Living territories to transform the world

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Creating innovative sectors in a territory for deriving value from biomass: Valosorgho in Occitania, an ongoing project

Sophia Alami and Danièle Clavel

AN UNPRECEDENTED CHALLENGE

The use of sorghum biomass can form the basis of a potentially innovative sector that can generate economic value and employment in a territory. The ongoing project, Biomass For the Future (BFF)1 (Inra, 2012-2019), is working on varietal and technological solutions for deriving value at an industrial scale from sorghum biomass. The strategic approach adopted, through the Valosorgho concept in Occitania, originates from a desire for the territorialization of the BFF project.

To this end, we adopt a pragmatic approach in which action fuels reflection, and conversely, in which a constant dialogue is maintained with the reality of the situation. The approach is all the more novel as the targeted territory (Occitania) is itself being formed within the context of the recent mergers of French administrative regions. Occitania is the leading sorghum producing French region. The sector's territorial anchoring is therefore essential, and its creation was the challenge entrusted to CIRAD in the form of a specific mission. This chapter presents our progress in this regard.

FROM THE 'BIOMASS FOR THE FUTURE' PROJECT TO VALOSORGHO

Numerous experiments have shown that technology and social processes must be considered together for an innovation to be sustainable. A partnership for innovation is thus based on the hybridization of knowledge and practices (Hatchuel, 1994), as well as on the co-production of knowledge.

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The proposed approach relies on a theoretical framework derived from pragmatic reflection and pertaining to management and sociology (Dumez, 2007; Callon, 2013). The principle is thus based on creating interactive partnerships at a territorial scale. However, no off-the-shelf method currently exists to form such partnerships. We have thus deployed a pragmatic and participatory method based on territorial engineering. The principles of the approach are: a transdisciplinary theoretical framework supporting a functionalist global vision (each segment having its own non-hierarchical function); deriving value from the action (in interaction with the ‘theory’); and leveraging knowledge generated from the practice.

We use a model of interactive innovation that depends, starting from its conception, on the characteristics of the territory and the expertise of its actors. This ‘open’ innovation model is being promoted by the European Innovation Partnership (EIP) initiative, which advocates networking of actors as an enabling factor for the appropriation and sustainability of agricultural innovation (Centre d’étude et de prospective, 2013). Bottom-up, systemic (non-linear) and not centred on the transfer of any particular technology, the model takes into account the specific context and the contribution of different actors of the value chain through a socio-economic, territorialized and non-segmented vision. According to Leeuwis and Aarts (2011), it is this contribution in the form of a ‘collective process’ that guarantees successful changes of the scale of the innovation, in particular those that address territorial development issues.

Territorial engineering has consisted of creating an arbitrated and coordinated dynamic of actors that offers ample room for concertation between actors, also called ‘territorial engineering chain’ (Trognon, 2013). The function of innovation brokerage, as defined by the European Innovation Partnership, is crucial. It consists of implementing territorial engineering, through what has been described as ‘acting together’ (management, project administration, etc.), and through transparent and accurate documentation, facilitation, mediation, interpretation and building of links between different skills, know-how and scientific disciplines (Callon, 2013; Trognon, 2013).

This approach, whose current status is shown in Table 10.1, corresponds to an intervention framework called ‘Valosorgho’, recognized as a structuring project by the new Occitania administrative region. The network of actors concerned includes private companies, local authorities, decentralized State services, chambers of commerce and agriculture, cooperatives, research institutions and competitiveness clusters. The participatory process has led not only to the structuring of the value chain but also to the emergence of a shared rationale for promoting sorghum cultivation, based on global warming imperatives, especially water scarcity (Alami et al., 2016).

**Dissemination and application of the Valosorgho model**

The proposed participatory model experiments with new research practices in which the quality of the multi-actor partnership is a key factor in terms of operability and evolution capacity, especially in the context of the agricultural sector. This capacity building renews territories (Torre and Wallet, 2013) by triggering collective
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1. Regional innovation strategy (European policy priorities in the region).
2. Rural development programme financed by the European Agricultural Fund for Rural Development (EAFRD).
4. 'Gaining mastery over sorghum-based food products', Agropolis foundation, involving the Institute of Rural Economy (IER) in Mali as a partner.
5. Mechanism for research in partnership of CIRAD 'Innovation and Varietal Improvement in West Africa'.
Diversity of territorial functions and approaches

intelligence as well as various achievements. In this process, it is no longer a matter of technology transfer but a matter of collectively built territorial, cognitive and disciplinary integration.

The approach and the methodological reflection go well beyond the framework of Valosorgho in Occitania. Research conducted must benefit partners from the countries of the Global South, i.e., situated in their contexts and adapted to their specific constraints. The implementation of such innovation platforms is on the agenda in Africa, for example in the Comprehensive Africa Agriculture Development Programme (CAADP), which has been implementing multi-actor partnership platforms for several years. CIRAD’s system of research in partnership in countries of the Global South also provides excellent platforms to implement and share this approach that combines experimentation and learning in a territory to support the emergence of innovations in the agrifood sector at the same time as encouraging social transformations.

References


