

## Water Indicators

| Indicator                                       | Value | Description                                     | Source |
|---|-------|---|--------|
| Overall Basin Risk (score)                      | 2.57  | Overall Basin Risk (score)                      |        |
| Overall Basin Risk (rank)                       | 116   | Overall Basin Risk (rank)                       |        |
| Physical risk (score)                           | 1.85  | Physical risk (score)                           |        |
| Physical risk (rank)                            | 173   | Physical risk (rank)                            |        |
| Regulatory risk (score)                         | 3.79  | Regulatory risk (score)                         |        |
| Regulatory risk (rank)                          | 13    | Regulatory risk (rank)                          |        |
| Reputation risk (score)                         | 3.52  | Reputation risk (score)                         |        |
| Reputation risk (rank)                          | 16    | Reputation risk (rank)                          |        |
| 1. Quantity - Scarcity (score)                  | 1.60  | 1. Quantity - Scarcity (score)                  |        |
| 1. Quantity - Scarcity (rank)                   | 155   | 1. Quantity - Scarcity (rank)                   |        |
| 2. Quantity - Flooding (score)                  | 2.13  | 2. Quantity - Flooding (score)                  |        |
| 2. Quantity - Flooding (rank)                   | 155   | 2. Quantity - Flooding (rank)                   |        |
| 3. Quality (score)                              | 2.24  | 3. Quality (score)                              |        |
| 3. Quality (rank)                               | 139   | 3. Quality (rank)                               |        |
| 4. Ecosystem Service Status (score)             | 1.83  | 4. Ecosystem Service Status (score)             |        |
| 4. Ecosystem Service Status (rank)              | 144   | 4. Ecosystem Service Status (rank)              |        |
| 5. Enabling Environment (Policy & Laws) (score) | 3.55  | 5. Enabling Environment (Policy & Laws) (score) |        |
| 5. Enabling Environment (Policy & Laws) (rank)  | 29    | 5. Enabling Environment (Policy & Laws) (rank)  |        |
| 6. Institutions and Governance (score)          | 4.25  | 6. Institutions and Governance (score)          |        |
| 6. Institutions and Governance (rank)           | 21    | 6. Institutions and Governance (rank)           |        |
| 7. Management Instruments (score)               | 2.85  | 7. Management Instruments (score)               |        |
| 7. Management Instruments (rank)                | 100   | 7. Management Instruments (rank)                |        |
| 8 - Infrastructure & Finance (score)            | 4.90  | 8 - Infrastructure & Finance (score)            |        |
| 8 - Infrastructure & Finance (rank)             | 7     | 8 - Infrastructure & Finance (rank)             |        |
| 9. Cultural Diversity (score)                   | 5.00  | 9. Cultural importance (score)                  |        |
| 9. Cultural Diversity (rank)                    | 8     | 9. Cultural importance (rank)                   |        |
| 10. Biodiversity Importance (score)             | 4.24  | 10. Biodiversity importance (score)             |        |

## Country Overview - Congo, Democratic Republic of

| Indicator                           | Value | Description  | Source  |
|-------------------------------------|-------|--|---|
| 10. Biodiversity Importance (rank)  | 40    | 10. Biodiversity importance (rank)   |   |
| 11. Media Scrutiny (score)          | 3.00  | 11. Media Scrutiny (score)   |   |
| 11. Media Scrutiny (rank)           | 82    | 11. Media Scrutiny (rank)  |   |
| 12. Conflict (score)                | 3.21  | 12. Conflict (score)   |   |
| 12. Conflict (rank)                 | 30    | 12. Conflict (rank)  |   |
| 1.0 - Aridity (score)               | 1.08  | The aridity risk indicator is based on the Global Aridity Index (Global-Aridity) and Global Potential Evapo-Transpiration (Global-PET) Geospatial data sets by Trabucco and Zomer (2009). These data sets provide information about the potential availability of water in regions with low water demand, thus they are used in the Water Risk Filter 5.0 to better account for deserts and other arid areas in the risk assessment. | Trabucco, A., & Zomer, R. J. (2009). Global potential evapo-transpiration (Global-PET) and global aridity index (Global-Aridity) geodatabase. CGIAR consortium for spatial information.                                       |
| 1.0 - Aridity (rank)                | 109   | The aridity risk indicator is based on the Global Aridity Index (Global-Aridity) and Global Potential Evapo-Transpiration (Global-PET) Geospatial data sets by Trabucco and Zomer (2009). These data sets provide information about the potential availability of water in regions with low water demand, thus they are used in the Water Risk Filter 5.0 to better account for deserts and other arid areas in the risk assessment. | Trabucco, A., & Zomer, R. J. (2009). Global potential evapo-transpiration (Global-PET) and global aridity index (Global-Aridity) geodatabase. CGIAR consortium for spatial information.                                       |
| 1.1 - Water Depletion (score)       | 1.00  | The water depletion risk indicator is based on annual average monthly net water depletion from Brauman et al. (2016). Their analysis is based on model outputs from the newest version of the integrated water resources model WaterGAP3 which measures water depletion as the ratio of water consumption-to-availability.   | Brauman, K. A., Richter, B. D., Postel, S., Malsy, M., & Flörke, M. (2016). Water depletion: An improved metric for incorporating seasonal and dry-year water scarcity into water risk assessments. <i>Elem Sci Anth</i> , 4. |
| 1.1 - Water Depletion (rank)        | 174   | The water depletion risk indicator is based on annual average monthly net water depletion from Brauman et al. (2016). Their analysis is based on model outputs from the newest version of the integrated water resources model WaterGAP3 which measures water depletion as the ratio of water consumption-to-availability.   | Brauman, K. A., Richter, B. D., Postel, S., Malsy, M., & Flörke, M. (2016). Water depletion: An improved metric for incorporating seasonal and dry-year water scarcity into water risk assessments. <i>Elem Sci Anth</i> , 4. |
| 1.2 - Baseline Water Stress (score) | 1.05  | World Resources Institute's Baseline Water Stress measures the ratio of total annual water withdrawals to total available annual renewable supply, accounting for upstream consumptive use. A higher percentage indicates more competition among users.  | Hofste, R., Kuzma, S., Walker, S., ... & Sutanudjaja, E.H. (2019). <i>Aqueduct 3.0: Updated decision relevant global water risk indicators</i> . Technical note. Washington, DC: World Resources Institute.                   |

## Country Overview - Congo, Democratic Republic of

| Indicator  | Value | Description  | Source   |
|--|-------|--|--|
| 1.2 - Baseline Water Stress (rank)                           | 148   | World Resources Institute's Baseline Water Stress measures the ratio of total annual water withdrawals to total available annual renewable supply, accounting for upstream consumptive use. A higher percentage indicates more competition among users.  | Hofste, R., Kuzma, S., Walker, S., ... & Sutanudjaja, E.H. (2019). Aqueduct 3.0: Updated decision relevant global water risk indicators. Technical note. Washington, DC: World Resources Institute.  |
| 1.3 - Blue Water Scarcity (score)                            | 1.39  | The blue water scarcity risk indicator is based on Mekonnen and Hoekstra (2016) global assessment of blue water scarcity on a monthly basis and at high spatial resolution (grid cells of 30 × 30 arc min resolution). Blue water scarcity is calculated as the ratio of the blue water footprint in a grid cell to the total blue water availability in the cell. The time period analyzed in this study ranges from 1996 to 2005.  | Mekonnen, M. M., & Hoekstra, A. Y. (2016). Four billion people facing severe water scarcity. <i>Science advances</i> , 2(2), e1500323.   |
| 1.3 - Blue Water Scarcity (rank)                             | 145   | The blue water scarcity risk indicator is based on Mekonnen and Hoekstra (2016) global assessment of blue water scarcity on a monthly basis and at high spatial resolution (grid cells of 30 × 30 arc min resolution). Blue water scarcity is calculated as the ratio of the blue water footprint in a grid cell to the total blue water availability in the cell. The time period analyzed in this study ranges from 1996 to 2005.  | Mekonnen, M. M., & Hoekstra, A. Y. (2016). Four billion people facing severe water scarcity. <i>Science advances</i> , 2(2), e1500323.   |
| 1.4 - Projected Change in Water Discharge (by ~2050) (score) | 1.90  | This risk indicator is based on multi-model simulation that applies both global climate and hydrological models from the Inter-Sectoral Impact Model Intercomparison Project (ISIMIP). To estimate the change at 2°C of global warming above 1980-2010 levels, simulated annual water discharge was averaged over a 31-year period with 2°C mean warming. Results are expressed in terms of relative change (%) in probability between present day (1980-2010) conditions and 2°C scenarios by 2050. | Schewe, J., Heinke, J., Gerten, D., Haddeland, I., Arnell, N. W., Clark, D. B., ... & Gosling, S. N. (2014). Multimodel assessment of water scarcity under climate change. <i>Proceedings of the National Academy of Sciences</i> , 111(9), 3245-3250. |
| 1.4 - Projected Change in Water Discharge (by ~2050) (rank)  | 104   | This risk indicator is based on multi-model simulation that applies both global climate and hydrological models from the Inter-Sectoral Impact Model Intercomparison Project (ISIMIP). To estimate the change at 2°C of global warming above 1980-2010 levels, simulated annual water discharge was averaged over a 31-year period with 2°C mean warming. Results are expressed in terms of relative change (%) in probability between present day (1980-2010) conditions and 2°C scenarios by 2050. | Schewe, J., Heinke, J., Gerten, D., Haddeland, I., Arnell, N. W., Clark, D. B., ... & Gosling, S. N. (2014). Multimodel assessment of water scarcity under climate change. <i>Proceedings of the National Academy of Sciences</i> , 111(9), 3245-3250. |

## Country Overview - Congo, Democratic Republic of

| Indicator   | Value | Description   | Source  |
|---|-------|---|---|
| 1.5 - Drought Frequency Probability (score)                     | 2.78  | This risk indicator is based on the Standardized Precipitation and Evaporation Index (SPEI). Vicente-Serrano et al. (2010) developed this multi-scalar drought index applying both precipitation and temperature data to detect, monitor and analyze different drought types and impacts in the context of global warming. The mathematical calculations used for SPEI are similar to the Standard Precipitation Index (SPI), but it has the advantage to include the role of evapotranspiration. | Vicente-Serrano, S. M., Beguería, S., & López-Moreno, J. I. (2010). A multiscale drought index sensitive to global warming: the standardized precipitation evapotranspiration index. <i>Journal of climate</i> , 23(7), 1696-1718.  |
| 1.5 - Drought Frequency Probability (rank)                      | 79    | This risk indicator is based on the Standardized Precipitation and Evaporation Index (SPEI). Vicente-Serrano et al. (2010) developed this multi-scalar drought index applying both precipitation and temperature data to detect, monitor and analyze different drought types and impacts in the context of global warming. The mathematical calculations used for SPEI are similar to the Standard Precipitation Index (SPI), but it has the advantage to include the role of evapotranspiration. | Vicente-Serrano, S. M., Beguería, S., & López-Moreno, J. I. (2010). A multiscale drought index sensitive to global warming: the standardized precipitation evapotranspiration index. <i>Journal of climate</i> , 23(7), 1696-1718.  |
| 1.6 - Projected Change in Drought Occurrence (by ~2050) (score) | 2.99  | This risk indicator is based on multi-model simulation that applies both global climate and drought models from the Inter-Sectoral Impact Model Intercomparison Project (ISIMIP) . A drought threshold for pre-industrial conditions was calculated based on time-series averages. Results are expressed in terms of relative change (%) in probability between pre-industrial and 2°C scenarios.   | Frieler, K., Lange, S., Piontek, F., Reyer, C. P., Schewe, J., Warszawski, L., ... & Geiger, T. (2017). Assessing the impacts of 1.5 C global warming-simulation protocol of the Inter-Sectoral Impact Model Intercomparison Project (ISIMIP2b). Geoscientific Model Development. |
| 1.6 - Projected Change in Drought Occurrence (by ~2050) (rank)  | 159   | This risk indicator is based on multi-model simulation that applies both global climate and drought models from the Inter-Sectoral Impact Model Intercomparison Project (ISIMIP) . A drought threshold for pre-industrial conditions was calculated based on time-series averages. Results are expressed in terms of relative change (%) in probability between pre-industrial and 2°C scenarios.   | Frieler, K., Lange, S., Piontek, F., Reyer, C. P., Schewe, J., Warszawski, L., ... & Geiger, T. (2017). Assessing the impacts of 1.5 C global warming-simulation protocol of the Inter-Sectoral Impact Model Intercomparison Project (ISIMIP2b). Geoscientific Model Development. |
| 2.1 - Estimated Flood Occurrence (score)                        | 2.07  | This risk indicator is based on the recurrence of floods within the 34-year time frame period of 1985 to 2019. The occurrence of floods within a given location was estimated using data from Flood Observatory, University of Colorado. The Flood Observatory use data derived from a wide variety of news, governmental, instrumental, and remote sensing source.   | Brakenridge, G. R. (2019). Global active archive of large flood events. Dartmouth Flood Observatory, University of Colorado.  |
| 2.1 - Estimated Flood Occurrence (rank)                         | 156   | This risk indicator is based on the recurrence of floods within the 34-year time frame period of 1985 to 2019. The occurrence of floods within a given location was estimated using data from Flood Observatory, University of Colorado. The Flood Observatory use data derived from a wide variety of news, governmental, instrumental, and remote sensing source.   | Brakenridge, G. R. (2019). Global active archive of large flood events. Dartmouth Flood Observatory, University of Colorado.  |

| Indicator   | Value | Description   | Source  |
|---|-------|---|---|
| 2.2 - Projected Change in Flood Occurrence (by ~2050) (score) | 3.23  | This risk indicator is based on multi-model simulation that applies both global climate and drought models from the Inter-Sectoral Impact Model Intercomparison Project (ISIMIP). The magnitude of the flood event was defined based on 100-year return period for pre-industrial conditions. Results are expressed in terms of change (%) in probability between pre-industrial and 2°C scenarios.   | Frieler, K., Lange, S., Piontek, F., Reyer, C. P., Schewe, J., Warszawski, L., ... & Geiger, T. (2017). Assessing the impacts of 1.5 C global warming-simulation protocol of the Inter-Sectoral Impact Model Intercomparison Project (ISIMIP2b). Geoscientific Model Development. |
| 2.2 - Projected Change in Flood Occurrence (by ~2050) (rank)  | 18    | This risk indicator is based on multi-model simulation that applies both global climate and drought models from the Inter-Sectoral Impact Model Intercomparison Project (ISIMIP). The magnitude of the flood event was defined based on 100-year return period for pre-industrial conditions. Results are expressed in terms of change (%) in probability between pre-industrial and 2°C scenarios.   | Frieler, K., Lange, S., Piontek, F., Reyer, C. P., Schewe, J., Warszawski, L., ... & Geiger, T. (2017). Assessing the impacts of 1.5 C global warming-simulation protocol of the Inter-Sectoral Impact Model Intercomparison Project (ISIMIP2b). Geoscientific Model Development. |
| 3.1 - Surface Water Contamination Index (score)               | 2.24  | <p>The underlying data for this risk indicator is based on a broad suite of pollutants with well-documented direct or indirect negative effects on water security for both humans and freshwater biodiversity, compiled by Vörösmarty et al. (2010). The negative effects are specific to individual pollutants, ranging from impacts mediated by eutrophication such as algal blooms and oxygen depletion (e.g., caused by phosphorus and organic loading) to direct toxic effects (e.g., caused by pesticides, mercury).</p> <p>The overall Surface Water Contamination Index is calculated based on a range of key pollutants with different weightings according to the level of their negative effects on water security for both humans and freshwater biodiversity: soil salinization (8%), nitrogen (12%) and phosphorus (P, 13%) loading, mercury deposition (5%), pesticide loading (10%), sediment loading (17%), organic loading (as Biological Oxygen Demand, BOD; 15%), potential acidification (9%), and thermal alteration (11%).</p> | Vörösmarty, C. J., McIntyre, P. B., Gessner, M. O., Dudgeon, D., Prusevich, A., Green, P., ... & Davies, P. M. (2010). Global threats to human water security and river biodiversity. <i>Nature</i> , 467(7315), 555.   |

| Indicator  | Value | Description   | Source   |
|--|-------|---|--|
| 3.1 - Surface Water Contamination Index (rank)                                 | 139   | <p>The underlying data for this risk indicator is based on a broad suite of pollutants with well-documented direct or indirect negative effects on water security for both humans and freshwater biodiversity, compiled by Vörösmarty et al. (2010). The negative effects are specific to individual pollutants, ranging from impacts mediated by eutrophication such as algal blooms and oxygen depletion (e.g., caused by phosphorus and organic loading) to direct toxic effects (e.g., caused by pesticides, mercury).</p> <p>The overall Surface Water Contamination Index is calculated based on a range of key pollutants with different weightings according to the level of their negative effects on water security for both humans and freshwater biodiversity: soil salinization (8%), nitrogen (12%) and phosphorus (P, 13%) loading, mercury deposition (5%), pesticide loading (10%), sediment loading (17%), organic loading (as Biological Oxygen Demand, BOD; 15%), potential acidification (9%), and thermal alteration (11%).</p> | Vörösmarty, C. J., McIntyre, P. B., Gessner, M. O., Dudgeon, D., Prusevich, A., Green, P., ... & Davies, P. M. (2010). Global threats to human water security and river biodiversity. <i>Nature</i> , 467(7315), 555.          |
| 4.1 - Fragmentation Status of Rivers (score)                                   | 1.23  | <p>This risk indicator is based on the data set by Grill et al. (2019) mapping the world's free-flowing rivers. Grill et al. (2019) compiled a geometric network of the global river system and associated attributes, such as hydro-geometric properties, as well as pressure indicators to calculate an integrated connectivity status index (CSI). While only rivers with high levels of connectivity in their entire length are classified as free-flowing, rivers of CSI &lt; 95% are considered as fragmented at a certain degree.</p>  | Grill, G., Lehner, B., Thieme, M., Geenen, B., Tickner, D., Antonelli, F., ... & Macedo, H. E. (2019). Mapping the world's free-flowing rivers. <i>Nature</i> , 569(7755), 215.  |
| 4.1 - Fragmentation Status of Rivers (rank)                                    | 173   | <p>This risk indicator is based on the data set by Grill et al. (2019) mapping the world's free-flowing rivers. Grill et al. (2019) compiled a geometric network of the global river system and associated attributes, such as hydro-geometric properties, as well as pressure indicators to calculate an integrated connectivity status index (CSI). While only rivers with high levels of connectivity in their entire length are classified as free-flowing, rivers of CSI &lt; 95% are considered as fragmented at a certain degree.</p>  | Grill, G., Lehner, B., Thieme, M., Geenen, B., Tickner, D., Antonelli, F., ... & Macedo, H. E. (2019). Mapping the world's free-flowing rivers. <i>Nature</i> , 569(7755), 215.  |
| 4.2 - Catchment Ecosystem Services Degradation Level (tree cover loss) (score) | 3.48  | <p>For this risk indicator, tree cover loss was applied as a proxy to represent catchment ecosystem services degradation since forests play an important role in terms of water regulation, supply and pollution control. The forest cover data is based on Hansen et al.'s global Landsat data at a 30-meter spatial resolution to characterize forest cover and change. The authors defined trees as vegetation taller than 5 meters in height, and forest cover loss as a stand-replacement disturbance, or a change from a forest to non-forest state, during the period 2000 - 2018.</p>   | Hansen, M. C., Potapov, P. V., Moore, R., Hancher, M., Turubanova, S. A. A., Tyukavina, A., ... & Kommareddy, A. (2013). High-resolution global maps of 21st-century forest cover change. <i>science</i> , 342(6160), 850-853. |

## Country Overview - Congo, Democratic Republic of

| Indicator   | Value | Description  | Source  |
|---|-------|--|---|
| 4.2 - Catchment Ecosystem Services Degradation Level (tree cover loss) (rank) | 30    | <p>For this risk indicator, tree cover loss was applied as a proxy to represent catchment ecosystem services degradation since forests play an important role in terms of water regulation, supply and pollution control.</p> <p>The forest cover data is based on Hansen et al.'s global Landsat data at a 30-meter spatial resolution to characterize forest cover and change. The authors defined trees as vegetation taller than 5 meters in height, and forest cover loss as a stand-replacement disturbance, or a change from a forest to non-forest state, during the period 2000 – 2018.</p> | Hansen, M. C., Potapov, P. V., Moore, R., Hancher, M., Turubanova, S. A. A., Tyukavina, A., ... & Kommareddy, A. (2013). High-resolution global maps of 21st-century forest cover change. <i>science</i> , 342(6160), 850-853.  |
| 4.3 - Projected Impacts on Freshwater Biodiversity (score)                    | 2.00  | The study by Tedesco et al. (2013) to project changes [% increase or decrease] in extinction rate by ~2090 of freshwater fish due to water availability loss from climate change is used as a proxy to estimate the projected impacts on freshwater biodiversity.  | Tedesco, P. A., Oberdorff, T., Cornu, J. F., Beauchard, O., Brosse, S., Dürr, H. H., ... & Hugueny, B. (2013). A scenario for impacts of water availability loss due to climate change on riverine fish extinction rates. <i>Journal of Applied Ecology</i> , 50(5), 1105-1115. |
| 4.3 - Projected Impacts on Freshwater Biodiversity (rank)                     | 136   | The study by Tedesco et al. (2013) to project changes [% increase or decrease] in extinction rate by ~2090 of freshwater fish due to water availability loss from climate change is used as a proxy to estimate the projected impacts on freshwater biodiversity.  | Tedesco, P. A., Oberdorff, T., Cornu, J. F., Beauchard, O., Brosse, S., Dürr, H. H., ... & Hugueny, B. (2013). A scenario for impacts of water availability loss due to climate change on riverine fish extinction rates. <i>Journal of Applied Ecology</i> , 50(5), 1105-1115. |
| 5.1 - Freshwater Policy Status (SDG 6.5.1) (score)                            | 4.00  | This risk indicator is based on SDG 6.5.1. Degree of IWRM Implementation "National Water Resources Policy" indicator, which corresponds to one of the three national level indicators under the Enabling Environment category.   | UN Environment (2018). Progress on integrated water resources management. Global baseline for SDG 6 Indicator 6.5.1: degree of IWRM implementation.   |
| 5.1 - Freshwater Policy Status (SDG 6.5.1) (rank)                             | 24    | This risk indicator is based on SDG 6.5.1. Degree of IWRM Implementation "National Water Resources Policy" indicator, which corresponds to one of the three national level indicators under the Enabling Environment category.   | UN Environment (2018). Progress on integrated water resources management. Global baseline for SDG 6 Indicator 6.5.1: degree of IWRM implementation.   |
| 5.2 - Freshwater Law Status (SDG 6.5.1) (score)                               | 3.00  | <p>This risk indicator is based on SDG 6.5.1. Degree of IWRM Implementation "National Water Resources Law(s)" indicator, which corresponds to one of the three national level indicators under the Enabling Environment category.</p> <p>For SDG 6.5.1, enabling environment depicts the conditions that help to support the implementation of IWRM, which includes legal and strategic planning tools for IWRM.</p>   | UN Environment (2018). Progress on integrated water resources management. Global baseline for SDG 6 Indicator 6.5.1: degree of IWRM implementation.   |

## Country Overview - Congo, Democratic Republic of

| Indicator   | Value | Description   | Source  |
|---|-------|---|---|
| 5.2 - Freshwater Law Status (SDG 6.5.1) (rank)                            | 84    | <p>This risk indicator is based on SDG 6.5.1. Degree of IWRM Implementation “National Water Resources Law(s)” indicator, which corresponds to one of the three national level indicators under the Enabling Environment category.</p> <p>For SDG 6.5.1, enabling environment depicts the conditions that help to support the implementation of IWRM, which includes legal and strategic planning tools for IWRM.</p>  | UN Environment (2018). Progress on integrated water resources management. Global baseline for SDG 6 Indicator 6.5.1: degree of IWRM implementation. |
| 5.3 - Implementation Status of Water Management Plans (SDG 6.5.1) (score) | 5.00  | <p>This risk indicator is based on SDG 6.5.1. Degree of IWRM Implementation “National IWRM plans” indicator, which corresponds to one of the three national level indicators under the Enabling Environment category.</p> <p>For SDG 6.5.1, enabling environment depicts the conditions that help to support the implementation of IWRM, which includes legal and strategic planning tools for IWRM.</p>  | UN Environment (2018). Progress on integrated water resources management. Global baseline for SDG 6 Indicator 6.5.1: degree of IWRM implementation. |
| 5.3 - Implementation Status of Water Management Plans (SDG 6.5.1) (rank)  | 9     | <p>This risk indicator is based on SDG 6.5.1. Degree of IWRM Implementation “National IWRM plans” indicator, which corresponds to one of the three national level indicators under the Enabling Environment category.</p> <p>For SDG 6.5.1, enabling environment depicts the conditions that help to support the implementation of IWRM, which includes legal and strategic planning tools for IWRM.</p>  | UN Environment (2018). Progress on integrated water resources management. Global baseline for SDG 6 Indicator 6.5.1: degree of IWRM implementation. |
| 6.1 - Corruption Perceptions Index (score)                                | 4.00  | <p>This risk Indicator is based on the latest Transparency International's data: the Corruption Perceptions Index 2018. This index aggregates data from a number of different sources that provide perceptions of business people and country experts on the level of corruption in the public sector.</p>  | Transparency International (2019). Corruption Perceptions Index 2018. Berlin: Transparency International.   |
| 6.1 - Corruption Perceptions Index (rank)                                 | 74    | <p>This risk Indicator is based on the latest Transparency International's data: the Corruption Perceptions Index 2018. This index aggregates data from a number of different sources that provide perceptions of business people and country experts on the level of corruption in the public sector.</p>  | Transparency International (2019). Corruption Perceptions Index 2018. Berlin: Transparency International.   |
| 6.2 - Freedom in the World Index (score)                                  | 5.00  | <p>This risk indicator is based on Freedom House (2019), an annual global report on political rights and civil liberties, composed of numerical ratings and descriptive texts for each country and a select group of territories. The 2019 edition involved more than 100 analysts and more than 30 advisers with global, regional, and issue-based expertise to covers developments in 195 countries and 14 territories from January 1, 2018, through December 31, 2018.</p> | Freedom House (2019). Freedom in the world 2019. Washington, DC: Freedom House.   |



| Indicator   | Value | Description  | Source  |
|---|-------|--|---|
| 6.2 - Freedom in the World Index (rank)                               | 33    | This risk indicator is based on Freedom House (2019), an annual global report on political rights and civil liberties, composed of numerical ratings and descriptive texts for each country and a select group of territories. The 2019 edition involved more than 100 analysts and more than 30 advisers with global, regional, and issue-based expertise to covers developments in 195 countries and 14 territories from January 1, 2018, through December 31, 2018. | Freedom House (2019). Freedom in the world 2019. Washington, DC: Freedom House.   |
| 6.3 - Business Participation in Water Management (SDG 6.5.1) (score)  | 4.00  | This risk indicator is based on SDG 6.5.1. Degree of IWRM Implementation "Business Participation in Water Resources Development, Management and Use" indicator, which corresponds to one of the six national level indicators under the Institutions and Participation category.   | UN Environment (2018). Progress on integrated water resources management. Global baseline for SDG 6 Indicator 6.5.1: degree of IWRM implementation. |
| 6.3 - Business Participation in Water Management (SDG 6.5.1) (rank)   | 25    | This risk indicator is based on SDG 6.5.1. Degree of IWRM Implementation "Business Participation in Water Resources Development, Management and Use" indicator, which corresponds to one of the six national level indicators under the Institutions and Participation category.   | UN Environment (2018). Progress on integrated water resources management. Global baseline for SDG 6 Indicator 6.5.1: degree of IWRM implementation. |
| 7.1 - Management Instruments for Water Management (SDG 6.5.1) (score) | 3.00  | This risk indicator is based on SDG 6.5.1. Degree of IWRM Implementation "Sustainable and efficient water use management" indicator, which corresponds to one of the five national level indicators under the Management Instruments category.<br><br>For SDG 6.5.1, management instruments refer to the tools and activities that enable decision-makers and users to make rational and informed choices between alternative actions.                                 | UN Environment (2018). Progress on integrated water resources management. Global baseline for SDG 6 Indicator 6.5.1: degree of IWRM implementation. |
| 7.1 - Management Instruments for Water Management (SDG 6.5.1) (rank)  | 83    | This risk indicator is based on SDG 6.5.1. Degree of IWRM Implementation "Sustainable and efficient water use management" indicator, which corresponds to one of the five national level indicators under the Management Instruments category.<br><br>For SDG 6.5.1, management instruments refer to the tools and activities that enable decision-makers and users to make rational and informed choices between alternative actions.                                 | UN Environment (2018). Progress on integrated water resources management. Global baseline for SDG 6 Indicator 6.5.1: degree of IWRM implementation. |

## Country Overview - Congo, Democratic Republic of

| Indicator   | Value | Description  | Source  |
|---|-------|--|---|
| 7.2 - Groundwater Monitoring Data Availability and Management (score) | 3.00  | This risk indicator is based on the data set by UN IGRAC (2019) to determine the level of availability of groundwater monitoring data at country level as groundwater management decisions rely strongly on data availability. The level of groundwater monitoring data availability for groundwater management is determined according to a combination of three criteria developed by WWF and IGRAC: 1) Status of country groundwater monitoring programme, 2) groundwater data availability for NGOs and 3) Public access to processed groundwater monitoring data. | UN IGRAC (2019). Global Groundwater Monitoring Network GGMM Portal. UN International Groundwater Resources Assessment Centre (IGRAC).                                   |
| 7.2 - Groundwater Monitoring Data Availability and Management (rank)  | 96    | This risk indicator is based on the data set by UN IGRAC (2019) to determine the level of availability of groundwater monitoring data at country level as groundwater management decisions rely strongly on data availability. The level of groundwater monitoring data availability for groundwater management is determined according to a combination of three criteria developed by WWF and IGRAC: 1) Status of country groundwater monitoring programme, 2) groundwater data availability for NGOs and 3) Public access to processed groundwater monitoring data. | UN IGRAC (2019). Global Groundwater Monitoring Network GGMM Portal. UN International Groundwater Resources Assessment Centre (IGRAC).                                   |
| 7.3 - Density of Runoff Monitoring Stations (score)                   | 1.97  | The density of monitoring stations for water quantity was applied as proxy to develop this risk indicator. The Global Runoff Data Base was used to estimate the number of monitoring stations per 1000km <sup>2</sup> of the main river system (data base access date: May 2018).  | BfG (2019). Global Runoff Data Base. German Federal Institute of Hydrology (BfG).   |
| 7.3 - Density of Runoff Monitoring Stations (rank)                    | 189   | The density of monitoring stations for water quantity was applied as proxy to develop this risk indicator. The Global Runoff Data Base was used to estimate the number of monitoring stations per 1000km <sup>2</sup> of the main river system (data base access date: May 2018).  | BfG (2019). Global Runoff Data Base. German Federal Institute of Hydrology (BfG).   |
| 8.1 - Access to Safe Drinking Water (score)                           | 5.00  | This risk indicator is based on the Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (UNICEF/WHO) 2019 data. It provides estimates on the use of water, sanitation and hygiene by country for the period 2000-2017.   | WHO & UNICEF (2019). Estimates on the use of water, sanitation and hygiene by country (2000-2017). Joint Monitoring Programme for Water Supply, Sanitation and Hygiene. |
| 8.1 - Access to Safe Drinking Water (rank)                            | 13    | This risk indicator is based on the Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (UNICEF/WHO) 2019 data. It provides estimates on the use of water, sanitation and hygiene by country for the period 2000-2017.   | WHO & UNICEF (2019). Estimates on the use of water, sanitation and hygiene by country (2000-2017). Joint Monitoring Programme for Water Supply, Sanitation and Hygiene. |
| 8.2 - Access to Sanitation (score)                                    | 5.00  | This risk indicator is based on the Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (UNICEF/WHO) 2019 data. It provides estimates on the use of water, sanitation and hygiene by country for the period 2000-2017.   | WHO & UNICEF (2019). Estimates on the use of water, sanitation and hygiene by country (2000-2017). Joint Monitoring Programme for Water Supply, Sanitation and Hygiene. |

## Country Overview - Congo, Democratic Republic of

| Indicator   | Value | Description  | Source  |
|---|-------|--|---|
| 8.2 - Access to Sanitation (rank)   | 35    | This risk indicator is based on the Joint Monitoring Programme for Water Supply, Sanitation and Hygiene (UNICEF/WHO) 2019 data. It provides estimates on the use of water, sanitation and hygiene by country for the period 2000-2017.   | WHO & UNICEF (2019). Estimates on the use of water, sanitation and hygiene by country (2000-2017). Joint Monitoring Programme for Water Supply, Sanitation and Hygiene.   |
| 8.3 - Financing for Water Resource Development and Management (SDG 6.5.1) (score) | 4.00  | This risk indicator is based on the average 'Financing' score of UN SDG 6.5.1. Degree of IWRM Implementation database. UN SDG 6.5.1 database contains a category on financing which assesses different aspects related to budgeting and financing made available and used for water resources development and management from various sources.   | UN Environment (2018). Progress on integrated water resources management. Global baseline for SDG 6 Indicator 6.5.1: degree of IWRM implementation.   |
| 8.3 - Financing for Water Resource Development and Management (SDG 6.5.1) (rank)  | 43    | This risk indicator is based on the average 'Financing' score of UN SDG 6.5.1. Degree of IWRM Implementation database. UN SDG 6.5.1 database contains a category on financing which assesses different aspects related to budgeting and financing made available and used for water resources development and management from various sources.   | UN Environment (2018). Progress on integrated water resources management. Global baseline for SDG 6 Indicator 6.5.1: degree of IWRM implementation.   |
| 9.1 - Cultural Diversity (score)  | 5.00  | Water is a social and cultural good. The cultural diversity risk indicator was included in order to acknowledge that businesses face reputational risk due to the importance of freshwater for indigenous and traditional people in their daily life, religion and culture.<br>This risk indicator is based on Oviedo and Larsen (2000) data set, which mapped the world's ethnolinguistic groups onto the WWF map of the world's ecoregions. This cross-mapping showed for the very first time the significant overlap that exists between the global geographic distribution of biodiversity and that of linguistic diversity. | Oviedo, G., Maffi, L., & Larsen, P. B. (2000). Indigenous and traditional peoples of the world and ecoregion conservation: An integrated approach to conserving the world's biological and cultural diversity. Gland: WWF (World Wide Fund for Nature) International. |
| 9.1 - Cultural Diversity (rank)   | 8     | Water is a social and cultural good. The cultural diversity risk indicator was included in order to acknowledge that businesses face reputational risk due to the importance of freshwater for indigenous and traditional people in their daily life, religion and culture.<br>This risk indicator is based on Oviedo and Larsen (2000) data set, which mapped the world's ethnolinguistic groups onto the WWF map of the world's ecoregions. This cross-mapping showed for the very first time the significant overlap that exists between the global geographic distribution of biodiversity and that of linguistic diversity. | Oviedo, G., Maffi, L., & Larsen, P. B. (2000). Indigenous and traditional peoples of the world and ecoregion conservation: An integrated approach to conserving the world's biological and cultural diversity. Gland: WWF (World Wide Fund for Nature) International. |
| 10.1 - Freshwater Endemism (score)  | 3.71  | The underlying data set for this risk indicator comes from the Freshwater Ecoregions of the World (FEOW) 2015 data developed by WWF and TNC. Companies operating in basins with higher number of endemic fish species are exposed to higher reputational risks.  | WWF & TNC (2015). Freshwater Ecoregions of the World.   |

## Country Overview - Congo, Democratic Republic of

| Indicator                                       | Value | Description   | Source  |
|---|-------|---|---|
| 10.1 - Freshwater Endemism (rank)               | 104   | The underlying data set for this risk indicator comes from the Freshwater Ecoregions of the World (FEOW) 2015 data developed by WWF and TNC. Companies operating in basins with higher number of endemic fish species are exposed to higher reputational risks.   | WWF & TNC (2015). Freshwater Ecoregions of the World. |
| 10.2 - Freshwater Biodiversity Richness (score) | 4.76  | The underlying data set for this risk indicator comes from the Freshwater Ecoregions of the World (FEOW) 2015 data developed by WWF and TNC. Count of fish species is used as a representation of freshwater biodiversity richness. Companies operating in basins with higher number of fish species are exposed to higher reputational risks.                              | WWF & TNC (2015). Freshwater Ecoregions of the World. |
| 10.2 - Freshwater Biodiversity Richness (rank)  | 33    | The underlying data set for this risk indicator comes from the Freshwater Ecoregions of the World (FEOW) 2015 data developed by WWF and TNC. Count of fish species is used as a representation of freshwater biodiversity richness. Companies operating in basins with higher number of fish species are exposed to higher reputational risks.                              | WWF & TNC (2015). Freshwater Ecoregions of the World. |
| 11.1 - National Media Coverage (score)          | 3.00  | This risk indicator is based on joint qualitative research by WWF and Tecnomia (Typsa Group). It indicates how aware local residents typically are of water-related issues due to national media coverage. The status of the river basin (e.g., scarcity and pollution) is taken into account, as well as the importance of water for livelihoods (e.g., food and shelter). | WWF & Tecnomia (TYPESA Group)                         |
| 11.1 - National Media Coverage (rank)           | 130   | This risk indicator is based on joint qualitative research by WWF and Tecnomia (Typsa Group). It indicates how aware local residents typically are of water-related issues due to national media coverage. The status of the river basin (e.g., scarcity and pollution) is taken into account, as well as the importance of water for livelihoods (e.g., food and shelter). | WWF & Tecnomia (TYPESA Group)                         |
| 11.2 - Global Media Coverage (score)            | 3.00  | This risk indicator is based on joint qualitative research by WWF and Tecnomia (Typsa Group). It indicates how aware people are of water-related issues due to global media coverage. Familiarity to and media coverage of the region and regional water-related disasters are taken into account.  | WWF & Tecnomia (TYPESA Group)                         |
| 11.2 - Global Media Coverage (rank)             | 58    | This risk indicator is based on joint qualitative research by WWF and Tecnomia (Typsa Group). It indicates how aware people are of water-related issues due to global media coverage. Familiarity to and media coverage of the region and regional water-related disasters are taken into account.  | WWF & Tecnomia (TYPESA Group)                         |

## Country Overview - Congo, Democratic Republic of

| Indicator                                     | Value       | Description  | Source   |
|---|-------------|--|--|
| 12.1 - Conflict News Events (RepRisk) (score) | 4.00        | This risk indicator is based on 2018 data collected by RepRisk on counts and registers of documented negative incidents, criticism and controversies that can affect a company's reputational risk. These negative news events are labelled per country and industry class.  | RepRisk & WWF (2019). Due diligence database on ESG and business conduct risks. RepRisk.   |
| 12.1 - Conflict News Events (RepRisk) (rank)  | 40          | This risk indicator is based on 2018 data collected by RepRisk on counts and registers of documented negative incidents, criticism and controversies that can affect a company's reputational risk. These negative news events are labelled per country and industry class.  | RepRisk & WWF (2019). Due diligence database on ESG and business conduct risks. RepRisk.   |
| 12.2 - Hydro-political Risk (score)           | 2.42        | This risk indicator is based on the assessment of hydro-political risk by Farinosi et al. (2018). More specifically, it is based on the results of spatial modelling by Farinosi et al. (2018) that determined the main parameters affecting water cross-border conflicts and calculated the likelihood of hydro-political issues. | Farinosi, F., Giupponi, C., Reynaud, A., Ceccherini, G., Carmona-Moreno, C., De Roo, A., ... & Bidoglio, G. (2018). An innovative approach to the assessment of hydro-political risk: A spatially explicit, data driven indicator of hydro-political issues. <i>Global environmental change</i> , 52, 286-313.   |
| 12.2 - Hydro-political Risk (rank)            | 87          | This risk indicator is based on the assessment of hydro-political risk by Farinosi et al. (2018). More specifically, it is based on the results of spatial modelling by Farinosi et al. (2018) that determined the main parameters affecting water cross-border conflicts and calculated the likelihood of hydro-political issues. | Farinosi, F., Giupponi, C., Reynaud, A., Ceccherini, G., Carmona-Moreno, C., De Roo, A., ... & Bidoglio, G. (2018). An innovative approach to the assessment of hydro-political risk: A spatially explicit, data driven indicator of hydro-political issues. <i>Global environmental change</i> , 52, 286-313.   |
| Population, total (#)                         | 78736153    | Population, total  | The World Bank 2018, Data , homepage accessed 20/04/2018   |
| GDP (current US\$)                            | 31930856402 | GDP (current US\$)   | The World Bank 2018, Data , homepage accessed 20/04/2018   |
| EPI 2018 score (0-100)                        | 30.41       | Environmental Performance Index  |  |
| WGI -Voice and Accountability (0-100)         | 4.29        | Water Governance Indicator   | Kaufmann, Daniel and Kraay, Aart and Mastruzzi, Massimo, <i>The Worldwide Governance Indicators: Methodology and Analytical Issues</i> (September 2010). World Bank Policy Research Working Paper No. 5430. Available at SSRN: <a href="https://ssrn.com/abstract=1682132">https://ssrn.com/abstract=1682132</a> |

## Country Overview - Congo, Democratic Republic of

| Indicator                                    | Value | Description                | Source  |
|--|-------|----------------------------|---|
| WGI -Political stability no violence (0-100) | 10.84 | Water Governance Indicator | Kaufmann, Daniel and Kraay, Aart and Mastruzzi, Massimo, The Worldwide Governance Indicators: Methodology and Analytical Issues (September 2010). World Bank Policy Research Working Paper No. 5430. Available at SSRN: <a href="https://ssrn.com/abstract=1682132">https://ssrn.com/abstract=1682132</a> |
| WGI - Government Effectiveness (0-100)       | 5.77  | Water Governance Indicator | Kaufmann, Daniel and Kraay, Aart and Mastruzzi, Massimo, The Worldwide Governance Indicators: Methodology and Analytical Issues (September 2010). World Bank Policy Research Working Paper No. 5430. Available at SSRN: <a href="https://ssrn.com/abstract=1682132">https://ssrn.com/abstract=1682132</a> |
| WGI - Regulatory Quality (0-100)             | 7.69  | Water Governance Indicator | Kaufmann, Daniel and Kraay, Aart and Mastruzzi, Massimo, The Worldwide Governance Indicators: Methodology and Analytical Issues (September 2010). World Bank Policy Research Working Paper No. 5430. Available at SSRN: <a href="https://ssrn.com/abstract=1682132">https://ssrn.com/abstract=1682132</a> |
| WGI - Rule of Law (0-100)                    | 4.33  | Water Governance Indicator | Kaufmann, Daniel and Kraay, Aart and Mastruzzi, Massimo, The Worldwide Governance Indicators: Methodology and Analytical Issues (September 2010). World Bank Policy Research Working Paper No. 5430. Available at SSRN: <a href="https://ssrn.com/abstract=1682132">https://ssrn.com/abstract=1682132</a> |
| WGI - Control of Corruption (0-100)          | 7.69  | Water Governance Indicator | Kaufmann, Daniel and Kraay, Aart and Mastruzzi, Massimo, The Worldwide Governance Indicators: Methodology and Analytical Issues (September 2010). World Bank Policy Research Working Paper No. 5430. Available at SSRN: <a href="https://ssrn.com/abstract=1682132">https://ssrn.com/abstract=1682132</a> |

## Country Overview - Congo, Democratic Republic of

| Indicator   | Value | Description                     | Source   |
|---|-------|---------------------------------|--|
| WRI BWS all industries (0-5)  | 0.01  | WRI Baseline Water Stress (BWS) | Gassert, F., P. Reig, T. Luo, and A. Maddocks. 2013. "Aqueduct country and river basin rankings: a weighted aggregation of spatially distinct hydrological indicators." Working paper. Washington, DC: World Resources Institute, December 2013. Available online at <a href="http://wri.org/publication/aqueduct-country-river-basin-rankings">http://wri.org/publication/aqueduct-country-river-basin-rankings</a> . |
| WRI BWS Ranking (1=very high)   | 173   | WRI Baseline Water Stress (BWS) | Gassert, F., P. Reig, T. Luo, and A. Maddocks. 2013. "Aqueduct country and river basin rankings: a weighted aggregation of spatially distinct hydrological indicators." Working paper. Washington, DC: World Resources Institute, December 2013. Available online at <a href="http://wri.org/publication/aqueduct-country-river-basin-rankings">http://wri.org/publication/aqueduct-country-river-basin-rankings</a> . |
| Baseline Water Stress (BWS) - 2020 BAU (1=very high)                                  | 153   | WRI country ranking             | Luo, T., R. Young, and P. Reig. 2015. "Aqueduct projected water stress rankings." Technical note. Washington, DC: World Resources Institute, August 215. Available online at <a href="http://www.wri.org/publication/aqueduct-projected-water-stress-country-rankings">http://www.wri.org/publication/aqueduct-projected-water-stress-country-rankings</a> .   |
| Baseline Water Stress (BWS) - 2020 Optimistic (increasing rank describes lower risk)  | 153   | WRI country ranking             | Luo, T., R. Young, and P. Reig. 2015. "Aqueduct projected water stress rankings." Technical note. Washington, DC: World Resources Institute, August 215. Available online at <a href="http://www.wri.org/publication/aqueduct-projected-water-stress-country-rankings">http://www.wri.org/publication/aqueduct-projected-water-stress-country-rankings</a> .   |
| Baseline Water Stress (BWS) - 2020 Pessimistic (increasing rank describes lower risk) | 153   | WRI country ranking             | Luo, T., R. Young, and P. Reig. 2015. "Aqueduct projected water stress rankings." Technical note. Washington, DC: World Resources Institute, August 215. Available online at <a href="http://www.wri.org/publication/aqueduct-projected-water-stress-country-rankings">http://www.wri.org/publication/aqueduct-projected-water-stress-country-rankings</a> .   |

## Country Overview - Congo, Democratic Republic of

| Indicator  | Value | Description         | Source   |
|--|-------|---------------------|--|
| Baseline Water Stress (BWS) - 2030 BAU<br>(increasing rank describes lower risk)         | 156   | WRI country ranking | Luo, T., R. Young, and P. Reig. 2015. "Aqueduct projected water stress rankings." Technical note. Washington, DC: World Resources Institute, August 215. Available online at <a href="http://www.wri.org/publication/aqueduct-projected-water-stress-country-rankings">http://www.wri.org/publication/aqueduct-projected-water-stress-country-rankings</a> . |
| Baseline Water Stress (BWS) - 2030 Optimistic<br>(increasing rank describes lower risk)  | 153   | WRI country ranking | Luo, T., R. Young, and P. Reig. 2015. "Aqueduct projected water stress rankings." Technical note. Washington, DC: World Resources Institute, August 215. Available online at <a href="http://www.wri.org/publication/aqueduct-projected-water-stress-country-rankings">http://www.wri.org/publication/aqueduct-projected-water-stress-country-rankings</a> . |
| Baseline Water Stress (BWS) - 2030 Pessimistic<br>(increasing rank describes lower risk) | 155   | WRI country ranking | Luo, T., R. Young, and P. Reig. 2015. "Aqueduct projected water stress rankings." Technical note. Washington, DC: World Resources Institute, August 215. Available online at <a href="http://www.wri.org/publication/aqueduct-projected-water-stress-country-rankings">http://www.wri.org/publication/aqueduct-projected-water-stress-country-rankings</a> . |
| Baseline Water Stress (BWS) - 2040 BAU<br>(increasing rank describes lower risk)         | 147   | WRI country ranking | Luo, T., R. Young, and P. Reig. 2015. "Aqueduct projected water stress rankings." Technical note. Washington, DC: World Resources Institute, August 215. Available online at <a href="http://www.wri.org/publication/aqueduct-projected-water-stress-country-rankings">http://www.wri.org/publication/aqueduct-projected-water-stress-country-rankings</a> . |
| Baseline Water Stress (BWS) - 2040 Optimistic<br>(increasing rank describes lower risk)  | 147   | WRI country ranking | Luo, T., R. Young, and P. Reig. 2015. "Aqueduct projected water stress rankings." Technical note. Washington, DC: World Resources Institute, August 215. Available online at <a href="http://www.wri.org/publication/aqueduct-projected-water-stress-country-rankings">http://www.wri.org/publication/aqueduct-projected-water-stress-country-rankings</a> . |
| Baseline Water Stress (BWS) - 2040 Pessimistic<br>(increasing rank describes lower risk) | 157   | WRI country ranking | Luo, T., R. Young, and P. Reig. 2015. "Aqueduct projected water stress rankings." Technical note. Washington, DC: World Resources Institute, August 215. Available online at <a href="http://www.wri.org/publication/aqueduct-projected-water-stress-country-rankings">http://www.wri.org/publication/aqueduct-projected-water-stress-country-rankings</a> . |



## Country Overview - Congo, Democratic Republic of

| Indicator  | Value  | Description                  | Source  |
|--|--------|------------------------------|---|
| Total water footprint of national consumption (m <sup>3</sup> /a/cap)                  | 552.08 | WFN Water Footprint Data     | Mekonnen, M.M. and Hoekstra, A.Y. (2011) National water footprint accounts: The green, blue and grey water footprint of production and consumption, Value of Water Research Report Series No. 50, UNESCO-IHE, Delft, the Netherlands. <a href="http://www.waterfootprint.org/Reports/Report50-NationalWaterFootprints-Vol1.pdf">http://www.waterfootprint.org/Reports/Report50-NationalWaterFootprints-Vol1.pdf</a> |
| Ratio external / total water footprint (%)   | 2.94   | WFN Water Footprint Data     | Mekonnen, M.M. and Hoekstra, A.Y. (2011) National water footprint accounts: The green, blue and grey water footprint of production and consumption, Value of Water Research Report Series No. 50, UNESCO-IHE, Delft, the Netherlands. <a href="http://www.waterfootprint.org/Reports/Report50-NationalWaterFootprints-Vol1.pdf">http://www.waterfootprint.org/Reports/Report50-NationalWaterFootprints-Vol1.pdf</a> |
| Area equipped for full control irrigation: total (1000 ha)                             | 10.00  | Aquastat - Irrigation        | FAO. 2016. AQUASTAT website. Food and Agriculture Organization of the United Nations (FAO). Website accessed on 2018/04/13  |
| Area equipped for irrigation: total (1000 ha)  | 10.50  | Aquastat - Irrigation        | FAO. 2016. AQUASTAT website. Food and Agriculture Organization of the United Nations (FAO). Website accessed on 2018/04/13  |
| % of the area equipped for irrigation actually irrigated (%)                           | 76.19  | Aquastat - Irrigation        | FAO. 2016. AQUASTAT website. Food and Agriculture Organization of the United Nations (FAO). Website accessed on 2018/04/13  |
| Electricity production from hydroelectric sources (% of total)                         | 99.88  | World Development Indicators | The World Bank 2018, Data , homepage accessed 20/04/2018  |
| Total internal renewable water resources (IRWR) (10 <sup>9</sup> m <sup>3</sup> /year) | 900.00 | Aquastat - Water Ressources  | FAO. 2016. AQUASTAT website. Food and Agriculture Organization of the United Nations (FAO). Website accessed on 2018/04/13  |
| Total internal renewable water resources (IRWR) (10 <sup>9</sup> m <sup>3</sup> /year) | 383.00 | Aquastat - Water Ressources  | FAO. 2016. AQUASTAT website. Food and Agriculture Organization of the United Nations (FAO). Website accessed on 2018/04/13  |
| Water resources: total external renewable (10 <sup>9</sup> m <sup>3</sup> /year)       | 900.00 | Aquastat - Water Ressources  | FAO. 2016. AQUASTAT website. Food and Agriculture Organization of the United Nations (FAO). Website accessed on 2018/04/13  |

## Country Overview - Congo, Democratic Republic of

| Indicator   | Value    | Description                 | Source   |
|---|----------|-----------------------------|--|
| Total renewable water resources (10 <sup>9</sup> m <sup>3</sup> /year)  | 1283.00  | Aquastat - Water Ressources | FAO. 2016. AQUASTAT website. Food and Agriculture Organization of the United Nations (FAO). Website accessed on 2018/04/13 |
| Dependency ratio (%)  | 29.85    | Aquastat - Water Ressources | FAO. 2016. AQUASTAT website. Food and Agriculture Organization of the United Nations (FAO). Website accessed on 2018/04/13 |
| Total renewable water resources per capita (m <sup>3</sup> /inhab/year) | 16605.00 | Aquastat - Water Ressources | FAO. 2016. AQUASTAT website. Food and Agriculture Organization of the United Nations (FAO). Website accessed on 2018/04/13 |
| World happiness [0-8]   | 4.24     | WorldHappinessReport.org    | World Happiness Report, homepage accessed 20/04/2018   |

## Country Aspects

### 1. PHYSICAL ASPECTS

#### 1.1. WATER RESOURCES

##### 1.1.1. WATER RESOURCES

The river network is dense. It includes some thirty major rivers, totalling more than 20,000km.

The Democratic Republic of Congo (DRC) is dominated by the Congo Basin, which is the world's second-largest river basin in terms of discharge. These waters flow into the Congo river, 4,670km long, with the second-largest flow of the world (30,000m<sup>3</sup>/s). The country lies on the southwestern fringes of the Nile Basin; the Nile portion accounts for less than 2 per cent of the national land area. It flows into the equatorial lakes region, which lies along the border with Uganda.

DRC is the wettest country on the continent, with average internal renewable water resources of 900km<sup>3</sup>/year – almost a quarter of Africa's fresh water resources. This potential is huge and almost completely untapped.

With a final capacity of 44,000MW, the Inga hydroelectric dam on the Congo river is able to meet the energy needs of all Africa, but only 650-750MW of power is produced due to the non-operation of two thirds of the turbines.

##### 1.1.2. WATER USE

In 2000, water withdrawals were estimated at 356 million m<sup>3</sup>, including 112 million for agriculture (32 per cent), 186 million for domestic use (52 per cent) and 58 million for industry (16 per cent).

#### 1.2. WATER QUALITY, ECOSYSTEMS AND HUMAN HEALTH

DRC's major environmental problems are air pollution from vehicle emissions, water pollution from the dumping of raw sewage, undrinkable tap water, and deforestation.

Water is subject to various forms of pollution, including:

- pollution from the generally unsanitary condition of towns;
- pollution linked to industrial activity and transport (in lakes, rivers and the navigable bays of the Congo);
- oil pollution, particularly along the Atlantic coast, where two companies operate crude oil refineries and crude oil is imported.

### 2. GOVERNANCE ASPECTS

#### 2.1. WATER INSTITUTIONS

The Ministry of Environment, Nature Conservation, Fisheries and Forests, which has overall

responsibility for water resources, and the other institutions involved are challenged in carrying out their tasks due to lack of financial resources, lack of equipment and technical tools, and the absence of water specialists. There is an urgent need for well-trained staff in all aspects of water resources.

Among the institutions most active in managing water and land are:

- the Department of Agriculture and Livestock's Directorate of Agricultural Engineering and National Service for Rural Water (SNHR);
- the Ministry of Environment, Water and Forestry and its Directorate of Water Resources (SAR), which manages water as an ecosystem;
- the Ministry of Rural Development;
- the Water Board (REGIDESO).

Responsibility for Research lies with the National Institute for Study and Agricultural Research (INERA), the Research Centre for Agriculture and Food (CRAA) and the Environmental Information Centre (NIEC), which seek to address shortcomings observed in the production, processing, analysis, promotion and circulation of environmental information.

#### 2.2. WATER MANAGEMENT

There are major shortcomings in the water supply and sanitation sector, for which development plans have been devised but not yet implemented. There is also a lack of general urban planning. Irrigated agriculture is currently of little importance, and the vast hydropower potential has so far been relatively undeveloped. Overall, there is an urgent need for an improved institutional framework to strengthen and optimize the planning, implementation and coordination of programmes.

#### 2.3. WATER POLICY AND LEGAL FRAMEWORK

At present there is no overall national strategy guiding the sector. A national water law is currently being developed. The objectives are to provide for the conservation of common resources, reconciliation of different uses, the prevention of pollution and harmful effects from floods, efficient use of water as an economic resource, and the prevention of over-exploitation.

### 3. GEOPOLITICAL ASPECTS

The Democratic Republic of Congo is included in:

- the basin of the river Congo (or Zaire), with Angola, Burundi, Cameroon, Central African Republic, Congo, Rwanda, Tanzania and Zambia;
  - the basin of the Nile, with Burundi, Egypt, Eritrea, Ethiopia, Kenya, Rwanda, Sudan, Tanzania and Uganda. It is a member of the Nile Basin Initiative, launched in 1999.
- The International Commission for the Congo-Oubangui-Sangha Basin (CICOS) was created in 1999

## Country Overview - Congo, Democratic Republic of

by Cameroon, Central African Republic, Democratic Republic of Congo and the Republic of Congo. The immediate objective was to improve cooperation amongst the member states through improved communication. A future objective is to promote Integrated Water Resource Management (IWRM) in order to enhance development and alleviate poverty in the member states.

The Nile Basin Initiative (NBI) is a partnership initiated and led by the riparian states of the Nile river through the Council of Ministers of Water Affairs of the Nile Basin states (Nile Council of Ministers, or NILE-COM). The NBI seeks to develop the river in a cooperative manner, share substantial socioeconomic benefits and promote regional peace and security. Cooperative water resources management is complex in any international river basin. In the Nile Basin, which is characterized by water scarcity, poverty, a long history of dispute and insecurity, and rapidly growing populations and demand for water, it is particularly difficult. The NBI began with a participatory process of dialogue among the riparians that resulted in their agreeing on a shared vision: to achieve sustainable socioeconomic development through the equitable utilization of, and benefit from, the common Nile Basin water resources.

The Shared Vision Project (SVP) comprises grant-based activities to foster trust and cooperation and build an enabling environment for investment. The SVP includes eight initiatives:

- Water Resources Management Project;
- Regional Power Trade Project;
- Applied Training Project;
- Confidence-Building and Stakeholder Involvement Project;
- Shared Vision Coordination Project;
- Socio-economic and Benefits Sharing Project;
- Transboundary Environmental Action Project;
- Efficient Water Use for Agriculture Project.