

TECO Mobility grant

Kinnaur, Where Gods Meet Humanity

Beneficiary of the grant- Emanuele Confortin

Home Institution/Company (EU)- Emanuele Confortin

Host Institution/Company (INDIA)- The Himalayan Club

Period of the stay in India- 15 set 2018 vs 15 nov 2018



TECO Project

***Technological ECO-innovations for the quality control
and the decontamination of polluted waters and soils***

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The Sutlej basin in Kinnaur (Himachal Pradesh, India) holds several water, environment and social issues. Here, in the heart of Himalaya, global warming is causing the rapid melting of snow and glaciers, continuously reducing water resources. Demographic growth, water scarcity, soil erosion, and the exploitation of agricultural land, threaten the sustainability of farming practices.

The purpose of this fieldwork is to watch inside this fragile Himalayan area in order to see how local populations adapted to rivers and water supply challenges related to global warming. Research estimated that by 2050 temperature would rise by 20°C, monsoon rains would be heavier by 13%, intense rainfall storms would increase same as ice melting. Researchers expect a loss of 50-60% of Himalayan glaciers over the next thirty years, with significant increases in sediment load, avalanche blockages and glacial lake outburst floods.

Reduction of spring flows is affecting traditional water sources for irrigation and water supply. The crucial question is how local inhabitants are facing this new scenario? Cost of irrigation are high, water can no longer be wasted so farmer awareness is crucial. What kind of efforts are made to improve people participation? Kinnauri, initially reluctant to face changes in their life, are now changing the rural economy. Irrigation costs and water scarcity impose new strategies, and it seems some of Kinnauri farmers adopted higher value cropping systems, increased water storage, more efficient water applications drip and application of precision agriculture.

Not at least, for centuries Sutlej Valley have been a transit point of trades, cultures and faiths. A sort of ancient migration route located on a mountain river basin, which results are now visible in the peculiar Kinnauri tradition, simultaneously deeply linked to mountains and rivers.



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- The central role of Sutlej river and his tributaries for Kinnauri society
- Water distribution in Kalpa, Pangi and Rekong Peo
- The crucial role of water resources for apple economy
- The booming apple economy and social changes in Sutlej Valley
- A fragil network of infrastructures for water conservation and his threat for apple economy future
- Water shortages , extreme weather and climate changes
- Weack winters and consequences of scarce snowfalls
- Oracles of Kinnaur, an ancient tradition with roots on Tibetan Plateau
- Possession of grokchs and the endless fight with evil spirits
- The role of trance and possession for mantaining the order in Kinnaura society
- Phulec, the festival of flowers: rituals, dance and divination for a new season of water and prosperity



- Water conservation especially at high altitude is an issue, basins, storage systems and dams are needed solutions
- Water scarcity is affecting traditional and new agricultural activities
- Kinnauri people are not (or partially) aware of climate change effects on water supply and they can't size the potential risks for daily life and apple economy. No plans for the implementation of new water management infrastructures seems to be on the way.
- During the last two decades Kinnaur faced the most relevant social changes ever. This is due to the prosperity bring by booming apple business, tight to water supply, with the increase of family incomes of about 1000%.
- Prosperity is now visible in the construction of new concrete buildings, mostly hotels, often built over the remains of traditional houses without any concern for traditional architecture. This urban development is one of the main threat to Kinnauri heritage and tradition.
- Climate change is tangible in Kinnaur Himalaya: pre-season snowstorms, temperature drop, drought, extreme rains, glaciers melting. Every single Kinnauri man I met confirmed the above listed weather conditions, but no actions have been taken to prevent or adapt to climate change.
- Sutlej Valley is a real Himalayan treasure, not yet corrupted by mass tourism. Apart from weather and global warming, the main threat to the survival of Kinnauri culture and environment are the inhabitants.



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