

## **Appendix 2.** Interview scripts.

### **General Interview: irrigation, land tenure and community (population and services)**

(conducted between November-December 2010)

#### *Block 1. Characterization of the interviewee*

What is your name?

How old are you?

Were you born in this community?

Have you always lived here? If not ... Where? For how long? Why did you come back?

Were your parents from here?

In what productive activity are you engaged?

#### *Block 2. Characterization of the orchard*

Do you have an orchard in this community? Are you the owner of the orchard or are you in charge?

How large is your orchard?

Is your orchard currently in production? What do you produce? How much do you produce in a year (or a season)? How long have you been working on this orchard?

How long have you been engaged in agricultural activity?

What activities do orchard maintenance and production include?

Has the orchard always been in production or has it been inactive during a prior period? If it has been inactive, when? For how many years?

What did you grow before? If you changed, why did you change the crop type?

#### *Block 3. Characterization of the agricultural activity in the community*

Do you remember seeing all the orchards in production? When?

Could you tell me about the maximum area that has been in production?

What is the average area of the orchards? What is the maximum and minimum area?

What are the main crops of the community? Have they changed with time? Why?

How much could be produced on a plot of dates, figs, grapes or sugar cane in a year?

Some of the orchards that we visited have been abandoned for 30 and 40 years. Do you know of any cases where someone has recovered an abandoned orchard? Why?

When were orchards larger? How many? Who were the owners? What happened to the people who did not own orchards?

What is the traditional land inheritance system in the oasis?

#### *Block 4. Marketing and profitability of agricultural activity*

Has there been any association or cooperative that has marketed agricultural production?

How was the product marketed in the past? And now?

Where were orchard products sold? And now?

Does the community use inputs (pesticides, fertilizers, etc.) for the orchards?

Was livestock farming performed at the same time as the orchards?

Is the agricultural activity complemented by livestock? Has it sold manure as a fertilizer to neighbors?

Why do you think the agricultural activity stopped being profitable?

To what extent do you think that the opening of the Santo Domingo Valley has affected production of the oasis?

When did the population engage more time in livestock activity than in agriculture? Is it more profitable?

When were goats introduced into Comondú? Did it form part of some government support?

What are the main reasons for abandoning orchards?

#### *Block 5. Irrigation*

What kind of irrigation was used on the orchards in the past?

Did any local institution regulate the irrigation of orchards? How did it work?

What was irrigation system cleaning and maintenance like? And now?

When did the institution for irrigation stop working?

What was the reason for the disruption?

What is irrigation like now?

#### *Block 6. Land tenure*

Are you an *ejidatario* or a private owner?

What properties do you have (housing, orchard, ranch)? What is the property type for each one?

When was the *Ejido* created?

Did all families have the opportunity to form part of the *Ejido*?

Did the creation of the *Ejido* affect orchards being abandoned?

#### *Block 7. Characterization of the community*

Has the number of neighbors varied with time? Could you estimate the maximum number of neighbors who have lived here in relation to a specific date?

What services did the community have before (schools, shops, post office, telegraphs, etc.)?

What year did each one cease being active?

From your point of view, which of the services you mentioned was the most important?

And the least?

Were there festivities or dances in the community? How often? When did they stop being held?

Do you remember any period during which a larger number of residents migrated to other parts? When?

What were the main reasons for this migration?

### **General interview: ranches**

(Conducted in January 2011)

#### *Block 1. Characterization of the interviewee*

Name:

Age:

Name of community:

How many years have you worked with livestock?

#### *Block 2. Characterization of the ranch*

What is the name of your ranch?

Are you the owner of the ranch or you are a worker?

What type of property is the ranch?

Have you always lived in the area? How long have you worked at or have you owned the ranch?

What surface area does your ranch cover?

How much area is used for cattle? And for goats?

#### *Block 3. Characterization of livestock activity*

How many heads of cattle do you currently have? and goats?

What is the largest number of cattle and goats that you have had? When was this?

And the fewest? When was this?

How long have you had goats?

What factors determine changes in livestock with time?

What are the reasons for you not having more cattle (ranch size, economic reasons)?

Where do your livestock graze on?

Do you change grazing areas throughout the year or between years? Why? How?

Are there mechanisms for rangeland management? Are there rules for rangeland regeneration?

#### *Block 4. Production and profitability of livestock activity*

How many people work on the ranch? Are they a family?

What production figures does your ranch yield? How has it changed with time?

How do you market the production of your ranch? How has it changed with time?  
What are the production costs of your ranch? How have they changed over time?  
Are there any differences between costs of goats and cattle?  
What is the profitability of livestock? How has it changed with time?  
Are there any differences between the profitability of cattle and goats? If so, what are they?  
What is the self-consumption production?  
How many people depend on the resources obtained from your ranch?

*Block 5. Effects of weather*

Do you remember years with heavy rain? When? How does rain affect the ranch (grass, livestock, production)?  
And drought periods? When? How does drought affect the ranch (grass, livestock, production)?  
Have you experienced events like hurricanes? Do you remember any specific hurricane?  
When did it occur? How did it affect the ranch? How much livestock loss occurred in these events?  
What do you do to adapt to extreme weather events?

*Block 6. Relations with the community and other ranches*

How do you relate to the community? How often do you visit the community? What are the main reasons for going to the community?  
How are rangeland areas shared among neighboring ranches?  
Is there any conflict?

*Block 7. Perceived problems in livestock activity and future perspectives*

What problems does livestock activity entail now?  
Have any ranches been abandoned? Since when? How much? Where?  
Do generational replacements take place to work in livestock activity?  
How do you see the future of ranching? Do you want to continue with it? What about your children?  
What could improve the current situation of ranches?

**Specific interview: migrants**

(Conducted in February 2012)

What is your name?  
How old are you?  
Where were you born?  
How many years have you lived in the oasis of Comondú?  
How old were you when you left the oasis of Comondú?

How would you describe the life in the oasis when you lived there (neighbors, economic activities, services, festivities, etc.)?

What reasons helped you make the decision to migrate from the Oasis Comondú (educational opportunities, work, health, quality of life, etc.)?

Did some friend, neighbor or family member (who had migrated before) help you to make the decision?

Did you need financial support to migrate from the oasis? Did this support come from your family? What main economic activities did your family undertake in the oasis of Comondú?

### **Specific interview: livestock activity**

(Conducted in August 2012)

How many goats or cattle are necessary to start a herd?

How many years do goats live? And cattle? How many years can goats breed? And cattle?

What are livestock activity costs? (Labor, fuel, etc.)

How many people are needed to manage a ranch? How many cattle or goats can one single person handle?

What costs increase with drought?

What happens to prices? Can you offset costs? How many differences are there between the profits and costs of livestock during drought periods?

Imagine a herd of 100 goats or cattle, and a dry year begins ... What would happen to that herd? How many goats or cattle would die? Would you sell all goatlings or calves (females and males) in that year? What would happen if the drought lasted another year? and 2 years?

Does a dry year have any effects on rangelands?

What factors (profitability, duration of droughts, herd size) could affect making a decision about abandoning livestock activity? Which of these factors has more weight?

What is done with the animals when a rancher decides to leave a ranch?