**Supplementary Information**

**Appendix 1**

**Interview**

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| --- | --- |
| Interview ID Number: | Date of the Interview: |
| Gender: Male ( ) Female ( ) |  |

**Generals**

|  |  |  |
| --- | --- | --- |
| Name: | | |
| Address: | | |
| Municipality: | Locality: | Neighborhood: |

**Socio-demographic data**

|  |  |
| --- | --- |
| 1. Age |  |
| 1. Place of birth | Municipality:  State: |
| 1. Education | 1. Did not study 2. Incomplete primary school 3. Complete primary school 4. Incomplete lower secondary school 5. Complete lower secondary school 6. Other studies (please, specify): |
| 1. Do you have children? | 1. Yes; how many? : 2. No |
| 1. Who of the following live in your household? | 1. Father 2. Mother 3. Spouse 4. Siblings 5. Children; how many? : 6. Other relatives; how many? : 7. Other non-relatives; how many? : |
| 1. Who makes the decisions at home? | 1. The father 2. The mother 3. Both |
| 1. Who is the main responsible for the economic support of the household? | 1. Myself 2. My spouse 3. Son / daughter 4. Other member of the household 5. Unknown / Unanswered |

**Socio-cultural profile**

|  |  |
| --- | --- |
| 1. Do you consider yourself a member of an ethnic group\*? | 1. Yes; which one?   Do you speak another language in addition to Spanish?  Yes No   1. No |
| 1. Religion | 1. Roman Catholic 2. Evangelic 3. Protestant 4. None 5. Other (please, specify): |

**Perception of environmental challenges**

|  |  |
| --- | --- |
| 1. Which is the main challenge that the community faces at present? | 1. Economy 2. Poverty 3. Environmental degradation 4. Insecurity 5. Others / Unknown |
| 1. What issues are you most interested in? | 1. Economical 2. Political 3. Environmental 4. Social 5. Others |
| 1. In 20 years time, which do you think will be the main challenge facing the community? | 1. Economical 2. Political 3. Environmental 4. Social 5. Others |
| 1. Do you know what the term ‘environment’ refers to? | 1. Yes; Please explain 2. No,   Offer the following definition:  “The environment includes the collection of all living and non-living things that surround us, and from which we obtain water, food, fuels and the raw materials to manufacture the commodities we use for our daily living”. |
| 1. How much importance do you give the environment? | 1. Great 2. A lot 3. Some 4. Little 5. None |
| 1. Which is the main *environmental* challenge facing the community at present? | 1. Deforestation 2. Species loss 3. Climate change 4. Soil pollution 5. Waste management 6. Water pollution 7. Other |
| 1. From the list on the right, select three options that you identify as key factors of environmental degradation. | 1. Pollution 2. Illegal hunting and fishing 3. Pesticide and fertilizer over-use 4. Lack of protection of natural areas 5. Deforestation 6. Species loss |

**Data about the flora and fauna (wildlife)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1. Do you understand the concept of ‘wildlife’? | | | 1. Yes. What is your understanfing? 2. No   Offer the following definition:  “The organisms that live naturally subject to the processes of evolution and grow freely in their habitat, including those that are part of small populations, are under human control, and/orhave returned to a wild state (feral).” | |
| 1. Do you obtain any benefits from wildlife? | | | 1. Yes. Please explain. 2. No. Do you know of anybody that does?  * Yes. Please explain * No | |
| 1. Do you know any wild plants that have the following uses? | | | (Underline those you know of. You can underline all)   * Medicinal * As fuels (firewood and coal) * Edible * Ornamental * Other. Which?͟ | |
| 1. Please mention the names of **10 plants** that you think are important for the community, and specify how they are used. | | | | |
| No. | Common name | | | Use  (Medicinal, firewood, edible, ornamental, other) |
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| 1. Do you know of anybody that trade with plants? | | | | a) No.  b) Yes. As…?   * medicinal * firewood * edible * ornamental * other   Please specify |
| 1. Please mention the names of **10 animals** that you think are important for the community, and specify how they are used. | | | | |
| No. | | Common name | | Use  (Medicinal, edible, pet, other) |
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|  | |  | |  |
| 1. Do you know of anybody that trade with wild animals? | | | | 1. No 2. Yes. As…?   medicinal  edible  pet  other  Please specify. |

**About the UMA**

|  |  |
| --- | --- |
| 1. During the time you’ve lived in this area, have you noticed a reduction in the abundance of any plant or animal species? | 1. Yes. Which species? 2. No |
| * 1. Why do you think this has occurred? |  |
| * 1. Have you been affected as a result? | 1. Yes. How? 2. No |
| * 1. Has the government or the people in the community taken any action to address this issue? | 1. Yes. Which actions?  * On behalf of the government * On behalf of the community * On behalf of both, government and community   Have they been successful?   1. Yes 2. No   Have you participated in any of them?   1. Yes 2. No 3. No |

|  |  |  |
| --- | --- | --- |
| 1. Do you know what an UMA is? | 1. Yes. How would you define it? 2. No.   Offer the following definition:  “An UMA is a type of ranch where wild animal and plant species may be cultivated or bred in order to obtain direct or indirect benefits from them.” | |
| * 1. What do you know about the UMA (white tailed deer) that started in Chimalacatlán some years ago? | | 1. I know about it. Is it still working?   Yes. Do you know who manages it?  No. Why did it stop working?  Which private or government institution suggested the establishment of this UMA?   1. I don’t know about it |
| * 1. In addition to the above, do you know of any other UMAs in the region?? | | 1. Yes   Where?  With which species does it work?   1. No |
| 1. Would you like that an UMA was established in Chimalacatlán? | | 1. Yes  * And would you like to participate in it? Yes. No. * (If the answer is yes…) How? * Which species would you like it to manage? * Any other species, apart from the white-tailed deer?  1. No |

**Appendix 2** Complete list of plant species mentioned by the people interviewed during the study. The species locally known as bejuco, cancerina, canelilla, casuolino, cocos, gamana, huicón, querenge, margarita de matón, palillo\*, pancololote, pargarita, sierricilla, tamasucre, uva silvestre could not be properly identified, thus, they are not included in this list. ‘Use’ refers to the way people benefit from each species: edible (Ed), ornamental (Or), medicinal (Me), or fire wood (W). ‘Listed by CEAMISH’ refers to whether the species is included in the floristic lists of the Biosphere Reserve “Sierra de Huautla” (y= yes; n= no); in this column, the super indices that appear in some cases refer to the conservation status according to the IUCN (*EN*= Endangered, *V*=Vulnerable, and *LC*=Least Concern) or to the Mexican List of Endangered Species (*T* = threatened) (SEMARNAT 2010).

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **CLASS**  **Family** | ***Latin name* author** | **Common name** | **Use** | **Listed by CEAMISH** |
| LILIOPSIDA |  |  |  |  |
| Agavaceae | *Agave angustiarum* Trel. | Maguey | Me | y |
| Xanthorrhoeaceae | *Aloe vera* (L.) Burm. F. | Sávila | Me | n |
|  |  |  |  |  |
| MAGNOLIOPSIDA |  |  |  |  |
| Acanthaceae | *Justicia spicigera* Schltdl | Muicle | Me | y |
| Amaranthaceae | *Amaranthus hybridus* L. | Quintonil | Me, Ed | y |
| Anacardiaceae | *Amphipterygium adstringens* (Schltdl) Standl. | Cuachalalate\* | Me | y***EN*** |
|  | *Spondias purpurea* L. | Ciruelo\* | Ed | y |
| Annonaceae | *Annona muricata* L. | Guanábano | Ed | y |
|  | *Annona squamosa* L., SP., PL. | Anono | Ed | y |
| Apocynaceae | *Thevetia thevetioides* (H. B. K) L. Schum | Yoyote | Me | y |
| Asteraceae | *Sanvitalia procumbens* Lam | Ojo de gallo | Me | y |
|  | *Solidago* sp. | Palo de oro | Me | n |
|  | *Porophyllum ruderale* (Jacq.) Cass | Pápalos\* | Ed | y |
|  | *Tagetes lucida*Cav. | Pericón | Me | y |
| Bignoniaceae | *Crescentia alata* Kunth | Cuatecomate\* | Me | y |
| Bixaceae | *Cochlospermum vitifolium* (Willd.) Spreng. | Panicua | Me | y |
| Boraginaceae | *Symphytum officinale* L. | Suelda con suelda | Me | n |
|  | *Tournefortia hirsutissima* L. | Tlachichinole | Me | y |
| Burseraceae | *Bursera linanoe* (La Llave) Rzed., Calderón & Medina | Linaloe\* | Me, Or | y |
| Cactaceae | *Opuntia* sp. | Nopal\* | Ed | y |
|  | *Coryphantha elephantidens* (Lemaire) | Biznaga elefante | Or | y*T* |
|  | *Coryphantha bumamma* (Ehrenberg) Britton & Rose | Biznaga | Or | y |
|  | *Myrtillocactus geometrizans* (Mart.) Console | Garambullo | Me | y |
|  | *Stenocereus stellatus* (Pfeiff.) Riccob | Pitalla | Ed | y***LC*** |
| Caricaceae | *Jacaratia mexicana* A. DC. | Bonete\* | Ed | n |
| Celastraceae | *Semialarium mexicanum* (Miers) Mennega | Hiscate\* | Me | n |
| Convolvulaceae | *Ipomoea arborescens* (Humb. & Bonpl. Ex Willd.) G. Don. | Cazahuate | Me | y |
|  | *Ipomoea murucoides* Roem. & Schult. | Cazahuate blanco | Me | y |
|  | *Ipomoea pauciflora* Mart. & Galeotti | Cazahuate amarillo | Me | y |
| Crassulaceae | *Kalanchoe pinnata* (Lam.) Pers. | Prodigiosa\* | Me | n |
| Euphorbiaceae | *Cnidoscolus aconitifolius* Mill. | Chaya | Me | y |
| Fabaceae | *Acacia acatlensis* Benth | Borrego\* | Ed | y |
|  | *Acacia bilimekii* J.F. Macbride | Tepehuixtle | W | y |
|  | *Acacia cochliacantha* Humb. & Bonpl. ex Willd | Cubata\* | W | y |
|  | *Acacia coulteri* Benth. | Palo blanco | Me | y |
|  | *Acacia farnesiana* (L.) Willd. | Huizache | W | y |
|  | *Crotalaria pumila* Ort. | Chipiles | Ed | y |
|  | *Eysenhardtia polystachya* **(**Ortega) Sarg. | Palo dulce\* | Ed | y |
|  | *Haematoxylum brasiletto* H. Karst. | Palo de Brasil\* | Me, W | y |
|  | *Leucaena leucocephala* (Lam.) De Wit, Taxon | Huaje\* | Ed | y |
|  | *Lysiloma divaricatum* (Jacq.) J. F. Macbr | Tepemezquite\* | Me, W | y |
|  | *Mimosa benthamii* var*. bethamii* J. F. Macbr. | Tecolhuixtle | Me | y |
|  | *Pachyrhizus erosus* (L.) Urb. | Jícama silvestre | Ed | y |
|  | [*Pithecellobium dulce* Mart.](https://es.wikipedia.org/wiki/Pithecellobium_dulce) | Guamúchil\* | Ed | y |
|  | *Prosopis laevigata* Humb. & Bonpl. ex Willd. | Mezquite\* | W | y*LC* |
|  | *Senna skinneri* (Benth.) Irwing & Barneby | Paraca | Me | y |
| Lamiaceae | *Marrubium vulgare* L. | Manrubio | Me | y |
|  | *Mentha spicata* L. | Hierba buena | Me, Ed | n |
|  | *Vitex mollis* Kunth | Cuyotomate | Me | y |
| Malpighiaceae | *Byrsonima crassifolia* (L.) Kunth | Nanche\* | Ed | y |
|  | *Malpighia mexicana* Juss | Huashocote\* | Ed | y |
| Malvaceae | *Ceiba aesculifolia* (Kunth) Britten & Baker F. | Pochote\* | W | y |
|  | *Guazuma ulmifolia* (Lam.) | Cuahulote | Me | y |
| Meliaceae | *Swietenia humilis* Zuccarini | Zopilote, caoba | Me, Le | y***V*** |
|  | *Trichilia hirta* L. | Tapa queso | Me | y |
| Moringaceae | *Moringa oleifera* Lam. | Moringa | Ed | y |
| Myrtaceae | *Eucalyptus* sp. | Eucalipto | Me | n |
|  | *Psidium guajava* L. | Guayaba | Me, Ed | y |
| Onagraceae | *Oenothera rosea* [L'Hér.](https://es.wikipedia.org/wiki/L%27H%C3%A9r.) ex [Aiton](https://es.wikipedia.org/wiki/William_Aiton), | Hierba del golpe | Me | y |
| Piperaceae | *Piper amalogo* L*.* | Cordoncillo | Me | y |
| Portulacaceae | *Portulaca oleracea* L. | Verdolagas\* | Ed | y |
| Rhamnaceae | *Colubrina triflora* Brongn. | Árnica\* | Me | n |
| Rubiaceae | *Hintonia latiflora* (Sessé & Moc. Ex. DC.) Bullock | Quina-copalchi\* | Me | y |
|  | *Randia echinocarpa* Moc. & Sessé | Grangel\* | Me, W | y |
| Sapindaceae | *Serjania triquetra* Radlk. | Tres costillas\* | Me | n |
| Sapotaceae | *Diospyros digyna* Jacq. | Zapote negro | Ed | y |
|  |  |  |  |  |
| SELAGINELLOPSIDA |  |  |  |  |
| Selaginellaceae | *Selaginella lepidophylla* (Hook. & Grev.) Spring | Flor de peña | Or | y |

\* These species were mentioned at least five times, and are thus considered the most important plant species for the community.

**Appendix 3** Complete list of animal species mentioned by the people interviewed during the study. The species locally known as aguililla, cocolera, cotorrito, cuervo, marta and zacatilla could not be properly identified, thus, they are not included in this list. ‘Status’ refers to the conservation status according to the IUCN (and the Mexican red list, NOM 059 in parenthesis). IUCN categories are: Vulnerable (V), Quasi-vulnerable (QV) and Least Concern (LC); Mexican red list categories are: Threatened (T), Endangered (E), Under Special Protection (SP). ‘Use’ refers to the way people benefit from each species: edible (Ed), pet (Pt), medicinal (Me). ‘Listed by CEAMISH’ refers to whether the species is included in the faunistic lists of the Biosphere Reserve “Sierra de Huautla” (y= yes; n= no).

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Class** | **Order** | **Family** | ***Latin name*  author** | **Common name** | **Status** | **Use** | **Listed by CEAMISH** |
|  |  |  |  | (grouped as ‘fishes’\*) |  |  | n |
| Pisces | Perciformes | Cichlidae | *Cichlasoma istlanum* Jordan & Snyder | Mojarra |  | Ed | **y** |
|  | Cypriniformes | Cyprinidae | *Cyprinus carpio* L. | Carpa |  | Ed | **y** |
|  | Siluriformes | Ictaluridae | *Ictalurus punctatus* Rafinesque | Bagre |  | Ed | **y** |
|  |  |  |  |  |  |  |  |
| Reptilia | [Squamata](https://es.wikipedia.org/wiki/Squamata) | Boidae | *Boa constrictor imperator* Daudin | Masacuata |  |  | **y** |
|  |  | Colubridae | *Drymarchon corais rubidus* Smith | Tilcuate& | LC |  | **y** |
|  |  | Elapidae | *Micrurus* sp. | Coralillo& | (SP) |  | **y** |
|  |  | [Iguanidae](https://es.wikipedia.org/wiki/Iguanidae) | *Ctenosaura pectinata* Wieg. | Iguana\* | (T) | Ed, Me, Pt | **y** |
|  |  | Loxocemidae | *Loxocemus bicolor* Cope | Víbora sorda& | (SP) |  | **y** |
|  |  | [Viperidae](https://es.wikipedia.org/wiki/Viperidae) | *Crotalus durissus* L. | Víbora de cascabel \*& | LC (SP) | Me | **y** |
|  | Testudines | Kinosternidae | *Kinosternon integrum* Le Conte | Tortuga | V (SP) | Ed, Me | **y** |
|  |  |  |  |  |  |  |  |
| Aves | [Anseriformes](https://es.wikipedia.org/wiki/Anseriformes) | [Anatidae](https://es.wikipedia.org/wiki/Anatidae) | *Anas platyrhynchos domesticus* L. | Pato |  | Ed | n |
|  | [Columbiformes](https://es.wikipedia.org/wiki/Columbiformes) | Columbidae | *Zenaida asiatica* L. | Paloma aliblanca\* | LC | Ed | **y** |
|  |  |  | *Zenaida macroura* L. | Güilota\* | LC | Ed | **y** |
|  | [Galliformes](https://es.wikipedia.org/wiki/Galliformes) | [Cracidae](https://es.wikipedia.org/wiki/Cracidae) | *Ortalis poliocephala* Wagler | Cuira-chachalaca\* |  | Ed, Pt | **y** |
|  |  | [Phasianidae](https://es.wikipedia.org/wiki/Phasianidae) | *Coturnix coturnix* L. | Codorniz\* | LC | Ed | n |
|  | [Pelecaniformes](https://es.wikipedia.org/wiki/Pelecaniformes) | Ardeidae | *Ardeidae sp.* | Garza |  | Ed | n |
|  | Accipitriformes | [Cathartidae](https://es.wikipedia.org/wiki/Cathartidae) | *Coragyps atratus* Bech. | Zopilote\* | LC | Me | **y** |
|  |  |  |  |  |  |  |  |
| Mammalia | [Artiodactyla](https://es.wikipedia.org/wiki/Artiodactyla) | [Cervidae](https://es.wikipedia.org/wiki/Cervidae) | *Odocoileus virginianus* Zimm. | Venado\* | LC | Ed, Me | **y** |
|  |  | [Tayassuidae](https://es.wikipedia.org/wiki/Tayassuidae) | *Tayassu tajacu* L. | Jabalí\* | LC | Ed | **y** |
|  | [Caniformia](https://es.wikipedia.org/wiki/Caniformia) | [Procyoninae](https://es.wikipedia.org/wiki/Procyoninae) | *Nasua narica* L. | Tejón\*& | LC (T) | Ed, Me | **y** |
|  | [Carnivora](https://es.wikipedia.org/wiki/Carnivora) | [Canidae](https://es.wikipedia.org/wiki/Canidae) | *Canis latrans* Say | Coyote\*& | LC | Me | **y** |
|  |  |  | *Urocyon cinereoargenteus* Schreb. | Zorro\*& | LC | Me | **y** |
|  |  | [Felidae](https://es.wikipedia.org/wiki/Felidae) | *Lynx rufus* Schreb. | Lince& | LC |  | **y** |
|  |  |  | *Herpailurus yagouaroundi* Lacép. | Yaguarundí& | LC (T) |  | **y** |
|  |  |  | *Puma concolor* L. | Puma& | LC |  | **y** |
|  |  |  | *Leopardus wiedii* Schinz | Tigrillo& | QV (E) |  | n |
|  |  | [Mephitidae](https://es.wikipedia.org/wiki/Mephitidae) | *Conepatus mesoleucus* Lich. | Zorrillo\*& | LC | Me | **y** |
|  |  | [Procyonidae](https://es.wikipedia.org/wiki/Procyonidae) | [*Bassariscus astutus* Lich.](https://es.wikipedia.org/wiki/Bassariscus_astutus) | Cacomixtle& | LC |  | **y** |
|  |  |  | *Procyon lotor* L. | Mapache\* | LC | Ed | **y** |
|  | [Cingulata](https://es.wikipedia.org/wiki/Cingulata) | [Dasypodidae](https://es.wikipedia.org/wiki/Dasypodidae) | *Dasypus novemcinctus* L. | Armadillo\* | LC | Ed, Me | **y** |
|  | Didelphimorphia | Didelphidae | *Didelphis virginiana* Kerr | Tlacuache\* | LC | Me | **y** |
|  | [Lagomorpha](https://es.wikipedia.org/wiki/Lagomorpha) | [Leporidae](https://es.wikipedia.org/wiki/Leporidae) | *Sylvilagus cunicularius* Water. | Conejo\*& | LC | Ed | **y** |
|  |  |  | *Lepus callotis* Wagler | [Liebre](http://www.enciclopediagro.org/index.php/indices/indice-flora-y-fauna/422-cuinique) |  |  | y |
|  | [Rodentia](https://es.wikipedia.org/wiki/Rodentia) | [Sciuridae](https://es.wikipedia.org/wiki/Sciuridae) | *Citellus adocetus* Merriam | [Cuinique&](http://www.enciclopediagro.org/index.php/indices/indice-flora-y-fauna/422-cuinique) | LC |  | n |
|  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |
| Insecta | Orthoptera | Pyrgomorphidae | *Sphenarium sp.* | Chapulín |  | Ed | n |
|  | Hemiptera | Pentatomidae | *Euschistus taxcoensis* | Jumil |  | Ed | n |

\*These species were mentioned at least five times, and are thus considered the most important animal species for the community.

&These species are considered harmful or unwanted.