1.2 GR for which provider country is country of origin or has acquired GR in accordance with Convention on Biological Diversity (CBD)</b> | “Country of origin” may be where:  |   |   |
|  | (a) GR exists within ecosystems and natural habitats   |   | Humphries <i>et al.</i> , 2021, p23ff   |
|  | (b) Domesticated or cultivated species developed its distinctive properties  | France; <sup>61</sup> Mozambique; <sup>62</sup> Uganda <sup>63</sup>  | Humphries <i>et al.</i> , 2021, p24ff   |
|  | (c) Domestication took place   | Kenya <sup>64</sup>   | Humphries <i>et al.</i> , 2021, p24   |
|  | (d) GR have been domesticated and produced for a long time   | Viet Nam <sup>65</sup>  | Humphries <i>et al.</i> , 2021, p23ff   |
|  | (e) Native species was present in the country’s territory before a specific date   | Australia <sup>66</sup>   | Humphries <i>et al.</i> , 2021, p24ff   |
|  | (f) Micro-organism as isolated from the national territory substrates, territorial sea, exclusive economic zone or the continental shelf | Brazil; <sup>67</sup> Colombia <sup>68</sup>  | Humphries <i>et al.</i> , 2021, p24ff   |
| <b>2.1.3 Privately/ publicly held GR</b>   | ABS measures may apply to:   |   |   |
|  | (a) No distinction between public and privately held genetic resources   | Most countries  |   |
|  | (b) Publicly (state/community) held genetic resources only   | Australia <sup>69</sup>   | Humphries <i>et al.</i> , 2021, p25, 38   |
| <b>2.1.4 GR/biological resources</b>   | (a) GR   | all   |   |
|  | (b) Biological resources in addition   | Malaysia; <sup>70</sup> Australia; <sup>71</sup> India; <sup>72</sup> Malta; <sup>73</sup> South Africa <sup>74</sup>             | Kamau, 2022c, p359  |
| <b>2.1.5 Genetic information</b>   | (a) Only in conjunction with utilization of physical GR  | Panama <sup>75</sup>  | Bagley <i>et al.</i> , 2020, pp 13–18   |
|  | (b) Independent of utilization of physical GR  | Bhutan <sup>76</sup> , Colombia, <sup>77</sup> Kenya <sup>78</sup>  |   |

|  | Measure   | Country (examples)   | Further reading   |
|--|---|--|---|
|  | (c) No specified regulation   | Most countries   |   |
| <b>2.1.6 GR held by Indigenous Peoples and local communities (IPLC)<sup>79</sup></b><br><br><i>Many countries require the consent of the IPLC holding the GR</i> | ABS measures may require:   |  |   |
|  | (a) Prior informed consent (PIC) or approval and involvement of Indigenous Peoples and Local Communities (IPLC)               | South Africa; <sup>80</sup> Malaysia; <sup>81</sup> Kenya; <sup>82</sup> Peru; <sup>83</sup> Spain; <sup>84</sup> Philippines; <sup>85</sup> Malawi; <sup>86</sup> Namibia <sup>87</sup> | Kamau, 2022a, p172f.; Kamau, 2022c, p362ff.; Kamau, 2022b, p290f.; Cabrera Ormaza, 2022, p110f.; Silvestri, 2022b, 451f |
|  | (b) Compliance with community protocols/customary law   | Indonesia; <sup>88</sup> Madagascar <sup>89</sup>  |   |
|  | (c) Where IPLC does not exploit GR “sufficiently” or refuses to grant licence on “reasonable commercial terms and conditions” | Zambia; <sup>90</sup> Kenya <sup>91</sup>  | Humphries <i>et al.</i> , 2021, p27; Kamau 2022b, p281f   |
| <b>2.1.7 Exemptions of specific genetic resources</b><br><br><i>ABS measures of many countries do not apply to specific GRFA/related activities</i>              | ABS measures may exempt:  |  |   |
|  | (a) GR for which ABS is governed by specialized international instrument  | Malaysia; <sup>92</sup> France; <sup>93</sup> Bhutan <sup>94</sup>   | Silvestri 2022a, p53, 55; Humphries <i>et al.</i> , 2021, p28f.   |
|  | (b) PGRFA falling under the Annex 1/Multilateral System of the Treaty   | Argentina; <sup>95</sup> Peru; <sup>96</sup> Philippines; <sup>97</sup> Bhutan <sup>98</sup>   | Kamau, 2022c, pp355, 359, 370; Mahop, 2022, p468  |
|  | (c) Plant varieties protected by intellectual property rights   | Portugal; <sup>99</sup> Uganda; <sup>100</sup> Kenya <sup>101</sup>  |   |
|  | (d) GR arising from domesticated or cultivated species  | Argentina; <sup>102</sup> France <sup>103</sup>  | Silvestri, 2022a, p53; Mahop, 2022, p468  |
|  | (e) Crop wild relatives   | France <sup>104</sup>  | Humphries <i>et al.</i> , 2021, p29   |
|  | (f) GR subject to forestry  | France <sup>105</sup>  | Humphries <i>et al.</i> , 2021, p29   |
|  | (g) Biological material cultivated or bred for use as a model in research and development                                     | Morocco <sup>106</sup>   | Humphries <i>et al.</i> , 2021, p29   |
|  | (h) Specific categories of GR, e.g. fisheries and AnGR  | Spain <sup>107</sup>   | Silvestri, 2022b, 449f  |
|  | (i) GRFA at discretion of the government  | Australia <sup>108</sup>   | Humphries <i>et al.</i> , 2021, p29   |
| (j) On case-by-case basis, e.g. GR in public <i>ex situ</i> collections  | e.g. in Australia’s Commonwealth areas; <sup>109</sup> India <sup>110</sup>   | Humphries <i>et al.</i> , 2021, p29, 38  |   |

|  | <b>Measure</b>  | <b>Country (examples)</b>  | <b>Further reading</b>                                    |
|--|---|--|---|
|  | (k) GR collected by laboratories in the context of prevention, surveillance and combating risks to animal and plant health and to food safety | France <sup>111</sup>  | Humphries <i>et al.</i> , 2021, p33; Mahop, 2022, p468    |
|  | (l) Biological resources normally traded as commodities   | India; <sup>112</sup> Bhutan <sup>113</sup>  |   |
|  | (m) Derivatives accessed independently from GR  | Viet Nam; <sup>114</sup> Malta <sup>115</sup>  | Trang, Ba Nguyen T. & Thu, 2022, p329                     |
| <b>2.2 Activities triggering/not triggering ABS obligations</b>  |   |  |   |
| <i>Access to GR for utilization may trigger ABS obligations.</i> |   |  |   |
| <b>2.2.1 Exemptions of GRFA-related activities</b>               | GRFA-related activities (explicitly or implicitly) exempted by some countries from ABS obligations:   |  |   |
|  | (a) Agricultural activities that are not for the purpose of research and development  | Malaysia <sup>116</sup>  | Humphries <i>et al.</i> , 2021, p31                       |
|  | (b) Use of GR for production of agricultural products for sale  | South Africa <sup>117</sup>  | Humphries <i>et al.</i> , 2021, p29f                      |
|  | (c) Use of GR as commodity for final consumption  | Malta; <sup>118</sup> Bangladesh; <sup>119</sup> Philippines; <sup>120</sup> Namibia <sup>121</sup>  | Humphries <i>et al.</i> , 2021, p29f; Mozini 2022, p78    |
|  | (d) Aquaculture or mariculture activities involving freshwater and marine species producing specimens for consumption purpose                 | South Africa; <sup>122</sup> Australia; <sup>123</sup> Malaysia; <sup>124</sup> Spain <sup>125</sup> | Humphries <i>et al.</i> , 2021, p30f.; Kamau, 2022a, p168 |
|  | (e) Collection of GR for use in public collections or further breeding in agriculture or forestry   | Norway <sup>126</sup>  | Humphries <i>et al.</i> , 2021, p31                       |
|  | (f) Collecting broodstock for aquaculture   | Australia <sup>127</sup> (regulates “biological materials”)  | Humphries <i>et al.</i> , 2021, p30                       |
|  | (g) Collecting plant reproductive material for propagation  | Australia <sup>128</sup> (regulates “biological materials”)  | Humphries <i>et al.</i> , 2021, p30                       |
|  | (h) Production and marketing of seeds and forest plants   | Spain <sup>129</sup>   | Humphries <i>et al.</i> , 2021, p31                       |
|  | (i) Collection and maintenance of samples in <i>ex situ</i> collections for conservation purposes   | Spain <sup>130</sup>   | Humphries <i>et al.</i> , 2021, p33                       |
|  | (j) Exchanging biological resources as commodities unless used for research and development   | India; <sup>131</sup> Namibia; <sup>132</sup> Bhutan <sup>133</sup>                                  | Humphries <i>et al.</i> , 2021, p30                       |
|  | (k) Marketing livestock as regular consumer goods   | Bangladesh <sup>134</sup>  | Humphries <i>et al.</i> , 2021, p30                       |
|  | Exempted activities if performed by specific user groups:   |  |   |

|  | <b>Measure</b>   | <b>Country (examples)</b>  | <b>Further reading</b>   |
|--|--|--|--|
| <b>2.2.2 Exemptions of activities performed by specific user groups</b><br><br><i>Some countries waive ABS obligations/provide for simplified procedures for activities by specific user groups.</i> | (a) Exchange among IPLC in exercise of their traditional and customary practices   | Malaysia; <sup>135</sup> Kenya; <sup>136</sup> Namibia; <sup>137</sup> Ecuador <sup>138</sup>  | Humphries <i>et al.</i> , 2021, p33; Kamau, 2022c, p359; Kamau, 2022b, p278  |
|  | (b) Exchange of GR/TK among IPLC for their own consumption   | Guatemala; <sup>139</sup> Uganda; <sup>140</sup> Namibia; <sup>141</sup> Bhutan <sup>142</sup> |  |
|  | (c) Local people and communities of the area, including growers and cultivators (unless they wish to obtain intellectual property rights(IPR))   | India <sup>143</sup>   |  |
|  | (d) Conventional breeding or traditional practices in use in agriculture, horticulture, poultry farming, dairy farming, animal husbandry or bee keeping by small-scale farmers                 | Malaysia <sup>144</sup>  |  |
|  | (e) Access to and utilization of GR by farmers, pastoralists and fishers according to their traditional way of life  | China <sup>145</sup>   |  |
|  | (f) Non-commercial research by nationally recognized research organizations and foreign collaborators of such organizations unless intent changes  | India <sup>146</sup>   |  |
|  | (g) Research by educational institutions   | Kenya <sup>147</sup>   | Kamau, 2022b, p303 footnote 147  |
|  | (h) Exchanging within networks of user groups  | India <sup>148</sup>   | Humphries <i>et al.</i> , 2021, p33  |
| <b>2.3 Authorization procedures applicable under ABS measures</b>  |  |  |  |
| <i>ABS measures normally require PIC and mutually agreed terms prior to access and utilization of GR.</i>  |  |  |  |
| <b>2.3.1 Simplified approval procedures</b><br><br><i>Countries may require PIC and mutually agreed terms (MAT) prior to access and utilization of GR.</i>   | Countries may simplify approval procedures in several ways:  |  |  |
|  | (a) No PIC for specific GR, e.g. GRFA  | South Africa <sup>149</sup>  | Kamau, 2022a, p168f.   |
|  | (b) Access and utilization upon notification/ registration instead of PIC. Authorization is instead required prior to commercialization, transfer to third parties or change of initial intent | Brazil; <sup>150</sup> France; <sup>151</sup> South Africa <sup>152</sup>                      | Mozini, 2022, p74, 76; Humphries <i>et al.</i> , 2021, p35; da Silva & de Oliveira, 2018, p1; Kamau, 2022c, p366; Mahop, 2022, p468; Kamau, 2022a, p185f |

|   | <b>Measure</b>  | <b>Country (examples)</b>  | <b>Further reading</b>                                      |
|---|---|--|---|
|   | (c) Use of Standard Material Transfer Agreement (SMTA) for Treaty Annex 1/MLS PGRFA   | Parties to the Treaty  |   |
|   | (d) Use of SMTA for other PGRFA other than Treaty Annex 1/MLS PGRFA   | Canada; Germany; the Netherlands (Kingdom of the); Switzerland                 | see FAO, 2021 [Educational Module IV on the MLS], p35       |
|   | (e) Standardized access conditions for (all) BR/GR  | South Africa; <sup>153</sup> Uganda; <sup>154</sup> Philippines <sup>155</sup> | Humphries <i>et al.</i> , 2021, p36                         |
| <b>2.3.2 Procedural simplifications for specific activities</b> | Countries provide for simplified procedures for specific activities, such as:   |  |   |
|   | (a) Subsistence consumption and conventional commercial consumption   | Philippines <sup>156</sup>   |   |
|   | (b) Scientific research on agrobiodiversity that does not create spin-off technology  | Philippines <sup>157</sup>   |   |
|   | (c) Activities involving no economic exploitation of products or reproductive materials arising from GR                                     | Brazil <sup>158</sup>  | Mozini, 2022, p82, 84ff                                     |
|   | (d) R&D taxonomic, conservation or biosecurity purposes   | Spain; <sup>159</sup> France <sup>160</sup>                                    | Humphries <i>et al.</i> , 2021, p33                         |
|   | (e) Development of therapeutic drugs and food security in the event there are threats to the life and health of humans, animals, and plants | Republic of Korea <sup>161</sup>   | Humphries <i>et al.</i> , 2021, p36; Lee & Cho, 2022, 381ff |
|   | (f) Non-commercial research conducted by national state institutions  | Philippines; <sup>162</sup> India <sup>163</sup>                               | Humphries <i>et al.</i> , 2021, p34                         |
|   | (g) Access to GR for non-commercial/purely scientific purposes  | France <sup>164</sup>  |   |
|   | (h) Taxonomic, collection and pre-breeding purposes and research projects   | Mexico; <sup>165</sup> South Africa <sup>166</sup>                             | Humphries <i>et al.</i> , 2021, p33 ; Kamau, 2022a, p166f.  |

|   | Measure  | Country (examples)                          | Further reading  |
|---|--|---|--|
| <b>ELEMENT 3: ACCESS TO AND UTILIZATION OF TRADITIONAL KNOWLEDGE ASSOCIATED WITH GENETIC RESOURCES FOR FOOD AND AGRICULTURE</b> |  |   |  |
| <b>3.1 Defining traditional knowledge (TK)</b><br><br><i>There are various definitions of TK in national (ABS) measures.</i>    | Some TK definitions refer to, for example:   |   |  |
|   | (a) Relevant accumulated, transgenerational knowledge evolved by Indigenous Peoples and Local Communities (IPLC)   | Peru <sup>167</sup>                         | Humphries <i>et al.</i> , 2021, p39ff                    |
|   | (b) Relevant knowledge, experience and initiatives of native people  | Viet Nam <sup>168</sup>                     | Trang, Ba Nguyen & Thu, 2022, p337                       |
|   | (c) Any knowledge, not limited to a specific subject area, technical or medical field, originating from a traditional community, individual or group                                   | Guatemala <sup>169</sup>                    |  |
|   | (d) Knowledge contained in the codified knowledge systems passed on from one generation to another including agricultural, environmental or medical knowledge                          | Kenya <sup>170</sup>                        |  |
|   | (e) Knowledge, innovation and practice of communities or individuals relating to the use, properties, values and processes of any biological and genetic resources or any part thereof | Bhutan <sup>171</sup>                       |  |
| <b>3.1.1 Excluding from traditional knowledge (relevant to GRFA)</b>  | ABS measures may exclude:  |   |  |
|   | (a) TK that cannot be attributed to one or more traditional communities  | France <sup>172</sup>                       |  |
|   | (b) TK associated with GR whose properties are well known and have been used for a long time and repeatedly, outside of the traditional communities that share them                    | France <sup>173</sup>                       |  |
|   | (c) TK associated with some promotion methods likely to benefit agricultural, forestry or food and seafood products  | France <sup>174</sup>                       |  |
|   | (d) TK and skills associated with the distinctive signs of origin and quality of agricultural and marine products  | Morocco <sup>175</sup>                      |  |
|   | (e) TK insufficiently exploited by rights holder, or to which rights holder refuses to grant a licence on reasonable commercial terms and conditions                                   | Zambia; <sup>176</sup> Kenya <sup>177</sup> | Humphries <i>et al.</i> , 2021, p27; Kamau, 2022b, p281f |
| <b>3.2 Identifying the holders of TK</b>  |  |   |  |
| <i>Countries have established different procedures for the</i>  | Measures to assist in the identification of holders:   |   |  |
|   | (a) Government to ensure that PIC has been obtained from “relevant community”  | Malawi <sup>178</sup>                       |  |



|  | <b>Measure</b>   | <b>Country (examples)</b>  | <b>Further reading</b>  |
|--|--|--|---|
| <i>identification of the holders of TK</i>   | (b) Public entities representing the IPLCs to negotiate with users                                       | France; <sup>179</sup> Ethiopia; <sup>180</sup> South Africa <sup>181</sup>  | Mahop, 2022, p470f; Hailu & Kamau, 2022, p257                         |
|  | (c) Biocultural protocols  | India; <sup>182</sup> Kenya; <sup>183</sup> Mexico <sup>184</sup>  | Humphries <i>et al.</i> , 2021, p42                                   |
|  | (d) Public authority assisting in identification of knowledge holder and overseeing the agreement        | Uganda; <sup>185</sup> South Africa <sup>186</sup>   | Humphries <i>et al.</i> , 2021, p42                                   |
|  | (e) State intervention (and guidance) to ensure that PIC has been obtained from the “relevant community” | Viet Nam; <sup>187</sup> Malawi; <sup>188</sup> Uganda; <sup>189</sup> South Africa <sup>190</sup>                     | Humphries <i>et al.</i> , 2021, p42f.                                 |
| <b>3.3 Procedures for obtaining prior informed consent (PIC) or approval and involvement of IPLC</b> |  |  |   |
|  | For obtaining consent to access/use TK, ABS measures may foresee:  |  | Humphries <i>et al.</i> , 2021, p43                                   |
|  | (a) Same procedures as for GR;   | See above 2.3  | Humphries <i>et al.</i> , 2021, p43                                   |
|  | (b) Licensing procedures (in laws that protect TK as form of intellectual property right);               | Kenya; <sup>191</sup> Peru; <sup>192</sup> South Africa; <sup>193</sup> Viet Nam; <sup>194</sup> Zambia <sup>195</sup> | Humphries <i>et al.</i> , 2021, p43                                   |
|  | (c) Existence of biocultural or community protocols specific to GRFA;                                    | e.g. Peru; <sup>196</sup> Kenya; <sup>197</sup> India <sup>198</sup>   | Humphries <i>et al.</i> , 2021, p27f., 42f.; Kamau, 2022b, p290f, 306 |
|  | (d) Involvement/consultation of IPLC in neighbouring countries.  | Kenya <sup>199</sup>   | Humphries <i>et al.</i> , 2021, p44; Kamau, 2022b, p306               |

|  | Measure   | Country (examples)   | Further reading   |
|--|---|--|---|
| <b>ELEMENT 4: FAIR AND EQUITABLE SHARING OF BENEFITS</b>   |   |  |   |
| <b>4.1 Scope of benefit-sharing obligations</b>  |   |  |   |
| <i>Benefit-sharing may apply to GR/TK acquired, collected, used or obtained either directly or indirectly and found in both in situ and ex situ conditions</i> |   |  |   |
| <b>4.1.1 Temporal scope</b>  | Benefit-sharing may apply to:   |  |   |
|  | (a) GR/TK accessed after entry into force of ABS measure  | most countries   |   |
|  | (b) Newly utilized GR/TK accessed prior to entry into force of ABS measure  | Malaysia <sup>200</sup>  |   |
| <b>4.1.2 Exemptions from benefit-sharing obligations</b>   | ABS measures may exempt from benefit-sharing obligations, for example:  |  |   |
|  | (a) Resources not falling under (access provisions of) ABS measures   | See 2.1  |   |
|  | (b) Activities not considered “utilization”   | See 2.2  |   |
|  | (c) Traditional farmers and their cooperatives  | Brazil <sup>201</sup>  | Humphries <i>et al.</i> , 2021, p45 ; Mozini, 2022, p86 |
|  | (d) Non-commercial research   | Australia <sup>202</sup>   | Humphries <i>et al.</i> , 2021, p45                     |
| <b>4.2 Fair and equitable</b>  |   |  |   |
| <b>4.2.1 Determination of benefits</b>   | ABS measures may:   |  |   |
|  | (a) Provide detailed modalities for benefit-sharing   | India; <sup>203</sup> South Africa <sup>204</sup>  | Humphries <i>et al.</i> , 2021, p45                     |
|  | (b) Mandate competent authority to determine benefit-sharing modalities on case-by-case basis                     | Rwanda; <sup>205</sup> Solomon Islands <sup>206</sup>  | Humphries <i>et al.</i> , 2021, p45                     |
| <b>4.2.2 Streamlined benefit-sharing</b>   | ABS measures may provide for simplified benefit-sharing, for example, for:  |  |   |
|  | (a) Scientific, non-commercial research on agrobiodiversity   | Philippines <sup>207</sup>   | Humphries <i>et al.</i> , 2021, p45                     |
|  | (b) Purely scientific research purposes   | Argentina <sup>208</sup>   | Silvestri, 2022a, p62f.                                 |
|  | (c) For forest genetic resources (deferral of benefit-sharing arrangements until there are breeding results)      | Spain <sup>209</sup>   | Humphries <i>et al.</i> , 2021, p32                     |
| <b>4.2.3 Sharing monetary and/or non-monetary benefits resulting from GRFA</b>   | ABS measures may specify benefit-sharing modalities for GRFA:   |  |   |
|  | (a) Preference and identification of benefits that are of particular relevance to the food and agriculture sector | India; <sup>210</sup> Uganda; <sup>211</sup> Malaysia; <sup>212</sup> Belgium (Walloon Region); <sup>213</sup> Zambia <sup>214</sup> | Humphries <i>et al.</i> , 2021, p48                     |

|   |  |  |  |
|---|--|--|--|
|   | (b) Mutual exchanges of GRFA within or between communities to sustain food or livelihood systems as a benefit  | Mutual exchanges, e.g. India; <sup>215</sup> Kenya; <sup>216</sup> Traditional uses, e.g. Ethiopia <sup>217</sup>                                  | Humphries <i>et al.</i> , 2021, p49  |
| <b>4.2.4 Facilitating benefit-sharing through model clauses</b>   | Examples include:<br>National model benefit-sharing clauses  | Benin; <sup>218</sup> Cameroon; <sup>219</sup> France; <sup>220</sup> South Africa; <sup>221</sup> Bhutan; <sup>222</sup> Australia <sup>223</sup> | Humphries <i>et al.</i> , 2021, p46  |
| <b>4.3 Beneficiaries</b>  |  |  |  |
| <i>ABS measures often do not define in detail the beneficiaries (those with whom benefits should be shared) or the purposes for which benefits should be used. However, some ABS measures provide for national benefit-sharing funds for specific situations.</i> |  |  |  |
| <b>4.3.1 National benefit-sharing funds</b>   | ABS measure may establish benefit-sharing funds for:   |  |  |
|   | (a) Conservation of and further research in GR and TK  | South Africa; <sup>224</sup> Bhutan; <sup>225</sup> Ecuador <sup>226</sup>   | Kamau, 2022a, p172f, 200f.   |
|   | (b) Support of community conservation initiatives  | Bhutan <sup>227</sup>  | National Biodiversity Centre, Bhutan, 2018, p32; Humphries <i>et al.</i> , 2021, p47 |
|   | (c) Support IPLCs and traditional farmers in the sustainable management and conservation of GR and the development and maintenance of diverse farming systems that enhance the sustainable use of GR | Brazil; <sup>228</sup> Argentina <sup>229</sup>  | Humphries <i>et al.</i> , 2021, p47f.; Mozini, 2022, p86                             |

|  | Measure  | Country (examples)   | Further reading                     |
|--|--|--|-------------------------------------|
| <b>ELEMENT 5 : COMPLIANCE AND MONITORING</b> |  |  |                                     |
| <b>5.1 Monitoring</b>                        |  |  |                                     |
|  | (a) GRFA-specific checkpoints  | e.g. Bhutan; <sup>230</sup> Estonia; <sup>231</sup> Hungary; <sup>232</sup> Republic of Korea <sup>233</sup> | Humphries <i>et al.</i> , 2021, p53 |
|  | (b) Established monitoring tools   | India <sup>234</sup>   |                                     |
| <b>5.2 User country compliance measures</b>  |  |  |                                     |
| <b>5.2.1 General compliance measures</b>     | (a) Specific measures to exercise due diligence to show that GR utilized in the country have been accessed according to applicable national laws of the providing country (providing the provider country is party to the Nagoya Protocol) | EU <sup>235</sup>  | Humphries <i>et al.</i> , 2021, p53 |
|  | (b) Specific measures to ensure GR used in the country have been accessed according to applicable international agreements, including through the use of the Treaty's SMTA for Annex 1/MLS PGRFA   | Norway <sup>236</sup>  |                                     |
|  | (c) Designation of user compliance-focused checkpoints   | Malaysia; <sup>237</sup> South Africa; <sup>238</sup> Bhutan <sup>239</sup>                                  |                                     |
|  | (d) Requirement to report to the checkpoint or produce the access permit   | Malaysia; <sup>240</sup> Republic of Korea; <sup>241</sup>   |                                     |
|  | (e) Requirement of the checkpoint to inform Competent National Authority (CNA) or relevant Competent Authority (CA) in writing of the production of the permit   | Malaysia <sup>242</sup>  |                                     |
|  | (f) Requirement of any person applying for a patent based on biological resources (BR) or TK to either notify the CA, make a statement if the patent relates to indigenous GR or TK, or furnish CA with proof                              | Malaysia; <sup>243</sup> South Africa <sup>244</sup>   |                                     |
|  | (g) Requirements of any person applying for a plant breeders right/plant variety protection to bring the authorization of the relevant authorities   | Argentina; <sup>245</sup> New Zealand <sup>246</sup>   |                                     |
|  | (h) Obligation on any person wishing to access or commercialize foreign BR or TK from a Nagoya Protocol party to ensure compliance with that party's laws – if that party subjects access to permit  | Malaysia; <sup>247</sup> Republic of Korea <sup>248</sup>  |                                     |
|  | (i) Measure for checkpoint communiqué  | Malaysia <sup>249</sup>  |                                     |

|                         | <b>Measure</b>   | <b>Country (examples)</b>                                 | <b>Further reading</b>                   |
|-------------------------|--|---|--|
|                         | (j) Measures permitting relevant authorities to investigate offences   | Malaysia, <sup>250</sup> Republic of Korea <sup>251</sup> |  |
|                         | (k) Measure to encourage fair and equitable benefit-sharing  | Republic of Korea <sup>252</sup>                          |  |
| <b>5.2.2 Exceptions</b> | <p>Exceptions to user country compliance measures may be applied where:</p> <p>(a) States do not claim or exercise sovereign rights over GR<sup>253</sup></p> <p>(b) Providing state is not a party to the Nagoya Protocol<sup>254</sup></p> <p>(c) Providing state has not established access measures<sup>255</sup></p> <p>(d) GR are accessed prior to entry into force of the Nagoya Protocol<sup>256</sup></p> <p>(e) GR are governed by specialized international instruments and utilized according to the purposes foreseen by those instruments<sup>257</sup></p> <p>(f) GR are traded and exchanged as commodities<sup>258</sup></p> <p>(g) Pathogenic GR and pests are introduced unintentionally to the country<sup>259</sup></p> <p>(h) TK is not associated with utilization of accessed GR</p> <p>(i) Activities do not fall under “utilization”<sup>260</sup></p> <p>(j) there is no ascertainable level of continuity between the derivative and the GR from which it was obtained for R&amp;D activities on derivatives<sup>261</sup></p> <p>(k) Only information on GR is used<sup>262</sup></p> <p>(l) There is utilization outside of the relevant jurisdiction<sup>263</sup></p> | EU and Member States <sup>264</sup>                       | Winter, 2022; Greiber & Frederichs, 2022 |

<sup>1</sup> Loi sur l'accès aux ressources génétiques et connaissances traditionnelles de l'union des Comores 2020, Art. 5.

<sup>2</sup> Direction Générale des Eaux, Forêts et Chasse/Ministère du Cadre de Vie et du Développement Durable (General Directorate of Water, Forests and Hunting/Ministry of Living Environment and Sustainable Development) is the only designated CNA for the country responsible for all genetic resources. See <https://absch.cbd.int/en/countries/BJ> (accessed 12 October 2022).

<sup>3</sup> The Nagoya Protocol (Implementation) Act, 2016, Art. 4 (read together with Regulation of the Minister for Agriculture of 31 March 2016, No. WJZ/15145152 and Decree of the Minister for Agriculture of 31 March 2016, No. WJZ/15163191).

<sup>4</sup> Decreto-Lei-122-2017, Art. 4.1.

<sup>5</sup> Ministry of Agriculture, Food and Forestry (for agricultural and forest genetic resources) and Ministry of Environment and Water (for genetic resources from naturally occurring species). See <https://absch.cbd.int/en/countries/BG> (accessed 12 October 2022).

<sup>6</sup> Decree on the Management of Access to Genetic Resources and the Sharing of Benefits Arising from their Utilization, 12 May 2017, Chapter II, Art. 6. The Ministry of Agriculture and Rural Development is responsible for granting, renewing and withdrawing licences for genetic resources for agricultural crop varieties, livestock, aquatic species and forest seedlings. See <https://absch.cbd.int/en/countries/VN> (accessed 10 October 2022).

<sup>7</sup> Ministry of Agriculture, Lands, Forestry, Fisheries and the Environment Botanical Gardens is the only designated CNA for the country responsible for all genetic resources. See <https://absch.cbd.int/en/countries/GD> (accessed 12 October 2022).

<sup>8</sup> Department of Environment, Ministry of Agriculture, Marine Resources, Cooperatives, Environment and Human Settlement is the only designated CNA for the country responsible for all genetic resources. See <https://absch.cbd.int/en/countries/KN> (accessed 10 October 2022).

<sup>9</sup> Instituto Nacional de Innovación Agraria is the authority responsible for access to genetic resources, molecules, combination or mixture of natural molecules, crude extracts and derivatives of cultivated or domesticated inland species. See <https://absch.cbd.int/en/countries/PE> (accessed 10 October 2022).

<sup>10</sup> Ley General de Desarrollo Forestal Sustentable, 25 February 2003 (11, fracción XVII y XXXVI; 7, fracción XXX, L y LXVIII; 20, fracción XXXIII; 32, fracción XV; 69, fracción IV; y 128); Reglamento de la Ley General de Desarrollo Forestal Sustentable, 21 February 2005 (4o, fracción III, Sección IV Colecta de Recursos Biológicos Forestales). Dirección General de Gestión Forestal y de Suelos (Directorate General for Forestry and Soil Management) is responsible for permits for collection of forest biological and genetic resources. See <https://absch.cbd.int/en/countries/MX> and <https://absch.cbd.int/en/countries/MX/MSR> (accessed 12 October 2022).

<sup>11</sup> Projet de decret sur l'accès aux ressources génétiques et le partage juste et équitable des avantages qui en découlent 2017, Arts 15-17

<sup>12</sup> Proclamation No. 482/2006 Access to Genetic Resources and Community Knowledge, and Community Rights Proclamation; Regulation No. 169/2009 Access to Genetic Resources and Community Knowledge, and Community Rights. The Ethiopian Biodiversity Institute is the CNA.

<sup>13</sup> LOV nr 1375 af 23/12/2012 om udbyttedeling ved anvendelse af genetiske ressourcer see e.g. Arts 5-8.

<sup>14</sup> Reglamento de acceso a recursos genéticos, conocimientos tradicionales asociados y distribución justa y equitativa de beneficios de la república dominicana, Art. 7.

<sup>15</sup> Governmental Agreement 171-2014 (Government Agreement 171-2014), Art. 1. Consejo Nacional de Áreas Protegidas (National Council for Protected Areas) is the designated CNA responsible for all genetic resources. See <https://absch.cbd.int/en/countries/GT> (accessed 12 October 2022).

<sup>16</sup> The National Environment (Access to Genetic Resources and Benefit Sharing) Regulations 2005, Art. 5. Ministry of State for Environment Affairs (MOEN). See also <https://absch.cbd.int/en/countries/SY> (accessed 12 October 2022).

<sup>17</sup> Uganda National Council for Science and Technology. See <https://absch.cbd.int/en/countries/UG> (accessed 12 October 2022).

<sup>18</sup> Department of Science, Ministry of Education and Sports (CNA). See <https://absch.cbd.int/en/countries/LA> (accessed 12 October 2022). According to Art. 6 of the National Framework on ABS of 2013, the Ministry of Science and Technology is the management and monitoring organization on ABS at the central level.

<sup>19</sup> Ley 28216, Ley de Protección al acceso a la diversidad biológica peruana y los conocimientos colectivos de los pueblos indígenas, 7 April 2004, Art. 2; El Reglamento de Acceso a los Recursos Genéticos (D.S N° 003-2009-MINAM), 6 February 2009, Art. 13. See also CBD, 2022, <https://absch.cbd.int/en/countries/PE/MSR> (accessed 13 October 2022).

<sup>20</sup> Biodiversity Law NO. 7788, Gazette No 101, 27 May 1998, Chapter I, II and V, National Commission for Biodiversity Management (CONAGEBIO). Ministry of Environment and Energy (MINAE) is the only designated CNA for the country responsible for all genetic resources. See <https://absch.cbd.int/en/countries/CR/CNA> (accessed 10 October 2022).

<sup>21</sup> Proclamation No. 120/1998 Institute of Biodiversity Conservation and Research, Arts 3 and 6. See also Proclamation No. 482/2006 Access to Genetic Resources and Community Knowledge, and Community Rights Proclamation; Regulation No. 169/2009 Access to Genetic Resources and Community Knowledge, and Community Rights. The Ethiopian Biodiversity Institute is the only CNA responsible for all genetic resources and community knowledge.

\* For example for Annex 1/MLS PGRFA of the Treaty, see also 2.1.7 (a).

<sup>22</sup> Decree No. 59 2017, Art. 6.1 & 26 (Agriculture/Environment).

<sup>23</sup> Act on Genetic Resources 2017, Art. 8 (1) 2 (Agriculture/ Fisheries/ Environment/ Science/ Health).

<sup>24</sup> Nature Conservation Act 2017, Art. 68 (2). Ministry of Environment for wild genetic resources and TK associated with them, and Ministry of Rural Affairs for genetic resources of agriculture and TK associated with them. See also <https://absch.cbd.int/en/countries/EE> (accessed 13 October 2022).

<sup>25</sup> Forestry/Environment. See <https://absch.cbd.int/en/countries/ZW> (accessed 13 October 2022).

<sup>26</sup> National Environmental Management: Biodiversity Act, No. 10 of 2004 (NEMBA), s. 87A as amended by s. 22 of Act 14 of 2013 and Bioprospecting, Access and Benefit-Sharing Regulations 2015 (BABS Regulations), r. 6 (1) & (2). Permits for non-commercial research to be undertaken abroad are issued by the so-called Member of Executive Council (MEC). No permit is required for research undertaken in South Africa for this type of research. For commercial purposes DEA/DEFF is responsible.

<sup>27</sup> In Ecuador, relevant for granting access to genetic resources and permission for pure scientific/basic/academic/non-commercial research are three different governmental authorities. See Beck, 2022, p496f, 500ff. p496f, 500ff.

<sup>28</sup> Decreto Supremo que aprueba el Reglamento de acceso a los recursos genéticos y sus derivados, DECRETO SUPREMO N° 019-2021-MINAM, Art. 12.

<sup>29</sup> Genetic Resources Act 2017, Art. 8 (1).

<sup>30</sup> National Environment (Access to Genetic Resources and Benefit Sharing) Regulations 2005, Art. 5 (Uganda National Council for Science and Technology [UNCST]).

<sup>31</sup> Regulamento sobre Acesso e Partilha de Benefícios Provenientes de Recursos Genéticos e Conhecimento Tradicional Associado 2007, Art. 4 (Minister for the Coordination of Environmental Action).

<sup>32</sup> National Biodiversity Coordination Committee (NBCC).

<sup>33</sup> Brazil: Law n° 13,123 of May 20, 2015 (Access and Benefits Sharing of Genetic Resources and Associated Traditional Knowledge), Art. 6 (The Genetic Heritage Management Council (CGen)).

<sup>34</sup> Implementing Regulation for the Organic Code of the Social Economy for Knowledge, Creativity and innovation, 2017, Chapter III, Art. 25.

<sup>35</sup> The Biological Diversity Act 2002, *inter alia* s. 3 and 4, and Guidelines on Access to Biological Resources and Associated Knowledge and Equitable Sharing of Benefits Regulations 2019, s. 1(1).

<sup>36</sup> Ley Sectorial De Biodiversidad (333-15) 2016, Art. 12, and also Reglamento de Acceso a Recursos Genéticos y Distribución de Beneficios (ABS) de la República Dominicana 2018.

<sup>37</sup> Bioprospecting Forum.

<sup>38</sup> Foundation for Research on Biodiversity.

<sup>39</sup> National Environment Management Authority ABS Permit Committee.

<sup>40</sup> National Biodiversity Centre of Bhutan.

<sup>41</sup> Genetic resources and legislation in Finland, <http://www.biodiversity.fi/geneticresources/home> (accessed 16 October 2022).

<sup>42</sup> The Danish Environmental Protection Agency – The Nagoya Protocol on Access and Benefit-sharing, <https://eng.mst.dk/nature-water/nature/biodiversity-the-building-block-of-life/the-nagoya-protocol-on-access-and-benefit-sharing/> (accessed 16 October 2022).

- <sup>43</sup> Korean ABSCH, "ABSCH Genetic Resources Information Center", <https://www.abs.go.kr/kabsch/main.do> (accessed 16 October 2022).
- <sup>44</sup> Biodiversity Clearing-House Mechanism, <https://www.biodiv.hu/hu> (accessed 16 October 2022).
- <sup>45</sup> National ABS Clearing House for Cameroon, <https://portailchm.sie.cm/abs/> (accessed 16 October 2022). Law N°2021/014 of July 2021 to Govern Access to Genetic Resources, their Derivatives, Traditional Knowledge Associated with Genetic Resource and their Fair Equitable Sharing of the Benefit Arising from their Utilization, s35.
- <sup>46</sup> Access to Biological Resources and Benefit Sharing Act 2017, s. 4.
- <sup>47</sup> Ministry of Higher Education, Research and Innovation, 2019.
- <sup>48</sup> German ABS Information Platform, <https://www.bfn.de/nagoya-protokoll> (accessed 16 October 2022).
- <sup>49</sup> Comisión Nacional para la Gestión de la Biodiversidad (CONAGEBIO) 2018, <https://www.conagebio.go.cr/Conagebio/public/> (accessed 16 October 2022).
- <sup>50</sup> Access and Benefit Sharing Portal for Kenya, <http://meas.nema.go.ke/abs/> (accessed 16 October 2022).
- <sup>51</sup> Qatar plant gene bank information system, <http://web1.mme.gov.qa/qatargb/hotline> (accessed 16 October 2022).
- <sup>52</sup> Department of Environmental Affairs, Republic of South Africa, <https://www.environment.gov.za> (accessed 9 May 2023).
- <sup>53</sup> Access to Biological Resources and Benefit Sharing Act 2017, s. 63 (3) - (4).
- <sup>54</sup> Loi n 2016-1087 du 8 aout 2016 pour la reconquete de la biodiversite, de la nature et des paysages (1) Titre V: Accès aux ressources genetiqués et partage juste et equitable des avantages 2016, Art. 37 Art. L. 412–6.
- <sup>55</sup> Access to Biological Resources and Benefit Sharing Act 2017, s. 63 (3) - (4).
- <sup>56</sup> Loi n 2016-1087 du 8 aout 2016 pour la reconquete de la biodiversite, de la nature et des paysages (1) Titre V: Accès aux ressources genetiqués et partage juste et equitable des avantages 2016, Art. 37 Art. L. 412–6.
- <sup>57</sup> Access to Genetic Resources and the Fair and Equitable Sharing of Benefits arising from their Utilisation Regulations 2016, s. 2 (2) (c).
- <sup>58</sup> Norwegian Marine Resources Act Chapter 2, section 9.
- <sup>59</sup> Act on Genetic Resources 2017, Art. 1 of Addenda.
- <sup>60</sup> The Guidelines on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from Their Utilization, Chapter 1, No. 3.1(5).
- <sup>61</sup> Loi n 2016-1087 du 8 aout 2016 pour la reconquete de la biodiversite, de la nature et des paysages (1) Titre V: Accès aux ressources genetiqués et partage juste et equitable des avantages 2016, Article 37 Art. L. 412–4(6).
- <sup>62</sup> Regulamento sobre Acesso e Partilha de Beneficios Provenientes de Recursos Genéticos e Conhecimento Tradicional Asociado 2007, Art. 2(o).
- <sup>63</sup> National Environment (Access to Genetic Resources and Benefit Sharing) Regulations 2005, s. 2. In Uganda domesticated or cultivated species are determined in the “cultural contexts in which their specific properties have been developed”.
- <sup>64</sup> The ABS legislation does not make reference to domesticated species but a clarification has been made by the government.
- <sup>65</sup> Decree No. 59/2017/ND-CP of the Government dated 12 May 2017 on the management of access to GR and the sharing of benefits arising from their utilization, Art. 3(10). Species has been acclimated for a long time, adaptive to the living conditions as a local variety, and is now widely cultivated.
- <sup>66</sup> Environment Protection and Biodiversity Conservation Regulation 2000, s. 8A.03(1); Environment Protection and Biodiversity Conservation Act 1999, s. 528.
- <sup>67</sup> Decree No. 8.772 of May 11, 2016, regulating Law No. 13.123 of May 20, 2015, Art. 2.
- <sup>68</sup> Colombia 2014, Art. 2.
- <sup>69</sup> Nature Conservation Act 2014 (ACT), s. 169, 206, 207, 209 and Biodiversity Conservation Regulation 2018 (WA), s. 72(3).
- <sup>70</sup> Access to Biological Resources and Benefit Sharing Act 2017, s. 4 Definition of “biological resource”, and s. 5.
- <sup>71</sup> Environment Protection and Biodiversity Conservation Regulation 2000, s. 8A.03(1); Environment Protection and Biodiversity Conservation Act 1999, s. 528.
- <sup>72</sup> The Biological Diversity Act, 2002 No. 18 of 2003, Chapter II and Guidelines on Access to Biological Resources and Associated Knowledge and Benefits Sharing Regulations, 2014, several provisions e.g. r. 1-6.



- <sup>73</sup> Access to Genetic Resources and the Fair and Equitable Sharing of Benefits arising from their Utilisation Regulations 2016, Art. 2 (2) (b).
- <sup>74</sup> National Environmental Management: Biodiversity Act, No. 10 of 2004 (NEMBA), s. 2 (1) (a) & (b), 3 (1).
- <sup>75</sup> Decreto Ejecutivo No. 19, de 26 de marzo de 2019.
- <sup>76</sup> Biodiversity Act of Bhutan 2003. Bhutan ABS Policy 2015, s. 6(k) defines "genetic resources" to include the "biochemical composition of genetic resources, genetic information and derivatives".
- <sup>77</sup> Andean Decision 391 of 1996; Resolution 1348 of 2014.
- <sup>78</sup> Part I of the Legal Notice n. 160 (2006).
- <sup>79</sup> For country measures defining IPLC, ways to determine the correct rights holder and procedures to obtain PIC or approval and involvement of IPLC, see below Element 3.
- <sup>80</sup> South Africa: National Environmental Management: Biodiversity Act, No. 10 of 2004 (NEMBA), s. 82 (1) (a), (b); (2) (a); (3) (a).
- <sup>81</sup> Access to Biological Resources and Benefit Sharing Act 2017, s. 23.
- <sup>82</sup> Protection of Traditional Knowledge and Cultural Expressions Act 2016 (PTKCEA), s. 36 (1), 4.
- <sup>83</sup> Act No. 27.811, 2002 establishing the regime for the protection of collective knowledge of Indigenous Peoples associated to biological resources (Peru), Art. 6.
- <sup>84</sup> Spanish Constitution, Art. 148.1.9; Law No. 42/2007 of 13 December on Natural Heritage and Biodiversity, modified by Law No. 33/2015 of 21 September. Official Journal of Spain No. 227, 22 September 2015, pp 83588–83632, Art. 68.2; Royal Decree No. 124/2017 of 24 February, related to the access to genetic resources deriving from wild taxons and to the control of their utilization. Official Journal of Spain No. 62, 14 March 2017, pp 18478-18499, Art. 5.2.
- <sup>85</sup> Republic Act 8371 October 29, 1997 ("An Act to Recognize, Protect and Promote the Rights of Indigenous Cultural Communities/Indigenous Peoples, Creating the National Commission of Indigenous Peoples, Establishing Mechanisms, Appropriating Funds Thereof, and For other Purposes"), Chapter V., s. 35.
- <sup>86</sup> Procedures and Guidelines for Access and Collection of Genetic Resources in Malawi 2002, Annex 1, p23.
- <sup>87</sup> Access to Biological and Genetic Resources and Associated Traditional Knowledge Act 2 of 2017, s. 9 (1).
- <sup>88</sup> Regulation of the Minister of Environment No. 34/MenLHK/Setjen/Kum.1/2017 on Recognition and Protection of Local Wisdom in The Management of Natural Resources and the Environment 2017, Art. 24 (2).
- <sup>89</sup> Décret n2017-066 du 31 Janvier 2017 portant réglementation de l'accès et du partage des avantages découlant de l'utilisation des ressources génétiques, Art. 14 (first paragraph).
- <sup>90</sup> Protection of Traditional Knowledge, Genetic Resources and Expressions of Folklore Act 2016, s. 30 (3). The provision foresees possibility of a compulsory licence to fulfil a national need, subject to compensation to the holder.
- <sup>91</sup> Protection of Traditional Knowledge and Cultural Expressions Act 2016, Art. 12 (1).
- <sup>92</sup> Access to Biological Resources and Benefit Sharing Act 2017, Act 795, s. 5(2)(g).
- <sup>93</sup> Loi n 2016-1087 du 8 aout 2016 pour la reconquete de la biodiversite, de la nature et des paysages (1) Titre V: Accès aux ressources genetiqués et partage juste et equitable des avantages 2016, Art. 37 Art. L. 412–5II.
- <sup>94</sup> Biodiversity Act of Bhutan 2022, s. 94.
- <sup>95</sup> Administrative Decision No. 410 of the Argentine Secretariat of Environment and Sustainable Development that regulates basic common standards for the access and utilization of genetic resources in Argentina, 22 October 2019. OJ No. 34225, Art. 6.
- <sup>96</sup> Decreto Supremo N° 003-2009-MINAM. Eleva al rango de Decreto Supremo la Resolución Ministerial N° 087-2008-MINAM y ratifican la aprobación del Reglamento de Acceso a los Recursos, efectuada por dicha Resolución2009, Art. 5 (narrow exclusion).
- <sup>97</sup> Joint DENR-DA-PCSD-NCIP Administrative Oder No. 1, Series of 2005 (Guidelines for Bioprospecting Activities in the Philippines), s. 2.1.
- <sup>98</sup> Biodiversity Act of Bhutan 2022, s. 94.
- <sup>99</sup> Decree-Law No. 118/2002 of 20 April 2002, Art. 2(1).
- <sup>100</sup> National Environment (Access to Genetic Resources and Benefit Sharing) Regulations 2005, s. 4c).
- <sup>101</sup> The Seeds and Plant Varieties Act, 2006, s. 3(b)).
- <sup>102</sup> Administrative Decision No. 410 of the Argentine Secretariat of Environment and Sustainable Development that regulates basic common standards for the access and utilization of genetic resources in Argentina, 22 October 2019. OJ No. 34225, Art. 6

- <sup>103</sup> Loi n 2016-1087 du 8 aout 2016 pour la reconquête de la biodiversité, de la nature et des paysages (1) Titre V: Accès aux ressources génétiques et partage juste et équitable des avantages 2016, Art. 37 Art. L. 412–5II.
- <sup>104</sup> Loi n 2016-1087 du 8 aout 2016 pour la reconquête de la biodiversité, de la nature et des paysages (1) Titre V: Accès aux ressources génétiques et partage juste et équitable des avantages 2016, Art. 37 Art. L. 412–5II.
- <sup>105</sup> Loi n 2016-1087 du 8 aout 2016 pour la reconquête de la biodiversité, de la nature et des paysages (1) Titre V: Accès aux ressources génétiques et partage juste et équitable des avantages 2016, Art. 37 Art. L. 412–5II.
- <sup>106</sup> Projet de loi sur l'accès aux ressources génétiques et le partage juste et équitable des avantages découlant de leur utilisation(undated), Art. 5.
- <sup>107</sup> Royal Decree No. 124/2017, of 24 February, related to the access to genetic resources deriving from wild taxons and to the control of their utilization. OJ No. 62, 14 March 2017, Art. 3(2) (if they are governed under other legislation).
- <sup>108</sup> Environment Protection and Biodiversity Conservation Regulation 2000, Reg. 8A.05(1)(a)
- <sup>109</sup> Environment Protection and Biodiversity Conservation Regulation 2000, Reg. 8A.05(1)(a).
- <sup>110</sup> Guidelines on Access to Biological Resources and Associated Knowledge and Benefits Sharing Regulations 2014, Art. 16; Guidelines on Access to Biological Resources and Associated Knowledge and Equitable Sharing of Benefits Regulations, 2019.
- <sup>111</sup> Loi n 2016-1087 du 8 aout 2016 pour la reconquete de la biodiversite, de la nature et des paysages (1) Titre V: Accès aux ressources génétiques et partage juste et équitable des avantages 2016, Art. 37 Art. L. 412–5.III(4).
- <sup>112</sup> Biological Diversity Act 2002, s. 40 allows Central Government to exclude such biological resources.
- <sup>113</sup> Biodiversity Act of Bhutan 2022, s. 8.
- <sup>114</sup> Implied by Art. 1 of Decree No. 59/2017/ND-CP of the Government dated 12 May 2017 on the management of access to GR and the sharing of benefits arising from their utilization. According to Trang, Ba Nguyen T. and Thu 2022, p. 329, there are no PIC and MAT for access to derivatives when accessed without genetic resources.
- <sup>115</sup> Legal Notice 379 of 2016 – Access to Genetic Resources and the Fair and Equitable Sharing of Benefits arising from their Utilisation Regulations, 2016, Art. 2 (2) (g).
- <sup>116</sup> Access to Biological Resources and Benefit Sharing Act 2017, s. 5.
- <sup>117</sup> National Environmental Management: Biodiversity Act, No. 10 of 2004, s. 1.
- <sup>118</sup> Access to Genetic Resources and the Fair and Equitable Sharing of Benefits arising from their Utilisation Regulations, 2016, s. 2(2)(b).
- <sup>119</sup> Biodiversity Act 2017, s. 35.
- <sup>120</sup> Joint IPOPHL-NCIP Administrative Order No. 01, 2016: Rules and Regulations on Intellectual Property Rights Application and Registration Protecting the Indigenous Knowledge Systems and Practices of the Indigenous Peoples and Indigenous Cultural Communities 2005, s. 3.
- <sup>121</sup> Access to Biological and Genetic Resources and Associated Traditional Knowledge Act 2 of 2017, s. 4(c).
- <sup>122</sup> National Environmental Management: Biodiversity Act, No. 10 of 2004 (NEMBA), GoN R149, G. 30739.
- <sup>123</sup> Environment Protection and Biodiversity Conservation Regulation 2000, s. 8A.03(1)).
- <sup>124</sup> Access to Biological Resources and Benefit Sharing Act 2017, s. 5.
- <sup>125</sup> Royal Decree No. 289/2003, of 7 March, on commercialization of reproduction forest materials, as long as there is no utilization of the genetic resources and no transfer to third parties for a different use, OJ No. 58, 8 March 2003; Royal Decree No. 124/2017 of 24 February related to the access to genetic resources deriving from wild taxons and to the control of their utilization. OJ No. 62, 14 March 2017, Art. 3(3). The latter excludes from ABS obligations “activities of production and marketing of seeds and forest plants, regulated by Royal Decree 289/2003 of 7 March, commercialization of forest material for reproduction, provided that there is no use of genetic resources, and provided that there is no transfer to third parties for other use”.
- <sup>126</sup> Nature Diversity Act 2009, s. 58.
- <sup>127</sup> Environment Protection and Biodiversity Conservation Regulation 2000, s. 8A.03(1)).
- <sup>128</sup> Environment Protection and Biodiversity Conservation Regulation 2000, s. 8A.03(1)).
- <sup>129</sup> Royal Decree No. 124/2017 of 24 February related to the access to genetic resources deriving from wild taxons and to the control of their utilization. OJ No. 62, 14 March 2017, Art. 3(3).
- <sup>130</sup> Royal Decree No. 124/2017 of 24 February related to the access to genetic resources deriving from wild taxons and to the control of their utilization. OJ No. 62, 14 March 2017, Art. 3(3).
- <sup>131</sup> The Biological Diversity Act 2002, s. 40 allows for the exclusion.
- <sup>132</sup> Access to Biological and Genetic Resources and Associated Traditional Knowledge Act 2 of 2017, s. 4 (1) (c).

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- <sup>133</sup> Biodiversity Act of Bhutan 2022, s. 8.
- <sup>134</sup> Biodiversity Act 2017, s. 35.
- <sup>135</sup> Access to Biological Resources and Benefit Sharing Act 2017, s. 5 (2)(g).
- <sup>136</sup> Environmental Management and Coordination (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulation, 2006, r. 3.
- <sup>137</sup> Access to Biological and Genetic Resources and Associated Traditional Knowledge Act 2 of 2017, s. 4 (1) (a).
- <sup>138</sup> Decision 395, 1996, Art. 4b.
- <sup>139</sup> Normativo de Investigaciones e Investigadores de la Diversidad Biológica 2020, Art. 25.
- <sup>140</sup> National Environment (Access to Genetic Resources and Benefit Sharing) Regulations 2005, s. 4(2) & 3.2.
- <sup>141</sup> Access to Biological and Genetic Resources and Associated Traditional Knowledge Act 2 of 2017, s. 4 (1) (a).
- <sup>142</sup> Biodiversity Act of Bhutan 2022, s. 6.
- <sup>143</sup> Guidelines on Access to Biological Resources and Associated Knowledge and Benefits Sharing Regulations 2014, s. 17 (Indian law covers biological resources).
- <sup>144</sup> Access to Biological Resources and Benefit Sharing Act 2017, s. 6.
- <sup>145</sup> Regulation of Access to Genetic Resources and Benefit-sharing (draft law), Art. 30.
- <sup>146</sup> Guidelines on Access to Biological Resources and Associated Knowledge and Benefits Sharing Regulations 2014, s. 13 (simplified ABS procedures).
- <sup>147</sup> Environmental Management and Coordination (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulation, 2006, r. 3(a)(d).
- <sup>148</sup> Guidelines on Access to Biological Resources and Associated Knowledge and Benefits Sharing Regulations 2014, s. 17(b).
- <sup>149</sup> National Environmental Management: Biodiversity Act, No. 10 of 2004 (NEMBA), s. 86 (1) (a); Government Gazette 30739. Commencement date: 8 February 2008.
- <sup>150</sup> Law n° 13,123 of May 20, 2015 (Access and Benefits Sharing of Genetic Resources and Associated Traditional Knowledge), Art. 11 III.
- <sup>151</sup> Loi n 2016-1087 du 8 aout 2016 pour la reconquete de la biodiversite, de la nature et des paysages (1) Titre V: Accès aux ressources genetiqués et partage juste et equitable des avantages 2016, Art. 37 Art. L. 412–17 III.
- <sup>152</sup> Bioprospecting, Access and Benefit-Sharing Regulations 2015 (BABS Regulations), Annexure 11, c. 9.
- <sup>153</sup> National Environmental Management: Biodiversity Act, No. 10 of 2004 (NEMBA), Annexures 7 and 8.
- <sup>154</sup> National Environment (Access to Genetic Resources and Benefit Sharing) Regulations 2005, s. 15.
- <sup>155</sup> Joint DENR-DA-PCSD- NCIP Administrative Order No. 01, Series of 2005: Guidelines for Bioprospecting Activities in the Philippines, Annex 2. Mainly for third party transfers and IP protection.
- <sup>156</sup> Joint IPOPHL-NCIP Administrative Order No. 01, 2016: Rules and Regulations on Intellectual Property Rights Application and Registration Protecting the Indigenous Knowledge Systems and Practices of the Indigenous Peoples and Indigenous Cultural Communities 2005, s. 3 (simplified procedure applies to wild and exotic species used for this purpose).
- <sup>157</sup> Joint IPOPHL-NCIP Administrative Order No. 01, 2016: Rules and Regulations on Intellectual Property Rights Application and Registration Protecting the Indigenous Knowledge Systems and Practices of the Indigenous Peoples and Indigenous Cultural Communities 2005, s. 3 (1).
- <sup>158</sup> Law n° 13,123 of May 20, 2015 (Access and Benefits Sharing of Genetic Resources and Associated Traditional Knowledge), Art. 11 (3) (implied).
- <sup>159</sup> Royal Decree No. 124/2017 of 24 February related to the access to genetic resources deriving from wild taxons and to the control of their utilization. OJ of Spain No. 62, 14 March 2017, Art. 3(3).
- <sup>160</sup> Loi n 2016-1087 du 8 aout 2016 pour la reconquete de la biodiversite, de la nature et des paysages (1) Titre V: Accès aux ressources genetiqués et partage juste et equitable des avantages 2016, Art. 37 Art. L. 412–5 III(4).
- <sup>161</sup> Genetic Resources Act 2017, Art. 10.
- <sup>162</sup> Joint DENR-DA-PCSD Administrative Order No. 1, May 18, 2004 Joint Implementing Rules and Regulations (IRR) Pursuant to Republic Act No. 9147, s. 15(3).
- <sup>163</sup> Guidelines on Access to Biological Resources and Associated Knowledge and Benefits Sharing Regulations 2014, s. 13.
- <sup>164</sup> Loi n 2016-1087 du 8 aout 2016 pour la reconquete de la biodiversite, de la nature et des paysages (1) Titre V: Accès aux ressources genetiqués et partage juste et equitable des avantages 2016, Art. L- 412-7.I.
- <sup>165</sup> Mexico's ABS law, according to de la Torre, 2016.

<sup>166</sup> The definition of “Research other than bioprospecting” in the Bioprospecting, Access and Benefit-Sharing Regulations 2008 (accessed 4 November 2022. The version of 2008 was repealed but the one of 2015 continues to use the term, albeit does not include the definition) read together with the catalogue of the South African National Biodiversity Institute (SANBI) on non-bioprospecting research activities. The latter is available online at <https://www.sanbi.org/resources/infobases/biodiversity-collection-permits-in-south-africa/> (accessed 4 November 2022).

<sup>167</sup> Act No. 27.811, 2002 establishing the regime for the protection of collective knowledge of Indigenous Peoples associated to biological resources 2001, Art. 2.

<sup>168</sup> Biodiversity Law 2008, Art. 3(28).

<sup>169</sup> Normativo de Investigaciones e Investigadores de la Diversidad Biológica 2020, Art. 2(f).

<sup>170</sup> Environmental Management and Coordination (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulation, 2006, s. 2.

<sup>171</sup> Biodiversity Act of Bhutan 2022. S. 168 (27).

<sup>172</sup> Loi n° 2016-1087 du 8 août 2016 pour la reconquête de la biodiversité, de la nature et des paysages (1) Titre V: Accès aux ressources génétiques et partage juste et équitable des avantages 2016, Art. 37, Art. L- 412-5.

<sup>173</sup> Loi n° 2016-1087 du 8 août 2016 pour la reconquête de la biodiversité, de la nature et des paysages (1) Titre V: Accès aux ressources génétiques et partage juste et équitable des avantages 2016, Art. 37, Art. L- 412-5.

<sup>174</sup> Loi n° 2016-1087 du 8 août 2016 pour la reconquête de la biodiversité, de la nature et des paysages (1) Titre V: Accès aux ressources génétiques et partage juste et équitable des avantages 2016, Art. 37, Art. L- 412-5.

<sup>175</sup> Avant Projet de loi n° 56-17 sur l'accès aux ressources génétiques et le partage juste et équitable des avantages découlant de leur utilisation (undated), Art. 5 (draft law).

<sup>176</sup> Protection of Traditional Knowledge, Genetic Resources and Expressions of Folklore Act 2016, s. 30(3)).

<sup>177</sup> Protection of Traditional Knowledge and Cultural Expressions Act 2016 (PTKCEA), s. 22(2): compulsory licence possible.

<sup>178</sup> Procedures and Guidelines for Access and Collection of Genetic Resources in Malawi 2002 (under heading E, 8).

<sup>179</sup> Décret n° 2017-848 du 9 mai 2017 relatif à l'accès aux ressources génétiques et aux connaissances traditionnelles associées et au partage des avantages découlant de leur utilisation, 2017, Art. 1 Art R. 412-28 – I (MAT).

<sup>180</sup> Ethiopian Biodiversity Institute (EBI).

<sup>181</sup> Act No. 6 of 2019: Protection, Promotion, Development and Management of Indigenous Knowledge Act 2019 (BSA: South Africa establishes the National Indigenous Knowledge Systems Office that issues licences for the use of TK and assists communities in negotiating BSA).

<sup>182</sup> Raika Biocultural Protocol 2009. See [http://www.pastoralpeoples.org/wp-content/uploads/2020/01/Raika\\_Biocultural\\_Protocol.pdf](http://www.pastoralpeoples.org/wp-content/uploads/2020/01/Raika_Biocultural_Protocol.pdf) (accessed 15 October 2022).

<sup>183</sup> Samburu Community Protocol, 2009. See [http://community-protocols.org/wp-content/uploads/documents/Kenya-Samburu\\_Community\\_Protocol.pdf](http://community-protocols.org/wp-content/uploads/documents/Kenya-Samburu_Community_Protocol.pdf) (accessed 15 October 2022).

<sup>184</sup> Protocolo Biocultural Micro Regional Oaxaca. Protocolo Comunitario Biocultural Ejido Nejapa de Madero, Yautepec, Oaxaca. See <https://absch.cbd.int/api/v2013/documents/9FE22165-47F8-DBCD-2932-3EC82414E894/attachments/213325/PROTOCOLO%20COMUNITARIO%20BIOCULTURAL%20DEL%20EJIDO%20NEJAPA%20DE%20MADERO%20C%20YAUTEPEC%20OAXACA-MEXICO.pdf>.

<sup>185</sup> National Environment (Access to Genetic Resources and Benefit Sharing) Regulations, 2005, s. 10.

<sup>186</sup> National Environmental Management: Biodiversity Act 10 of 2004, s. 82 (1) in conjunction with Bioprospecting and Benefit-Sharing Regulations 2015, r. 9 (1) (b) (i); National Environmental Management: Biodiversity Act 10 of 2004, s. 82 (2) (c) in conjunction with Bioprospecting and Benefit-Sharing Regulations 2015, r. 9 (1) (b) (iii) and 82 (4) (a)-(c).

<sup>187</sup> Decree No. 59/2017/ND-CP of the Government dated 12 May 2017 on the management of access to GR and the sharing of benefits arising from their utilization 2017, Art. 6.1, 26.

<sup>188</sup> Procedures and Guidelines for Access and Collection of Genetic Resources in Malawi 2002 (under heading E, 8).

<sup>189</sup> National Environment (Access to Genetic Resources and Benefit Sharing) Regulations 2005, s. 10.

<sup>190</sup> National Environmental Management: Biodiversity Act 10 of 2004, s. 82 (4) (a)-(c) and s. 82 (1), s. 82 (2) (c) in conjunction with Bioprospecting and Benefit-Sharing Regulations 2015, r. 9 (1) (b) (i) and r. 9 (1) (b) (iii) respectively.

<sup>191</sup> Protection of Traditional Knowledge and Cultural Expressions Act 2016, s. 7.

<sup>192</sup> Ley No. 27811, Ley de Protección Al Acceso A La Diversidad Biológica Persuana Y los Conocimientos Colectivos De Los Pueblos Indígenas 2001, Title VI.

<sup>193</sup> National Environmental Management: Biodiversity Act 10 of 2004, s. 81–82; Protection, Promotion, Development and Management of Indigenous Knowledge Act 2019, s 13.

<sup>194</sup> Law No. 20/2008/QH12 Biodiversity Law 2008, Art. 64.

<sup>195</sup> Protection of Traditional Knowledge, Genetic Resources and Expressions of Folklore Act 2016, s. 11–15.

<sup>196</sup> Community Biocultural Protocols. Building Mechanisms for Access and Benefit Sharing among the Communities of the Potato Park based on Customary Quechua Norms, ANDES (Peru), the Potato Park Communities and IIED, October 2011, <https://www.iied.org/sites/default/files/pdfs/migrate/G03168.pdf> (accessed 17 May 2023).

<sup>197</sup> Samburu Community Protocol 2009, [http://community-protocols.org/wp-content/uploads/documents/Kenya-Samburu\\_Community\\_Protocol.pdf](http://community-protocols.org/wp-content/uploads/documents/Kenya-Samburu_Community_Protocol.pdf) (accessed 17 May 2023).

<sup>198</sup> Raika Biocultural Protocol 2009, [http://www.pastoralpeoples.org/wp-content/uploads/2020/01/Raika\\_Biocultural\\_Protocol.pdf](http://www.pastoralpeoples.org/wp-content/uploads/2020/01/Raika_Biocultural_Protocol.pdf) (accessed 17 May 2023).

<sup>199</sup> National Environment Management Authority, Kenya's access and benefit-sharing toolkit for genetic resources and traditional knowledge 2014., Nairobi, 2014, p58. See <https://absch.cbd.int/api/v2013/documents/F3AB1BBD-08C1-4E30-1BA7-6562A31098FE/attachments/203706/ABS%20TOOL%20KIT%20FINAL.pdf> (accessed 15 October 2022); Environmental Management and Coordination (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulation 2006, First Schedule, 2.0 (a) (can be interpreted as striving towards such cooperation in East Africa).

<sup>200</sup> Access to Biological Resources and Benefit Sharing Act 2017, s. 63 (3) - (4).

<sup>201</sup> Law No. 13,123 of May 20, 2015 (Access and Benefits Sharing of Genetic Resources and Associated Traditional Knowledge) 2015, Art. 17(5)(II) (exempts farmers with annual gross income equal to or less than a prescribed maximum limit).

<sup>202</sup> Environment Protection and Biodiversity Conservation Regulation 2000, s. 8A.12.

<sup>203</sup> Guidelines on Access to Biological Resources and Associated Knowledge and Benefits Sharing Regulations 2014, see ss. 3–15.

<sup>204</sup> Bioprospecting and Benefit-Sharing Regulations 2015, Annexure 12 (Benefit-sharing agreement for biological resources and Benefit-sharing agreement for traditional knowledge, both at 6.1).

<sup>205</sup> Official Gazette No 38 of 23/09/2013 Law No. 70/2013 of 02/09/2013 Governing Biodiversity in Rwanda 2013.

<sup>206</sup> Protected Areas Act 2010.

<sup>207</sup> Joint DENR-DA-PCSD Administrative Order No. 1, May 18, 2004 Joint Implementing Rules and Regulations (IRR) Pursuant to Republic Act No. 9147 2004, s. 15 (no benefit-sharing obligations, except requirement to collaborate with local researcher as a form of benefit-sharing).

<sup>208</sup> Administrative Decision No. 410 of the Argentine Secretariat of Environment and Sustainable Development that regulates basic common standards for the access and utilization of genetic resources in Argentina, 22 October 2019. OJ No. 34225 (PIC by province may nonetheless be required).

<sup>209</sup> Spanish Government 2021. Ministry for the Ecological Transition and the Demographic Challenge. According to pers. comms by Humphries *et al.*, 2021, p32.

<sup>210</sup> Guidelines on Access to Biological Resources and Associated Knowledge and Benefits Sharing Regulations 2014, Annexure 1.

<sup>211</sup> National Environment (Access to Genetic Resources and Benefit Sharing) Regulations 2005, s. 20(2)(h).

<sup>212</sup> Access to Biological Resources and Benefit Sharing Act 2017, s. 11(2)(14)).

<sup>213</sup> The Walloon Region in Belgium (Décret relatif à l'accès aux ressources génétiques et au partage juste et équitable des avantages découlant de leur utilisation 2020, Annexes 1 and 2).

<sup>214</sup> Protection of Traditional Knowledge, Genetic Resources and Expressions of Folklore Act 2016, s. 43(k)).

<sup>215</sup> Guidelines on Access to Biological Resources and Associated Knowledge and Benefits Sharing Regulations 2014, s. 17 (c).

- <sup>216</sup> Environmental, Management and Coordination (Conservation of Biological Diversity and Resources, Access to Genetic Resources and Benefit Sharing) Regulation, 2006, s. 3(a).
- <sup>217</sup> Access to Genetic Resources and Community Knowledge, and Community Rights Proclamation No. 482/2006, Federal Negarit Gazeta Year 13 No. 13, 27 February 2006, Art. 8(1).
- <sup>218</sup> Model contractual documents are uploaded on the ABSCH at <https://absch.cbd.int/en/countries/BJ> (accessed 20 October 2022).
- <sup>219</sup> Model contractual documents are uploaded on the ABSCH at <https://absch.cbd.int/en/countries/CM/PRO> (accessed 20 October 2022).
- <sup>220</sup> A pdf version of “Model contract for benefit-sharing from the use of genetic resources” has been uploaded on the ABSCH at <https://absch.cbd.int/en/countries/FR/NMCC> (accessed 20 October 2022).
- <sup>221</sup> A word version model of “Benefit sharing agreement has been uploaded on the ABSCH at <https://absch.cbd.int/en/countries/ZA/NMCC> (accessed 20 October 2022).
- <sup>222</sup> Form V and Form VII of the Biodiversity Rules and Regulations 2023 has a model contractual clauses.
- <sup>223</sup> A copy of the model access and benefit sharing contract (the Deed) between Australian Government and access party has been published at <https://www.wipo.int/tk/en/databases/contracts/texts/australiaprovider.html> (accessed 11 May 2023).
- <sup>224</sup> National Environmental Management: Biodiversity Act, No. 10 of 2004 (NEMBA), s. 85; Bioprospecting, Access and Benefit-Sharing Regulations 2015 (BABS Regulations), r. 40.
- <sup>225</sup> Biodiversity Act of Bhutan, Art. 130 (1) and definition of “Bhutan access and benefit sharing fund”, s. 168 (7).
- <sup>226</sup> Ley organica de agrobiodiversidad, semillas y fomento de agricultura 2017, Art. 16.
- <sup>227</sup> Biodiversity Act of Bhutan, Art. 130 (2) and definition of “Bhutan access and benefit sharing fund”, s. 168 (7).
- <sup>228</sup> Brazil: Law n° 13,123 of May 20, 2015 (Access and Benefits Sharing of Genetic Resources and Associated Traditional Knowledge), Art. 30.
- <sup>229</sup> Resolution National Institute of Seeds N°22/2006; Resolution National Institute of Seeds N°318/2018; Resolution National Institute of Seeds N°317/2022.
- <sup>230</sup> Biodiversity Act of Bhutan 2023, s. 147; Biodiversity rules and regulations 2023, s. 130.
- <sup>231</sup> Nature Diversity Act 2004, Art. 68<sup>3</sup> [amendment RT I, 05.07.2017, 2 – entry into force 15.07.2017].
- <sup>232</sup> Government Decree No. 3/2016. (I.20.) on certain rules of implementation of international and European Community legal acts on access to genetic resources and the fair and equitable sharing of the benefits arising from their utilisation, s. 5. (1) b) ba).
- <sup>233</sup> Genetic Resources Act 2017, Art. 13 (1) 2.
- <sup>234</sup> Biological Diversity Rules 2004, Art. 14 (10).
- <sup>235</sup> Regulation (EU) No 511/2014 of the European Parliament and of the Council of 16 April 2014 on compliance measures for users from the Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization in the Union. OJ 2014 L 150/59 (hereinafter Regulation (EU) 511/2014).
- <sup>236</sup> Nature Diversity Act 2009, s. 59.
- <sup>237</sup> Access to Biological Resources and Benefit Sharing Act 2017, s. 30.
- <sup>238</sup> <https://absch.cbd.int/countries/ZA/CP> (accessed 9 November 2022).
- <sup>239</sup> Biodiversity Act of Bhutan 2022, s. 147.
- <sup>240</sup> Access to Biological Resources and Benefit Sharing Act 2017, s. 30.
- <sup>241</sup> Genetic Resources Act 2017, Art. 15 (1).
- <sup>242</sup> Access to Biological Resources and Benefit Sharing Act 2017, s. 30.
- <sup>243</sup> Access to Biological Resources and Benefit Sharing Act 2017, s. 31.
- <sup>244</sup> Patents Amendment Act of 2015, s. 3A, 3B.
- <sup>245</sup> SAGYP Resolution 44/1994 SAGYP Resolution 631/1992 National Seeds and Phytogenetic Creations; National Law N°20.247; Decree N°2183/1991; National Law N°24.376 approval of UPOV Convention Act 1978; National Law N°27.184 approval of International Treaty on Plant Genetic Resources for Food and Agriculture; National Law N°27.247 approval of Nagoya Protocol; National Constitution, Art. 124.
- <sup>246</sup> Plant Variety Rights Act 1987, s. 5 (1).
- <sup>247</sup> Access to Biological Resources and Benefit Sharing Act 2017, s. 34.
- <sup>248</sup> Genetic Resources Act 2017, Art. 14, 15 (2).
- <sup>249</sup> Access to Biological Resources and Benefit Sharing Act 2017, s. 34.
- <sup>250</sup> Access to Biological Resources and Benefit Sharing Act 2017, s. 35, 38, 40–44.

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<sup>251</sup> Genetic Resources Act 2017, Art. 16.

<sup>252</sup> Genetic Resources Act 2017, Art. 14 (2).

<sup>253</sup> Regulation (EU) 511/2014, Art. 2 (1); Guidance document, s. 2.1.1.

<sup>254</sup> Regulation (EU) 511/2014, Art. 2 (4); Guidance document, s. 2.1.2.

<sup>255</sup> Regulation (EU) 511/2014, Art. 2 (4); Guidance document, s. 2.1.2.

<sup>256</sup> Guidance document, s. 2.2.

<sup>257</sup> Regulation (EU) 511/2014, Art. 2 (2); Guidance document, s. 2.3.1.1.

<sup>258</sup> Guidance document, s. 2.3.1.3.

<sup>259</sup> Guidance document, s. 2.3.1.5.

<sup>260</sup> Guidance document, s. 2.3.3.2.

<sup>261</sup> Guidance document, s. 2.3.4.

<sup>262</sup> Guidance document, s. 2.3.5.

<sup>263</sup> Guidance document, s. 2.5.

<sup>264</sup> Regulation (EU) 511/2014, Art. 4.