



Preliminary elements for a territorial approach to ergonomics: the case of Maricá-RJ

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Summary

This study is an experience report that describes the approach to identifying and mapping actors to integrate a Territorialized Cooperative Ecosystem (ECT) in the healthy food sector in the city of Maricá, based on the theoretical framework of the Economics of Functionality and Cooperation (EFC). This article aims to discuss the ergonomics approach to territorial projects. The results of the analysis of the intervention records listed two thematic categories: the methodology for diagnosing the territory and the construction of debate forums. The results show that Ergonomic Work Analysis is a method capable of conducting an intervention centered on the territory and indicate elements to adapt an ergonomic approach aimed at territorial development.

Keywords: at least three and at most five, separated by semicolons.

1. Introduction

For a long time, ergonomics considered the economy and territory as a context, whose field of intervention was outside its domains. According to Guérin et al. (2021), due to the fact that labor relations are located at the company level, this has always been the most common and widespread way of implementing ergonomics, which focuses its methods of action on the productive organization, management, in its spaces, in its rhythms and their technologies.

This scale of action tends to be questioned today due to major economic, social and environmental challenges, which motivate the UN's 2030 Agenda for Sustainable Development (2015). For Hubault et al (2019), sustainable development has the same origin as ergonomics: human activity must take responsibility for the consequences of what it produces, meeting the needs of the current generation, without compromising the ability to meet the needs of future generations. generations (BRUNDTLAND, 1987) and, therefore, must guide their behavior not only by procedures, but consider the subjectivity of work activity as its central point.

To take into account the Sustainable Development Goals (SDGs) (UN, 2015) in line with the transformation of work advocated by ergonomics, it is necessary to go beyond the limits of the company and the territorial scale imposes itself, therefore, as an increasingly greater level structure to face current economic and societal challenges (GUÉRIN et al., 2021).

It is noteworthy that the notion of territory, understood here, goes beyond geographical and political delimitation. According to Cunha (2021), the territory is not a neutral object, disconnected from reality, but rather, it is configured as a product of the work activity and the dynamics of its different protagonists. Cunha also highlights that the relations between work and territory are plural, geographically situated and include debates on norms and values led by workers, and are therefore considered as a category of analysis in the study of work activities.

From this perspective, the Economics of Functionality and Cooperation (EFC) and ergonomics offer ways to think about alternative, and situated, definitions of economic performance, placing the issue of work at the center of the dynamics of value creation in the territory, without losing sight of the economic and social relations (DE GASPARO; DEBUC; GUYON, 2016; DU TERTRE, 2018). The EFC can be defined as:

(...) an economic model that consists of conceiving and producing solutions based on the integration of goods and services, associated with the sale of a performance of use and/or inserted in a territorial dynamic. (DU TERTRE, VUIDEL and PINET, 2019 p.8).

It is based on four principles: a) the insertion of the performance of the use of goods and services in order to guide the reduction in the mobilization of material resources supported by the development of immaterial resources; b) recognition of real work and the different modes of organization, which underlie the development of cooperative production ecosystems; c) governance based on the different levels of cooperation between territorial actors; d) service dynamics that prioritize solutions that integrate services and material goods (LIMA et al., 2019; SOARES et al., 2020).

At the territorial level, Maillefert and Robert (2017) show us that EFC brings an innovative approach that advances in relation to other sustainable economic models, such as the Circular Economy, the Functional Economy and Industrial Ecology. The latter almost always take territorial issues into account in their projects only ex post. Still according to the same authors, the territorial approach in EFC becomes a premise, an endogenous part of the project, seeking a new form of alternative economic development, along with social development, understanding environmental limitations. The territorial dimension, therefore, ceases to be a restriction, and becomes a spectrum of value creation through its multifunctionality.

It is also in the territorial dimension that the governance capacity between multiple actors materializes, which allows “putting public action at the center of sustainable development practices and mobilizing actors around a common project” (FIGUIÈRE and ROCCA, 2008 apud MAILLEFERT and ROBERT, 2017).

The notion of a Territorialized Cooperative Ecosystem (ECT) is the result of common interests of actors who share material and/or immaterial investments, who have the need to maintain a performance of common use and seek to deal with externalities through cooperation. The term “ecosystem”, borrowed from ecology, when used in economics, alludes to groups of actors that act around common interests (sometimes environmental, economic or social) based on sharing information, knowledge, material resources and immaterial.

The representation of the cooperative ecosystem involves a series of actors and their multiple relationships, therefore, it is represented in multiple and diverse ways (DU TERTRE; VUIDEL; PINET, 2019). According to Lima et al., 2019, cooperative ecosystems, as long as they maintain direct relationships between the actors involved, whether producers or consumers, beneficiaries, manifest themselves territorially and can occupy spaces on a local, national or even international scale.

From this perspective, through an experience report on an intervention for the formation of a Territorialized Cooperative Ecosystem (ECT) in the food sector in the city of Maricá, Rio de Janeiro, this article aims to discuss the ergonomics approach for projects territorial.

From reflection on the role of ergonomics in reconnecting ties in the territory around its sustainable, socially fair and democratic development, we intend to bring elements of answers to the question of how to mobilize the perspective of work for much broader approaches, at a territorial level, with a heterogeneity and multiplicity of actors, environments and experiences.

2. Method

This study is an experience report that describes the approach to identifying and mapping actors to integrate a Territorialized Cooperative Ecosystem (ECT) in the healthy food sector in the city of Maricá. The Experience Report in an academic context aims, in addition to describing the lived experience, to value it through explanatory academic-scientific efforts and through critical-reflective application with theoretical-methodological support (MUSSI et al, 2021).

The intervention records, still in the development process, under the title: “Cooperative Ecosystems and Local Development in the City of Maricá”, were used as a data source, resulting from the demand of a municipal authority focused on science, technology and innovation actions. The team of researchers is multidisciplinary, formed

by 1 coordinator and 4 researchers working in the Production Engineering Program, at COPPE/UFRJ.

The data was collected between July 2022 and July 2023, and includes the field notebooks of the researchers involved, documents and minutes of meetings between the team, in addition to the project reports generated. During the first year of the project, visits were made to around 30 different actors, including rural producers and individual and collective consumers.

3. Results and Discussions

The results of the analysis of the intervention records listed two thematic categories: the methodology for diagnosing the territory and the construction of debate forums. Both constituted the axis for understanding the reported experience and served as the basis for the discussion on the approach to ergonomics in the territory.

Category 1: Methodology for initial mapping of the territory

According to Du Tertre et al (2019), part of the approach to consolidating Territorialized Cooperative Ecosystems (ECT) involves collective reflection on uses, ways of life, ways of organizing work and bringing out the contours of a integrated solution. In the project in question, the intervention began with a diagnosis of the territory, carried out through mapping of local producers and consumers and debate forums on the challenges encountered by the actors.

The mapping is based on the Ergonomic Work Analysis method (GUÉRIN et al., 2001). Based on the orientation of the project's demand, the stage of understanding the General Functioning of each mapped actor begins. This stage was characterized by a global approach and allowed articulation between aspects of the company/producer's operation to better understand the challenges and difficulties.

According to Guérin et al. (2001), mapping the general functioning of the actors sought to understand the different dimensions involved, such as:

- Economic and commercial dimension, in which the actor's activity is analyzed with reference to the context in which it is inserted. This analysis allows us to situate the functioning of the company/producer in relation to the market.
- Social and demographic dimension, which seeks to understand the diversity of workers. This knowledge provides information about the organization of work and the conditions under which it is carried out.
- Laws and regulations
- Actor's geographic environment
- Technical dimension of production and organization, seeking to understand: (i) knowledge of the technical process from the actor's point of view; (ii) global knowledge of the production process (such as quantitative data, production quality criteria and production evolution) and the organization of work in relation to this way of producing.

These were the crucial points for conducting interviews adapted according to the diverse reality of rural and peri-urban producers, as well as collective consumers, such as restaurants, first food transformation entrepreneurs and food processing factories. Cooks, horticulturists from short-cycle and long-cycle plantations, processors who carry out minimal food processing (spices, herbs, sweets, pasta, bread and other fermented products), egg and poultry producers, gardeners, rural extension workers, were interviewed. agronomists, entrepreneurs in the gastronomy and hotel sectors.

Visits for interviews were preferably carried out at the workplace, and at times reserved for that purpose. Ideally, the interviews were conducted by pairs of researchers, although there were some with the presence of just one, and others with the presence of more people. The duration of the interviews varied from one hour, in the quickest ones, where interviewees did not have much time or were not very interested in the ECT proposal, to more than four hours in the longest visits. The latter included tasting of the

production and more detailed processes of exchanging information between the interviewees and the project's team of researchers.

The diversity of people interviewed also reflected the variation in the interviewees' education (from people with incomplete primary education to people with postgraduate degrees) which brought us the challenge of the form of language when conducting the interviews.

The difficulty of accessing some areas of the municipality, mainly the peripheral rural neighborhoods, due to the poor condition of the roads, was also a point of adversity in this stage of the project. Conducting interviews at people's workplaces contributed to the real perception of the recurring demands of actors who live in areas with these access conditions.

It is still not possible to say precisely about the process of building trust with some of the actors involved. But the active listening methodology that underlies AET contributed in this sense and could be observed (in some cases explicitly verbalized) by some actors as a positive point of the approach in the territory.

A challenging characteristic at the time of carrying out the project is the high number of research, mapping and diagnoses that the municipality is going through. These are partnerships, for example, with research institutes, universities and private companies. There is a fine line between overlapping actions and potential articulations between different projects that aim to overcome dependence on oil royalties. A question that emerges is which space, institutional or not, can establish dialogues and articulations between projects with a territorial scope, which are often complementary.

Category 2: Functionality and Cooperation Economics Forums

The Forums consist of moments of public discussions about the challenges related to the transition to a new economic model as a way to overcome the current model. The periodicity of the forums was initially bimonthly in 2022 and became monthly in 2023. 6 meetings have been held to date.

The content of the first 2 meetings, still in 2022, was aimed at the contextualized presentation of the principles of the EFC, and some concrete cases already in progress. As the mapping of actors in the territory advanced, the team of researchers invited case experiences related to the production and consumption of healthy foods to expose their challenges in the Forums.

Each case presentation, in the 4 Forums of 2023, was previously constructed in meetings between researchers and the experience's reference people. At each meeting, the preliminary result of the mapping of general functioning (GUÉRIN et al., 2001) was the starting point for discussion with the actors, which allowed subsequent modifications, corrections and validations. The product of these meetings consisted of presentations organized in such a way that they helped guide collective discussions in the Forums.

We realized that in this preparation of the Forums, the process of co-constructing a public presentation based on the general functioning of the organization, contributed to the internal reflection of the guest actors' own business. The posing of problems related to daily work made it possible to expand the collective understanding of these problems, encouraging discussion between different actors/organizations around a common element. In addition to being a form of public recognition of the contribution of these people to the collaboration of a healthy eating culture in the municipality.

On the one hand, the public presentation format expands the debate beyond the company's borders and finds echo in other similar ventures. On the other hand, as an internal process within organizations, there is little room for delving deeper into problems.

4. Final Considerations

The preliminary results of the mapping stage are being analyzed and discussed among researchers for future publications. However, throughout the first year of the project, we can observe the importance of points that are of interest to the ergonomist's work beyond the borders of a single organization. Some clues include the redesign of

intra- and extra-organization management roles, characterized by the plurality of activities, values and relationships contained in the territory.

For interventions within a company, work objectives and political relationships are normally established around a delimited “space”. When it comes to territory, it is necessary to broaden our perspective and listening capacity to find common elements and weave relationships between such heterogeneous actors. The role of the ergonomist, in these cases, is to provide the possibility of listening and including different points of view, and mobilizing different knowledge and different perspectives, which at the same time have an intimate relationship with work and its impact on everyday life. .

In this sense, the Work Activity Analysis (AET) method, as well as within the context of the company's walls, brings the possibility of understanding the point of view of work, an integrative element to understand economic and social relations in the territory. In the case of construction projects for Territorialized Cooperative Ecosystems (ECTs), in which it is necessary to bring together actors around common environmental, economic and social interests, the AET (and the mobilization of its methods, such as semi-structured interviews, open observations, listening activity and activity analysis) expand the possibility of building management, the governability of actions between different actors, permeated by relations in the territory in a democratic, transparent, effective way.

The researchers' experience with initial mapping provided clues about which elements need to be mobilized for an ergonomic approach in territorial development projects. Regarding the diversity of languages perceived during the interviews, it is noted that it is not enough to just 'translate' the content of the semi-structured scripts into a popular language, but it is necessary to anchor the themes around people's work, the place of speech that the interviewees , regardless of education, felt comfortable reporting.

This anchoring in the work is also an important element for building the confidence of the actors in the objectives of the intervention and in the researchers, mainly because the place where the interviews take place is normally the home itself. At the same time, this is also an element that expands understanding of local ways of life.

Understanding the multifunctionalities of life in the territory is equally important for the transition to the economic model, as proposed by the Economics of Functionality and Cooperation (EFC).

In the case of the project described, the common objectives that emerged as important elements in the mapping interviews (agroecological production, respect for work and the environment) appear as a link between these actors for the formation of a territorialized cooperative ecosystem. Likewise, the recurring problems between producers and consumers (difficulty in collaboration between agricultural producers to purchase inputs, sharing equipment, among others) are levers for transformation to be discussed within the group.

However, there is a need to open space for the exchange of experiences and points of view between these actors. In this sense, the forums are an opening to include this dialogue during the intervention, in addition to presenting the concepts and elements related to OBE. It is clear that the more real, practical cases are presented (jointly between actor and researcher), the more the topic can focus on the point of view of real work and support discussions. It is important to highlight that the forum alone does not support the discussion around the difficulties faced in the territory: the co-construction of presentations based on real cases, brought from mapping, are necessary elements to support and encourage discussions. In this sense, mapping and forum complement each other and contribute to the construction of the ECT.

Finally, the political characteristics of territories are elements that need to be considered and analyzed. In the case studied, understanding the different research, mapping and diagnoses that coexist in the territory (and which are conducted by different institutions) is a key point to allow articulation between these different initiatives.

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