

Cooperative rice production in coastal wetlands in Southern Spain

A value-chain related contract solution, where rice with higher standards is produced (integrated production of selected varieties). In the case study, rice producers are associated and work together to produce rice in partial and full organic production of high standards.



Summary

In the case study, an association of 1100 farmers created in 2005 (Arrozua) provides a foundation for the producers to produce and market rice with higher quality. These farmers represent a production of about 13.000 ha. The Arrozua program covers almost the entire value chain, from the rice farmers to the storage, the processing plant, the sale to the end customers, everything is organized under the Arrozua brands (i.e., the Doña Ana and El Ruedo labels) and the white labels that are commercialised by Spain high value retailers (e.g., El Corte Inglés). Since 2010 Arrozúa sells online. The rice producers get fixed prices for the rice in average 16% higher than the globally imported rice.

Objectives

The contract between the rice producers and the association (Arrozua) leads to a higher provision of the following public goods:

- landscape and scenery (preservation of managed wetland)
- Biodiversity: The Arrozua program requires a limitation of agro-chemicals applied and maintenance of flooding to preserve biodiversity of migrating birds from Africa to Europe,
- rural viability and vitality (secure economic viability of the farmers in the Doñana region through the sale of rice with fixed prices).

1. Preserve coastal wetland and secure biodiversity conservation
2. Secure economic viability of the farmers in the Donana region
3. Secure high production standards according to consumer preferences



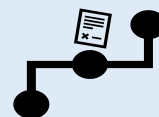
Rice production integrated into the value chain by the Arrozua cooperative. Source: Arrozua cooperative, 2019

Problem description

The sustainability of rice production in coastal wetlands is jeopardised by four main threats: water scarcity, decrease in financial support from the CAP, competition for water to preserve biodiversity, and future climate projections. Current policies are insufficient in response to these kinds of threats and concerns, since they do not consider collective action or time scale. Most local and regional actors are only concerned about the three first threats, and consider the need to deal with climate change as very low priority. In contrast, this last threat is the main focus of international actors.

The high degree of collaboration between producers could be sufficiently important to define new collective action policies and contract solutions to preserve biodiversity. It will be important to incorporate public opinion into the processes of developing contract solutions, since the public opinion is fundamental in the area of the case study.

VALUE CHAIN



farmer – cooperative - distributor - store - consumer

The participation in the practice-based payment is conditioned by the membership to the cooperative Arrozua

PUBLIC GOODS



(Farmland) biodiversity



Landscape and scenery



Rural viability and vitality



Quality and security of products



Cultural heritage



Resilience to natural hazards

CONTRACT

It is a private-private contract.

Financing party:

Market sector-oriented

Contract conclusion:

Written agreement



Payment mechanism:

Product price



Funding/Payments:

The farmers collectively fund the cooperative.



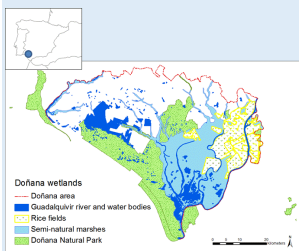
Start of the program:

2000

End: open end

LOCATION

SPAIN



Source: A. Iglesias

Data and Facts - Contract

Participation:

- Number of farms: 1100 farmers
- Area of implementation: 13000 ha
- Other participants: retail stores

The area adjacent to the case study is the Doñana National Park with 54252 ha.

Involved parties: The contracting parties are on the one hand the participating rice producers. The producers are organized in an association (Arrozua) founded 2000. The association consists of 1100 members (land owners). The members deliver their rice to the Arrozua cooperative. Arrozua has a drying plant and a storage plant. They organize the drying, processing and selling of the rice. All this is done under the different rice commercial brands and some white label brands on high-end retail stores. A part of the Arrozua rice is also sold directly to private consumers online. Since 2010 the Arrozua farmers can be certified according to integrated production criteria that guarantees low input agriculture while they do not meet the standard of organic agriculture. The Arrozua brand is an economic factor for the whole region. It also influences the tourism sector, because rice is very important in the local gastronomy. In the end the Arrozua rice reaches the consumer in form of high quality rice.

Cooperatives are organizations managed under the principle of collective ownership and the democratic control of members, as well as the tracking of adherence to common values and cooperative principles. Their strength is based on the existence of common interests, the joint interests of the members in pursuing the objectives of the cooperative (economic, social and environmental) and in the steadfastness of the established relationships (objectives and commitments, relations among members, and interaction among members and the Management Board). Agricultural cooperatives are an important tool for the survival of rural areas, competing against current trends in business concentration and maintaining social cohesion.



Rice production in the managed coastal wetlands near the Doñana National Park. Source: Arrozua cooperative, 2019

Advantages of participation:

- Rice producers – they produce with integrated production label and guarantee the selling each year to the Arrozua cooperative. They receive a fixed price and their product is dried and stored.
- Arrozua cooperative – They receive a stable amount of good quality rice that they distribute to high end retailers.
- Retailers – they receive a stable production of high quality rice on two labels and also they can use a retail white label.
- Consumers – they receive high quality rice

Management requirements for farmers: The Arrozua farmers require certain farming conditions. During the growing season (middle of April to October) the rice is inundated. The Arrozua farmers cultivate with minimum agrochemicals in a way called integrated production. The water is left in the fields an extra month to serve as habitat for migratory birds.

Controls/monitoring: In the Case Study, agro-chemicals applied are monitored at least once a year. The costs of inspection are covered by the Arrozua cooperative, and are indirectly paid by the farmers that are members of the cooperative.

Renewal / termination: Termination, by exiting the cooperative or failure to produce in an integrated production way.

Conditions of participation: to be a member of the cooperative.

Risk/uncertainties of participant: Price risks is high since the price is partially set by the international market

Links to other contractual relationships: So far, rice farmers in Doñana received approximately 1,670 €/ha as public subsidies (within the framework of the CAP) and if they met the integrated production commitment that includes a group of best management practices, they also received 398 €/ha. Currently, rice farmers will have to meet the measures included into the CAP greening to perceive the equal subsidies. Thus rice production can be considered profitable for farmers since the average cost of producing rice in Doñana is over 1,496 €/ha (reduced due to a highly mechanized agricultural system and higher education training of farm managers that implement precision agricultural methods) and rice price usually ranges between 2,000-2,200 €/ha on average.

Product requirements: Rice is planted only under irrigated conditions, in medium to large and highly mechanised farms. Direct seeding by broadcasting is the popular method of crop establishment. Rice crops are applied with adequate rate of fertilizers and other agro-chemicals for crop protection. The development and transfer of integrated rice crop management system has increased rice yield during the recent past. Rice varieties belong to japonica and Indica subspecies. Since the 2000s, the areas sown with the indica varieties has gradually been on the increase, and today they cover almost 90% of the rice growing area. The L-202 variety, also known as Thaibonnet, is almost the only Indica type cultivated in the marisma area. Thanks to the exceptional weather conditions, more than half of the long grain Indica type rice produced in the European Union are of Andalusian origin. The Cooperative Arrozuca accepts both indica and japonica varieties, however, it requires a quality defined by: morphological uniformity and physicochemical characteristics.



Doñana coastal wetlands provide an exclusive habitat for migration of birds and rice provides crucial services. Source: Arrozuca cooperative, 2019

Context features

Landscape and climate: The Doñana region is a coastal wetland in the Guadalquivir River Basin District of Southern Spain, where water is shared among the natural and the artificial wetlands. The recent high temperature and drought episodes are influencing the view of local communities about the need for adaptation in the Doñana natural ecosystems and agricultural systems. The water district is already under environmental pressure, the coastal vulnerability to sea level rise is high, and the potential increase of irrigation demand is very high.

Farm structure: The semiarid conditions and the salinity of soils make the cultivation of many other crops difficult in the rice area. The flooding irrigation system allows tolerable levels of oxygen, temperature and salinity for growing the rice (maximum concentration of 2g/l of salt in the water) whilst avoiding the emergence of a saline crust in the top soil. Further, the sea intrusion increases largely the salinity of the water in the estuary and the Guadalquivir Basin Authority has to provide for dam releases upstream from the rice area to improve the quality of irrigation water. The Doñana coastal wetland is a complex socio-ecological system where the rice production and the wetland ecosystem show a great dependence on water and climate and any change of these factors may alter the state of the environment and local livelihood security.



SUCCESS? Reasons for success



The solution is a success. Cooperatives are organizations managed under the principle of collective ownership and the democratic control of members, as well as the tracking of adherence to common values and cooperative principles. Their strength is based on the existence of common interests, the joint interests of the members in pursuing the objectives of the cooperative (economic, social and environmental) and in the steadfastness of the established relationships (objectives and commitments, relations among members, and interaction among members and the Management Board). Agricultural cooperatives are an important tool for the survival of rural areas, competing against current trends in business concentration and maintaining social cohesion. The farmers in Doñana benefit from collective production and the scale economy since the XIII century.

Reasons for success:

1. The Cooperative program provides an alternative for the farmers to the less profitable value chain in the global competitive market.
2. The rice production in the Doñana region has a long tradition and the area is very suitable for this type of farming.
3. The initiative for the Cooperative program was from the rice farmers themselves and they organised themselves by means of a cooperative association (Arrozua).

SWOT analysis

