- 1961 Mexico finally protests that water quality was unsuitable for agriculture > transborder problem called for bilateral negotiations > culminated in 1974 international agreement
- Effective due to cordial relationship between US & Mexico and only 2 riparian states involved
- US showed commitment & willingness to resolve conflict of interest & both nations willing to negotiate and reinterpret the 1944 treaty > credit given to USA for keeping their promise to ensure water supply
- Element of barter trade involved – provision of quality water from US requires reciprocal action of Mexico undertaking measures to combat illegal immigration and smuggling into USA

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**Case Study: Drainage basin management in lower Rhine catchment**

- Multipurpose river - transport, agriculture, industry, drinking & sanitation, hydroelectricity & recreation
- Matter of national survival in Netherlands – most polluted water (due to rapid economic growth & heavy industry in Germany and France upstream) since Netherlands is the most downstream nation
- Formation of international control group – IRC (International Rhine Commission) in 1950

1) Riparian engineering projects (under aegis of Rhine Commission)
   - Goal of improving river for human use often achieved opposite effect
   - Incremental legacy of straightening of river channel, blasting out of reefs, reshaping of banks by dredging and reinforcing shores with cement > for better navigation, less flooding BUT counterintuitive
   - Produced more flooding, loss of biodiversity & overdevelopment along river and floodplain

2) Industrial Revolution
   - Coal mining, steel and iron manufacturing turned watershed land to industrial use > pollution
   - Chemical plants and industries compete for space on riverbanks and use water for dumping

3) Building of hydroelectric dams (late 19th century)
   - Destroy riparian habitats, trap polluted water and flooding in succession
   - Oil refineries & nuclear power plants joined the detrimental lineup in late 20th century > raised water temperature by sending heated wastewater in

**Solutions by (monitoring, protecting and rehabilitating)**

- Extremely extensive manipulation and alteration > will be able to bring it back to pristine condition
- Key obstacle to full restoration being that Rhine’s biology will remain secondary to its economy
- Impetus to repair the river in 1950s was not an environmental movement but a natural realization

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**Case Study: Nile River – long period of conflict since ancient civilizations**

- Covers 10% area of Africa, spans 9 riparian states from Egypt to Sudan
- At present, Egypt controls waters of Nile, exception to general rule that upstream states are regulators because it is much more developed industrially, and Sudan & Ethiopia spent 2 decades in civil war

1) Building of Aswan High Dam in Egypt

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irrigation and HEP</td>
<td>Annual flood and fertile soil renewal stopped downstream &gt; poor crop harvests</td>
</tr>
<tr>
<td>Amazing harvests due to perennial irrigation</td>
<td>Displacement of population and archaeological sites (100000 nubian people)</td>
</tr>
<tr>
<td>Improved navigation</td>
<td>Severe water losses &amp; water seepage</td>
</tr>
<tr>
<td>Recreation and Tourism</td>
<td>Seismic stress (earthquake of Nov 1981)</td>
</tr>
<tr>
<td>Unequal access – Egypt uses 55.5 billion cu m while other states use barely 0.5 billion cu m</td>
<td></td>
</tr>
</tbody>
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2) Unequal access, agreements and treaties

- 1929 – Britain sponsored Nile Water Agreement to support Egyptian planned developments on River
- Bilateral agreement divided Nile’s water between 2 most downstream states without consulting any other involved parties > Egyptian monopoly over the resource
- 1959 Water Agreement on “full utilization of Nile Water” between Egypt & Sudan most comprehensive
- DRC, East African countries were not consulted on the final terms and their water rights were never explicitly mentioned > countries are invalidating the agreement and requesting renegotiation of terms to take their interests into account