

## NAWPA COMMITTEE CLIMATE CHANGE WORKING GROUP

### CASE STUDY OF CLIMATE CHANGE IMPACTS AND SOLUTIONS

#### CUATROCIENEGAS, CONANP

#### CUATROCIÉNEGAS FLORA AND FAUNA PROTECTION AREA



#### KEY MESSAGE

*Climate change mitigation and adaptation actions and livelihood strengthening in Cuatrociénegas, Mexico*

#### IMPLICATIONS FOR PROTECTED AREA MANAGERS RESULTING FROM LAND USE CHANGE AND EXTREME WEATHER EVENTS

- High rates of land use change have decreased connectivity and resilience of ecosystems and human communities.
- Wildfires threaten biodiversity and the health of community members.
- Increasing invasive species that use more water than native species (e.g. the giant cane *Arundo donax*), have effects on water availability.
- Extreme droughts threaten self-consumption activities (e.g. agriculture).

- Community members perceive increasing temperatures and decreasing precipitation. Meteorological records have confirmed these perceptions.

#### **CRITICAL STRATEGIES AND ACTIONS TO MITIGATE OR ADAPT TO CLIMATE CHANGE IMPACTS**

- Community strengthening through sustainable activities to mitigate and adapt to climate change.
- Diversification of productive activities in order to reduce land use change.
- Implementation of an agroforestry modules scheme to recover areas of agriculture and extensive livestock for carbon capture.
- Establishing native plant nurseries.
- Community and institutional capacity building to reduce wildfire.
- Eradication and control of invasive species.
- Conservation and ecological restoration activities in order to promote connectivity and ecological integrity.
- Fair market schemes for *candelilla* wax producers.
- Irrigation systems for agriculture that optimize the use of water.
- Close cooperation with communities to communicate lessons learned.

#### **CUATROCIÉNEGAS FACT SHEET**

- The Cuatrociénegas community is located within the Cuatrociénegas Flora and Fauna Protection Area.
- Land is covered by semiarid vegetation and grasslands.
- All men have right to land while just few women in the community are entitled to use it.
- Natural resources are owned by the community.
- Community members are highly dependent on natural resources, particularly agro biodiversity.
- Community organization is poor; CONANP is working in coordination with the community authorities to strengthen social and human capacities.
- Land tenure represents a challenge in management. There are different types of tenure and it signifies inequalities in land distribution.
- Community members depend almost entirely on *candelilla* wax extraction.
- In past years there was no access to governmental subsidies but now many different federal institutions (CONANP, CONAFOR, SAGARPA, SEDESOL) are working to increase organization and productivity skills.
- CONANP is working, with the financial assistance of Parks Canada, to develop vulnerability analyses and adaptation plans in a participatory way through community and local stakeholder involvement.