INSIDE DATA

"THE WATER NEXUS GAME" (MOVIE #3)

TIMING	DATA/CONCEPT	SOURCE
00:57	Water, Food and Energy are linked together	**WWDR 2014, p54**: "Water, energy and food are inextricably linked"
01:05	Water is life for crops and a driving force for energy	**WWDR 2014, p54**: "Water is an input for producing agricultural goods in the fields and along the entire agrifood supply chain"
01:10	Energy is needed to extract, treat and distribute water	**WWDR 2014, p54**: "Energy is required to produce and distribute water and food: to pump water from groundwater or surface water sources, to power tractors and irrigation machinery, and to process and transport agricultural goods."
02:20	Farmer which 'took home' 70% of all water	**WWDR 2014, p54**: "Agriculture currently uses 11% of the world's land surface, and irrigated agriculture uses 70% of all water withdrawals on a global scale."
03:05	Food demand is rising, needing more water	**WWDR 2014, p54**: "Estimates suggest that global food production will need to increase by as much as 60% by 2050 to meet demand (FAO, 2012)."
03:30	Corn crops for biofuels: negative balance for the environment	**WWDR 2014, p5**: "As biofuels also require water for their processing stages, the water requirements of biofuels produced from irrigated crops can be much larger than for fossil fuels." **WWDR 2014, p80**: "Hence, unsustainable biofuel production can have significant local implications for the state of water resources (including downstream pollution), land ownership, food security and ecosystems (FAO, 2008). Expansion of biofuel production, and

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		its attendant shift and expansion in agricultural and forestry activity, has raised a number of environmental and social concerns, ranging from potentially increased GHG emissions to labor rights abuses, deforestation (with its own impacts on water flows as well as on firewood provision) and reduced food security.
03:45	No water treatment has adverse effects on the environment and agriculture	**WWDR 2014, p74**: "Contaminated and untreated water effectively reduces the water supply, notwithstanding the pollution it causes. All of these risks can extend to the supply chain."
04:10	River diversion: negative impacts on the environment	**WWDR 2012, p121**: "In addition, the diversion of rivers for agricultural (irrigation) or industrial purposes deprives rivers and lakes of their usual flow, contributing to water scarcity in their hinterland."
04:30	Food exports are negative for the environment	**International trade, the environment and sustainable agricultural development** http://www.fao.org/docrep/v6800e/V6800E0o.htm
04:50	Oil extraction has negative consequences for the environment	**WWDR 2015, p56-57**: "Uncertainties persist over potential human health and the long-term environment impacts from the development of unconventional sources of gas ('fracking') and oil (oil/tar sands), both of which require disproportionally large quantities of water and pose significant risks to water quality." **WWDR 2014, p31, Box 3.2.** Hydraulic fracturing
05:50	870 million people without sufficient food	**WWDR 2014, p54**: "An estimated 870 million people are undernourished due to a lack of food or a lack of access to food (FAO, 2013a)."
05:55	1.3 billion without electricity	**WWDR 2015, p54**: "Over 1.3 billion people lack access to electricity, and roughly 2.6 billion use solid fuels for cooking…"

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06:00	An ever-growing population requires more good, food, energy, water, with devastating effects on the planet	**WWDR 2015, p10**: "… population growth, urbanization, migration and industrialization, along with increases in production and consumption, have generated ever-increasing demands for freshwater resources… contributed to the polluting of water resources, further reducing their immediate accessibility and thus compromising the capacity of ecosystems and the natural water cycle to satisfy the world's growing demand for water."
06:15	Thinking of resources being interconnected makes us all winners	**WWDR 2014, p6**: "Recognition of the interconnectedness between water and energy has led some observers to call for a greater level of integration of the two domains…. an increased level of collaboration and coordination would create favorable outcomes in nearly all situations."
06:20	Solutions: renewable energies, low impact and efficient farming systems, green production processes and good resource government	**WWDR 2015, p8**: From the "2050 vision". "Agriculture as a whole is less vulnerable to rainfall variability due to the widespread adoption of advanced agro-technology, highly efficient irrigation techniques, reliable wastewater reuse and state-of-the-art water and soil conservation techniques… the proportion of less water intensive renewable energy (e.g. wind, solar PV and geothermal) has increased dramatically, and the development of sustainable hydropower installations…."