

**STRATEGIC SYSTEM OF PUBLIC POLICY MANAGEMENT:
The Case of Sustainable Development Program of Rural Territories – PRONAT**

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INTRODUCCION

The information and knowledge play a new and strategic role in the emerging socio-economic, political and technological system, which has led organizations to reconsider their behavior and ways of management. One of the biggest challenges facing organizations today is learning to turn employees knowledge into organizational knowledge and identifying information in the external environment that are relevant to innovate and take action.

Some of the concerns and the complexity of what many call the "new era" or the information society and knowledge are related to the ways and means to identify, recover, collect, process, store, and share data and information that contribute to the achievement of objectives that structure the various types of organizations. Organizations that can deal with this broad flow of information and develop tools to organize them can use them to create and/or appropriate new knowledge closer to what is called organization knowledge.

For public organizations the challenge is even greater and tracking their administrative processes is responsible for implementing public policies and programs that require a different logic of evaluation that goes beyond the relationship company/client. It should be considered in a state/citizen relation and the multiple dimensions of the development of a society, which are impacted by public actions.

The purpose of this is article is to demonstrate the formulation of a management system to consider, the administrative processes and control of a public organization, implementation and evaluation of public programs in which it is responsible. To address this scenario, the text is divided into three topics. Initially, it is a brief contextualization of information science, highlighting important facts that drove its development with the aim of presenting the appearance of specific fields such as Knowledge Management. In the second topic, the concepts of knowledge management and the challenges are presented to it proposed in particular the changes that occur in society and the requirements for organizations to deal with these changes.

The third topic discusses knowledge management within public organizations and describes the case of the "Territorial Development Board of the Ministry of Agrarian Development – SDT/MDA." The Board has developed an information system to support its administrative and operational management, as well as to support the management of the Sustainable Development Program of Rural Territories (PRONAT) in which the execution is its responsibility. This program stands out for decentralized governance, with the opening of local instances for social participation, self-management and decisions of local people. In this context, the system is designed to enable the communication of public organization with these local instances, called territorial boards.

1. INFORMATION SCIENCE: BRIEF BACKGROUND

The first studies on the information still labeled as studies of documentation, were concerned with the registration and data recovery. Since the Second World War, the Information Science - IS has established itself

as an area of knowledge involved in the solution, than defined as the problem of information explosion, i.e. the sum of human knowledge increases at a prodigious rate and doesn't have compensation for the evolution of storage media and access to information (Bush, 1945).

The IS is still a scientific discipline in full phase constitution facing epistemological and paradigmatic ruptures, from its beginning (Wersig, 1993; Gomes, 1993; Galvão, 1998; Pine, 1995; Loureiro, 1995). Currently, one can understand that it is the science and practice of dealing with the collection, storage, retrieval and usage of information. It is concerned about the recordable information and knowledge, technologies and related services that facilitate their management and use. The IS has two principles on one hand, human and social needs, and the use of information on the records of knowledge, and on the other, specific technical information, systems and technology.

Zins (2007d), his studies provided a basis for assessing the changes that have occurred in the area and how it developed. The initial objective was to identify the concepts used to define data, information and knowledge, define the concepts of IS and show its contemporary profile. (Zins 2007a). The study was divided into four stages and documented 28 information science classification systems that were compiled by 57 experts from the academic community of 16 countries.

As a result, Zins presented a structured hierarchical model in 10 categories, that are: 1) Fundamentals, 2) Resources, 3) Workers Knowledge, 4) Content, 5) Applications, 6) Operations and Processes, 7) Technologies, 8) Environments, 9) Organizations and 10) Users. These categories were divided into two groups, the first containing the foundations of IS, which deals with meta-knowledge area, and the second containing all other categories essentially linked to human knowledge. According to the author, this categorization allows to represent all subfields and important aspects of IS.

Saracevic (1996), in relation to the general characteristics that make up the existence of the IS and its evolution, states that: a) Information Science is interdisciplinary by nature, b) the IS has an inexorable interdisciplinary relationship, c) Information Technology to IS has an active and deliberate participation in the evolution of the information society, as it had and has an important role to play for its strong social and human dimension, beyond the technology.

On the interdisciplinarity of IS, Pinheiro (2009) studied and compared the views of different theorists, including Borko (1968), Mikhailov (1969), Goffman (1970) and Merta (1969) and is an important finding in terms of expansion area, highlighting the appearance, primarily as a result of technological advances, new topics, such as the virtual/digital libraries, data mining, Competitive Intelligence and Knowledge Management.

2. KNOWLEDGE MANAGEMENT

The emergence of Knowledge Management - KM highlights the expansion of information science to other fields because it is directly related to the changes taking place in society under the new and strategic role that information and knowledge have for their development. Organizations emerge as important players in this process and it is required to come get the concepts and tools of IS and KM to handle the multiple dimensions of development.

In practical terms, the information as set forth in Choo (2006), is an intrinsic component of organizations. The KM is the difference found in the ability that each organization has to recognize, organize, use and convert information into knowledge for action. In addition, it is important that the organization's ability to use information and improve its management (compliments of their goals), innovate and adapt to continuous changes imposed by the external environment, depends on the group of people, employees, who comprise . The organization that produces knowledge management seeks to convert and capitalize on the individual learning for a whole organization's knowledge, which means that after a learning process follows the contribution, i.e. "it is proper structuring so that other organization can use it"(Sordi, 2008, p. 26).

Knowledge Management, and Information Science, has many definitions, according to authors and schools that address. Sordi (2008) can display twenty different perspectives on the KM process that can integrate simple and routine steps such as, acquire, create, synthesize and distribute information, to more complex steps, which include, conceptualize, think, act and search.

In short, KM focus is on the results of the learning process. For Choo (2006), this process takes from three distinct ways. The first deals with the use of information to understand and interpret changes in the external

environment to the organization. If the organization is ready for this, you can generate a common understanding of these changes, respond or adapt to them in order to accomplish their goals in a dynamic environment.

The second refers to the organization's ability to create their own knowledge. Choo (2006) points out that the creation of this new knowledge depends on the synergy between tacit and explicit within the organization. The generation knowledge depends on the socialization of tacit knowledge of each individual in the organization¹, which are consolidated and are externalized as organizational explicit knowledge that, in turn, will be internalized as new knowledge implied by the individual, and so on.

The third is the one in which organizations seek and evaluate information for strategic decision making. The action to take important decisions in the nature of an organization can be influenced by many other aspects besides the information. Power relations within these organizations, for example, will result in a decision with greater force than the quality of technical information. However, these aspects must not ignore the fact that the organization has relevant information to support decisions. In this sense, the organization should at least "maintain the appearance of rationality, to keep the inner confidence and at the same time preserving the external legitimacy" (Choo, 2006, p. 28).

It is important to recognize that despite the individual peculiarities, the three models of the use of information complement each other and "support each other and provide the necessary parts for the operation of the other" (Choo, 2006, p. 50). Furthermore, in practice, all three models can be managed from the KM process proposed by Sordi (2008): obtaining/acquiring; distribute/share; use/apply; learn/create; contribute; discard/strip; identify/map; build and sustain.

To support the development of each of these activities, the organization can count on the help of information systems, but must overcome the idea that the KM is limited to data processing (collecting, storing, distributing). It is necessary to take into account the context of information, the target audience, specialized areas in communication, flexible tools for information search, evaluation of the use of information by users, knowledge, skills and attitudes required by managers and performers.

The KM is far from being implemented, particularly in organizations responsible for the management of public policies. Organizational theories and in particular those to knowledge management, are supported on market assumptions and guiding the tool management of the market itself. There are few studies about the public organizations as organizations that learn² or knowledge organizations. (Cavaliere, 2004)

Unlike financial results and company/client relationship, guiding private organizations, KM, in public organizations, should think socially and in a state/citizen relation. One can define it as a "set of systematic processes, articulated and intentional, able to ensure the ability to create, collect, organize, transfer and share strategic knowledge that can be used for decision making for the management of public policies and inclusion of the citizen as a collective knowledge producer ". (Brazil, 2012).

In the context of knowledge management in public organizations, a study will be presented on "Territorial Development Board of the Ministry of Agrarian Development – SDT/MDA." which came up with a management system to assess the impact of Sustainable Development Program of Rural Territories - PRONAT. The study will cover the description of the program, the system and the evaluation indicators of the Program.

3. KNOWLEDGE MANAGEMENT IN PUBLIC ORGANIZATIONS: THE CASE OF DEVELOPMENT PROGRAM OF SUSTAINABLE RURAL TERRITORIES - PRONAT

The Sustainable Development Program of Rural Territories - PRONAT was formulated and is run by the "Territorial Development Board of the Ministry of Agrarian Development – SDT/MDA." The program adopts

1 In the process of creation and generation of organizational knowledge two concepts are important, the explicit knowledge and tacit. For Nonaka and Takeuchi (2008, p.19), explicit knowledge can be expressed in words, numbers or sounds, and shared in the form of data, scientific formulas, visuals, audio tapes, product specifications and manuals. Explicit knowledge can be quickly transmitted to individuals. The tacit knowledge, on the other hand, is not easily seen and explained. Rather, it is highly personal and hard to formalize, communicate and share.

2 According to Senge (1990) seizing organizations are formed by people expanding, continuously, their capacity to create the results they want, where they stimulate new and comprehensive behavioral patterns, collective aspiration achieves freedom, and the people are exercised continually in learning together (cited Riche, Monte Alto, 2001).

the scale of actions, territorial approach, i.e. the rural territory is "a group of municipalities, geographically defined, generally continuous, comprising the city and the countryside, characterized by multidimensional criteria - such as the environment, economy, society, culture, policy and institutions - and a population with relatively distinct social groups that relate internally and externally through specific processes, where one can distinguish one or more elements that indicate identity and social cohesion, cultural and territorial." (SDT, 2005, p.11)

The PRONAT is structured from a decentralized management model that incorporates the participation of populations as a strategy for effectiveness of their actions. To ensure this participation and the strengthening of decentralization, qualify the populations to the process of managing and evaluating program results. This implies that the evaluation of the program should cover in addition to the development indicators of the territories, the necessary capabilities for local people to become managers of their own development.

For the program implementation, the SDT / MDA (2005) provides the establishment of Territorial Collegiate, responsible for managing the development actions in the territories. It is assumed that this is the institutional means for the inclusion of the population in the management process aiming to boost local economies, enhance the social and political development and ensure the inclusion of rural areas in regional and national dynamics, considering obviously the impact on the environment.

However, program management has shown in practice that proposals for sustainable development, providing for compatible economic growth, environmental protection, social and political development, and training of the population to participate in this development process, the evaluation process is a major challenge. The difficulty lies in designing interdependent indicators that transcend the traditional development perspectives, as well as describing participation and social empowerment.

To overcome these difficulties, the MDA, in partnership with the National Council for Scientific and Technological Development - CNPq, approved and hired via announcement MDA / SDT / CNPq - Management of Rural Areas No. 05/2009, 37 projects submitted by 27 different University institutions - IES. The approved projects were used as a pilot study in 37 rural territories for validation of a methodology for assessing the program, considering sampling, instrument collection and indicators.

To systematize the data collected by the cells in addition to those produced within the office, according to its administrative activities, the Strategic Management System was developed - SGE. In the context of PRONAT, the SGE aims to: a) promote and facilitate access to information that supports initiatives for development of rural areas, b) perform evaluation of results and program impacts, and c) provide tools to improve the quality of public investments. (Brazil, 2011) Furthermore, as is PRONAT highlights for demanding that local people participate in all the implementation of their action processes, the system has logic for management information and communication charges sense only to the extent that the actors participating in the territorial development can interact with.

The SGE began operating in early 2007 limited to some features and only in 2010, was launched with all modules. The SGE is an organizational tool for planning and communication to sort the information flows and support the various actors in the policy management for territorial development. To encourage and facilitate access to information in the social process management planning, conducts assessment of management and the impacts of Rural Areas Development Policy and enables the social participation in the control of public investments.

The objectives of SGE were defined from the challenges of rural development policy with respect to institutional changes that the strategy requires. Five components can summarize the basic conditions for the successful social management of territories and generate a process of organizational learning as provided by Choo (2006): participation, organization, planning, coordination and social control.

Each of these conditions implies aspects of management that should be generated and secured by the political and technical procedures of implementation of rural development policy. It is thus imperative that the SGE provides information and communication tools to support social management of territories.

A major innovation of the rural development policy with a territorial approach is the opening of wide spaces of participation, self-management and decentralization of decisions in the formulation, implementation and social control of the actions that make up the public policy strategies. This implies the active presence of a wide range

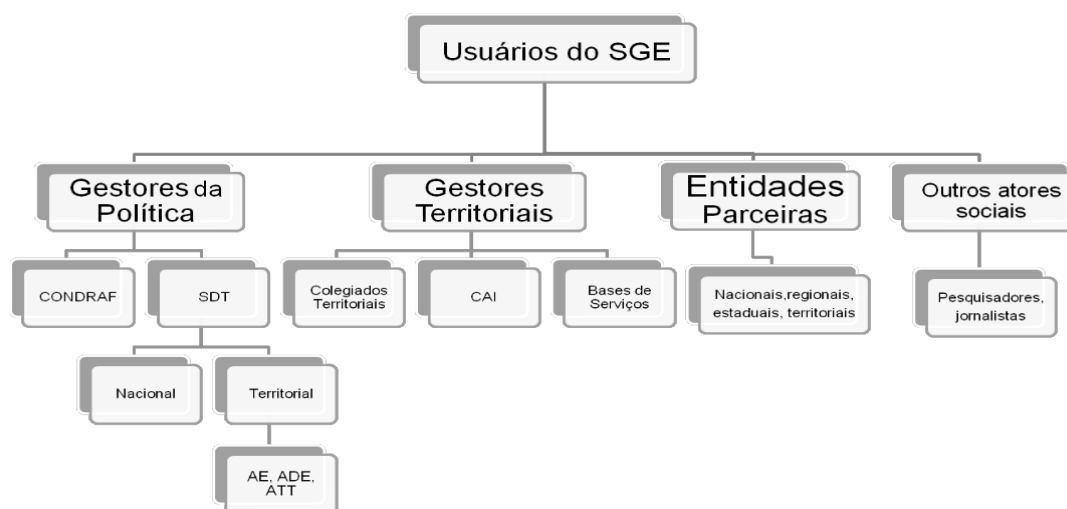
of actors at different levels of management that meets the learning process based on the understanding of the external environment (Choo, 2006).

For the purposes SGE design, considering the second learning process, that is, from the constituents of the internal environment of dynamic organization (Choo, 2006) the actors and generators are users of information flows and are classified into four large groups according to their relationship and degree of connection with the processes of rural development policy. The first group corresponds to the people directly linked to the decisions and practices of actions and programs that make up the strategy for sustainable rural development. Among them there are two levels of management, corresponding to the National Council for Sustainable Rural Development - CONDRAF and Board of Agrarian Development – SDT. The Board is responsible for formulating and implementing policy and this has an operational structure with two management levels: the central level by the operational directors, administrative and political, and territorial level, which has regional and state articulators.

Territorial actors form the second group. They have a direct dependence on the SDT and constitute the real presence of social organizations of the territory, local public officials, state and various ministries that have direct action in the territory. In this group the *Célula de Monitoramento e Informação* - CAI and *Bases de Serviços*. The third group includes the Partner Entities, in the national, regional, state and territorial scopes. The fourth group corresponds to the topic of the scholars and the public in general. Picture 1 shows the complete structure of users covered by the system.

Important to note that the SGE meets the demands of users in addition to the directly involved with the management of PRONAT and contributes to the development of rural areas information being accessed by researchers, journalists, academics and interested. The SGE provides storage of a large amount of information collected from the same procedures, in all territories managed by MDA / SDT and will be used for making strategic decisions concerning the PRONAT and the very SDT.

Picture 1 - Members of the SGE

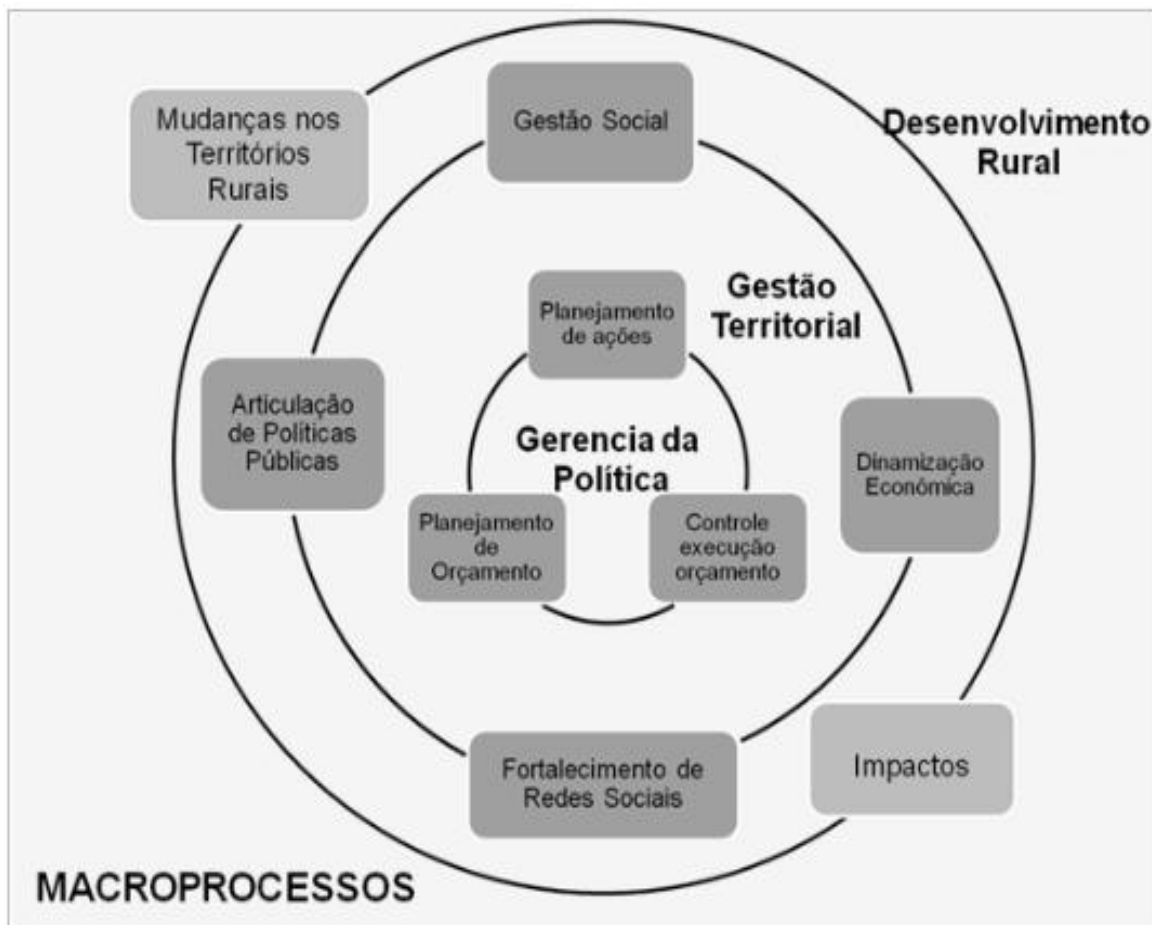


Source: SDT (2010)

The conceptual framework of the EMS is supported from three macro-processes that represent each of the levels which should take place in changes that indicate advances in the processes, results and impacts for the development of rural areas. As shown in Picture 2, the first macro process is in PRONAT management level - political management - including the developed processes and goals achieved from the action planning subsystems, planning and control of budget and set physical targets.

The second concerns the Territorial Management macro process, i.e. the changes taking place in rural areas from the four areas of program results (Economic Promotion, Social Management, Coordination of Public Policy and Strengthening Social Network) and, finally, the third macro process - Rural Development - refers to the impact of the program on the rural population quality of life.

Picture 2 - macro processes that structure the SGE



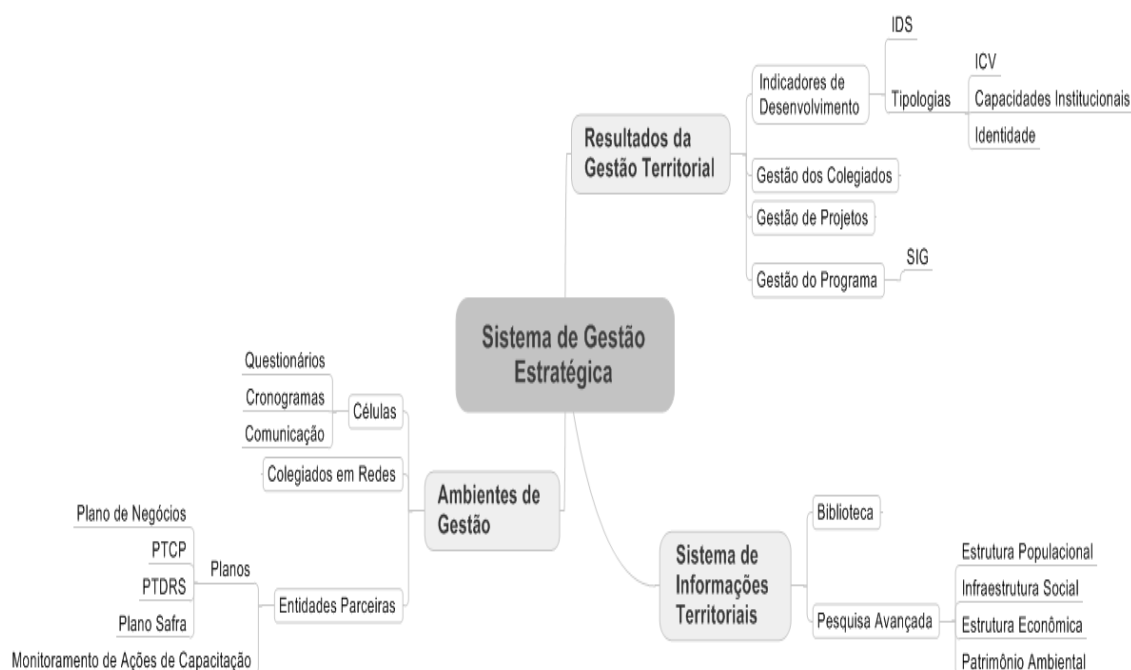
Source: SDT (2010)

Through the SGE are organized and run up information that is input to the decision making processes, the SDT / MDA and the local people regarding the PRONAT. For this, its structure includes processes ranging from program management of projects supported by the office to the management of Collegiate Territorial so as to involve all the people who constitute the social management network program.

To meet the different users, SGE sought to organize the flow of information that depart and arrive the territories, coming from partner organizations, social organizations, regional, state and federal institutions. The information is processed and given added value by means of computer and communication tools, and returns to territorial actors, achieving its supporting role to the management, monitoring and social control of the territorial policy processes.

To undertake the processing of all this information, the SGE is structured into three general environments: i) Territorial Information, that meets the demands for official database of information on the composition, characterization, and reference documents on the territories; ii) Results of Territorial Management, which includes information on program management, collegiate, development of indicators and territorial typology and, finally, iii) Management or labor environments, developed according to the needs of different user profiles, to be an input environment and querying data and information to support different levels of management. Below is presented the operational design of the EMS, then the definition of each of its components.

Picture 3 Conceptual Framework of SGE



Source: SDT (2010)

A) Territorial Information System

This setting stores data from official sources, on the characterization of the territories. Its content is based on economic, social, environmental indicators, institutional, cultural and political that allows the description of the different dimensions of the territories. Allows inter temporal analysis of territorial development and support for territorial diagnostics on all management levels, from the federal to the territorial. The indicators and information were aggregated into two components:

Advanced Search: brings together a set of statistical indicators for the description and characterization of the territories within an interactive query system that gives users the ability to select the territories or thematic consultation areas - population, social, economic, environmental and institutional policy - as well as using a set of reports already established in the system.

Library: the collection includes available documentary information, books, manuals, plans and digital files, many of which represent documentary records produced in local dynamics, such as workshops, meetings, among others. The physical collection can be accessed by the workforce of the SDT and the digital files by the general public.

B) Management Environments (Labor Area)

Constitutes the entrance area of system data. Their goal is to provide users who develop some kind of action in the territories, an interactive environment management, so that information flows in both directions, from users to the system when there is information of record, and system to users in time queries. These tools are structured following the organizational trends and SDT strategies in managing the program. The components are:

Cell Monitoring and Information: This component provides to the cells, tools for the development of its activities, including work planning, execution schedule, information collection tools, and access to information from other environments SGE, with a view the fulfillment of the responsibilities that were assigned to them, that is: collection and analysis of information, supporting the work of the Board and development strategies for communicating new knowledge about the territorial realities.

Collegiate Network: This component lets you record information about the constitution of the Board and supporting documentation for its formalization in addition to the composition of each of its organizational bodies such as: plenary, leading core, technical core, thematic chambers, calendar work and contacts.

Partner Entities: This component provides tools required by the SDT and partner organizations to monitor training activities and also for the dissemination of the plans

implemented in the territories. The first tool is the Training Actions Monitoring, where training activities funded by the SDT are registered and as a result generates a national database with qualified persons under the PRONAT - quantity, profiles and history of participation in events. This information allows the managers of the SDT and partner organizations to orient future training strategies. It also enables printing of Training Certificates. The second tool, named as Plans, allows you to track the actions performed by entities in supporting the development of the various territorial planning instruments financed by SDT.

C) Territorial Management Results

In this environment, we present the evaluation indicators of the different processes that make up the management policy. The areas of evaluation are:

Development Indicators: In this section users can access a number of aggregated indicators that, together, contribute to the characterization of the territory in focus. The indicators presented in this environment are generated from the research carried out by the Monitoring and Information cells in 37 of the 164 territories supported by the SDT which are: Conditions and Life Index - CLI, the Territorial Capabilities Index, the Management Assessment of Territorial Collegiate and the Territorial Identity indicator. In addition to these indicators, is also available the Sustainable Development Index - SDI, which is calculated from secondary variables grouped into six strategic areas of development: Social, Demographic, Political and Institutional, Economic, Environmental and Cultural.

Management of Collegiate: gives access to reports on the internal processes of the Board, such as composition, institutional characteristics, work schedules, organizational structure and infrastructure of the collegiate. This tool helps boards as much as agents who support their management in decision making, monitoring and orientation of the actions developed.

Project management: This section provides information on the projects funded by the SDT, organized into the following topics: Contracted Projects with Caixa Econômica Federal - CEF, Infrastructure Support and Services Territories Projects – PROINF and Project monitoring.

In Contracted Projects (CEF) available information on investment projects with hiring order in SDT and already engaged by the Caixa Econômica Federal. PROINF is a section with software that allows the registration and qualification of the technical proposals submitted by the territories in the framework of PROINF notices. In addition to systematize the information to generate reports, it is possible that each of the agencies involved in the flow (collegiate, police and state board) accompanies all the processing that follows the proposal, since it was established in collegiate until they are sent for commitment of the CEF. Project monitoring is a panel with indicators that show the current situation of investment projects in the territories from the survey on the spot, by the members of the cell monitoring and information. Program management is an environment made up of the Management Information System - MIS that allows the recording, processing and management of administrative and operational planning of the SDT.

Within the framework of knowledge management the SGE is the means to get/acquire and distribute/share information and territorial actors are in charge of use/apply; learn/create; contribute; discard/strip; identify/map; build and sustain it. Tacit knowledge of these actors becomes a key element in conducting PRONAT, influencing decisions on the actions that it must implement and are applied to the creation and innovation of new methodologies for territorial planning, development of concepts of territorial development and social management, which can be generalized in the population of the territories PRONAT serves.

Organizations and their knowledge depend on the individuals and the tacit knowledge they can socialize to adapt to the environment, create and make decisions. Within the Rural Territorial Development Policy, social management means the participation of territorial actors and technical crews of SDT in planning, organization, coordination and social control. These actors should take into account the surrounding information which can contribute to regional development. Similarly, the organizations involved should innovate in their management to adapt to this environment to meet in a timely manner, the demands that the territorial surroundings place for development.

CONCLUSION

From the perspective of information science, and within this, Knowledge Management becomes a key element to meet the challenges of the present age in which knowledge resource arises as valuable as the other production resources. Organizations are means that contribute to the development of societies, using for this, among others, the tools that provide science and Information Science.

The public, however, should approach the theories of administration, which put elements to improve the management of the same, taking advantage of solutions proposed by the Information Science aimed at dealing with the collection, storage, retrieval and use of factual information.

It should deepen further in this regard because it is a clear need for improvement and more effective by public organizations in adopting these innovative and strategic practices. Important actions are being conducted by the government in this direction, signaling changes in the public scenery with an emphasis on social. Many tools are being implemented and are fundamental to the development of these practices, but that alone is not enough. It is necessary; above all, modify the traditions so that people, especially managers, start to realize the importance of information, created knowledge and its application to improve the performance of activities within the organization, making the process of taking more efficient decisions.

It is noteworthy also that collaboration and alliances developed through this sharing be recognized that learning is not just plan actions, but mainly redesign, implement and reflect on the serious organizational issues facing these institutions in the form find collective and strategic solutions.

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