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### Evolving property rights in water and their impact on water allocation and reallocation

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Chapter 5. The governance of water use permits

Appendix E. Grounds and conditions for the cancellation of permits

| Country  | Grounds         |               |                |             |                      |                      |                  |                           |                       |                     |                |                |                        | Conditions   |        |        |        |                |            |                            |  |  |
|----------|-----------------|---------------|----------------|-------------|----------------------|----------------------|------------------|---------------------------|-----------------------|---------------------|----------------|----------------|------------------------|--------------|--------|--------|--------|----------------|------------|----------------------------|--|--|
|          | Public interest | Public health | Drinking water | Stop floods | Protect aquatic env. | Any time by the min. | Acc. other users | Interbasin water transfer | Incr. demand in water | Changing env. Cond. | Water shortage | Social urgency | Without cause assigned | Compensation | Object | Appeal | Equity | Public hearing | Show cause | Decision must be motivated |  |  |
| Botswana | ✓               |               |                |             |                      |                      |                  |                           |                       |                     |                |                |                        |              | ✓      |        |        |                |            |                            |  |  |
| Eritrea  | ✓               |               |                |             |                      |                      |                  |                           |                       |                     |                |                |                        |              |        | ✓      |        |                |            |                            |  |  |
| Eswatini | ✓               |               |                |             |                      |                      |                  |                           |                       |                     | ✓              |                |                        |              | ✓      |        |        |                |            |                            |  |  |
| Ghana    | ✓               |               |                |             |                      |                      |                  |                           |                       |                     |                |                |                        |              | ✓      |        |        |                |            |                            |  |  |
| Kenya    |                 |               |                |             |                      |                      |                  |                           | ✓                     |                     |                |                |                        |              |        |        |        |                | ✓          | ✓                          |  |  |
| Malawi   | ✓               |               |                |             |                      |                      |                  |                           |                       |                     |                |                |                        |              |        |        |        |                |            |                            |  |  |
| Nigeria  | ✓               |               |                |             |                      |                      | ✓                |                           |                       |                     |                |                |                        |              |        |        |        |                |            |                            |  |  |
| Tanzania | ✓               |               |                |             |                      |                      |                  |                           |                       |                     |                |                |                        |              |        |        |        |                |            |                            |  |  |
| Uganda   | ✓               |               |                |             |                      |                      |                  |                           |                       |                     |                |                |                        |              |        |        |        |                |            |                            |  |  |
| Zambia   | ✓               |               |                |             |                      |                      |                  |                           |                       |                     |                |                |                        |              |        |        |        |                |            |                            |  |  |
| Zimbabwe |                 |               |                |             |                      |                      |                  |                           |                       |                     |                |                |                        |              |        |        |        |                |            |                            |  |  |
| Algeria  | ✓               |               |                |             |                      |                      |                  |                           |                       |                     |                |                |                        |              |        |        |        |                |            |                            |  |  |
| Burundi  | ✓               |               |                |             |                      |                      |                  |                           |                       |                     |                |                |                        |              |        |        |        |                |            |                            |  |  |
| Cameroon | ✓               |               |                |             |                      |                      |                  |                           |                       |                     |                |                |                        |              |        |        |        |                |            |                            |  |  |

| Country       | Conditions                 |            |                |        |        |        |              |                        |                |                |                     |                       |                           |                  |                      |                      |             |                |               |                 |   |
|---------------|----------------------------|------------|----------------|--------|--------|--------|--------------|------------------------|----------------|----------------|---------------------|-----------------------|---------------------------|------------------|----------------------|----------------------|-------------|----------------|---------------|-----------------|---|
|               | Decision must be motivated | Show cause | Public hearing | Equity | Appeal | Object | Compensation | Without cause assigned | Social urgency | Water shortage | Changing env. Cond. | Incr. demand in water | Interbasin water transfer | Acc. other users | Any time by the min. | Protect aquatic env. | Stop floods | Drinking water | Public health | Public interest |   |
| CAR           | ✓                          |            |                |        |        |        | ✓            |                        |                |                |                     |                       |                           |                  |                      | ✓                    | ✓           | ✓              | ✓             | ✓               |   |
| Chad          |                            |            |                |        |        |        | ✓            |                        |                |                |                     |                       |                           |                  |                      |                      |             |                | ✓             | ✓               | ✓ |
| Côte D'Ivoire |                            |            |                |        |        |        | ✓            |                        |                |                |                     |                       |                           |                  |                      | ✓                    | ✓           | ✓              | ✓             | ✓               | ✓ |
| Djibouti      |                            |            |                |        |        |        | ✓            |                        |                |                |                     |                       |                           |                  |                      |                      | ✓           | ✓              | ✓             | ✓               | ✓ |
| Guinea        |                            |            |                |        |        |        | ✓            |                        |                |                |                     |                       |                           |                  |                      |                      |             |                |               | ✓               | ✓ |
| Mali          |                            |            |                |        |        |        | ✓            |                        |                |                |                     |                       |                           |                  |                      |                      | ✓           |                |               |                 |   |
| Mauritania    |                            |            |                |        |        |        |              |                        |                |                |                     | ✓                     |                           |                  |                      |                      |             | ✓              |               |                 |   |
| Morocco       |                            |            |                |        |        |        | ✓            |                        |                |                |                     |                       |                           |                  |                      |                      |             |                |               | ✓               | ✓ |
| Senegal       |                            |            |                |        |        |        | ✓            |                        |                |                |                     |                       |                           |                  |                      |                      |             |                | ✓             | ✓               | ✓ |
| Togo          |                            |            |                |        |        |        | ✓            |                        |                |                |                     |                       |                           |                  |                      |                      |             |                | ✓             |                 |   |
| Bhutan        |                            |            |                |        |        |        |              |                        | ✓              |                |                     |                       |                           |                  |                      |                      |             |                |               |                 |   |
| Kyrgyzstan    |                            |            |                |        |        |        | ✓            |                        |                |                |                     |                       |                           |                  |                      |                      |             |                |               | ✓               | ✓ |
| Malaysia      |                            |            |                |        |        |        | ✓            |                        |                |                |                     |                       |                           |                  |                      |                      |             |                |               | ✓               | ✓ |
| Nepal         |                            |            |                |        |        |        | ✓            |                        |                |                |                     |                       |                           |                  |                      |                      |             |                |               | ✓               | ✓ |
| Philippines   |                            |            |                |        |        |        | ✓            |                        |                |                |                     |                       |                           |                  |                      |                      |             |                |               | ✓               | ✓ |
| Tajikistan    |                            |            |                |        |        |        | ✓            |                        |                |                |                     |                       |                           |                  |                      |                      |             |                |               | ✓               | ✓ |
| Vietnam       |                            |            |                |        |        |        | ✓            |                        |                |                |                     |                       |                           |                  |                      |                      |             |                |               | ✓               | ✓ |

Source: Author

Appendix F. Grounds and conditions for the amendment of permit conditions

| Country  | Grounds         |               |                |               |                  |               |                  |              |                    |                   |                      |               |                       | Conditions        |              |              |        |                |        |                |                           |                                     |  |
|----------|-----------------|---------------|----------------|---------------|------------------|---------------|------------------|--------------|--------------------|-------------------|----------------------|---------------|-----------------------|-------------------|--------------|--------------|--------|----------------|--------|----------------|---------------------------|-------------------------------------|--|
|          | Public interest | Public health | Drinking water | Stop flooding | Protect aq. env. | Social agency | Acc. other users | Incr. demand | Insufficient water | Change env. cond. | Inter basin transfer | Water quality | Prevent harmful dist. | No cause assigned | Other ground | Compensation | Appeal | Limited period | Equity | Public hearing | Opportunity to show cause | Lodge complaints/ initiate lawsuits |  |
| Botswana | ✓               |               |                |               |                  |               |                  |              |                    |                   |                      |               |                       |                   |              | ✓            |        |                |        |                |                           |                                     |  |
| Eritrea  |                 |               |                |               |                  |               | ✓                | ✓            |                    |                   |                      |               |                       |                   |              |              |        |                |        |                |                           |                                     |  |
| Eswatini | ✓               |               |                |               |                  |               |                  |              |                    |                   |                      | ✓             |                       |                   |              |              |        |                |        | ✓              |                           |                                     |  |
| Ethiopia |                 |               |                |               |                  |               | ✓                |              | ✓                  |                   |                      |               |                       |                   |              |              |        |                |        |                |                           |                                     |  |
| Ghana    |                 |               |                |               |                  |               |                  | ✓            |                    |                   |                      |               |                       |                   |              |              |        |                |        |                |                           |                                     |  |
| Kenya    |                 |               |                |               |                  |               | ✓                |              | ✓                  |                   |                      |               |                       |                   |              |              |        |                |        |                |                           |                                     |  |
| Malawi   | ✓               |               |                |               |                  |               |                  |              |                    |                   |                      |               |                       |                   |              |              |        |                |        |                |                           |                                     |  |
| Nigeria  |                 |               |                |               |                  |               |                  |              |                    |                   |                      |               |                       |                   |              |              |        |                |        |                |                           |                                     |  |
| Uganda   | ✓               |               |                |               |                  |               |                  |              |                    |                   |                      |               |                       |                   |              |              |        |                |        |                |                           |                                     |  |



|            |  |          |         |   |   |
|------------|--|----------|---------|---|---|
| Conditions | Lodge complaints/<br>initiate lawsuits |          |         |   | ✓ |
|            | Opportunity to<br>show cause           |          |         |   |   |
|            | Public hearing                         |          |         |   |   |
|            | Equity                                 |          |         |   |   |
|            | Limited period                         | ✓        |         |   |   |
|            | Appeal                                 |          |         |   |   |
|            | Compensation                           |          | ✓       |   |   |
| Grounds    | Other ground                           |          |         |   |   |
|            | No cause assigned                      |          | ✓       |   |   |
|            | Prevent harmful<br>dist.               |          |         |   |   |
|            | Water quality                          |          |         |   |   |
|            | Inter basin transfer                   |          |         |   |   |
|            | Change env. cond.                      |          |         |   | ✓ |
|            | Insufficient water                     | ✓        |         |   |   |
|            | Incr. demand                           |          |         | ✓ |   |
|            | Acc. other users                       |          |         |   |   |
|            | Social agency                          |          |         |   |   |
|            | Protect aq. env.                       |          |         |   |   |
|            | Stop flooding                          |          |         |   |   |
|            | Drinking water                         |          |         |   |   |
|            | Public health                          |          |         |   |   |
|            | Public interest                        |          |         |   |   |
| Country    |  | Malaysia | Vietnam |   |   |

Source: Author

Appendix G. Grounds for the suspension of permit

|                                    |          |         |          |          |       |         |        |         |         |              |        |          |        |          |         |       |              |
|------------------------------------|----------|---------|----------|----------|-------|---------|--------|---------|---------|--------------|--------|----------|--------|----------|---------|-------|--------------|
| Country                            | Botswana | Eritrea | Eswatini | Ethiopia | Ghana | Lesotho | Malawi | Namibia | Nigeria | South Africa | Uganda | Tanzania | Zambia | Zimbabwe | Algeria | Benin | Burkina Faso |
| Usage non-authorized water         |          |         |          |          |       |         |        |         |         |              |        |          |        |          |         | ✓     | ✓            |
| Water put to another use           |          |         |          |          |       |         |        |         |         |              |        |          |        |          |         |       |              |
| Material misstate-ent application  |          |         |          |          |       | ✓       |        |         |         |              |        |          |        |          |         |       |              |
| Non-payment fees                   |          |         | ✓        |          |       |         |        | ✓       | ✓       | ✓            |        |          | ✓      |          |         |       |              |
| Non-use (beneficial)               |          |         |          |          |       | ✓       |        | ✓       | ✓       |              |        |          |        |          |         |       |              |
| Failure compliance lawful order    |          |         |          |          |       |         |        | ✓       |         |              |        |          | ✓      |          |         | ✓     |              |
| Failure compliance law/ conditions |          | ✓       |          | ✓        |       | ✓       |        | ✓       |         | ✓            |        |          |        |          |         | ✓     | ✓            |
| Social urgency                     |          |         |          |          |       |         |        |         |         |              |        |          |        |          |         |       |              |
| Non-payment fees                   |          |         |          |          |       |         |        |         |         |              |        |          |        |          |         |       |              |
| Illegal transfer                   |          |         |          |          |       |         |        |         |         |              |        |          |        |          |         |       |              |
| Environment                        |          |         |          |          |       |         |        |         |         |              |        |          |        |          |         |       |              |
| Usage non-authorized water         |          |         |          |          |       |         |        |         |         |              |        |          |        |          |         | ✓     | ✓            |
| Wasting water                      |          |         |          |          |       |         |        |         |         |              |        |          |        |          | ✓       |       |              |
| Public health                      |          |         |          |          |       |         |        |         |         |              |        |          |        |          |         |       |              |
| Public interest                    |          |         |          |          |       |         |        |         |         |              |        |          |        |          |         |       |              |
| Deterioration water quality        |          |         | ✓        |          |       | ✓       |        |         |         |              | ✓      |          |        |          |         |       |              |
| Insufficient water                 |          |         | ✓        |          |       |         |        |         |         |              | ✓      |          |        |          |         |       |              |
| Emergency or drought               | ✓        | ✓       | ✓        |          |       |         |        |         |         |              |        | ✓        | ✓      | ✓        | ✓       |       |              |





**Appendix H. Grounds for the declaration of areas**

| Country       | Protected areas | Water shortage/<br>emergency area | Ground water<br>conservation/control area | Controlled area | Water dev. restriction area | Flood control areas | Limit, restrict, suspend | Impose requirements,<br>regulate/prohibit activity | Supply excess water to area | Modify permit | Establish a plan for<br>managing water | Grant new right with new<br>cond. | Declare the right<br>terminated | Take measures |
|---------------|-----------------|-----------------------------------|---|-----------------|-----------------------------|---------------------|--------------------------|--|-----------------------------|---------------|--|-----------------------------------|---------------------------------|---------------|
| Ghana         | ✓               |                                   |   |                 |                             |                     | ✓                        |  |                             | ✓             |  | ✓                                 |                                 |               |
|               |                 | ✓                                 |   |                 |                             |                     |                          | ✓  |                             |               |  |                                   |                                 |               |
| Kenya         | ✓               |                                   |   |                 |                             |                     |                          | ✓  |                             |               |  |                                   |                                 |               |
|               |                 | ✓                                 |   |                 |                             |                     |                          | ✓  |                             |               |  |                                   |                                 |               |
|               |                 |                                   | ✓   |                 |                             |                     |                          | ✓  |                             |               |  |                                   |                                 |               |
| Lesotho       |                 | ✓                                 |   |                 |                             |                     | ✓                        | ✓  |                             |               |  |                                   |                                 |               |
| Malawi        | ✓               |                                   |   |                 |                             |                     |                          | ✓  |                             |               |  |                                   |                                 |               |
|               |                 |                                   |   | ✓               |                             |                     |                          |  |                             |               | ✓                                      |                                   |                                 |               |
|               |                 | ✓                                 |   |                 |                             |                     |                          | ✓  |                             |               |  |                                   |                                 |               |
| Namibia       | ✓               |                                   |   |                 |                             |                     | ✓                        |  |                             |               |  |                                   |                                 |               |
|               |                 | ✓                                 |   |                 |                             |                     | ✓                        |  |                             |               |  |                                   |                                 |               |
| Rwanda        | ✓               |                                   |   |                 |                             |                     |                          |  |                             |               |  |                                   |                                 |               |
|               |                 | ✓                                 |   |                 |                             |                     |                          |  |                             | ✓             |  |                                   |                                 |               |
|               |                 |                                   | ✓   |                 |                             |                     |                          |  |                             |               |  |                                   |                                 |               |
| Sierra Leone  | ✓               |                                   |   |                 |                             |                     | ✓                        |  |                             |               |  |                                   |                                 |               |
| South Africa  |                 | ✓                                 |   |                 |                             |                     | ✓                        |  |                             |               |  |                                   |                                 |               |
| Uganda        | ✓               |                                   |   |                 |                             |                     |                          | ✓  |                             |               |  |                                   |                                 |               |
|               |                 |                                   |   | ✓               |                             |                     | ✓                        | ✓  |                             |               | ✓                                      |                                   |                                 |               |
| Tanzania      |                 |                                   | ✓   |                 |                             |                     |                          | ✓  |                             |               |  |                                   |                                 |               |
|               | ✓               |                                   |   |                 |                             |                     |                          | ✓  |                             |               |  |                                   |                                 |               |
| Zambia        | ✓               |                                   |   |                 |                             |                     |                          | ✓  |                             |               |  |                                   |                                 |               |
|               |                 | ✓                                 |   |                 |                             |                     | ✓                        | ✓  |                             | ✓             |  |                                   |                                 |               |
| Zimbabwe      |                 |                                   |   |                 | ✓                           |                     |                          | ✓  |                             |               |  |                                   |                                 |               |
|               |                 | ✓                                 |   |                 |                             |                     | ✓                        | ✓  |                             | ✓             |  |                                   |                                 |               |
| Benin         | ✓               |                                   |   |                 |                             |                     |                          | ✓  |                             |               |  |                                   |                                 |               |
| Burundi       | ✓               |                                   |   |                 |                             |                     | ✓                        | ✓  |                             |               |  |                                   |                                 |               |
| Côte D'Ivoire | ✓               |                                   |   |                 |                             |                     |                          |  |                             |               |  |                                   |                                 | ✓             |
| DR Congo      |                 |                                   | ✓   |                 |                             |                     |                          |  |                             |               |  |                                   |                                 | ✓             |
| Mauritania    | ✓               |                                   |   |                 |                             |                     |                          |  |                             |               |  |                                   |                                 |               |

| Country     | Take measures | Declare the right terminated | Grant new right with new cond. | Establish a plan for managing water | Modify permit | Supply excess water to area | Impose requirements, regulate/prohibit activity | Limit, restrict, suspend | Flood control areas | Water dev. restriction area | Controlled area | Ground water conservation/control area | Water shortage/emergency area | Protected areas |
|-------------|---------------|------------------------------|--------------------------------|-------------------------------------|---------------|-----------------------------|---|--------------------------|---------------------|-----------------------------|-----------------|--|-------------------------------|-----------------|
| Morocco     | ✓             |                              |                                |                                     |               |                             |   |                          |                     |                             |                 |  | ✓                             |                 |
| Togo        | ✓             |                              |                                |                                     |               |                             |   |                          |                     |                             |                 |  | ✓                             |                 |
|             |               |                              |                                |                                     |               |                             |   |                          |                     |                             |                 | ✓                                      |                               |                 |
| Senegal     |               |                              |                                |                                     |               |                             | ✓   |                          |                     |                             |                 |  | ✓                             |                 |
| Mali        |               |                              |                                |                                     |               |                             | ✓   |                          |                     |                             |                 |  | ✓                             |                 |
| Armenia     |               |                              |                                |                                     |               |                             | ✓   | ✓                        |                     |                             |                 |  | ✓                             |                 |
| Bhutan      |               |                              |                                |                                     |               |                             | ✓   |                          |                     |                             |                 |  | ✓                             |                 |
| Cambodia    |               |                              |                                |                                     |               |                             |   |                          |                     |                             |                 |  | ✓                             |                 |
| Indonesia   |               |                              |                                |                                     |               |                             |   |                          |                     |                             |                 |  |                               | ✓               |
| Kyrgyzstan  | ✓             |                              |                                |                                     |               |                             | ✓   |                          |                     |                             |                 |  | ✓                             |                 |
|             |               |                              |                                |                                     |               |                             |   | ✓                        |                     |                             |                 |  |                               |                 |
| Philippines |               |                              |                                |                                     |               |                             | ✓   | ✓                        |                     |                             |                 |  | ✓                             |                 |
|             | ✓             |                              |                                |                                     |               |                             |   |                          |                     | ✓                           |                 |  |                               |                 |
|             |               |                              |                                |                                     |               |                             |   |                          | ✓                   |                             |                 |  |                               |                 |
| Tajikistan  |               |                              |                                |                                     |               |                             |   |                          |                     |                             |                 |  | ✓                             |                 |

Source: Author