

MULTIFUNCTIONALITY, STAKEHOLDERS AND SOCIAL LEGITIMACY OF IRRIGATION: APPROACH TO THREE SOUTH-EUROPEAN CANALS

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1. INTRODUCTION

Much of the original factors promoting the development of irrigation –food-production, population settlement, and revitalization of the rural matrix– remain in force. However, their management must prioritize the balance with other sectoral water demands (with consumptive water use or not) as well as address and mitigate negative externalities on ecosystems, or legitimize their territorial function in a society that associates, progressively, the multifunctionality of irrigation with new recreational, educational and/or sporting activities. Agriculture, water, land, energy, rural development, biodiversity, and environment are some of the main variables which have underpinned sectoral policies that determine the dynamics and management of irrigation (BOSSIO *et al.*, 2009). All of them are in conflict from their opposite objectives, their tendency to confrontation, and their rivalry for the use of natural resources in different space and time (KNOX, KAY and WEATHERHEAD, 2012). As a result and progressively, the promotion of integrating management of competing water demands in addition to good governance of the commons gains relevance. In this sense and from different approaches (academic, technical, social), it has been betting on an adaptive governance of irrigation and the need to include social learning in decision-making processes that supports the management of socio-ecological systems and their complex nature (LEVIN, 2006; FOLKE, 2007; VINCENT, 2007).

2. THE MULTIFUNCTIONALITY OF AGRICULTURE AND IRRIGATION

2.1 The concept

Even with the variety of approaches from which the concept is analysed, multifunctional agriculture is understood as an expansion of three conflicting dimensions: first, the conventional production chain deepen the rise of organic farming, the commitment from quality and proximity products, or the maximization of the distribution chains with the fewest possible intermediaries. Furthermore, this concept will be analysed from the activities related to rural tourism (NILSSON, 2002) or landscape management as a core value of rural matrix (GARROD *et al.*, 2006). Finally, multifunctionality will relate to the mobilization of conventional natural resources to promote the innovation able to reduce costs and thereby mitigate the negative externalities of agriculture on rural matrix (DE ROOIJ *et al.*, 2013; BRUMMEL and NELSON, 2014). However, this interpretation of multifunctionality will not be accepted by authors such as Marsden and Sonnino (2008), who provide a social vision of agriculture to suggest three complementary interpretations to the precedents: (1) multiple activities related to conventional agriculture; (2) the spatial regulation of the “production-consumption matrix”, and (3) agricultural multifunctionality understood as part of sustainable rural development.

2.2 The criticism

Authors like Dobbs and Pretty (2004) will question the political transposition of the concept without coherence, while others like Wilson (2001) limit the multifunctionality of agriculture to the transition from productivist nature of agriculture to its sustainability dimension. Likewise, authors like Cocklin *et al.* (2006) question about the appropriateness of conceiving multifunctionality in terms purely related to trade liberalization or market inputs of the commons, thereby emphasizing the neoliberal philosophy that contributes to the economic consideration of the nature elements and the minimization of social and environmental sustainability. Some authors will point, also, to the failure to address the economic side of the concept without focusing attention on the availability of natural resources and their management (FLORA, 2012; HERRICK and PRATT, 2012). This will set the basis for criticism the multifunctionality of agriculture (and irrigation), both at tangible level (quantity and quality of water and land used, contribution to food production, environmental services, or climate change mitigation), and intangible (valuation and structuring of the landscape matrix, preservation and maintenance of cultural heritage, or the enhancement of recreational activities).

3. THE THREE CASE STUDIES: THE CANAL SEGARRA-GARRIGUES, THE CANAL DE LA NESTE AND THE CANAL DE LA MUZZA

The three case studies analyzed are based on particular realities and dynamics that influence the attitudes, demands, criticism, affinities and, ultimately, the competing discourses that define the management of the respective irrigation canals. The representativeness of each of these canals inside and outside its territorial context is defined both by the matching factors (the cultural baggage on irrigation, the diversity of interests represented, the prioritization of certain uses of water from the concern for their availability, or the citizen participation and/or mobilization), and the results of their opposition (the recovery of an irrigation project widely claimed that must cope with new environmental and social demands –Segarra-Garrigues canal–, the debate on an irrigation canal that shifts between the environmentalism and the cerealistic monoculture –Neste canal–, and the multifunctionality of a canal that simulates the environmental functions of a river –Muzza canal–). All of them symbolize the commitment for irrigation practices although from divergent perspectives: from denial to environmental cooperation; from institutional promotion to private management; from competition to co-management approaches; from participation to the legitimacy of decision-making process. This summarizes the current and future debate that is taking place, with changing intensity in each of the realities analyzed, placing the irrigation in the spotlight of variables such as water availability and cost of access to natural resources, the prioritization of competing demands in space and time, the food security strategy at regional and/or national level, and the environmental externalities generated by agricultural practice and their social recognition.

4. COMPARATIVE ANALYSIS OF THE THREE IRRIGATION CANALS: FROM MULTIFUNCTIONALITY TO THE TERRITORY

4.1 Methods

The approach to the territorial management of irrigation requires the use of two practices of qualitative analysis, the Stakeholder Analysis Approach and the Governance Model Approach, in order to 1) identify the stakeholders representing the management of the irrigation canal, and 2) define the bases of their speech regarding the multifunctionality of irrigation canal (PRELL, HUBÁČEK and REED, 2009; LIENERT, SCHNETZER and INGOLD, 2013). To achieve these objectives it has been considered useful to use a qualitative synthesis tool with quantitative potential: the in-depth interview. It is structured into five thematic sections: European policies on agriculture, water and environment; the traditional management model of

South-European irrigation systems; affinities and confrontations between speeches and stakeholders; the three irrigation canals description; and the level of existing or not governance in decision-making processes about the multifunctionality of irrigation. This script has been applied to all the stakeholders previously identified from their representation as spokesmen in each of the analysed irrigation systems. A total of 19 stakeholders have been identified in the Segarra-Garrigues canal, 11 stakeholders in the Neste canal, and 15 stakeholders concerning the dynamics of Muzza canal. To facilitate the comparison between stakeholder's profiles and speeches, each stakeholder was included in one of the four profiles that define the territorial irrigation management analysis: public services, private services, rural community, and civil society. The exercise was carried out between March and November 2011 and 2012 and the average length of the interviews exceeded two hours. Once transcribed, we proceeded to analyze its contents using the web application WordleTM, with which view clearly and simply, the main keywords from the speeches of all stakeholders.

4.2 Speeches around the multifunctionality of each irrigation canal

The analysis of the speeches from the three irrigation canals has clearly showed the conceptual diversity of concerns and affinities and confrontations that support the discourses of the stakeholders. In the Segarra-Garrigues canal, the consideration of the farmer as a generator of landscape and the first territory' manager; the concern about water concessions; the criticism of political management in the projection of the canal; the existence of lobbyism practices, or the positive valuation of citizen mobilization have undergone the affinity between the set of stakeholders' groups. In contrast, issues such as the add value of the canal (public interest or private benefit?); their functionality (productive or environmental); the availability of water (water efficiency or energy cost overrun?); the soil and land management (local investment or international speculation?); or the management of the Special Protected Areas (add value for rainfed agriculture or brake on the development of irrigation?), were the issues that have generated major confrontation between the stakeholders.

The Neste canal stakeholders agree with the Segarra-Garrigues canal answers in terms of highlighting the role of the farmer and the irrigator as manager of the landscape and the territory, and also in the existence of lobbyism practices from the agricultural and the environmental sectors. Likewise, they will consider as positive and useful to establishing agreements between competing water uses, and the need to incorporate society in decision-making processes about the challenges facing irrigation at short and medium term. In contrast to this set of affinities, aspects such as the ability to adapt agriculture to environmental issues; the viability of irrigation as a factor of economic development; or the duality between the cereal monoculture and the empowerment of multifunctional agriculture will be placed in the center of confrontations between stakeholders.

Finally, part of the results obtained in the Muzza canal analysis coincides with the two previous irrigation canals: the role of the farmer and irrigator in landscape management of the territory, and the need to promote mechanisms to improve governance decisions to address lobbyism practices. As for the elements that generate a degree of confrontation between the stakeholders, it should be noted the duality to defining irrigation as a sectoral or social practice; the disagreement on the establishment of a unanimous discourse on water; the criticism about the dominant agricultural model; or the valuation of the Patto per l'Acqua (Water pact) as a participation tool or a political strategy.

5. DISCUSSION AND CONCLUSIONS

In countries such as Spain, France and Italy, with a long tradition in the implementation of irrigation practices, there are a lot of examples of irrigation canals with an improvement of their

management with the promotion of multifunctionality attitudes. The three canals presented here show much of the concerns, speeches and/or claims that structure the debate on irrigation, its role and its management. Each of them contributes, however, certain particularities, either by his own characterization (more productive, environmental, or multifunctional); for his approach to their management (sectoral, participative, from social legitimacy); or for the nature of their future challenges (socio-economic, ecological, political, cultural). Here, the promotion of territorial management of irrigation, through the interaction between qualitative and quantitative methods of analysis, should facilitate the identification of latent or potential conflicts, and promote agreements between competing water uses. This will determine those measures to encourage the multifunctionality of irrigation from the agricultural involvement and the social legitimacy.