

Appendix 1. Photographs and ecosystem services drawings

1.1 – Photographs descriptions

We used 12 photographs showing different types of land use for the tropical dry forest of the region to identify ecosystem services (benefits [Fig. A1.1]). The photos were captured by different colleagues working in the study area (see below Table A1.1). All images were selected to emphasize the cattle ranchers' activity (Table A1.1). They were shown in a random order to the interviewees. We used an identifier number on each photograph to match the notes taken in the interviews.

Here, we used the photographs as visual depictions of the landscape to stimulate interviewees to identify ecosystem services. At the same time, the images evoked subjects' memories and life experiences in the region. With the photographs, we wanted to motivate the cattle ranchers to recognize services that exist at different temporal moments, taking into account for the seasonality of the study ecosystem.

Fig. A1.1. Sample of photos used (see Table A1.1 for descriptions)



Table A1.1. Description of each picture used during the interviews

Photograph	Description. This picture shows...
1	...a corn crop from a moist area (in rainy season, no irrigation is required)
2	...the shadows of trees in a typical town in the study area
3	...a plot with shadows of trees and pasture for livestock
4	...the sea and tropical dry forest from a plot in the study area
5	...a panoramic view of tropical dry forest from the UNAM's Biology Station
6	...a paddock with a “water eye” (water for livestock) and signs of soil erosion
7	...a dam in a plot intended to capture water from rain
8	...a stream below tropical dry forest cover
9	...an “abandoned” plot (without rancher activity) where the regeneration of a young secondary forest can be observed (“barbecho”)
10	...a storm in the study region
11	...cattle and pasture in a paddock
12	...a paddock with pasture during the dry season

Photographers:

1, 2, 3 and 6, Manuel Maass

4 and 12, Laboratorio de Biodiversidad y bienestar humano, IIES-UNAM

5, Leonor Solis

7 and 11, Oscar Salmeron

8, Adriana Flores, Manuel Maass, Adriana Saldaña

9, Julia Naime

10, Adolfo Montes

1.2- Drawings and ecosystem services. Details about the ranking and importance interviews

At the beginning of the interviews, we had 17 drawings on cards (examples in Fig. A1.2), and an additional 22 drawings were made during the interview by the team of interviewers. Each of the drawings represented an ecosystem service (benefits, Table 1). However, only 15 ecosystem services could be identified in the drawings we had with us (for example, see card 7 in Table 1). We wrote the name of the service on the drawing.

Some ecosystem services had abstract features that were difficult to draw; for these services, the interviewee had to associate the perceived benefit with a concrete image that would facilitate its representation in the drawing. This benefit was then clarified in writing on the card. For example, benefits such as “oxygen” or “clean air” were perceived in photos with vegetation (see pictures 5 and 8 in Fig. A1.1). As we dug deeper into these benefits, some individuals claimed that trees were needed “for oxygen” and also related the benefit to the forest, where “the air is better, cleaner” compared to the air in the towns or the city. These benefits were then represented indirectly through a tree, or as a

continuous vegetation cover (that is, as a jungle).

When a drawing was associated with more than one service, all of the services were written on the card. For example, drawing 7 (Fig. A1.2, Table A1.2) was associated with the following ecosystem services: “Aesthetic appreciation of nature and the landscape, Habitat, Protection of Nature, Life, Water for life (wild)”. Some interviewees wanted all these services together to be represented in the same drawing. In these cases, “packages” of services were defined.

Another situation that involved “service packages” was encountered during the hierarchical analysis. Some respondents selected a group of cards to designate “the most important” ecosystem service. Five interviewees combined between 2 to 8 ecosystem services under the number 1 ranking. We tried to identify with the interviewee which the service from the group had the greatest importance. When this was not possible, these services were grouped as “packages”.

Fig. A1.2. Panel showing the nine most important ecosystem services cards drawn from the total cards used in the interview.

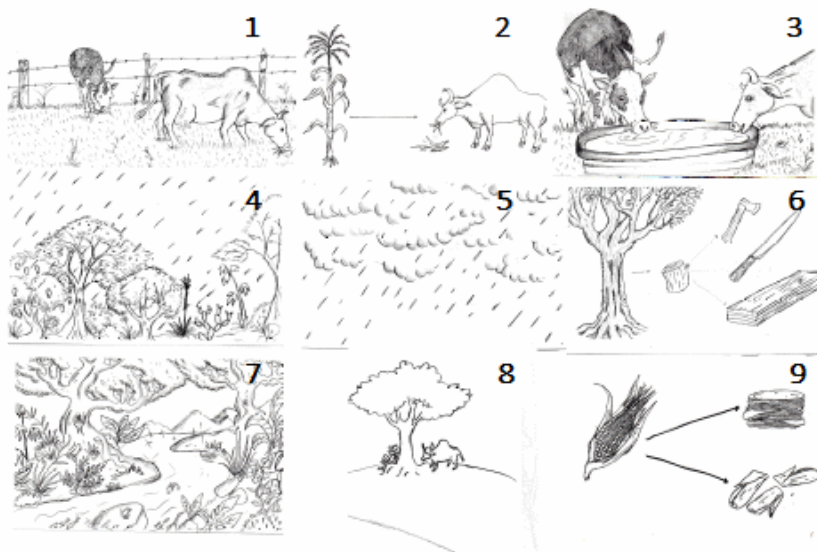


Table A1.2. Drawings of the most important ecosystem services (see all ecosystem services in Table 1) perceived from the photographs (Fig. A1.2).

Draw	Ecosystem services
1	Pasture for livestock
2	Cultivated fodder
3	Water for livestock
4	Forest-rain interaction (local people say, “the forest calls the water”)

- 5 Rain
 - 6 Wood
 - 7 Aesthetic appreciation of nature and the landscape, Habitat, Protection of nature, "Life", Water for life (wild)
 - 8 Shade
 - 9 Food derived from maize
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Cartoonist: Daniel Ferreyra García