



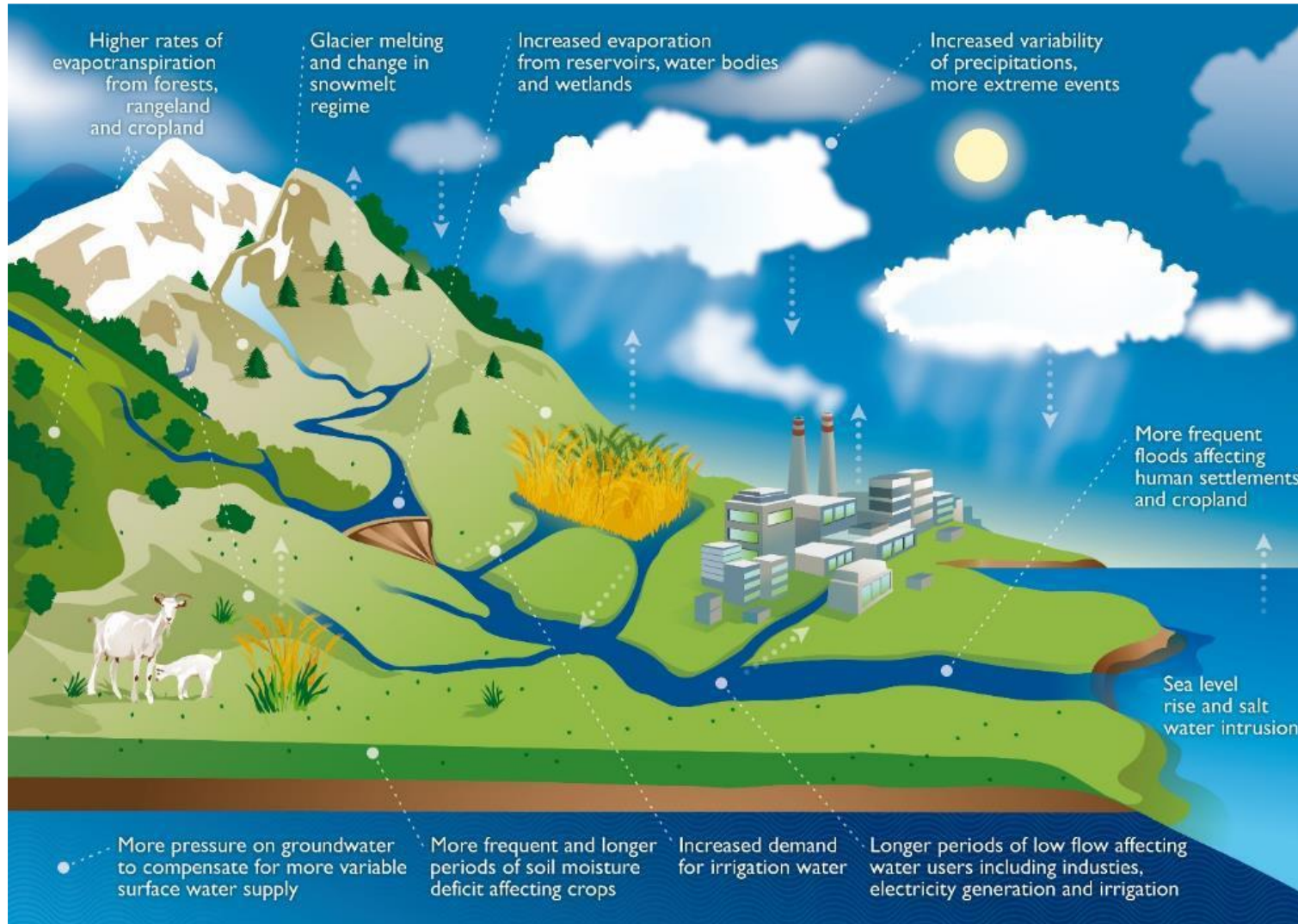
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Smart irrigation/nature-based solutions in agriculture in Albania

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Climate change affects every element in the water cycle

- Agriculture is affected by increased evaporative demand, changes in the amount of rainfall and rainfall patterns, and variations in **river runoff** and **groundwater recharge**, which are the two sources of water for irrigation



Photo: Hans Hartung (FAO, 2018)



Photo: FAO, 2018

Solar irrigation is a reliable, relatively low-cost, clean-energy solution for agricultural water management

- Solar Powered Irrigation System with electricity feed-in, Proyecto Maripositas, Melipilla, Chile (up)
- Solar powered irrigation system in the Nile Delta (down)



Photo: Vinay Nangia (FAO, 2017)

Rainwater harvesting irrigation management as a supplemental irrigation

- Six steps of water harvesting and sprinkler irrigation powered by solar energy

- “Supplemental irrigation: A promising climate-smart practice for dryland agriculture” presented by Vinay Nangia, Senior Agricultural Hydrologist at the International Center for Agricultural Research in the Dry Areas (ICARDA) in webinar organized by FAO, 2017



Photo: Hans Hartung (FAO, 2018)



Photo: FAO, 2020

Solar powered drip irrigation for reducing emissions and water consumption

- Inspecting the drip irrigation system with a woman farmer outside Nairobi, Kenya (left)
- Drip irrigation in El Salvador (right)



Conclusion

- **Water storage**, and the combined use of **solar powered drip irrigation**, can go a long way towards improving the productivity of water and energy used for irrigation.
- **Economic incentives** (i.e. energy subsidies and other financing mechanisms) can be used in a way that promotes solar-powered irrigation systems and to regulate water use.
- **Effective cross-sectoral consultation mechanisms** are required to ensure the development of concerted efforts to address this problem, and to make sure that decisions on water allocation are taken as part of **an integrated, long-term and multi-sectoral strategy**.
- **Technical training** for relevant stakeholders can help in building a local knowledge base and sense of responsibility for the sustainable use of solar irrigation systems.



Harvesting water, sowing resilience

The rural community of El Limón in the dry corridor
of El Salvador

Harvesting water, sowing resilience - The rural community of El Limón in the dry corridor of El Salvador

- FAO project from March 2017 to July 2018
- Funds: FAO, Mexican Agency for International Development Cooperation (AMEXCID in Spanish), Municipality of Sensembra
- Similar projects have already been developed by El Salvador's Ministry of Agriculture and are being planned as part of the Green Climate Fund's RECLIMA project.
- <http://www.fao.org/documents/card/en/c/CA8353EN/>



Nature-Based Solutions for agricultural water management and food security

- Sonneveld, B.G.J.S. Merbis, M.D. Alfarra, A. & Ünver, O. and Arnal, M.A. 2018. Nature-Based Solutions for agricultural water management and food security. FAO Land and Water Discussion Paper no. 12. Rome, FAO. 66 pp.
- <http://www.fao.org/3/CA2525EN/ca2525en.pdf?eloutlink=imf2fao>



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Thank you